

# Catering for diversity in a principal induction programme

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Any programme of principal induction must find ways to respond to the diversity of its participants, in terms of their backgrounds and learning needs. New Zealand's national principal induction programme uses a self assessment of each principal's capability in the leadership of teaching and learning as one of its main sources of information about the diverse learning needs of each cohort. This paper reports the results of a study of the validity of SALTAL (Self Assessment of Teaching and Learning), which is the tool used for this purpose. Factor analysis confirmed the theory of leadership upon which SALTAL was based, and scale analysis indicated the high reliability of the tool. Tests of its validity, using discriminant analysis, revealed that the tool correctly identified principals independently assessed as 'highly challenged' or 'high performing' but mis-classified those in the middle group. Overall, the results indicate the potential of SALTAL to assess the capabilities of a diverse group of principals and provide useful information for the principals themselves, their mentors and the programme team.

In the late 1980s New Zealand undertook an ambitious and comprehensive reform of educational administration as part of a wide-ranging public service restructuring (Fiske & Ladd, 2000). One of its main thrusts was the devolution of many previously centralized governance and management functions to the level of the local school. The resulting 1989 Education Act prescribed that every New Zealand school was to be managed by its own Board of Trustees, largely comprising elected parent representatives, one of whom was to serve as chairperson (New Zealand Government, 1989). The powers of these Boards were considerable and included the appointment and appraisal of the school's principal. At the same time, the national Department of Education was restructured as a policy making and ministerial advisory agency, and regional Education Boards and their services were dismantled.

The 1989 education reforms, commonly known as 'Tomorrow's Schools', set a massive learning agenda for Boards and principals (Department of Education, 1989). They were now responsible for the financial, property, human resource and health and safety aspects of their schools as well as the usual educational aspects. In addition, they had to learn in an environment where prior support systems had been

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disrupted and where they were accountable to largely unsupervised and inexperienced lay boards (Robinson *et al.*, 2003). Predictably enough, for the first ten years of the reforms, Boards and principals concentrated on ensuring they complied with their new management responsibilities, many of which involved developing school-based policies and procedures on everything from staff appraisal to student safety on school buses and school camps (Wylie, 1997, 1999). Their success in these endeavours was regularly and publicly monitored by the Education Review Office (ERO), New Zealand's equivalent of OFSTED in the UK. The emphasis on school management was further reinforced in 1999 when the Ministry of Education, after considerable consultation with principals' groups, promulgated the Professional Standards for New Zealand Primary School Principals. Of the 21 standards, 16 focus on predominantly management tasks and responsibilities, while only five are directly related to the leadership of teaching and learning. The same is true of the Revised Professional Standards for Secondary and Area School Principals (Ministry of Education, n.d.).

After ten years of focus on school management, two factors drew attention back to the state of teaching and learning in New Zealand schools. First, the ERO published a series of reports highly critical of the quality of education in several regions of the country (Education Review Office, 1996, 1997, 1998). Second, international comparisons of the achievement of New Zealand students in reading literacy (Organization for Economic Co-operation in Europe, 2001) and mathematics (Scheerens *et al.*, 1989) showed that while average achievement was high, the range of achievement was very large and lower achievement was associated with the fastest growing population groups.

One outcome of the ensuing debate was new policy initiatives designed to focus school leaders on the core business of teaching and learning. The Education Standards Act (New Zealand Government, 2001) required each school to develop a strategic plan incorporating long-term goals for student achievement and an annual plan stating the school's specific targets for improved achievement. In line with this policy change, the ERO currently focuses its school reviews on how well schools are planning for and achieving improved student outcomes, including how well they are catering for disadvantaged groups of learners.

This was the policy context in which the Minister of Education announced a series of initiatives to support the development of New Zealand principals. Better leadership through more systematic professional development and support was seen as one path to improved student achievement. The 2001 budget foreshadowed expenditure of \$NZ 27.4 million over the following four years for an induction programme for first-time principals and the continued professional development of experienced principals, including the provision of laptop computers and web-based resources. As a result, a significant proportion of this money was targeted for the First-time Principals Programme (for newly appointed principals) and a proposed principal professional development centre (for experienced principals).

In common with Australia and Sweden, but unlike Singapore, the UK, many states in the USA and Canadian provinces, there are no mandatory programmes of

principal preparation in New Zealand (Bush & Jackson, 2002). The minimum requirement for principalship in New Zealand is teacher registration, whereas in several states in the USA and parts of Canada (for example, British Columbia), it is an appropriate Masters degree. In the UK the National Professional Qualification for Headship (NPQH) is required (Department for Education & Skills, 2004). Given the absence of specific preparation for principalship in New Zealand, the government's priority was to establish a national induction programme open to all first-time principals. The government funds participants while they are on the programme, without requiring participants to be selected.

The contestable contract to inaugurate and deliver the national induction programme was granted by the Ministry of Education to The University of Auckland Principals Centre in late 2001, and it has been offered every year since 2002. The New Zealand model of a single national induction programme for principals of all school types is in marked contrast to the USA, Canada and the UK. In the first two countries, different tertiary institutions offer a variety of induction programmes linked to academic qualifications, while in the UK, the National College for School Leadership (NCSL) offers the Headteacher Induction Programme (HIP) as an entitlement for all new headteachers, with a specified development grant for each participant, which can be spent with any of the 20 registered providers (Weindling, 2004).

### **The diversity of New Zealand's schools and principals**

Arguably, the most significant challenge in delivering an induction programme that meets the learning needs of New Zealand's first-time principals is the extraordinary diversity of the group. The diversity manifests itself along numerous dimensions, but arguably the most central is the inclusion of principals from both Maori medium (*kura*) and English medium schools in the one programme. Māori culture, and Māori language (Te Reo) are indigenous and unique to Aotearoa/New Zealand. Based upon the historical processes of its settlement, New Zealand is a bicultural society in which Māori stand in a unique relationship to the land and to the Crown - a relationship that is enshrined in The Treaty of Waitangi, which provides the implied constitutional basis for the peaceful governance of New Zealand (Te Puni Kokiri, 2001). Recognition of the Treaty in the operation of the First-time Principals Programme means that Maori participants and principals' groups must have influence over how their needs are met. So far, this has involved a separate strand for kura principals in which workshops are facilitated in Te Reo, and the production of a limited amount of resource material in both English and Māori.

A second dimension of diversity is the inclusion of principals from all sector groups. Approximately 170 first-time principals are appointed by Boards of Trustees to New Zealand schools each year, and while about 70% of these are from primary schools, they also include new principals from secondary, intermediate, middle and composite schools. In addition, the programme includes principals from Māori-

medium schools, from independent (private) schools and from state-funded special character (integrated) schools. In each cohort there will be teaching principals from schools with less than 20 students, and principals of large secondary schools with more than 1500 students.

Compounding the diversity of school context is the wide variety of principal background. In the 2005 cohort, for example, there are as many first-time principals with over 20 years of teaching experience as there are with less than ten years. Some of these new principals bring only classroom teaching experience to their position, while others have had several years of senior management experience in one or more schools. There is a similarly wide range of formal qualifications in this cohort. The largest group have a Bachelor's degree as their highest qualification (35%), the second largest group have an undergraduate diploma (17%), and only 12% have a Master's degree.

The combined effect of these multiple dimensions of diversity poses a profound challenge to the design and delivery of the induction programme. How do you cater for principals from such a range of cultures, school types and school sizes in one national programme? The diversity of management and leadership experience and qualification is also a considerable challenge. At one extreme, there are well-qualified and suitably experienced participants who are ready to engage in and apply new knowledge and understandings from research-informed presentations. At the other extreme are minimally qualified and experienced teachers who are still trying to come to grips with their classroom teaching, let alone the demands of principalship.

One could reasonably argue that the needs of these very different principals are so different that they can not be adequately catered for within a single national programme. Indeed the external evaluators of the programme questioned whether the needs of those with very limited teaching experience could be adequately met on an induction programme, no matter how well designed (Cameron *et al.*, 2004).

### **Responding to the diversity of first-time principals<sup>1</sup>**

The New Zealand government wanted a single induction programme as part of its commitment to a more integrated teaching profession. At the same time, they recognized that subgroups within each cohort would have very different learning needs. The project team were required, therefore, to provide as much individualised and flexible provision as possible within the constraints of the single overarching programme. In the next section we describe how we have responded to this diversity by designing a programme which presents key ideas to the whole cohort while maximising individualised, context-specific learning opportunities.

The New Zealand induction programme is voluntary and participants are not formally assessed or recognized through the award of a qualification. Despite this, almost all first-time principals enrol in and complete the programme. By mid-2006, approximately 700 new principals representing over one-quarter of New Zealand's

2693 schools will have participated in and completed the main components of the programme.

The programme is currently (2005) structured and delivered as an 18-month induction programme comprising four interrelated components: residential courses; mentoring; online learning; and research. The national induction curriculum, which aligns the components, is introduced at three residential courses of four days each, scheduled over an 18-month period. Each of these components provides differing opportunities to assess and cater for the diversity of the group. The residential courses pose a particular challenge because they are attended by the entire cohort at once and there is limited scope for individualized instruction within what is essentially a conference context. The project team has progressively shifted the balance between plenary sessions and option sessions so that principals can have more choice about what they attend. A few high-quality keynote presentations, usually delivered by university-based researchers, are followed up by related sector-based case studies and workshops. In addition, the residential schedule includes a suite of option sessions and formal and informal opportunities for one-on-one consultation and peer support.

The mentoring component consists of two half-day school-based visits by the mentor to the principal's school, a half-day professional learning group activity and email and telephone support. The national team of 30 mentors are regionally distributed and are either current or recently retired school principals. They are selected for their school leadership experience and success, paid for their professional services and evaluated on the basis of confidential principal feedback. The mentors attend three separate training days during the year to prepare them for each mentoring activity and to develop their mentoring skills. They also attend one residential course so that they have the opportunity to hear the keynote addresses, facilitate workshops, provide individual assistance and build supportive relationships with the new principals. While the mentoring programme has some common tasks and structure, such as the completion of a professional development plan, that structure enables each pair to determine priority learning needs and how best to address them.

A dedicated password-protected website called New Principals Online (NPO) provides further opportunities for principals to tailor their induction programme. The site provides selected resources, presentations from residential courses, discussion forums, and dialogue opportunities with some keynote presenters. In addition, there are separate learning communities established within the NPO site for groups of principals from similar types of schools.

The fourth component of the induction programme is formative evaluation and research. The formative evaluation strand involves detailed participant evaluation of every residential course, and of the mentoring and online learning. These quantitative and qualitative evaluative data are used to discover which components of the programme are working for which groups of principals. The decision might be taken, for example, to increase the learning needs at a residential course for a subgroup who have not fully understood a particular part of the induction curriculum or to provide online resources in an area of identified need. The project team reports the

evaluation results to principals themselves, the Ministry of Education and to those involved in programme delivery.

The evaluation data were particularly important in the first year of the programme as the team learned how to meet as many participants' needs as possible. In that first year (2002) the average level of satisfaction of the participants ranged from a low of 3.85 on a 7-point scale (Residential 1) to 6.5 (Residential 2). Since that first year, the nine residential courses that have been run have attracted median satisfaction ratings of between 6 and 7.

When the overall satisfaction ratings are disaggregated by school type, they provide one check on whether it is possible to cater for principals from all school types within a single residential programme. These analyses show that while principals of small, medium and large primary school express high to very high levels of satisfaction with the residentials, principals of the more specialist schools express only moderate to high levels of satisfaction. These findings have led the team to meet with representatives of the subgroups to discuss what is required to lift these ratings even further.

The team's success in meeting diverse learning needs is also suggested by participants' satisfaction with the level of choice offered in each course. This has been rated as between 5 and 6 on each of the nine times it has been evaluated.

To date, the research strand has involved progressive development of a tool that principals use to assess their current capability as leaders of teaching and learning. Each principal discusses their assessment with his or her mentor and together they write an individual plan that focuses on developing their leadership of teaching and learning in their own school context. The development and validation of this tool is the subject of the remainder of this article.

While the formative evaluation has been an invaluable source of information about how participants experience the programme, the project team has lacked solid evidence about the learning needs of individual principals and principal subgroups. It has relied on participant-appointed representatives at each residential course to indicate what they think is important for each school type and subgroup, and on widely shared beliefs about what is needed by principals from each sector. This strategy does not attend to the individual, and does not help each principal reflect systematically about their own learning needs. For these reasons we have developed a self evaluation tool, which we now call the Self Assessment of Leadership of Teaching and Learning (SALTAL), to assess principals' current capability as leaders of teaching and learning. The tool provides each principal and his or her mentor with the information they need to determine priority learning needs. In addition, the aggregated information provides the project team with a picture of the needs of the whole cohort and of its various subgroups. After two years using the current version of the tool we undertook a study of aspects of its validity and reliability. Specifically we wanted to know:

- Is the theory of leadership that informs SALTAL shared by the principals themselves? Do the principals' responses indicate that the leadership of teaching and learning involves the six dimensions incorporated in the instrument?

- Is the tool reliable in the sense that principals respond similarly to items that are intended to measure similar aspects of leadership?
- Is the tool valid in the sense that the scores generated by the tool provide a good indication of the principals learning needs? This is answered by seeing whether the scores on the tool accurately predict other independent measures of the learning needs of the principals.

The third question was particularly important given that we were using a self assessment of capability. It is possible, for example, that principals who score high on SALTAL are not more capable than those who score lower. They may be more confident than low scorers rather than more capable. If we are to trust the scores generated by the self assessment, we need evidence about the ability of the tool to correctly predict the current capability and, therefore, the learning needs of each principal.

In the remaining sections of this article we report our investigation of the validity of the SALTAL tool. We begin with a detailed description of its purposes and development, and then outline the methods and findings of the validity study. The article concludes with a discussion of how the findings will be used to revise the SALTAL tool and to improve the strategies we are using to meet the development needs of New Zealand's diverse principals.

## The development of SALTAL

SALTAL was designed over a period of four years to give principals, their mentors and the project team an early indication of the extent to which each new principal met criteria of good practice in their leadership of teaching and learning. The focus on educational leadership (i.e., the leadership of teaching and learning) was chosen because the development of such leadership is the overarching strategic objective of the First-time Principals Programme. Such leadership does not, of course, exhaust the capabilities that are required of new principals. This is especially true of New Zealand's principals, because under New Zealand's system of radical self-management, principals and their elected Boards of Trustees are responsible for all aspects of school administration.

### *The purposes of the assessment tool*

The first purpose of SALTAL is to provide clear benchmarks to new principals about what we mean by good practice in leading teaching and learning. The leadership of teaching and learning is conceptualized as comprising six broad dimensions that have been identified as central for effective principalship (Council of Chief State School Officers, 1996; Hay Group, 2001). The description of each dimension is provided in Table 1. SALTAL gives principals a detailed picture of what we mean by such leadership through its 23 items and numerous accompanying examples of good

Table 1. The concept of leadership in the original version of SALTAL

Leadership dimension	Definition
Educational leadership	Has sufficient understanding of the relationship between pedagogy and student learning to lead the improvement of teaching and learning
Commitment to ensuring and improving positive learning outcomes	Is passionate about learning, the role of education in enhancing people's lives and the learning abilities of all students
Learning focused	Focuses on and prioritizes the core business of student learning
Building relationships	Works through and with others in the school and wider community to establish and maintain productive relationships
Strategic planning and management	Effectively plans and manages the operations of the school by considering the impact of all decisions on students' needs and learning
Self-efficacy	Models and develops ethical, proactive and open leadership processes

practice. The items themselves, without the accompanying examples, are included in Table 6.

The second purpose of SALTAL is to provide each principal with an opportunity for systematic reflection about how well they currently lead teaching and learning. The completed self assessment provides the basis for principals to write an individual development plan, in discussion with their mentor. The third purpose of SALTAL is to provide information to the project team about the development needs of the entire cohort. It enables us to detect common patterns of need and those needs which are particular to certain subgroups. Finally, the aggregated information is reported to the Ministry of Education so that officials and policy makers can be better informed about the level and distribution of capability among principals and, hence, about the level of support they require. Although the tool serves these multiple purposes, it is important to stress that its primary purpose is to provide first-time principals themselves with the opportunity to reflect on the match between their current capabilities and those that are required to be excellent leaders of teaching and learning.

#### *The limitations of self assessment*

Ideally, the measurement of capability is accomplished through a paper-and-pencil test or a performance assessment. The former was ruled out by the perceived incompatibility of administering a test and establishing the level of trust required to run a successful developmental programme. The latter was ruled out by the expense involved. It is acknowledged that there are problems with asking principals who are new to their role to self-evaluate their development needs. One could legitimately ask whether new principals know enough to know what they do not know. This is



particularly the case for New Zealand principals of small rural primary schools, where almost seven out of ten new principals of schools with rolls of less than 20 students have come into their first principalship with no prior experience in senior management positions. (By way of contrast, none of the principals appointed to schools with a roll exceeding 160 lacked previous experience in senior management - see Table 2.)

Two strategies were used to mitigate the problem of using a self evaluation. First, every questionnaire item was illustrated with two or more examples of good practice. The examples made the meaning of the items and their underlying competencies more concrete by signalling the type of leadership knowledge and skill that met the requirements of the item and, thereby, of the competency. For example, one of the items used to assess the Learning Focussed dimension of leadership was Item 10:

‘Ensures on-going school-wide monitoring, evaluation and assessment of learning and teaching effectiveness’ . It was accompanied by the following examples: (a) assessment data drives curriculum planning; (b) student achievement is analysed and discussed; and (c) a school-wide assessment and evaluation cycle is implemented and monitored for effectiveness.

The second mitigating strategy was an explicit instruction about the standard we wanted the respondents to use in judging their capability. We explained that the items and examples described things we would expect an experienced principal to demonstrate consistently, and that there was no expectation that respondents would currently demonstrate these competencies at a high level. Furthermore, the instructions stated that the items and examples signalled the types of practice that we hoped they would develop during and following the induction programme. In summary, the questionnaire provided concrete examples of leadership practices that met the competencies to a high level, and this was the benchmark we wanted our respondents to use in their self evaluation.

Table 2. First-time principals (FTP) with no previous senior management experience, by school roll size

School roll	Number of principals	Principals with no senior management experience	
		Frequency	%
1-20	21	15	71.4
21-30	29	16	55.2
31-40	28	14	50.0
41-50	16	9	56.3
51-100	43	20	46.5
101-150	28	6	21.4
151-200	25	3	12.0
201+	71	0	00.0
Total	261	83	

## The validation study

The SALTAL validation study was designed to answer the three questions described earlier. The question about whether the theory of leadership that informed the design of SALTAL was shared by the principals themselves was answered through a procedure known as factor analysis. The second question was answered through scale analysis. It was used to check, by examining the response patterns of the principals, whether the items that were intended to measure the same dimension, did in fact, belong together. The third question about validity was addressed by comparing the scores principals obtained on SALTAL with independently derived assessments of their capability. The technique we used to make this check is called a discriminant analysis.

The SALTAL data used in these three analyses were obtained from the 2004 and 2005 cohorts. The forms were completed independently by the principals shortly after enrolling in the programme and posted to the project office following a discussion with their mentors. Principals were asked to rate 'the extent to which you currently demonstrate this capability' on a five-point scale, where 5 indicated a 'high level' of the capability and 1 indicated 'hardly at all at the present time'.

Characteristics of the principals and their schools were obtained from the information supplied by the principals at the point of enrolment in the programme. Ethical protocols regarding the confidentiality of individual information supplied to the project team as part of the induction programme were complied with throughout the study.

### *Procedures for gaining an independent assessment of capability*

In order to establish whether SALTAL could accurately identify the learning needs of principals, we needed to establish an independent measure of their capability, which could then be matched with their SALTAL score. We asked the mentors of the 2004 and 2005 cohorts to review the principals they had been working with for a period of one year to 18 months and nominate any they felt belonged in a highly challenged (HC) or high performing group (HP). Mentors were asked to nominate on the basis of the following criteria: a highly challenged principal was 'currently experiencing highly challenging situations in their school (such as Board problems, staff and/or community relationship problems) and this, coupled with their current low capability, means they are not coping well'. This definition made clear that high challenge was determined on the basis of the match between context and current capability. The same principal might not be in the HC or HP group if appointed to a different school context. A highly performing principal was 'confident and articulate, clear about their context, and making good progress with several improvements in teaching and learning'.

A total of 58 principals were nominated for the HP group, and 30 for the HC group. We treated the remaining 173 principals as a middle group lying between the two extremes of HC and HP. As we shall see later, the formation of this middle group

by default rather than by explicit nomination turned out to be a fault in our procedures.

There were no significant differences between the three groups on the following personal and school characteristics: age; gender; ethnicity; years of teaching experience; type of qualification; decile level of school and predominant ethnicity of enrolled students.<sup>2</sup> There were significant differences between the three mentor classified groups, however, on two additional characteristics.

There was a significant relationship between previous experience and the mentor classifications ( $\chi^2(6)=15.68, p < .05$ ). On inspecting Table 3 we note that a disproportionate number of HP principals (nearly three-quarters) had previous senior management experience, whereas only 40% of the HC groups had such experience. Similarly, while 31% of the total cohort were appointed directly from the classroom, a disproportionate 50% of the HC group had such a background. Only 10% of the HP group were appointed from a classroom teacher position. There was also a significant relationship between the three mentor nominated groups and the size of the school they led ( $\chi^2(16)=36.41, p < .01$ ). In comparison to the total cohort, HP principals were underrepresented in schools of 1-50 students and overrepresented in schools of more than 1000 (Table 4). The reverse was true of the HC principals.

#### *Data analysis procedures*

Data preparation procedures are described, followed by a brief account of the statistical techniques used to address each research question.

**Data preparation.** Each completed questionnaire (N=305) was scanned electronically. In cases where the principal marked two adjacent categories (for example, 2 and 3), the mean (2.5) was recorded. Where a principal did not provide a rating, or marked two non-adjacent categories, the missing data code 99 was used. Questionnaires with more than one missing response (that is, more than 5% missing data)

Table 3. Type of position held by four FTP groups prior to appointment

Prior position	High performing		Middle		Highly challenged		Total cohort	
	N	%	N	%	N	%	N	%
Senior management	43	74.1	105	60.7	12	40.0	160	61.3
Classroom teacher	9	15.5	59	34.1	15	50.0	83	31.8
Non-school position	5	8.6	5	2.9	2	6.7	12	4.6
Overseas	1	1.7	4	2.3	1	3.3	6	2.3
Total	58	100	173	100	30	100	261	100

\*  $p < .05$

Table 4. Size of school to which four FTP groups are appointed

School roll	High performing		Middle		Highly challenged		Total cohort	
	N	%	N	%	N	%	N	%
1-50	12	20.7	65	37.6	15	50.0	92	35.2
51-100	6	10.3	33	19.1	3	10.0	42	16.1
101-200	13	22.4	32	18.5	8	26.7	53	20.3
201-300	8	13.8	16	9.2	2	6.7	26	10.0
301-400	5	8.6	15	8.7	1	3.3	21	8.0
401-500	2	3.4	4	2.3	0	0.0	6	2.3
501-600	1	1.7	4	2.3	1	3.3	6	2.3
601-1000	5	8.6	1	0.6	0	0.0	6	2.3
1001+	6	10.3	3	1.7	0	0.0	9	3.4
Total	58	100	173	100	30	100	261	100

\*\*  $p < .01$

were deleted from the analysis. Responses from 261 questionnaires (85.6% of the received questionnaires) were available for analysis.

#### *Statistical procedures*

*Testing the theory of leadership.* An exploratory factor analysis<sup>3</sup> was used to discover the dimensions of leadership that were suggested by the principals' responses to SALTAL. Those dimensions could then be compared with the six that were incorporated in the questionnaire.

*Assessing the reliability of the tool.* The reliability of the SALTAL tool was assessed using Cronbach's alpha coefficient. Alpha tests the extent to which items in each factor are measuring aspects of the same dimension - that is how well they correlate with each other. If alpha is high enough, the items can be summed to create one score for each dimension.

*Predicting the principals' group membership and learning needs.* A multiple discriminant analysis was used to test the extent to which the self assessment tool could correctly identify the principals as belonging to one of the three criterion groups described earlier. Data from 261 principals was analysed to determine a formula that maximises the difference between the three criterion groups. This formula maximizes the similarities within each criterion group, while separating each group as far apart as possible. Some mismatch between the mentors' classifications and the SALTAL scores is to be expected.

A multivariate analysis of variance (MANOVA) was used to examine whether on average, the HC, HP or middle groups scored differently on SALTAL. One would expect, if the instrument was working as intended and the mentors had done a

careful job of the classification, that there would be significant differences between the learning needs of the three groups.

### *Research findings*

Table 5 shows the mean SALTAL scores of the three groups of principals formed by mentor nomination (criterion groups) and of the total group. The first point to note about Table 5 is that the principals' self assessments were modest and realistic, given the high standard of leadership incorporated into SALTAL. Their mean scores of between 3 and 4 on a 5-point scale contrast with the higher self assessments obtained on an earlier version of SALTAL in which practical examples of what counted as meeting the standard were not included in the tool.

The second point to note is that the mean scores for the three criterion groups are in the predicted order (i.e., with the HP group scoring above the middle group which scores above the HC group).

**Testing the theory of leadership.** Exploratory factor analysis was used to see whether the SALTAL dimensions of leadership were in accord with those suggested by the principals' responses. Table 6 addresses this issue. The table is organized with the wording of the item on the left and the contribution it makes to each factor loading shown on the right. For example, the first factor consists of nine items (numbers 11-19 on SALTAL) and each of these items has its greatest loading on Factor 1 (shown in bold in the column headed Factor loading/1). Similarly, Item 3 has its strongest loading (0.74) on Factor 2, and this is shown in bold under Factor loading/2.

The factor analysis suggests that there are four dimensions involved in the leadership of teaching and learning, rather than the six used in the questionnaire. Factor 1 contains all of the items in two of the original SALTAL dimensions - Building Relationships and Strategic Planning and Management. Since the common theme across these items is working with others to achieve strategic objectives, we have now called this factor **Collaborative leadership**. Factor 2 is consistent with the original SALTAL dimension labelled Educational Leadership, and also includes item 9 ( 'Leads and manages ICT developments in ways that enhance teaching and

Table 5. Descriptive statistics for total SALTAL scores as a function of four FTP groups

Criterion groups	Mean	SD	Minimum	Maximum
Highly challenged	3.21	0.94	2.50	3.83
Middle	3.26	0.91	2.82	3.85
High performing	3.51	0.84	2.90	3.97
Combined cohort	3.31	0.90	2.83	3.85

**Note:** the response scale ranged from '1' indicating the capability was present *hardly at all* to '5' indicating a *high level*.

Table 6. Summary of items and factor loadings for four-factor solution for SALTAL questionnaire (N=261)

Item no.	Item wording	Factor loading			
		1	2	3	4
11	Works effectively with the BOT to develop and achieve important school-wide goals	0.80	0.04	0.05	0.07
12	Aligns school and community objectives, and cultures to support positive outcomes for students	0.73	0.08	0.17	0.04
15	Facilitates the creation of a collaborative and ambitious vision for the school that is shared by students, staff, parents, the board of trustees and the community	0.62	0.11	0.13	0.19
13	Ensures parents and caregivers are well informed about the school and the ways they can support student learning processes	0.57	0.04	0.19	0.04
16	Allocates resources, including time and professional support, to support effective teaching	0.54	0.08	0.08	0.14
17	Develop and maintains systems to support the effective operation of the school, based on good management practice and in compliance with all statutory reporting requirements	0.52	0.22	0.10	0.08
18	Applies problem solving skills and a solutions-focus to a range of issues	0.43	0.10	0.10	0.37
14	Is open to feedback and challenge	0.37	0.02	0.06	0.13
19	Facilitates change effectively	0.32	0.12	0.09	0.26
3	Understanding of key concepts in the current assessment debates	0.02	0.74	0.04	0.04
1	Sound up to date knowledge of effective teaching and learning	0.14	0.68	0.13	0.12
9	Leads and manages ICT developments in ways that enhance teaching and learning	0.09	0.44	0.00	0.07
2	Thorough understanding of the NZ Curriculum Framework	0.10	0.39	0.22	0.07
6	Demonstrates a strong sense of personal responsibility and accountability for the learning outcomes of all students	0.03	0.01	0.71	0.18
5	Believes they can positively enhance learning for all students, particularly through their influence on the quality of teaching	0.11	0.09	0.63	0.04
7	Creates opportunities for staff to innovate and experiment with strategies to enhance student learning	0.16	0.08	0.51	0.13
4	Values the whole student and uses their cultural background to promote engagement with the curriculum	0.17	0.08	0.48	0.05
8	Provides feedback to teaching staff on teaching effectiveness and student learning	0.07	0.24	0.39	0.07
10	Ensures ongoing school-wide monitoring, evaluation and assessment of learning and teaching effectiveness	0.13	0.28	0.38	0.03
23	Holds others accountable, where appropriate	0.02	0.05	0.24	0.76
22	Demonstrates a preparedness to make and justify difficult decisions	0.19	0.18	0.12	0.60
21	Effectively manages own workload	0.00	0.01	0.21	0.52
20	Provides ethical leadership	0.18	0.13	0.03	0.48

learning' ). This makes sense since the latter item emphasises the link between ICT development and the improvement of teaching and learning. This factor is now called *Knowledge and skills for leading teaching and learning*. Factor 3 has items from the two original dimensions that focus on learning, and indicates that the principal has a *Commitment to ensuring positive learning outcomes for all students*, while Factor 4 (*Ethical leadership*) is identical to the SALTAL dimension that was previously called Self-efficacy.

Although the factor analysis extracted a different number of factors or dimensions, these four factors are very consistent with the six original SALTAL dimensions. Factor 1 and Factor 3 each resulted from collapsing two complete SALTAL dimensions. The four new factors provide a clear and coherent picture of the dimensions of principalship, as seen through the responses of these new principals.

*Assessing the reliability of the tool.* Having established that there were four dimensions to the leadership of teaching and learning, our next task was to establish the reliability of the items that belonged under each dimension. Were the items associated with each dimension sufficiently coherent that we could treat them as four scales and calculate a score for each dimension? The items associated with Factor 1 (Collaborative leadership), Factor 3 (Commitment to ensuring positive learning outcomes) and Factor 4 (Ethical leadership) have strong internal consistency ( $\alpha=0.89, 0.85, \text{ and } 0.81$  respectively), all exceeding Nunnally's (1978) criterion of .8. The relatively small number of items in Factor 2 may account for the smaller but still acceptable level of consistency ( $\alpha=0.69$ ) of this scale. We can have confidence, therefore, that these items reliably measure the four dimensions of leadership identified by the factor analysis.

*Predicting group membership.* To address the diverse needs of the first-time principals, the project team needs to be confident that the information they obtain from SALTAL can consistently point them to those principals who have different learning needs. Table 7 shows the match between the way the principals are classified by the mentors and the way they were classified by SALTAL. Of the two groups that the mentors were specifically asked to identify, discriminant analysis successfully classified 70% of the HC principals, and 65.5% of the HP principals.

A quarter of the 173 members of the middle group were assigned to the HC group, while a further 28.3% of this group were assigned to the HP group. Of the original 261 cases, a little over a half (53.6%) were correctly classified. The classification of the middle group was particularly problematic, probably due to the fact that this group was constructed by default rather than by specific nomination.

*Differential patterns of responding across the three groups.* One of the main purposes of SALTAL was to determine the diverse learning needs of the principals in each of the three criterion groups. A comparison of the average scores of those in each group showed that the HP principals rated themselves as more capable than the other groups on two of the four leadership dimensions.

Table 7. Classification analysis using SALTAL scores (N=261)

Mentors' classification	SALTAL classification			
	HC	Middle	HP	
		<i>Frequency</i>		
HC	21.0	6.0	3.0	30.0
Middle	43.0	81.0	49.0	173.0
HP	9.0	11.0	38.0	58.0
		<i>Percentage</i>		
HC	70.0	20.0	10.0	100.0
Middle	24.9	46.8	28.3	100.0
HP	15.5	19.0	65.5	100.0

*Note:* HC=Highly Challenged; HP=High Performing.

A secondary analysis was completed using the classification derived from the SALTAL scores rather than from the mentors. In this case, the three groups were distinguishable from each other on all four leadership factors. These analyses suggest that whether principals are classified on the basis of self assessment or independent judgements, they have very different learning needs on many if not all aspects of the programme.

## Discussion

One of the challenges to be met by any programme of principal induction is how to cater for the diversity of both principal background and school context. This challenge is particularly strong for New Zealand's national programme because principals from all school sectors and types and from Māori and English medium schools participate in the same programme.

The formative evaluation of the programme shows that with the exception of the very first residential run in 2002, the participants have been, on average, highly satisfied with the programme. This has been achieved by increasing the level of differentiation within the programme, through such things as sector-specific workshops and case studies, and a menu of optional sessions. This differentiation has been strongly shaped by the evaluation data and by extensive consultation with principals' leaders and reference groups.

These responses to diversity are limited, however, because they do not involve the learners themselves in the assessment of learning needs. The SALTAL tool has been developed to provide each principal with an opportunity to reflect about their capacity to lead teaching and learning and to provide the project team with information about the learning needs of the whole cohort.

After three years of development, it was important to examine the validity and reliability of SALTAL. The analyses reported here established that the theory of



leadership held by the developers was largely confirmed by the pattern of responses of the first-time principals themselves. They see it as involving four different aspects - the knowledge and skills needed to lead teaching and learning; a commitment to ensuring positive learning outcomes for all students; collaborative leadership and ethical leadership. The high reliability of SALTAL means that scores for every principal can now be derived for each of these dimensions and taken into account when principals work with their mentors to develop their individualised learning plan.

The major questions addressed in this study concerned the probability that SALTAL scores would correctly predict the group to which principals had been independently classified by their mentors. If this was the case, then the project team could confidently use SALTAL scores, without any other independent check, to classify principals as likely to need certain sorts of preparation and support during their induction. For the two groups the mentors were specifically asked to identify (HC and HP), SALTAL can correctly distinguish those principals in over two-thirds of the cases. In other words, the tool can discriminate most of those who fall at each extreme of the development continuum. The third group of principals, the middle group, were selected by default - they were the principals who had not been selected in the previous two groups. The level of misclassification of this middle group of principals would suggest that either the instrument is incapable of adequately discriminating all three groups of principals, or that the classification criteria are insufficient to enable mentors to accurately select principals for each group. Given that members of the two extreme groups were individually selected, but the middle group was selected by default, the latter explanation is more likely. Difficulties with the way the mentors classified their principals are also suggested by the acknowledgment of some mentors that they were reluctant to classify their principals as 'highly challenged', even though they had previously expressed serious concern about them. This means that many such principals would have been by default mistakenly placed in the middle group. A new validation study will be conducted in 2006 with revised selection criteria and protocols. The revised protocols will ensure that mentors understand the criteria and create the new criterion groups by classifying every principal rather than using a 'recall and nominate' procedure.

Overall, the study confirmed that the induction programme needs to be differentiated not only by school type and sector, but even more importantly by capability. The learning needs of the highly challenged, high performing and middle group of the first-time principals did prove to be very different, on all four leadership factors. There is a good case for, in effect, designing three strands of induction within the one programme, as well as extending the opportunities for individualized learning through mentoring and workshops focused on the principal's own school situation.

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## Notes

1. Further information about the programme can be found at <http://www.firstprincipals.ac.nz>
2. Figures for distribution of principals across age, gender, ethnicity, years of teaching experience, type of qualification, decile level of school and predominant ethnicity of enrolled students are available from the first author.
3. The purpose of doing a factor analysis on questionnaire responses is to discover what items group or go together. These groups are called *factors*. For this analysis, maximum likelihood extraction and oblimin rotation were employed on the 23 items.

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