

JOHN MITCHELL & ASSOCIATES

RESEARCH PLANNING EVALUATION

The *JMA Analytics* Model of VET Capability Development

A report on

the National Survey of Vocational Education and Training (VET) Practitioner
Skills, conducted October-November 2009

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Thanks

The researchers were surprised and delighted by the number of responses (2,230) to the survey we sent out to the vocational education and training (VET) sector in Australia in late October 2009 and closed off three weeks later. The reason for our surprise was that the survey was demanding: it contained 81 questions, but when sub-questions are counted, there were 140 questions in this extensive survey about the capabilities and professional development needs of VET practitioners.

This high response rate is a finding in itself: clearly VET practitioners are passionate about their profession, their skills and their own continuous improvement. For example, 130 survey returns were received on a Saturday, 7 November 2009. And the tired myth that VET practitioners lose interest on Fridays was dispelled on Friday 6 November 2009 when we received nearly 300 returns. Take a bow, VET practitioners.

We wish to thank everyone who supported the survey including the following people:

- **The respondents who completed the survey.** We estimate that you spent, collectively, around 400-450 hours completing this survey. You obviously care about your profession.
- **Colleagues who disseminated the survey.** These included directors of training providers, senior government officials, VET policy makers and people who are members of VET networks. Goodwill abounds in the VET community.
- **Those people who critiqued the draft survey.** In particular, we thank Clint Smith from LearnWorks for critiquing the survey design and the draft report and Mary Hicks from the Australian Chamber of Commerce and Industry for critiquing the draft set of survey questions.

We trust that all those people who completed the survey or supported its dissemination will find this report illuminating. We want to acknowledge the respect you showed to the national survey by providing you with a valuable report.

We also hope the report will be of interest to the wider VET community.

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31 January 2010

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Key terms

DEFINITIONS

The following definitions guided the development of this report.

Capability

Stephenson (1992) defines individual capability as an all-round human quality, an integration of knowledge, skills, personal qualities and understanding used appropriately and effectively. This capability is used not just in familiar and highly focused specialist contexts, but also in response to new and changing circumstances. For Stephenson, capability is also about potential, that is, what the individual can achieve.

Eraut (1994) identifies two related meanings of capability.

In the first sense capability has a present orientation and refers to the capacity to perform the work of the profession: capability is both necessary for current performance and enables that performance. In its second sense, capability can be said to provide a basis for developing future competence, including the possession of the knowledge and skills deemed necessary for future professional work. (p.208)

Professional knowledge and skills

This report summarises how VET practitioners rate and integrate their professional knowledge and skills. Eraut (1994, p.16) cites a range of different types of professional knowledge, not all of which could be captured in our survey or any survey – “procedural knowledge, propositional knowledge, practical knowledge, tacit knowledge, skills and know-how”.

In the 2009 national survey, respondents were asked to rate themselves in relation to two broad types of knowledge based on Eraut’s definitions (1994, p.22) – ‘knowing how’ or process knowledge (based on learning from experience) and ‘knowing what’ or propositional knowledge (often based on learning from books and structured professional development).

Practice

Wenger, McDermott and Snyder (2002) provide a definition of practice, based on a set of common approaches and shared standards:

It [practice] denotes a set of socially defined ways of doing things in a specific domain: a set of common approaches and shared standards that create a basis for action, communication, problem solving, performance and accountability. (p.38)

Practice is also a thinking style, an ethical stance, a mini-culture:

It also embodies a certain way of behaving, a perspective on problems and ideas, a thinking style, and even in many cases an ethical stance. In this sense, a practice is a sort of mini-culture that binds the community together. (p. 39)

This wide-ranging definition of practice suits the breadth of VET work across the sector.

Practitioner

Practitioners are taken to mean those people who develop a practice, as defined above. While many people in VET develop a practice – for example, managers; non-educational staff – the specific practitioners the survey

was addressed to were: “any person working in the (VET) sector who undertakes teaching/training and/or assessing, full or part-time, regularly or occasionally”. The latter practitioners are also the focus of this report.

References:

Eraut, M. 1994, *Developing Professional Knowledge and Competence*, 2007 edition, Routledge Falmer, Oxford.

Stephenson, J. 1992, ‘Learning power: A learner managed work based learning programme for regional development.’ *Capability*, 3(3), pp.34-37.

Wenger, E., McDermott, R. & Snyder, W. 2002, *Cultivating Communities of Practice, A Guide to Managing Knowledge*, Harvard Business School Press, Boston Mass.

ACRONYMS

Some acronyms used in this report are as follows:

EFA	exploratory factor analysis (defined in Section 3 and Appendix 2)
JMA	John Mitchell & Associates
<i>JMA Analytics</i>	A division of John Mitchell & Associates
RPL	recognition of prior learning
RTO	registered training organisation
SEM	structural equation model (defined in Section 3 and Appendix 3)
VET	vocational education and training

Introduction

Overarching rationale for the survey: national productivity

The international competitiveness of our nation and the general living standards of all Australians are firmly linked to the quality of the workforce. In turn, the quality of our workforce is highly contingent upon the ability of the Australian VET sector to train a vast proportion of the nation's current and future workers, especially given that annual VET enrolments are almost exactly twice those of universities.

This training role places great responsibility on the VET sector, whose capacity is almost entirely determined by the skill level of its trainers and assessors. The higher the skill levels of these VET practitioners, the greater the capacity of the VET sector to ensure the quality of our nation's workforce.

Background to the survey

Considering this strong link between VET practitioner capability and national productivity, the authors decided to undertake a large scale quantitative investigation into the educational skill levels of Australian VET trainers and assessors: the National Survey of VET Practitioner Skills. The quantitative survey was designed to complement John Mitchell's three earlier books on the VET practitioner, based on extensive qualitative evidence: *Ideas for Practitioners* (2006), *Innovation and Entrepreneurship in VET* (2007) and *Advanced VET Practitioners* (2009) (see www.ibsa.org.au/jma).

The authors anticipated that the sector would value a quantitative analysis of what specific skills are encompassed in the notion of 'VET professional practice', and how these skills come together to enable VET trainers and assessors to perform the full range of their duties. We also predicted that this fresh analysis would enable the VET sector to design better strategies to improve the capability of VET practitioners.

New services available

In making our research freely available to the sector, we are pleased to announce some new capability development programs and other services for VET stakeholder groups, informed by the survey findings. Full details are provided in Attachments 1-4.

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Executive summary

This report presents an analysis of the 2,230 responses by practitioners in the vocational education and training (VET) sector to the *JMA Analytics* National Survey of VET Practitioner Skills.

JMA Analytics (see www.jma.com.au/JMAAnalytics.aspx) is the quantitative research division of John Mitchell & Associates, a company established in 1992 and specialising in research and evaluation in the education, health and government sectors (see www.jma.com.au).

The survey was launched on 27 October 2009 and closed on 16 November 2009. The opening lines of the survey invited the following VET practitioners to complete the survey:

... any person working in the (VET) sector who undertakes teaching/training and/or assessing, full or part-time, regularly or occasionally.

The analysis of the survey responses identifies the skills sets of VET practitioners in a unique manner, by showing how these skills sets relate to different stages of development of practitioners, from foundation to advanced level.

The analysis also quantifies the shortfall in professional development opportunities, both now and in five years' time.

The report then provides a way to address that shortfall: that is, a model of VET practice that can be used by both individual practitioners and workforce development planners to re-invigorate and make more efficient professional development in the sector.

The implications of the report for particular VET stakeholders are also tabled. For example,

- **individual VET practitioners** – and the peer networks and staff groups they participate in – can use the model to review their current skill levels, identify their needs for skills development and plan their possible developmental pathways within VET
- **senior managers** in registered training organisations (RTOs) can use the model to review their recognition and reward schemes, re-examine their workforce planning and development strategies and sharpen their strategies around competitive advantage
- **VET policy makers** might read the report and then reflect on how the use of the model can make more systematic the current systemic approaches to professional and workforce development.

Survey response and analytical methodology

After identifying the need for quantitative research into this area, *JMA Analytics* undertook a detailed national survey of the skills of VET trainers and assessors between late October and early November 2009. The survey instrument comprised 81 questions about the capabilities and professional development needs of VET practitioners.

The response to the survey was surprisingly large: a total of 2,230 survey responses were collected from all States and Territories of Australia in twenty one days. This sample population provided a good representation of the overall population of VET trainers and assessors and allowed us to make

inferences about the overall population with a very high degree of confidence. Section 1 sets out some key features about the sample and Appendix 1 provides a technical analysis.

Detailed explanations of the quantitative research methodology that sits behind the findings in this report are provided in Appendices 1-3 of this report. Psychometrician John Ward led the quantitative analysis, using SPSS software program for standard statistical procedures and the AMOS software for the more complex statistical modelling.

Key findings

Finding 1. There are skill gaps and there will be skill redundancies in the VET sector (see Section 1)

Survey responses identified a significant gap between the current skill levels of VET trainers and assessors and the skills required to perform all their professional duties. These current skills face rapid redundancy over the next five years:

- the current skill levels of the average Australian VET trainer and assessor meet only 80% of this group's professional work requirements
- by 2014, the current skill levels of the average Australian VET trainer and assessor will meet only 62% of this group's professional work requirements.

Finding 2. Nationally, current professional development opportunities meet only 55% of needs (Section 2)

It is not uncommon for skills to become redundant over time. However, individuals can limit the impact of skills redundancy by engaging in professional development. Unfortunately, Australian VET trainers and assessor believe that current professional development opportunities are less than adequate for their professional requirements:

- current professional development opportunities meet only 55% of VET trainer and assessor's professional requirements
- there are notable differences between VET practitioners' ratings of the quality of professional development opportunities in each State/Territory.

Finding 3. Currently, there is no coherent, inclusive model of VET professional practice (Section 2)

Why are VET practitioners claiming that their professional requirements are not being met by available professional development opportunities? A major finding from the survey is that there is no inclusive, coherent model of VET professional practice. While there is some understanding in the sector of the types of skills sets that comprise VET professional practice, as articulated in various accredited training programs, there is no clear model of how these skills sets and qualifications come together to enable VET trainers and assessors to perform their full range of professional duties.

This lack of an overarching model further means that there is no comprehensive understanding in the sector of how VET trainer and assessors transition from basic or foundation level to advanced practice. It also means that professional development programs are likely to be 'hit-and-miss' and not methodical in terms of specifically catering for participants' changing needs. This lack of a thorough model to guide professional development possibly explains the heavy emphasis on novice level skills in many professional development programs around VET, and the paucity of programs for advanced practitioners.

Finding 4. This research provides a comprehensive model of VET professional practice (Section 3)

The model of VET practice that emerges from this study can provide a valid framework for designing future professional development programs.

In identifying a comprehensive model of VET professional practice, *JMA Analytics* applied leading quantitative techniques to the data collected in the recent national survey. The result of these analytical processes is the development of a model that provides unique insights into the formation, structure and evolution of VET professional practice.

Finding 5. This model of VET practice consists of nine skills sets (Section 3)

Patterns in the survey responses enabled us to condense the mound of data obtained from the survey into nine logical and coherent 'skills sets'. These skills sets represent the way in which our survey respondents conceptualise and categorise skills within their professional practice. These skills sets are:

- 1. Generic skills**

This skills set includes negotiations skills, communication skills, decision making, critical thinking, and ethical standards.

- 2. Learning theories**

A theoretical rather than practical skills set, comprising knowledge that underpins learning. This includes knowledge of: VET pedagogy and andragogy and the theories of cognitive learning, behavioural learning, experiential learning, learning styles and learning preferences.

- 3. Foundation learning facilitation**

This skills set includes facilitating individual learning, group learning, workplace learning and learning among equity groups.

- 4. Foundation assessment skills**

This skills set includes summative, formative, diagnostic and recognition of prior learning (RPL) assessments, as well as the ability to perform such assessments within the context of the classroom and the workplace.

- 5. Advanced learning facilitation and assessment skills**

This skills set includes those learning facilitation and assessment skills that enable a trainer/assessor to work beyond the context of the classroom or the workplace. It includes facilitating e-learning, distance learning, off-shore learning and online assessment. This skills set also includes the ability to facilitate flexible learning.

- 6. Learning styles**

This skills set includes the ability to take into account visual learners, auditory learners and kinaesthetic learners when teaching/training.

- 7. Course organisation and student management**

This skills set is about the organisation and management of students. It includes such skills as the ability to apply continuous improvement to the management and delivery of VET courses, to engage stakeholders in the delivery, monitoring and evaluation of courses, to ensure that all students receive necessary training assessment and support services, and the ability to ensure that all training and assessment materials meet the requirements of the relevant training package or accredited course.

8. Commercial skills

This skills set is about the conducting of commercial educational activity. As well as teaching and training in a workplace environment, it includes managing commercial relationships, offering consultancy services, personalising training for commercial customers, and adapting training packages for commercial purposes.

9. Educational research

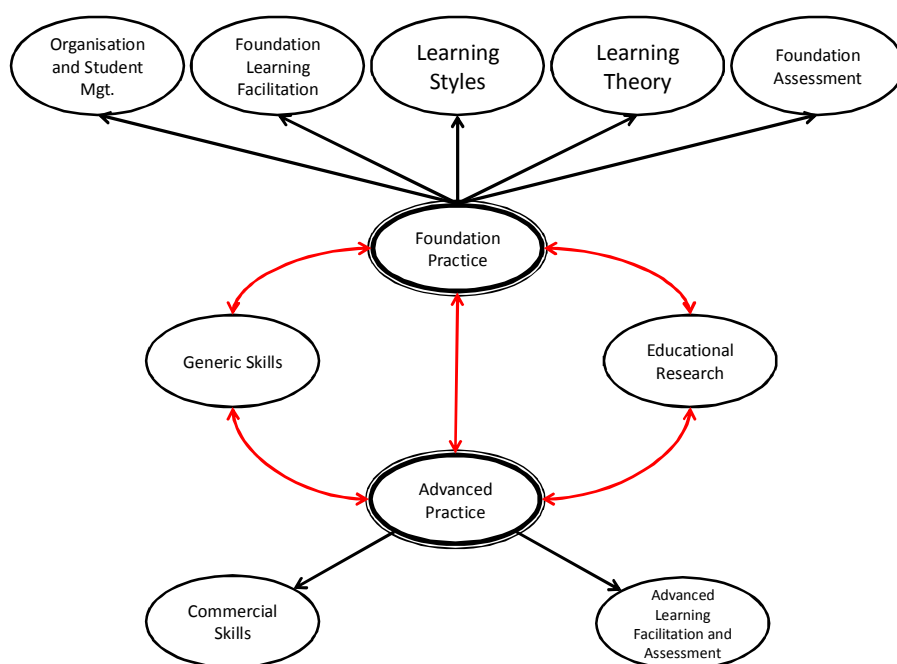
This dimension is about the collection and analysis of data to inform educational quality. It also includes research skills for the purpose of expanding the understanding of VET educational issues.

Finding 6. The model identifies the two broad components of the structure of VET professional practice: foundation practice and advanced practice (Section 3)

Like putting together pieces of a jig-saw puzzle, we were able to use advanced quantitative techniques to piece together the above nine skills sets in a way that explains the structure of VET professional practice. That is, to piece together the way in which these nine skills sets come together to enable VET trainers and assessors to perform their professional duties.

The structural model of VET professional practice is shown in Figure 1 below. Please note that, for the sake of simplicity, detailed quantitative information has been omitted from Figure 1. For a thorough discussion of this model, including an outline of the quantitative findings, see Sections 2–4 of the report as well as Appendix 3.

Figure 1: Full structural model of VET professional practice



This structural model of VET professional practice shows that there are two broad components to the structure of VET professional practice. We have named these component ‘foundation practice’ and ‘advanced practice’.

Finding 7. The model shows that foundation practice is derived from five skills sets (Section 3)

Foundation practice for VET practitioners is comprised of knowledge derived from five skills sets:

1. Learning theories
2. Learning styles
3. Foundation learning facilitation
4. Foundation assessment
5. Organisation and student management.

Finding 8. The model shows that advanced practice is derived from two skills sets (Section 3)

In addition to incorporating foundation practice, advanced practice for VET practitioners is comprised of knowledge derived from two skills sets:

1. Commercial skills
2. Advanced facilitation and assessment skills.

Finding 9. The model shows that generic and research skills underpin foundation and advanced practice (Section 3)

VET trainers and assessors do not regard generic skills or educational research skills as being part of either foundation practice or advanced practice. Rather, these two skills sets seem to sit alongside foundation and advanced skills practice, impacting upon their overall quality, but don't in themselves constitute part of their structure. This indicates that they play a supporting or underpinning role in the development of both foundation and advanced practice.

The quality of advanced practice is to a large extent contingent upon the quality of foundation practice. However, the generic skills set and the educational research skills set play an important role in establishing the quality of foundation and advanced practice. Simply stated, generic skills provide stronger support for foundation practice, while educational research skills provide stronger support for advanced practice.

Finding 10. The model identifies three categories of VET trainers and assessors (Section 4)

Alongside our model of VET professional practice, data analysis indicates that there exist three distinct types of VET trainers and assessors, each of which represents a developmental stage in acquisition of skills in VET professional practice. These are categories are:

1. The Foundation VET Practitioner

There are two broad types of Foundation VET Practitioners:

- a. **The Foundation VET Practitioner - Novice:** The feature that characterises the Foundation VET Practitioner from all other VET practitioners is that members of this group are not yet proficient in the five foundation skills (listed in Finding 7 above).
- b. **The Foundation VET Practitioner - Established:** This practitioner has acquired the foundation skills required of the profession.

2. The Specialist VET Practitioner

There are two broad types of Specialist VET Practitioners:

- a. **The VET Commercial Specialist:** These practitioners are specialists in personalising training for commercial customers and in related marketing and

sales. They are able to offer consultancy services, can manage commercial relationships, and can adapt training packages for commercial purposes.

- b. **The VET Learning and Assessment Specialist:** These practitioners are specialists in the facilitation, organisation and management of learning and assessment that goes beyond the context of either the classroom or the workplace. This includes e-learning and online assessment, as well as distance and off-shore learning.

3. The Advanced VET practitioner

Advanced VET Practitioners are equally competent in the tasks required of a Commercial Specialist as well as the tasks required of a Learning and Assessment Specialist.

Finding 11. The model shows that currently advanced practitioners are pre-occupied with e-learning, among a cluster of other challenging skills (Section 4)

Practice is not static. Because technology keeps changing and because they are focused on the leading edge of VET practice, advanced practitioners are focused on how to improve those skills that have a technology component. The leading edge of VET practice requires deep understanding of e-learning, for example for the purposes of online assessment, and of flexible learning.

The leading edge of VET practice also includes the refinement of professional skills in domains such as action learning, workbased learning and diagnostic assessment.

Finding 12. The model can be used by individual VET practitioners to review their practice (Section 5)

The research encourages practitioners of all types – full or part time; institution, enterprise or workplace-based – to review their current skill levels, their needs for skill development, and their possible developmental pathways in VET, from foundation to advanced level practice.

For example, the model encourages practitioners to ask themselves: What is a VET commercial specialist? What are the roles of a VET commercial specialist? What are the skills needed to become a VET commercial specialist? Which of these skills do I currently possess? And how can I develop the ones I don't have?

Finding 13. The model can be used by registered training organisations (RTOs) to review their recognition and reward schemes (Section 5)

The model of VET practice emerging from this report (the skills continuum from foundation to advanced) and the taxonomy of three groups of VET practitioners (the categories of foundation, specialist and advanced) can be used by an RTO as a framework for recognition and reward schemes.

A basic strategy is for an RTO to develop systems of encouragement and reward for those who train and assessors who work their way along the skills continuum, from novice to advanced practitioner. A possible aim of this strategy, for a hypothetical RTO, could be to obtain the largest number as possible of specialist and advanced practitioners.

Finding 14. The model can be used by registered training organisations (RTOs) to re-examine their workforce planning and development strategies (Section 5)

The research is a reminder to RTOs of the importance of employing VET trainers and assessors with the relevant skill levels – foundation or specialist or advanced – to fit with the organisation's

strategic directions. With existing staff, RTOs can provide professional development opportunities to ensure the staff skills fit with the organisation's evolving strategic directions.

It is vital that each RTO has a clear grasp of the current skill mix of their trainers and assessors before embarking upon changing that skill mix towards something more amenable to the strategic directions of the organisation.

Finding 15. The model can be used by registered training organisations (RTOs) to sharpen their strategies around competitive advantage (Section 5)

Within the increasingly competitive VET sector there are some alternative strategies that might be employed by an RTO to achieve a competitive advantage. Each strategy requires a different mix of VET practitioners.

For example, if an RTO wishes to follow a product focus strategy [e.g. 'we are the best provider of such and such a training program'], its aim could be to deliver specialist training to a small segment of the overall training market. It would therefore be in the RTO's interest to employ a significant number of Specialist VET Practitioners and only a small number of Foundation VET Practitioners.

1. Snapshot of the survey respondents

This section provides a snapshot of the sample of respondents. Further discussion of the sample is provided in Appendix 1.

Key points

- The total sample of respondents was 2,230.
- An analysis of the response patterns from this sample population indicates that the information collected is indicative – at a very high level of confidence – of the opinions of the entire Australian population of VET trainers and assessors (see also Appendix 1 and Figure 8 in that appendix).

Sample by State or Territory

The sample population was drawn from all States and Territories of Australia (see Table 1). The largest sample was collected from NSW (730), while the smallest sample was collected from the Northern Territory (19). Strong sample sizes were drawn from Victoria (291), Western Australia (230), Queensland (221) and South Australia (171). Responses from the Australian Capital Territory (48) and Tasmania (19) were small. A total of 486 respondents did not provide information about their state of origin. For a discussion of the impact of these samples sizes upon the inferences drawn from the data, please see Appendix 1.

Table 1: Sample population by state or territory

State	Respondents	Percentage
ACT	48	2.15%
NT	19	0.85%
NSW	730	32.74%
QLD	221	9.91%
SA	171	7.67%
TAS	33	1.48%
VIC	292	13.09%
WA	230	10.31%
Missing data	486	21.79%
Total	2230	100.00%

Sample by gender

Of the survey respondents, when 'missing data' is removed from the sample, females constitute 58% of the sample and males 42% (see Table 2). This gender based response rate is typical of surveys among VET practitioners, and more than likely represents the approximate split between males and females working as VET practitioners.

Table 2: Sample population by gender

	Frequency	Percent
Female	987	44.3
Male	726	32.6
Missing data	517	23.2
Total	2230	100%

Sample by employer

Respondents were employed in a broad range of organisation types (see Table 3). However, a significant majority of the respondents work for TAFE (1,035 respondents or 46.4% of the total sample). This response rate is not surprising given the size of TAFE institute workforces. In descending order, TAFE employees were followed by those who work for private RTOs (387), secondary colleges (47), universities (47), ACE/Community Colleges (46), and group training organisations (13). A number of respondents worked for 'other' employers (148), some of whom we expect were enterprise RTOs. Some 507 respondents did not provide information about employers.

Table 3: Sample population by employer

	Frequency	Percent
TAFE	1035	46.4
Private RTO	387	17.4
ACE/Community College	46	2.1
Secondary School	47	2.1
Group Training Organisation	13	.6
University	47	2.1
Other	148	6.6
Missing data	507	22.7
Total	2230	100%

Sample by work category

Within these organisations, just under a half of the respondents were employed on a full time permanent basis (see Table 4). The remaining were divided between full time contract (189), part time sessional (182), part time permanent (154), workplace trainer and/or assessor (82), and other (92). A total of 480 respondents did not provide information about their work arrangements.

Table 4: Sample population by work category

	Frequency	Percent
Full Time Permanent	1051	47.1
Full Time Contract	189	8.5
Part Time Permanent	154	6.9
Part Time Sessional	182	8.2
Workplace Trainer and/or Assessor	82	3.7
Other	92	4.1
Missing data	480	21.5
Total	2230	100%

Sample by qualification

Our sample population was a well qualified group of VET trainers and assessors (see Table 5). Of all respondents, undergraduate degree holders (391) made up the largest group, followed by masters degree holders (315) and diploma holders (257). It is notable that 30 respondents have achieved a doctorate. A total of 479 respondents did not provide information about their highest educational qualification.

Table 5: Sample population by highest educational qualification

	Frequency	Percent
Cert. III or equivalent (Trade Certificate)	48	2.2
Cert. IV or equivalent	255	11.4
Diploma	257	11.5
Advanced Diploma	87	3.9
Degree	391	17.5
Post Grad Certificate	118	5.3
Post Grad Diploma	250	11.2
Masters Degree	315	14.1
Doctorate	30	1.3
Missing data	479	21.5
Total	2230	100%

Value of the sample

The above snapshot of our sample population indicates that the survey captured a diverse cross-section of Australia's population of VET trainers and assessors. This is not to say that the sample population is a perfect representation of this group. There are some limitations to this sample, and these limitations are discussed in detail in Appendix 1. Nevertheless, the sample does provide a very good sense of the skills and skill levels of the nation's VET trainers and assessors. The sample population provides a wealth of information about the professional requirements of this group, as well as a unique and accurate portrait of VET practitioner capability.

2. Skill gaps and skill redundancies in the VET sector

This section provides evidence of the skill gaps of VET practitioners and the lack of sufficient professional development opportunities.

Key points

- The overwhelming message from the *JMA Analytics* National Survey of VET Practitioner Skills is that a large proportion of Australian's VET trainers and assessors have a clear grasp of the unique set of skills needed to undertake the tasks required of them.
- On average, Australian VET trainers and assessors believe that their current skill levels meet only 80% of their professional requirements.
- Survey responses also show that a large majority of the nation's VET trainers and assessors perceive their skills to be dynamic rather than static, in that they are well aware of the fact that the skills requirements of their profession will change over time. And they are conscious of the need to engage in regular professional development.
- The problem, according to VET trainers and assessors nationwide, is not with their lack of willingness to undertake professional development, but with the lack of available professional development opportunities.
- On average, Australian VET trainers and assessors claim that available professional development opportunities meet only 55% of their professional development requirements.

Risk to productivity

The data collected through the *JMA Analytics* National Survey of VET Practitioner Skills provides a clear picture of the collective attitude of VET trainers and assessors towards professional development, and by default, the state of VET practitioner capability across Australia. It is a picture of a dedicated group of educational professionals who are not being offered sufficient opportunities to develop their skill levels in ways that meets their professional requirements.

Importantly, in terms of the productivity of the VET practitioner workforce, it is a picture of a group of professionals who are all too aware of the extent to which their skills are becoming redundant due to social, economic and technological change. The lack of suitable professional development opportunities exacerbates this ongoing process of skill redundancies, resulting in a situation that has the potential to severely restrict the VET sector's ability to respond to the training needs of Australia's workforce. Given this state of affairs within the VET sector, it is not difficult to envisage a potentially negative impact on Australia's industrial productivity, which, in turn, might negatively impact upon Australia's international competitiveness.

These claims about skill gaps are supported below with evidence.

Evidence about skill gaps and redundancy

The survey asked respondents to rate the extent to which their current skills meet their professional requirements. On average, Australian VET trainers and assessors believe that their current skill levels

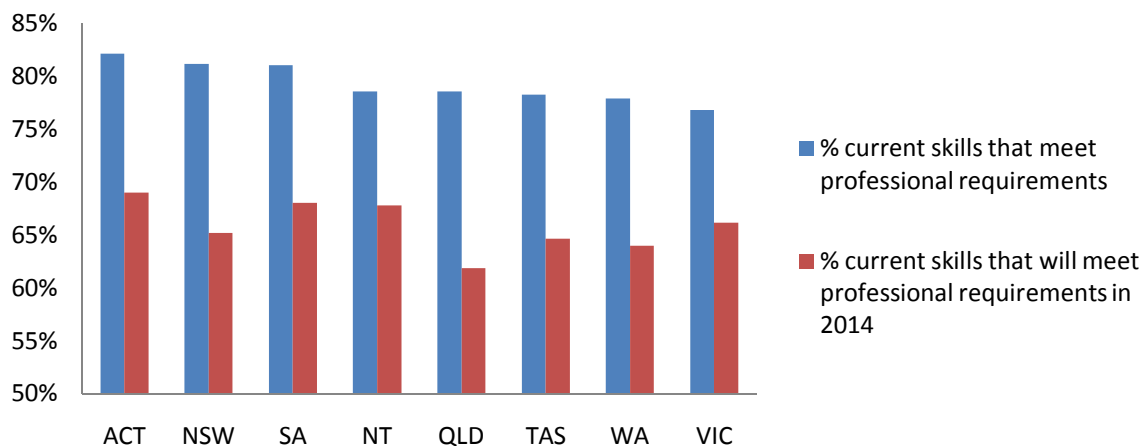
meet only 80%¹ of their professional requirements. In other words, 20% of their current skills sets fail to meet their professional needs. This is a significant deficit.

Respondents from Victorian and Western Australian provided the lowest rating of their current skill levels, believing that only 77% and 78% of their respective current skills meet their professional requirements. NSW and the ACT, on the other hand, provided the highest ratings of their current skill levels, believing that only 82% and 81% of their respective current skills meet their professional requirements (please see Figure 2).

The survey also asked VET trainers and assessors to rate the extent to which their current skills level might meet their professional requirements five years from the time of the survey, that is, by 2014. Responses to this question show that VET trainers and assessors are acutely aware of the extent to which their current skills are being made redundant by the rapidity of social, economic and technological change. On average, Australian VET trainers and assessors believe that current skill levels will meet only 66% (see footnote 1) of their professional requirements by 2014.

If, as outlined above, today's skill levels meet only 80% of today's professional requirements, simple arithmetic tells us that the utility of today's skills will decline by an average of 14% by the year 2014. Respondents from Tasmania and Queensland indicated the greatest expectation of skills decline, both believing that current skills will meet only 62% of their professional requirements by 2014. ACT and NSW, on the other hand, indicated the lowest expectations of decline, believing that current skills will meet 69% and 67% of their respective professional requirements by 2014 (see Figure 2).

Figure 2: VET practitioner skills gap by State/Territory: 2009 and 2014



For % of current skills that meet professional requirements, one-way between-groups ANOVA shows statistically significant differences at the $p < 0.05$ level in average % for each state. For % current skills that will meet professional requirements in 2014, one-way between-groups ANOVA also shows statistically significant differences at the $p < 0.05$ level in average % for each State/Territory.

While these findings are a cause for concern, they are not unexpected. In most dynamic skill markets, old skills are continually being superseded by new ones. Professionals working within these skill markets usually maintain their professional currency through participation in professional development. Take, for example, Certified Practising Accountants (CPAs). The currency of this group's professional skills is linked to the continuance of their professional registration. Those CPAs

¹ This national average was calculated across all survey respondents. Given the survey's unusually large sample of respondents from NSW, it is the opinion of JMA Analytics that this figure contains an upward bias. The real statistic might be one to two percentages lower than that quoted in the text.

who do not complete a prescribed amount of professional development each year are barred from professional practice.

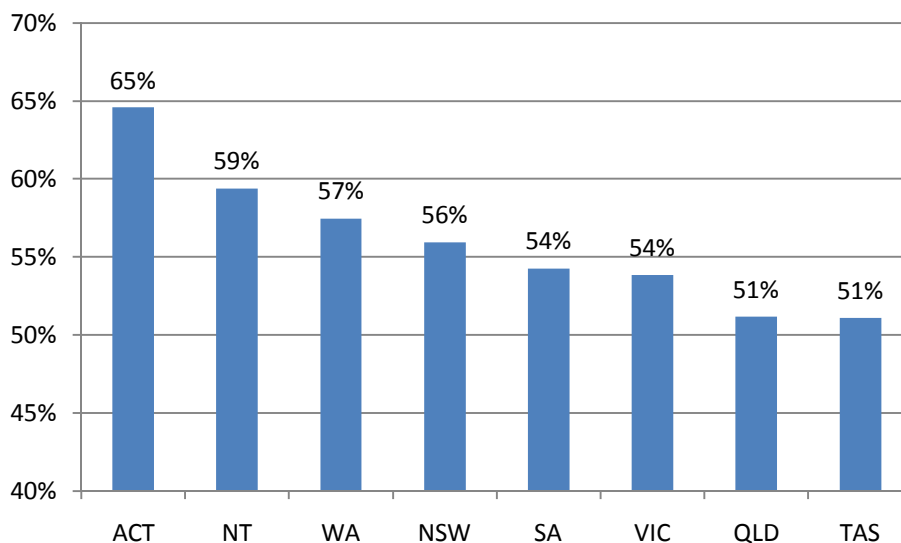
Evidence about the shortfall in professional development opportunities

Given that VET trainers and assessors, like accountants, work in a dynamic skills market, we can assume that sufficient professional development opportunities could bridge current skill gaps, as well as go a long way to arresting the long term decline in VET trainer and assessor skill levels. The skills shortfall in VET can be reversed.

Unfortunately, Australia’s VET practitioners clearly indicate that adequate professional development opportunities are just not available. The survey asked VET trainers and assessors to rate the quality and relevance of professional development opportunities. Australia wide, this group articulated a less than flattering opinion about these offerings. On average, Australian VET trainers and assessors claim that available professional development opportunities meet only 55% (see footnote 1) of their professional development requirements.

Respondents from Queensland and Tasmania provided the lowest ratings for their state’s professional development offerings, both believing that only 51% and their professional development requirements are being met. The ACT and the Northern Territory provided the highest ratings for their state’s professional development offerings, believing that 65% and 59% of their respective professional development requirements are being met. At both a national and state level, these results clearly demonstrate that VET trainers and assessors strongly believe that around 45% of their professional development needs **are not being met**.

Figure 3: Percentage of professional needs met by current professional development opportunities



One-way between-groups ANOVA shows statistically significant differences at the $p < 0.05$ level in average % for each State/Territory.

Let us speculate on the significance of these findings. We know from evidence presented above that there exists a gap between skill levels and professional requirements. Nationally, VET trainers and assessors claim that their current skill levels meet only around 80% their professional requirements. We also know that, if left unchanged, VET trainers and assessors current skill levels will meet only 66% of their professional requirements by the year 2014. From a policy perspective, the logical reaction to this situation is simple. To prevent a significant decline in the utility of VET practitioner skills, it will be necessary to encourage the provision of suitable professional development opportunities. However, if current professional development opportunities meet only 55% of VET

trainers and assessors professional development requirements, then we must be sceptical about the ability of current and future professional development initiatives to halt or delay the skills decline amongst our nation's VET practitioners.

Given this situation, it is noteworthy that the issue of professional development and capability building in VET has been a long-standing priority amongst VET policy makers. Resources have been, and continue to be, spent on providing professional development opportunities in different States and Territories, following the withdrawal in 2008 of the Federal Government from direct involvement in VET professional development.

Why is it then that VET practitioners are claiming that their professional requirements are not being met by available professional development opportunities? A major finding from the *JMA Analytics* National Survey of VET Practitioner Skills is that there does not exist an inclusive, coherent model of VET professional practice. While there is some understanding in the sector of the types of skills sets that comprise VET Professional Practice, as articulated in various accredited training programs on VET practice, there is no clear model of how these skills sets come together in such a way that enables VET trainers and assessors to perform all their professional duties.

This lack of an overarching model further ensures that there is no comprehensive understanding of how VET trainers and assessors transition from basic or foundation level to advanced practice. It also means, generally speaking across the sector, that there can be no efficient method for targeting specific practitioners for tailored professional development. Without an overarching model, the only easily identified group to target is the new entrant group, so it is no surprise that a large amount of professional development opportunities seems to be directed at this novice group (e.g. short courses on small group facilitation), with much less offered for those practitioners who have progressed to the specialist and advanced levels.

Addressing the decline in skills

In the recent survey VET practitioners readily admitted that their current skills do not adequately meet the requirements of a rapidly changing social, economic and technological environment. This same group also acknowledged that, given this rapidity of change, opportunities to improve their skills fall far short of meeting their professional requirements. Unfortunately, if the decline in the skill levels of our VET trainers and assessors continues along this trajectory, it will undoubtedly have a negative impact upon Australia's industrial productivity, which, in turn, will negatively impact upon Australia's international competitiveness.

Fortunately, the data collected from the recent survey enables the construction of an overarching model of how skills sets come together to enable VET trainers and assessors to perform their professional duties. If investment in future professional development is to be efficient and effective, it needs to be mapped to this emerging model.

This model is described in the next section.

3. A comprehensive model of VET professional practice

This section describes the model of VET practice that emerged from the survey data.

Key points

- The analysis of the survey data shows that there are two broad components to the structure of VET professional practice. We have named these components foundation skills and advanced skills.
- Evidence from the survey data indicates that those practitioners who want to improve their skills beyond the foundation skill level have two distinct specialist pathways to follow:
 - The first specialist pathway consists of mastering the advanced learning facilitation and assessment skills set.
 - The second specialist pathway consists of mastering a commercial skills set.

Analytical processes

In identifying a comprehensive model of VET professional practice, *JMA Analytics* applied leading quantitative techniques to the data collected in the recent national survey. The results of these analytical processes provide a unique insight into the formation, structure and evolution of VET professional practice.

The analytical processes were undertaken in two integrated phases.

Phase 1 analysis - Defining skills sets within VET professional practice

As mentioned earlier, the survey asked 81 questions about the skills, capabilities and professional development needs of VET practitioners. Around 50 of those questions asked respondents to rate their abilities in relation to specific skills. To make this information obtained from these ratings clearer and more understandable, we used a statistical technique known as Exploratory Factor Analysis (EFA) to condense the survey data into a number of logical and coherent 'skills sets'. A brief description of EFA is provided in Box 1 below and further information is provided in Appendix 2.

Box 1: Exploratory Factor Analysis

Exploratory factor analysis is a rigorous statistical technique designed to simplify complex data. Developed originally for psychological research, exploratory factor analysis identifies common response patterns in the data, and on the basis of these response patterns, condenses the data into logical categories, groups, or as we will refer to them, 'skills sets'.

Because these skills sets were derived from VET trainer and assessor response patterns to survey questions, they represent the best approximation of how VET trainers and assessors either consciously or subconsciously categorise the skills they use in their professional practice. While we will not enter into a detailed discussion of exploratory factor analysis here, we have included in Appendix 2 a detailed description of the factor analysis undertaken for this study. Also included are bibliographical references for those who wish to explore this topic further.

The result of this EFA shows that, generally speaking, Australia's VET trainers and assessors conceptualise their professional skills in terms of nine distinct skills sets, as described below:

1. Generic skills

This skills set includes negotiations skills, communication skills, decision making, critical thinking, and ethical standards.

2. Learning theories

A theoretical rather than practical skills set, comprising knowledge that underpins learning. This includes knowledge of: VET pedagogy and andragogy and the theories of cognitive learning, behavioural learning, experiential learning, learning styles and learning preferences.

3. Foundation learning facilitation

This skills set includes facilitating individual learning, group learning, workplace learning and learning among equity groups.

4. Foundation assessment skills

This skills set includes summative, formative, diagnostic and recognition of prior learning (RPL) assessments, as well as the ability to perform such assessments within the context of the classroom and the workplace.

5. Advanced learning facilitation and assessment skills

This skills set includes those learning facilitation and assessment skills that enable a trainer/assessor to work beyond the context of the classroom or the workplace. It includes facilitating e-learning, distance learning, off-shore learning and online assessment. This skills set also includes the ability to facilitate flexible learning.

6. Learning styles

This skills set includes the ability to take into account visual learners, auditory learners and kinaesthetic learners when teaching/training.

7. Course organisation and student management

This skills set is about the organisation and management of students. It includes such skills as the ability to apply continuous improvement to the management and delivery of VET courses, to engage stakeholders in the delivery, monitoring and evaluation of courses, to ensure that all students receive necessary training assessment and support services, and the ability to ensure that all training and assessment materials meet the requirements of the relevant training package or accredited course.

8. Commercial skills

This skills set is about the conducting of commercial educational activity. As well as teaching and training in a workplace environment, it includes managing commercial relationships, offering consultancy services, personalising training for commercial customers, and adapting training packages for commercial purposes.

9. Educational research

This dimension is about the collection and analysis of data to inform educational quality. It also includes research skills for the purpose of expanding the understanding of VET educational issues.

The application of EFA to the survey provides a unique insight into how VET trainers and assessors conceptualise the skills sets that make up their professional practice. However, the mere knowledge of these skills sets falls far short of providing a complete understanding of VET professional practice.

Having this knowledge of nine different skills sets is akin to having all the pieces of a jig-saw puzzle scattered on a table. While all the necessary parts of the puzzle are there, they are yet to be pieced together into a comprehensive picture.

Like working away at a jig-saw puzzle, our next analytical task was to piece together the nine skills sets in a way that explains the structure of VET professional practice. That is, the way in which these nine skills sets come together to enable VET trainers and assessors to perform their professional duties. Once pieced together, our resultant understanding of the structure of VET professional practice provided a map of how Australia's VET trainers and assessors progress from foundation levels of practice to the more advanced levels of practice.

Phase 2 analysis: Defining the structural components of VET professional practice

JMA Analytics used a statistical technique known as 'Structural Equation Modelling' (SEM) to piece together the structural components of the VET professional practice. A brief description of this technique is provided in Box 2 below.

Box 2: Structural Equation Modelling

Structural Equation Modelling (SEM) is a sophisticated statistical methodology used to analyse the structure of certain phenomenon. SEM takes a confirmatory (or hypothesis-testing) approach to analysis, resulting in the identification of impact, as measured by a series of regression equations. These structural equations can be modelled pictorially to enable a clearer conceptualization of the phenomenon under investigation.

The hypothesised model can then be tested statistically in a simultaneous analysis of the entire system of variables to determine the extent to which it is consistent with the data. If the goodness-of-fit is adequate, the model argues for the credibility of hypothesised relationships among variables. If it is inadequate, the hypothesised relationships are rejected.

We have included in Appendix 3 a detailed description of the SEM process undertaken for this study, including all relevant goodness-of-fit results. Also included are bibliographical references for those who may want to explore the SEM process further.

The results of the SEM show that there are two broad components to the structure of VET professional practice. We have named these component 'foundation skills' and 'advanced skills'.

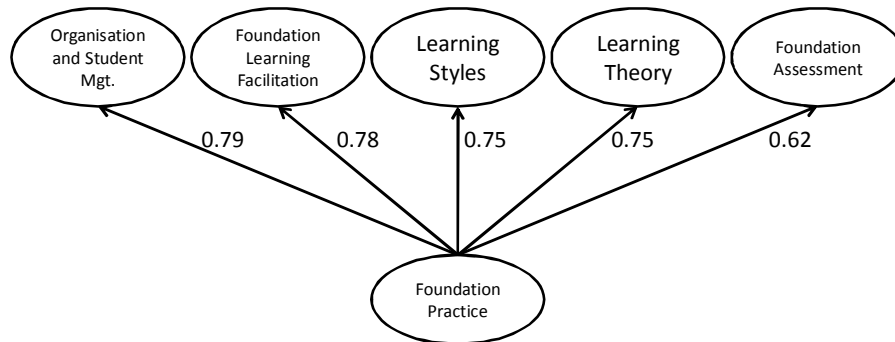
Foundation Skills: Foundation skills cover those skills sets which are very familiar in the VET sector and are either acquired while undertaking the Certificate IV Training and Assessment (TAA) or learnt on-the-job during the first one or two years teaching/training in the VET system. Specifically, foundation skills practice entails five of the nine skills sets outlined above. Collectively, we will refer to these five skills sets as 'foundation skills sets'. These foundation skills sets are:

1. Learning theories
2. Learning styles
3. Foundation learning facilitation
4. Foundation assessment
5. Organisation and student management.

Figure 4 below diagrammatically displays the structure of foundation skills as revealed through the process of SEM. The arrows in this diagram indicate the existence of a relationship between each skills set and the broader concept of foundation skills. The numerical scores adjacent to each arrow

are weightings that were calculated as part of the SEM process. These weights are estimated statistically from survey respondents' self assessment of their skill levels, and as such, provide us with an indication of the relative impact that each skills set has upon the overall quality of foundation skills practice amongst. Please note that these weightings have been standardized, and therefore range from between 0 to 1, where 0 is no impact and 1 is maximum impact.

Figure 4: Structure of foundation skills



The weightings outlined in Figure 4 indicate that the average Australian VET trainer and assessor perceives the quality of their foundation skills practice to be highly contingent upon the quality of their skills in organisational and student managements, as well as upon the quality of their foundation learning facilitation skills. While knowledge of learning styles and learning theory also have a significant impact upon the quality of their foundation skills, it is interesting to note that assessment skills play a distinctly lesser perceived role.

The two pathways towards advanced skills

Unlike foundation skills, advanced skills are not taught as part of the Certificate IV TAA, nor learnt within the first year or two of training or assessing within the VET system.

Evidence from the survey data indicates that those practitioners who want to improve their skills beyond the foundation skill level have two distinct specialist pathways to follow.

- The first specialist pathway consists of mastering the advanced learning facilitation and assessment skills set. This allows practitioners to engage in such activities as the facilitation of e-learning, distance learning, off-shore learning, online assessment and flexible learning.
- The second specialist pathway consists of mastering a commercial skills set. Commercial skills allow practitioners to manage commercial relationships, offer consultancy services, personalise training for commercial customers, and adapt training packages for commercial purposes.

Figure 5: Structure of advanced skills

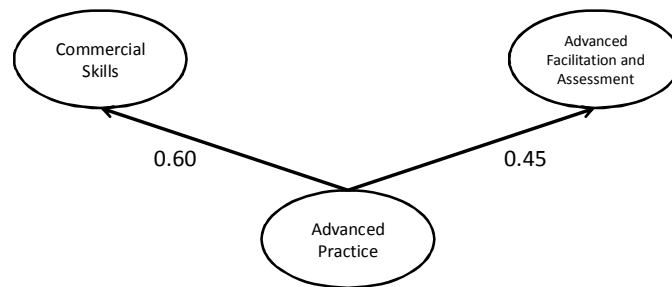


Figure 5 above outlines the structure of advanced skills practice as revealed through the process of SEM. The weightings indicate that the quality of commercial skills has a significantly greater impact upon the quality of advanced skills practice than does the quality of advanced facilitation and assessment.

Linking foundation and advanced practice

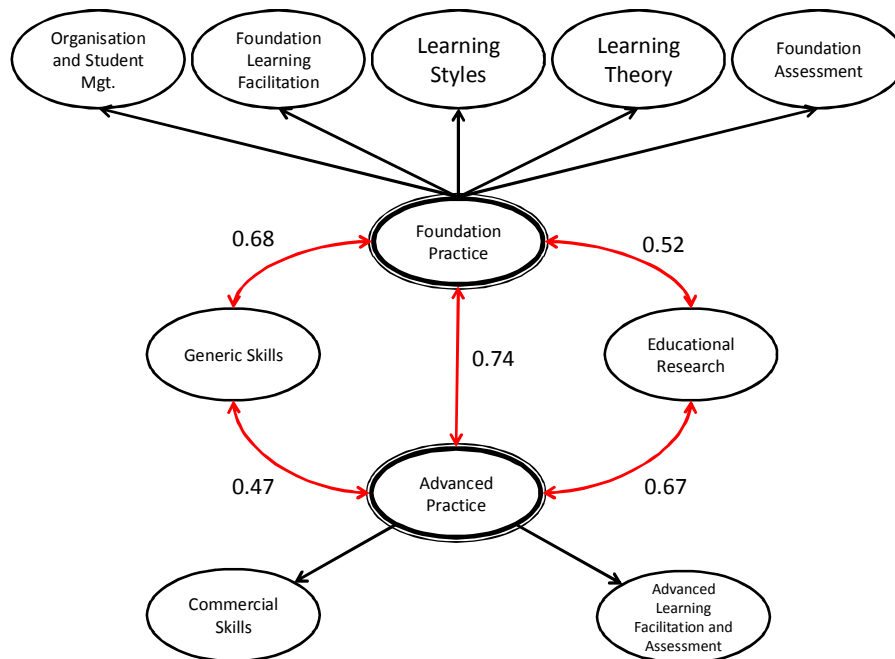
The relationship between foundation skills and advanced skills is an interesting one. Intuitively, one would assume that the progression from foundation to advanced practice is a relatively seamless process. Unfortunately, data collected through the survey does not indicate how this transition is undertaken. We can assume, however, that this transition is facilitated in two ways: firstly, through on-the-job learning, and secondly, through various types of formal professional development opportunities. The relative impact of these two learning processes upon the overall transition process is unknown.

While the process through which an individual transits from foundation skills through to advanced skills was not investigated in the survey, we do have a very good understanding of the relationship between foundation and advanced practices, as well as an understanding of the specific skills that might assist in this transition. In Figure 6 below, the full structural model of VET professional practice is outlined.

Note that the relationship linking foundation skills and advanced skills is denoted by a two way red arrow. The numerical value associated with this red arrow is a correlation coefficient. Unlike the weightings outlined above, correlation coefficients are measures of association between two variables. That is, correlation coefficients measure the extent to which variables rise and fall in association with each other. This strong correlation between foundation and advanced skills shows that high quality advanced practice is usually associated with high quality foundation practice, and vice-versa.

While this finding will come as no real surprise, note that the level of association between foundation and advanced practice is by no means a perfect correlation (a score of 1 is a perfect correlation). This suggests that while there is a strong association between the quality of foundation and advanced skills practice, there are other factors that impact upon the quality of both foundation and advanced skills practice. These other factors can be found in the generic skills set and the educational research skills set, as discussed next.

Figure 6: Full structural model of VET professional practice



Note: a correlation of $r = 0.56$ exists between generic skills and educational research. This relationship was left out of the diagram to prevent excessive cluttering.

The role of generic and educational research skills

As evident in the full structural model of VET professional practice, outlined in Figure 6 above, VET trainers and assessors do not regard generic skills or educational research skills as being part of either foundation practice or advanced practice. Rather, these two skills sets seem to sit alongside foundation and advanced skills practice, impacting upon their **overall** quality, but not in themselves constituting part of their structure. This indicates that they play a supporting or underpinning role in the development of both foundation and advanced skills practice.

Generic skills are correlated to both foundation skills practice and to advanced skills practice, as are educational research skills. The pattern of these correlations strongly suggests that the generic skills set and educational research skills set not only play a significant role in establishing the quality of foundation and advanced practice, but also they have a significant role to play in the transition between foundation and advanced practice.

Note that the generic skills set has a stronger relationship with foundation skills than with advanced skills. Similarly, the educational research skills set has a stronger relationship with advanced skills than with foundation skills. This pattern of correlation reveals to us that while both generic skills and educational research skills sets are associated with both foundation and advanced skills practice, generic skills provide stronger support for foundation skills practice, while educational research skills provide stronger support for advanced skills practice.

4. Key element of the model: three categories of VET practitioners

This section identifies three categories of VET practitioners.

Key points

- The data analysis indicates that there exist three distinct categories of VET practitioners – foundation, specialist and advanced – each of which represents a developmental stage in acquisition of skills in VET professional practice.
- There are two types of Foundation VET Practitioners: Novice practitioners who are not yet proficient in using the foundation skills, and Established practitioners who are proficient.
- There are two types of Specialist VET Practitioners: Commercial specialists who are expert in the delivery of VET educational services for commercial purposes and have skills in marketing and sales, and Learning and Assessment Specialists who are expert in the facilitation, organisation and management of learning and assessment that includes and goes beyond the context of either the classroom or the workplace.
- Advanced VET Practitioners are equally competent in the tasks required of a Commercial Specialist as well as the tasks required of a Learning and Assessment Specialist. They are a composite of the two streams.

Professional skills development

This research undertaken by *JMA Analytics* has clearly shown that VET trainers and assessors require a diverse set of professional skills to adequately undertake the tasks required of them. The extent to which an individual VET trainer and assessor might possess some or all of these skills will be highly contingent upon the professional goals and ambitions of that particular individual. Some practitioners may favour certain skills sets over other skills sets, while others might not wish to extend themselves to the advanced level of practice, being content to train and assess at a foundation or specialist level.

While peer groups may influence practitioners' ambitions to a certain extent, professional skills development is often a personal journey that is predominantly driven by the values, ambitions and interests of the individual.

Three categories of VET practitioners

Given the individualistic nature of this professional journey, we are able to use information stemming from both our Exploratory Factor Analysis and our Structural Equation Model to develop a system of categorising different types of VET trainers and assessors from the perspective of capability development. The data analysis indicates that there exist three distinct categories of VET practitioners, each of which represents a developmental stage in acquisition of skills in VET professional practice. These categories are:

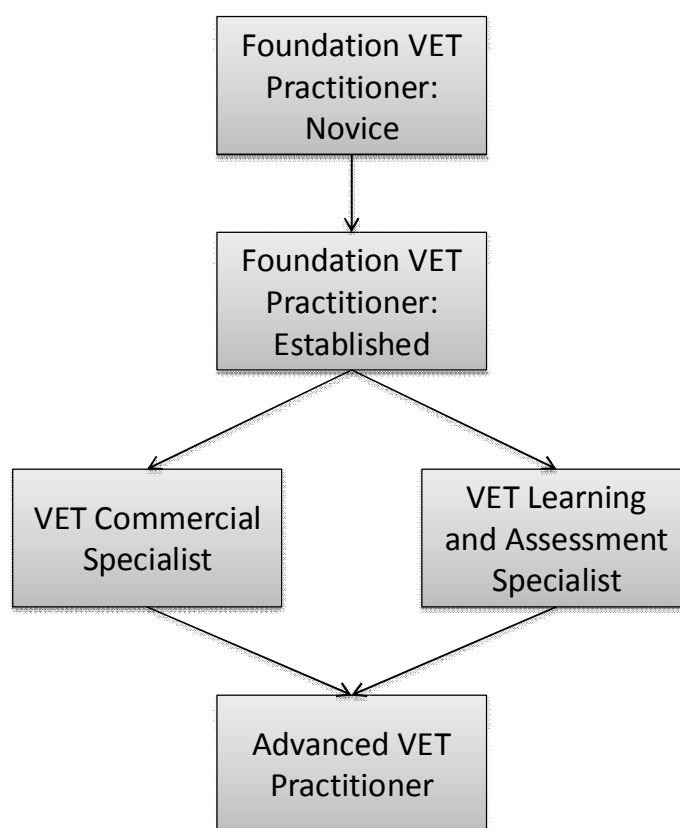
- 1. The Foundation VET Practitioner**
 - 1.1 Novice
 - 1.2 Established
- 2. The Specialist VET Practitioner**
 - 2.1 Commercial Specialist

2.2 Learning and Assessment Specialist

3. The Advanced VET Practitioner.

Figure 7 below shows the relationship between these three categories of VET practitioners.

Figure 7. Three categories of VET practitioners



Each of these types of practitioners is discussed below.

1. **The Foundation VET Practitioner.** There are two broad types of such practitioners:

1.1. The Foundation VET Practitioner - Novice: These practitioners are not yet proficient in using the foundation skills.

People at this stage of practice normally possess, or are working towards, the entry level qualification, the Certificate IV Training and Assessment (TAA). Most of these practitioners have been working in the VET sector for less than two years.

Their ability to apply foundation skills to their daily duties is limited either through a lack of formal training, or a lack of working experience, or a lack of both. As such, these practitioners require significant mentoring and management.

1.2 The Foundation VET Practitioner - Established: These practitioners have acquired the foundation skills required of the profession.

People at this stage of their professional practice normally apply their skills in either a classroom or workplace environment, but rarely in both.

Their acquisition of the basic skills of facilitation and student management allows them some autonomy when working as a VET trainer and assessor, although this autonomy is not usually accompanied with significant responsibility beyond that of their educational duties.

2. The Specialist VET Practitioner. There are two broad types of such practitioners:

2.1 VET Commercial Specialist: These practitioners are specialists in more than just the delivery of VET educational services for commercial purposes.

They also have skills in marketing and sales of VET products and services and are capable of personalising training for commercial customers. They are able to offer consultancy services, can manage commercial relationships and can adapt training packages for commercial purposes.

Like the Foundation VET Practitioner –Established, the Commercial Specialist has some professional autonomy. Unlike the Foundation VET Practitioner–Established, the professional responsibilities of the Commercial Specialist go far beyond the delivery of workplace training. Their responsibilities might also include the sale, management, and evaluation of commercial education programs.

Because these practitioners might supervise VET trainers and assessors, they also need to have effective management and leadership skills.

2.2 VET Learning and Assessment Specialist: These practitioners are specialists in the facilitation, organisation and management of learning and assessment that includes and goes beyond the context of either the classroom or the workplace. This includes e-learning and online assessment, as well as distance and off-shore learning.

To facilitate such learning and assessment, Learning and Assessment Specialists need to have a good grasp of the technology that supports such training and assessment.

Furthermore, the diverse needs of their educational clients require these specialists to have a good knowledge of flexible design of learning and assessment.

Like the Commercial Specialist, the Learning and Assessment Specialist has responsibilities that go far beyond educational delivery, and might include such responsibilities as product development, project management, evaluation of technological suitability and project evaluation.

Because these practitioners might supervise VET trainers and assessors, they also need to have effective management and leadership skills.

3. The Advanced VET Practitioner

Advanced VET Practitioners are equally competent in the tasks required of a Commercial Specialist as well as the tasks required of a Learning and Assessment Specialist. They are a composite of the two streams.

They have a good understanding of, and want to know more about, how to apply technology to advanced facilitation of training and assessment – whether this is within the classroom, within the workplace, across the nation or off-shore.

Because technology keeps changing and because they are operating at the leading edge of VET practice, they are focused on how to improve the use of technology for learning. For these people, the leading edge of VET practice requires a deep understanding of e-learning and flexible learning, applied, for example, to online assessment.

Advanced VET Practitioners have strong project management skills, and are able to utilise these skills for commercial as well as non-commercial purposes.

Advanced VET practitioners are leaders in VET practice. The leading edge of VET practice also includes the refinement of skills in domains such as action learning, workbased learning and diagnostic assessment.

Refinement of previous categories of VET practitioners

In *Advanced VET Practitioners* (2009), Mitchell proposed three categories of VET practitioners, based on research from 2005–2009 (Mitchell, Chappell, Bateman & Roy, 2006; Mitchell, 2006, 2007): traditional, new and advanced practitioners. Summaries of the three categories are set out in Table 6 below.

Table 6: Broad* comparison of the traditional, new and advanced VET practitioner (from Mitchell 2009)

Summary of the traditional VET practitioner	Summary of the new VET practitioner	Summary of the advanced VET practitioner
The notional 'traditional supply-driven VET practitioner' emerged in the 1970s, was focused on delivering great teaching and required the student to meet the VET organisation's expectations.	The notional 'new VET practitioner' emerged in the early 2000s, is demand-driven and focuses on helping the learner achieve his or her goals and seeks to meet industry and community expectations.	The notional 'advanced VET practitioner' has extraordinary capabilities for building client relationships, ensuring customer responsiveness and supporting flexible delivery

*The descriptors in Table 6 are very brief. Each of these three terms is defined in much more detail in Mitchell (2009), e.g. 16 core skills are identified for the new VET practitioner and 14 for the advanced VET practitioner

The analysis of the 2009 national survey as set out in this report builds on and sharpens the above categories, as summarised below in Table 7.

Table 7: Comparison of the two sets of categories, 2009, 2010

Categories in Mitchell 2009	Updated categories from this 2010 study
1. Traditional VET practitioner	1. Foundation VET practitioner (Novice and Established)
2. New VET practitioner	2. Specialist VET practitioner (Commercial; Learning and Assessment)
3. Advanced VET practitioner	3. Advanced VET practitioner

Similarities and differences between the categories are now discussed.

The 2010 term ‘Foundation’ and the two sub-categories of Novice and Established are preferable to the 2009 term ‘Traditional’ for two reasons:

- ‘traditional’ could be taken as a veiled criticism as in ‘out of date’;
- the sub-categories of Novice and Established correctly point towards the significant differences between new entrants to VET practice (Novice) and those who have acquired the foundation skills (Established).

The 2010 term Specialist VET Practitioner, and the terms used to describe the two sub-categories of Commercial Specialist and Learning and Assessment Specialist, are preferable to the term New VET practitioner for the following reasons:

- the term ‘new’ was framed in 2005 (for the NCVET report *Quality is the Key*, Mitchell et al. 2006) and what was new then is not so new now, five years later
- the term ‘specialist’ has more useful resonances in a professional context (e.g. a medical specialist) than the broad term ‘new’
- the two sub-categories of Commercial Specialist and Learning and Assessment Specialist distinguish between two pathways or specialist streams that usefully emerged from the 2010 survey.

Two other observations about the terms are as follows.

- The quantitative data (from the survey) that provides the basis for this report complements and refines the largely qualitative data (from interviews and focus groups, with some surveying as part of the 2006 publication) that underpins the research that resulted in the three categories of traditional, new and advanced VET practitioners (Mitchell 2009). A much longer report would be needed to marry the qualitative and quantitative data.
- It is quite appropriate that new words are needed to describe VET practitioners, as their professional practice doesn’t stand still; it keeps changing as political, economic, technological and other forces impact on it. The major changes sweeping through the VET system in 2009-2010 around market reform and increased competition can be expected to change VET practice even more in the future.

5. Initial implications of the model

This section describes some implications of the research reported upon in this document.

Key points

- The model of VET capability development described in this report has implications that will be of interest to individual VET practitioners and key RTO personnel such as professional development, workforce development and human resource managers and other senior and supervisory managers.
- The model will also be of interest to those who develop policies in workforce development.
- The following services are now available for VET stakeholders who wish to further unpack and benefit from the study: two workshop programs (Attachments 1 and 2), a tool for measuring capability within an RTO (Attachment 3) and an analytical benchmarking study for State and Territory governments (Attachment 4).

Range of implications

Each of the implications discussed in this section deserves further discussion and interrogation, which has led to the decision to provide public workshops on this report, via the industry skills council that manages the education portfolio, Innovation and Business Services Australia (IBSA). Please see workshop details in Attachments 1 and 2.

While the study will also have implications for policy makers and other government officials, the focus of the following discussion is at the practitioner and RTO levels. This focus is appropriate as RTOs are closer to the world of VET practice. While State and Territory governments are key players in VET capability development, and hopefully will continue to be involved, they often work on twelve-month funding cycles for supporting professional development. In contrast, this study points towards many initiatives that could be taken at the RTO level and by practitioners, in the very near future. Please see Attachment 3.

Some implications for policy makers, planners and other government officials are implied in Attachment 4. The *JMA Analytics* Model of VET Capability Development provides a clear and distinct way of conceptualising national and State/Territory shortfalls in capability development, and can be used by workforce development planners to re-examine professional learning and capability building within their jurisdictions.

Implications for individual practitioners

The research encourages practitioners to review their current skill levels, their needs for skills development and their possible developmental pathways within VET – from foundation to advanced. For example, practitioners could ask themselves:

- What is meant by the concepts of foundation and advanced VET practice? Where am I placed in terms of the skills continuum from foundation to advanced? In my own case, how do my skills sets come together to enable me to undertake my professional duties?

- What is a VET commercial specialist? What are the roles of a VET commercial specialist? What are the skills needed to become a VET commercial specialist? Which of these skills do I currently possess? And how can I develop the ones I don't have?

Implications for RTO recognition and reward schemes

The VET sector is fast becoming more competitive and VET trainers and assessors have a greater role to play in the development of their own RTO's competitive advantage. They are the face that most clients see. Therefore, their ability to do their job and to do it at a high level is fundamental to the future success of their organisation.

The model of VET practice emerging from this report (skills continuum from foundation to advanced) and the taxonomy of three groups of VET practitioners (categories of foundation, specialist and advanced) can be used by an RTO as guide for planning professional development. A simplistic strategy is for an RTO to develop systems of encouragement and reward for those trainers and assessors who work their way along the skills continuum, from novice to advanced skills practitioner. A simple aim of this strategy could be to obtain the largest possible number of specialist and advanced practitioners.

The rationale behind such a strategy is simple. The more specialists and advanced practitioners, the better the quality of the educational experience, and therefore the better the educational output. It should be recognised, however, that such a strategy might be good for state and federal educational authorities, but it might not serve the purposes of all RTOs. Some RTOs may have business models in which they mostly need foundation level practitioners.

Implications for RTO workforce planning and development

Some ways in which an RTO can ensure the correct skill mix for the organisation might include:

- a new or expanding RTO can employ VET trainers and assessors with the relevant skill levels; e.g. a calculated mix of foundation, specialist and advanced practitioners
- an existing RTO can provide professional development opportunities to current staff, especially where the RTO wants to change the mix of staff skills so that more are at the established, specialist or advanced levels.

In both cases, it is vital that the organisation has a clear grasp of the current skill mix of their trainers and assessors before embarking upon changing that skill mix towards something more amenable to the strategic directions of the organisation. Without knowledge of the current skill mix, a significant amount of resources might be spent for little or no gain. Indeed, such 'scatter gun' expenditure inadvertently might change the skill mix in such a way that the RTO might be even less well equipped to meet strategic requirements.

A hypothetical illustration follows.

Imagine AAA Education is a small RTO that delivers training within the AQTF framework to the retail industry. It currently has 30 trainers and assessors, of which 10 are full time and 20 are sessional. All of these trainers work in Melbourne. The Directors of AAA Education have endorsed a new differentiation strategy, in which their VET assessors are being branded as 'ABC retail educational specialists'. While on the job training will remain the backbone of their educational delivery, there will be a rapid move towards augmenting this delivery with online resources and some online assessment. There will also be the need for a number of trainers and assessors to take on more of a sales and marketing responsibility, as well as responsibility for project managing large specialist educational projects.

Given this strategic imperative for AAA Education, the Directors decide that the skills mix of the organisation primarily will be made up of specialists in both learning and assessment, as well as in commercial skills. There will also be the need for a small number of advanced practitioners to oversee all the educational operations, as well as the educational quality. In all, the optimal skill mix was determined as being:

- Foundation VET Practitioners: Fourteen employed as sessional staff:
 - Ten Established VET Practitioners
 - Four Novice VET practitioners
- Specialist VET Practitioners:
 - Commercial VET Specialist: Four employed full time
 - Learning and Assessment Specialist: Ten employed full time
- Advanced VET Practitioner: Two employed full time.

After determining the optimal skill mix for the new strategy, how does AAA Education develop a workforce development strategy that provides it with the required workforce?

- One way is to intuitively estimate the current skill levels of employees, and from this estimation, develop a workforce development strategy. The problem with an intuitive approach is that it is often wrong. This is particularly the case when the workforce is large. As humans, our ability to accurately and effectively conceptualise an abstract situation such as skill levels is limited, no matter what our beliefs in our abilities might be. We tend to get it wrong. We therefore need a method for measuring the educational skills of our workforce.
- Another way is to develop tools for determining how many of the existing or new staff fit with the categories of foundation, specialist or advanced VET practitioner. While some RTOs will wish to design their own tools, *JMA Analytics* is able to provide such a service for individual RTOs – as described in Attachment 3.

Implications for RTO strategies around competitive advantage

A competitive advantage can be defined as any factor that allows an organisation to differentiate its product or service from those of its competitors, in order to boost market share. Within the VET sector there are three broad, alternative strategies that might be employed by an RTO to achieve a competitive advantage:

- Cost leadership strategies: in which the aim is to produce and deliver a product at a lower cost than competitor
- Product focus strategy: in which the aim is to produce and deliver to a well defined, but narrow market segment
- Differentiation strategies: in which the aim is to produce and deliver a product that is perceived as being unique.

It is easy to see that the relative success of each of the above strategies is to a large extent contingent upon having an optimal skill mix amongst trainers and assessors, which, in turn, would require a specific approach to human resources and workforce development.

For example:

- If an RTO was to follow a product focus strategy, its aim would be to deliver specialist training to a small segment of the overall training market. It would therefore be in the RTO's interest to employ a significant number of Specialist Practitioners.
- If an RTO was to pursue a cost leadership strategy, it might value the flexibility of a large number of Foundation Practitioners, with perhaps a small number of Advanced Practitioners providing leadership.
- If an RTO pursues a differentiation strategy, this has implications for branding, quality assurance, and other special product features, all of which have implications for the skill mix of an RTO's trainers and assessors. To provide a unique service, such an RTO may need a majority of specialists.

A secret to supporting strategic initiatives is in getting the skill mix right for the strategy being pursued. These approaches will be examined in more detail in the workshop described in Attachment 1.

Workshopping the implications

All the above implications of this study will vary, depending on the RTO, and these differences are important to tease out. And there are many related implications for individual VET practitioners that deserve further discussion.

As noted above, *JMA Analytics*, in conjunction with IBSA, will be conducting workshops throughout Australia, based on this report, as follows:

- **Planners' workshop**
This workshop will focus on the strategic implications of the research findings. Designed for HR professionals, planning and strategic specialists, professional development specialists, and VET senior managers, these workshops will tackle in some depth the relevant strategic implications of the model and taxonomy emerging from this study. (see Attachment 1)
- **Practitioners' workshop**
This workshop will focus on helping participants to identify and appreciate what it is to be a specialist and advanced practitioner and how to achieve specialist and advanced VET practitioner status, given their current skill levels. (Attachment 2)

For those readers unable to attend these workshops, we trust that the contents of this report will ignite numerous professional conversations around your organisation. The questions set out in the workshop programs attached may assist in sparking those conversations.

Appendices: Quantitative methodology

Appendix 1: Sample size

In total, 2,230 VET practitioners did the survey. Of these, 1,742 (78.2%) of respondents completed the survey in full. Table 8 below provides an outline of the survey responses obtained from each State/Territory in Australia.

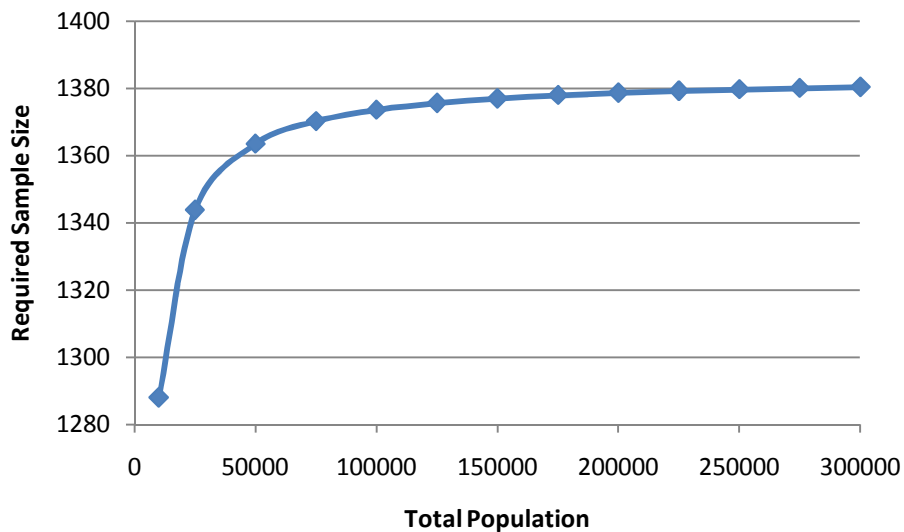
Table 8: Sample population by State or Territory

State	Respondents	Percentage
ACT	48	2.15%
NT	19	0.85%
NSW	730	32.74%
QLD	221	9.91%
SA	171	7.67%
TAS	33	1.48%
VIC	292	13.09%
WA	230	10.31%
Missing data	486	21.79%
Total	2230	100.00%

In order to ensure a high quality survey, we need to be confident that the information contained in our $n = 2230$ sample size is an accurate depiction of the information contained in the total population. In quantitative surveys, we can measure the level of error contained within the sample population using a simple random sampling methodology (for a simple explanation of random sampling methodologies, see Scheaffer, Mendenhall & Ott 1986). A vital component of this formula is knowledge of the total population size of VET practitioners in Australia. Unfortunately, there is an assortment of opinions regarding what this number actually is. Depending upon the way one defines 'VET practitioner', popular estimates of this population range from as low as 100,000 to as high as 300,000 (if all workplace trainers are included). Given this large variance in estimations, we have used the parameters of our sample population to estimate the minimum sample size required for a range of estimated populations of Australian assessors. These estimations are diagrammatically displayed in the graph in Figure 8 on the next page.

Given the parameters of the survey, the minimum sample size required for a total VET practitioner population of 100,000 is $n = 1374$, while the minimum sample size required for a total VET practitioner population of 300,000 is $n = 1380$. Note that the difference between these two sample sizes is trivial. Both these sample size requirements are well below our sample size of $n = 2230$, and well below the $n = 1742$ respondents who completed the entire survey.

Figure 8: Minimum sample size required for a range of total VET practitioner populations



These estimations are based upon a constant estimated standard deviation of 1.86 (highest standard deviation of all variables), and a bound of error estimation of 0.1 (of a seven point Likert scale).

Please note that calculations based upon a simple random sampling methodology assume that each survey respondent is randomly drawn (or selected) from a total population. Unfortunately, our method of data collection cannot be said to strictly comply with the requirements of random selection. Although the survey was distributed to VET practitioner networks in all States and Territories throughout Australia, not all VET assessors in Australia received a copy of the survey, and those who did were not required to complete the survey. If a perfect random sample was selected, we would expect to see the proportion of State and Territory respondents correspond roughly with the proportion of VET practitioners in each state and territory. Though we do not have the actual number of VET practitioners in each State and Territory, intuition tells us that the percentages outlined in Table 8 above are not representative of the distribution of VET practitioners across the States and Territories. Looking at the sample drawn, there is a significant over-representation of respondents from NSW, while there is a significant under-representation of respondents from Tasmania, the Australian Capital Territory and the Northern Territory. Therefore, the data will be biased towards a NSW view of VET capability, to the detriment of Tasmania, the Australian Capital Territory and the Northern Territory.

From the perspective of qualifications, we can again intuitively assume that our sample population is not representative of all VET practitioners. Given that 49% of our sample population claims to have either a Degree or Post Graduate Qualification (and 1.3% claim to have a doctorate), it would seem that our sample population is biased towards those with higher qualifications (see Table 9 below). The impact of this bias could be significant, given that we are trying to ascertain the skill levels of VET practitioners, and that qualifications are a major indicator of skill level. We must therefore assume that our sample population is biased towards the more skillful VET Practitioners. That is, the specialist and advanced practitioners.

Table 9: Sample population by highest educational qualification

	Frequency	Percent
Cert. III or equivalent (Trade Certificate)	48	2.2
Cert. IV or equivalent	255	11.4
Diploma	257	11.5
Advanced Diploma	87	3.9
Degree	391	17.5
Post Grad Certificate	118	5.3
Post Grad Diploma	250	11.2
Masters Degree	315	14.1
Doctorate	30	1.3
Missing data	479	21.5
Total	2230	100%

In all, our sample size is sufficient to make accurate inferences about the total population of Australia's VET practitioners. However, these inferences are biased towards the NSW VET practitioners, as well as towards those practitioners with degree and post graduate qualifications.

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Appendix 2: Exploratory factor analysis

Exploratory Factor Analysis (EFA) is a statistical methodology used to identify the smallest number of latent variables, or factors, that underlie a set of items. This essentially amounts to condensing of information within a data set so that the variation amongst a large set of variables can be accounted for by using a much smaller number of variables (Kline, 2005, Gorsuch, 1997; Fabrigar et. al. 1999). An EFA was applied to those items in the *JMA Analytics* National Survey of VET Practitioner Skills that required respondents to provide skills ratings. Our aim was to condense this large set of information into a smaller number of logical and coherent skills sets. Most importantly, the definition of these skills sets would not be defined by some intuitive process on the part of the analyst, but rather by the practitioners themselves.

Within an EFA model, a latent variable, or a factor, is a list of variables that belong together. Latent variables are expressed as a set of weighted linear combinations of the latent construct. We extracted latent variables from our data set through the use of Principle Component Analysis. The number of latent variables retained in our EFA was determined by two interrelated criteria. These were:

- The Kaiser criterion to select those factors that have an eigenvalue ≥ 1 (Kaiser, 1960; Kline, 1994; Gorsuch 1983)
- A Scree Plot to depict the descending variances that account for the factors extracted in graph form. The factors that lie before the point at which eigen values begin to drop can be retained (Kline, 1994; Gorsuch 1983)

In all, it was determined that nine latent variables could be extracted from the data.

Having extracted a set of latent variables, and having also decided on the number of latent variables to retain, we undertook a rotation of the initial estimates of the factor loadings so the items within each of the nine latent variables were clearly highlighted. We assumed the existence of correlation between latent variables, and therefore used an oblique rotational technique known as Promax (Kline, 2005). The interpretation of these rotated factors provided us with the definitions of our final skills sets.

For those readers interested in the statistical outcomes of this study, including principal component analysis, scree plot and rotated matrix, please contact John Ward john.ward@jma.com.au

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Appendix 3. The structural equation model – methodological enquiry and fit statistics

The following section provides a detailed description of the SEM methodology that underpins the development of the *JMA Analytics* Model of VET Capability Development. Also contained in this section is an analysis of the SEM fit **statistics** for this model. The SEM software used to calculate the *JMA Analytics* Model of VET Capability Development was AMOS 18.0. Data used in the SEM was collected via the *JMA Analytics* National Survey of VET Practitioner Skills. The total sample size collected was n = 2230 (see Appendix 1 for full analysis of sample size).

SEM Methodology

The construction of our structural equation model was based upon a strategy initially proposed by Jöreskog (1993). This author classified structural equation models into one of two types: 1) confirmatory models, and 2) model generating models. Confirmatory models seek to confirm established theoretical frameworks. Model generating models, on the other hand, are exploratory models in which changes are made within the model-testing framework of the SEM until a model is found that has an adequate fit in a statistical sense, and also makes sense in a theoretical or substantive sense. The *JMA Analytics* Model of VET Capability Development was constructed as a model generating model.

When creating a model generating model, Jöreskog (1993) recommends testing one factor congeneric models for each construct in the model. Throughout each step of the testing, changes are made to the model if the fit statistics are unsatisfactory. Needless to say, such changes need to make substantive sense. Once constructs have been examined singly, a full measurement model comprising all the constructs of interest is then evaluated.

Based upon the outcomes of our Exploratory Factor Analysis (see Appendix 2 for full details), we hypothesised the existence of nine dimensions of VET professional practice. Jöreskog's (1993) recommendations for constructing a SEM out of these nine dimensions were applied in three distinct phases. The first phase tested each dimension as a single construct, using chi-square as a goodness-of-fit measure. The constructs tested were: generic skills, learning theories, foundation learning facilitation, foundation assessment skills, advanced learning facilitation and assessment, learning styles, course organisation and student management, commercial skills, and educational research. Results of this test determined that the data was a good fit for all nine constructs.

When attempting to develop a substantive SEM from all nine constructs, it became obvious that the relationships between these constructs were very complex. Looking at the general pattern of these relationships, it was decided that this complexity might be simplified somewhat through the creation of two broad second order models. These second order models were named 'foundation practice', and 'advanced practice'. Foundation practice was comprised of five constructs (learning theories, foundation learning facilitation, foundation assessment skills, learning styles, course organisation and student management), while advanced practice was comprised of two constructs (advanced learning facilitation and assessment, and commercial skills). Two of the nine constructs did not fit into either of our second order models (generic skills and educational research).

The second phase of our model generation process tested these two second order models independently to see if they were an adequate representation of the data. This time, baseline comparison statistics and RSMEA were used as goodness-of-fit measures. The nature of these particular fit statistics is described in greater detail below. To our pleasant surprise, the data turned out to be an exceptionally good fit for both second order models.

Figure 9: Second order factor model: foundation practice

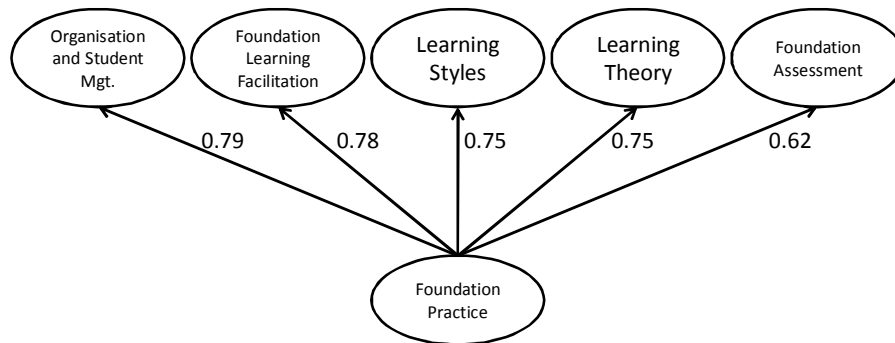
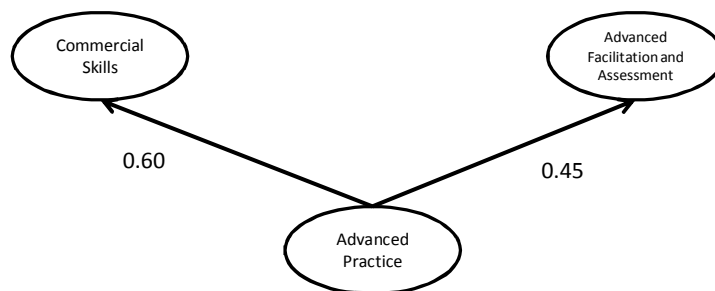


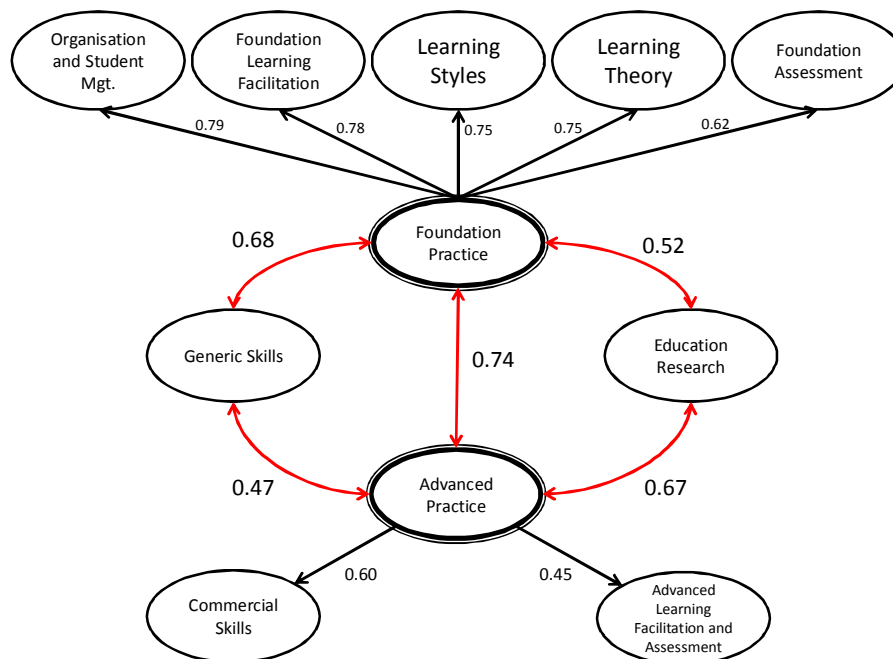
Figure 10: Second order factor model: advanced practice



The third and final stage of our model generation process consisted of linking the two second order models together, as well as incorporating the two constructs of generic skills and educational research into the overall model. Path analysis (correlation) was used to complete the final model. The full structural equation model is presented in Figure 11. As will be seen in the next section, the fit statistics for this model are quite good, indicating that it provides a very good representation of the data.

Please note that there is considerable debate surrounding model-generating approaches to SEM construction. In particular, the works Hayduk and Glasser (2000) argue that model-generating approaches are statistically driven, rather than theoretically driven. As a result, these models may be capitalising on statistical chance, which makes generalisation derived from these models problematic. It is our belief, however, that although this approach is statistically driven, the associated pitfalls of such a statistical approach can be mitigated by ensuring that the final model makes intuitive and substantive sense.

Figure 11: Full structural equation model



Note: a correlation of $r = 0.56$ exists between generic skills and educational research. This relationship was left out of the diagram to prevent excessive cluttering.

Adequacy of the SEM model (fit statistics)

Fit statistics for SEMs informs us as to whether or not a particular model is an adequate representation of the data collected. While there is literally a plethora of different statistics available to assist in determining the adequacy of the fit of a SEM, we will use six of these statistics to assess the adequacy of the SEM of apprentice attraction/retention. These six fit can be analysed within two broad categories:

1. Baseline comparison statistics:
 - Normed Fit Index (NFI)
 - Relative Fit Index (RFI)
 - Incremental Fit Index (IFI)
 - Tucker-Lewis Index (TLI)
 - Comparative Fit Index (CFI)
2. Root Mean Square Error of Approximation (RMSEA).

Baseline comparison statistics assess the discrepancy between the actual model (the *JMA Analytics Model of VET Capability Development*) with a comparable independence model (the *JMA Analytics Model of VET Capability Development* wherein variances attributed to the observed variables are unconstrained and covariances are set at 0) (Arbuckle, 2005; Bentler and Bonet, 1980). Results from these fit statistics are designed to fall between a range of 0 and 1 – where 1 is a perfect fit and 0 is a poor fit. As a general rule of thumb, scores below 0.9 indicate that the actual model can be improved (Arbuckle, 2005; Byrne, 2009). The application of these five Baseline Comparison statistics to our VET professional practice model obtained the following results: NFI = 0.905, RFI = 0.894, IFI =

0.918, TLI = 0.909, and the CFI = 0.918. As we can see, four out of the five baseline statistics are above the minimum level of 0.9 - and the one that does not meet this requirement fails to do by a trivial amount. These results therefore suggest that the model is an adequate fit for the data.

In support of these Baseline Comparison statistics, the Root Mean Square Error of Approximation (RMSEA) can also be used to assess the adequacy of the *JMA Analytics* Model of VET Capability Development. This fit statistic uses the population discrepancy function (F) as a measure of model adequacy, but adjusts this function for the effects of model complexity. A perfect fit would see RMSEA = 0.00. Browne and Cudeck (1989) suggest that an RMSEA of 0.05 or less indicates a close fit, while an RMSEA of between 0.05 and 0.08 an acceptable error of approximation. These authors would not recommend the use of a model with an RMSEA of greater than 0.1 (see also Arbuckle, 2005). In our model, the RMSEA = 0.05 (with a confidence interval of 0.049 and 0.051). These results indicate that the model is a close fit, confirming the adequacy of the model as expressed by the baseline comparative statistics.

Given these fit statistics, it would seem that the model presented above is an adequate fit for the data collected, and thus provides a valid representation of professional practice amongst VET trainers and assessors.

Structural Equation Model Fit Statistics

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.905	.894	.918	.909	.918
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.050	.049	.051	.632
Independence model	.165	.164	.166	.000

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Attachments: Services available

As this survey-based research and report preparation were self-funded activities, we are offering some fee-for-service opportunities that arise from the work.

In addition to the two workshop programs described in Attachments 1-2, the tool described in Attachment 3 and the analytical reporting described in Attachment 4, we can provide interested parties with customised workshops, analyses, reports or other services.

To discuss, please contact Dr John Mitchell at johnm@jma.com.au

Attachment 1. Workshop program for planners and senior managers: How to use a new strategic model for the capability development of VET practitioners

A unique workshop based on the 2010 study, *The JMA Analytics Model of VET Capability Development* available at www.jma.com.au/JMAAnalytics.aspx

It will be assumed that participants will read this document before attending.

Presenters: Dr John Mitchell and John Ward, *JMA Analytics*, a division of John Mitchell & Associates.

Target Audience:

VET/RTO HR Specialists, VET/RTO Professional Development and Workforce Development Specialists, VET/RTO Strategic Planning Specialists, VET/RTO Senior Managers and Policy Advisers, and advanced VET practitioners who manage other practitioners.

Aim of the Workshop:

The aim of this workshop is to provide participants with a model of VET professional practice and capability development that can be applied to any RTO, or groups of RTOs, for the purpose of:

1. Strategic planning and development.
2. Workforce skills planning and development.
3. Professional development planning and implementation.

The workshop will provide participants with an opportunity to examine the implications of the 2010 study, *The JMA Analytics Model of VET Capability Development* - including implications for workforce planning, workforce development, capability building and professional development and strategy development.

Description of the workshop:

The workshop will be conducted over one day, 9am-4pm, and will be divided into three parts:

The **first part** of the workshop will exclusively examine JMA Analytics' comprehensive model of VET Capability Development. Specifically, we will investigate new insights into:

- foundation, specialist and advanced VET practice among VET trainers and assessors
- skills sets within the context of VET professional practice
- the manner in which VET educational skills sets come together to enable VET practitioners to undertake their professional duties.

The **second part** of the workshop will examine the implications of the *JMA Analytics' Model of VET Capability Development* for registered training organisations' skill requirements and capability building. Specifically, we will investigate:

- The implications of the model (how foundation practice is linked to advanced practice) and taxonomy (the categories of foundation, specialist and advanced practitioners) for educational skill requirements within and across registered training organisations
- The implications of the model and taxonomy for the professional development and aspirations of VET trainers and assessors.

The **third part** of the workshop will examine the broad implications of the model and related taxonomy of professional practice for strategic planning and workforce development. We will investigate how the model can be used to:

- design a targeted workforce development strategy
- create professional development strategies
- allocate scarce resources across competing strategies
- understand which strategies have greatest impact upon VET practitioner capability and the quality of professional practice.

The emphasis of the workshop is on participants developing fresh strategic insights to take away and apply in their organisation.

Workshop dates and locations

Location	Date	Venue
<i>Melbourne</i>	<i>Thursday 11th March 2010</i>	<i>TBC</i>
<i>Perth</i>	<i>Tuesday 16th March 2010</i>	<i>TBC</i>
<i>Sydney</i>	<i>Monday 22nd March 2010</i>	<i>TBC</i>
<i>Adelaide</i>	<i>Wednesday 24th March 2010</i>	<i>TBC</i>
<i>Brisbane</i>	<i>Thursday 15th April 2010</i>	<i>TBC</i>

Registration

Full day workshop 9.00 – 16.00 including lunch: \$600 per participant (inc GST).

Please advise of any dietary and/or any other special requirements at the time of booking.

***Group discounts are available when four or more participants from the one organization register.**

How to Register

Registration for this workshop will open on Tuesday 2nd February, 2010.

Registrations are available via the IBSA website at: <http://www.ibsa.org.au/events.aspx>

Further Information

For further information about the workshop program, or to enquire about running this workshop in-house for a group of employees, please contact IBSA on t|03 9815 7000, e|events@ibsa.org.au

Attachment 2. Workshop program for practitioners: How to become and excel as a specialist and advanced VET practitioner

A new workshop based on the group breaking 2010 study, *The JMA Analytics Model of VET Capability Development* available at www.jma.com.au/JMAAnalytics.aspx

It will be assumed that participant will read this document before attending.

Presenters: Dr John Mitchell and John Ward, *JMA Analytics*, a division of John Mitchell & Associates.

Target Audience:

VET trainers and assessors with at least two years' experience, and preferably more, training and assessing within a VET environment.

The workshop will appeal particularly to people who are already specialist or advanced practitioners, and seeking more clarity about their skill levels and future development.

The workshop will also be of interest to people who manage specialist or advanced practitioners.

Aim of the Workshop:

The aim of this workshop is to enable participants to develop a clear understanding of the skills they require to become (or currently have as) a specialist and/or advanced VET practitioner. This understanding will be invaluable in guiding their future professional development.

Specifically, the workshop will provide participants with an understanding of:

1. their current skill levels
2. pathways for skills development within VET
3. an appreciation of what it is to be a specialist and advanced practitioner
4. how participants can plan to achieve the levels of specialist and advanced VET practitioner, given their current skill levels.

Description of the workshop:

The emphasis of the workshop is on individual and group professional development. The goal is to provide participants with a good understanding of their current skill levels, needs for skills development, and possible developmental pathways within VET.

The workshop will be conducted over one day, 9am-4pm, and will be divided into four parts:

The **first part** of the workshop will examine the *JMA Analytics' Model of VET Capability Development* based on results from the National Survey of VET Practitioner Skills. Within the context of this new model of professional practice, we will investigate:

- The concept of a skills set within VET professional practice
- The concept of foundation and advanced VET practice
- The manner in which VET educational skills sets come together to enable VET practitioners to undertake their professional duties
- The implications of the model for personal and professional development
- The implications of the model for their professional pathways.

The **second part** of the workshop will investigate the concept of a VET commercial specialist, addressing the following questions:

- What is a VET commercial specialist?
- What are the roles of this specialist?
- What are the skills needed to become a VET commercial specialist?
- What are the professional development implications of becoming a VET commercial specialist?

The **third part** of the workshop will investigate the concept of the VET learning and assessment specialist, addressing the following questions:

- What is a VET learning and assessment specialist?
- What are the roles of this specialist?
- What are the skills needed to become a VET learning and assessment specialist?
- What are the professional development implications of becoming a VET learning and assessment specialist?

The **fourth part** of the workshop investigates the concept of the advanced VET practitioner, addressing the following questions:

- What is an advanced VET practitioner?
- What are the roles of an advanced VET practitioner?
- What are the skills needed to become an advanced VET practitioner?
- What are the professional pathways to becoming an advanced VET practitioner?

Workshop dates and locations

Location	Date	Venue
Melbourne	Friday 12 th March 2010	TBC
Perth	Wednesday 17 th March 2010	TBC
Sydney	Tuesday 23 rd March 2010	TBC
Adelaide	Friday 26 th March 2010	TBC
Canberra	Monday 29 th March 2010	TBC
Darwin	Friday 9 th April 2010	TBC
Brisbane	Friday 16 th April 2010	TBC
Hobart	Friday 23 rd April 2010	TBC

Registration

Full day workshop 9.00 – 16.00 including lunch: \$600 per participant (inc GST).

Please advise of any dietary and/or any other special requirements at the time of booking.

***Group discounts are available when four or more participants from the one organisation register.**

How to Register

Registration for this workshop will open on Tuesday 2nd February, 2010.

Registrations are available via the IBSA website at: <http://www.ibsa.org.au/events.aspx>.

Further Information

For further information about the workshop program, or to enquire about running this workshop in-house for a group of employees, please contact IBSA on t|03 9815 7000, e|events@ibsa.org.au.

Attachment 3. *JMA Analytics* VET Capability Analysis Tool (VETCAT)

Ideal situation

The aim of a workforce development strategy is to ensure that the workforce has the capability to achieve one or more strategic outcomes. That is, that the workforce has the necessary skill mix to undertake the tasks required of it.

Problem

An effective workforce and development strategy must be based upon a firm understanding of a workforce's current capability.

Just like truck drivers cannot map out a route to a specific destination until they know where they are to begin with, neither can a VET workforce development specialist develop strategies to change the skill mix of VET trainers and assessors without understanding exactly what skills are available, and what skills are not available, and in what relative quantities.

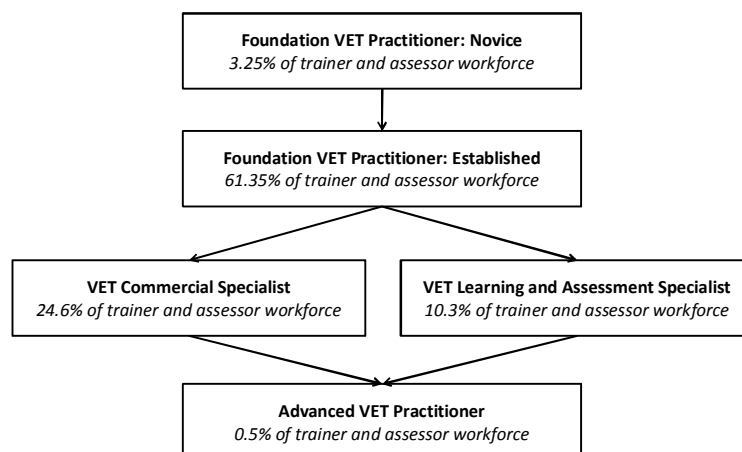
Solution

To meet this need, *JMA Analytics* has developed the *VET Capability Analysis Tool (VETCAT)*, designed to provide an accurate, cost effective means of measuring VET practitioner skill levels – whether they are

- within an RTO (any type of RTO, from enterprise RTOs to institutions; any cohort of VET practitioners)
- across a number of RTOs (for benchmarking purposes)
- within an industry group
- or across industry groups (benchmarking).

The following diagram shows a hypothetical result from using VETCAT with one RTO.

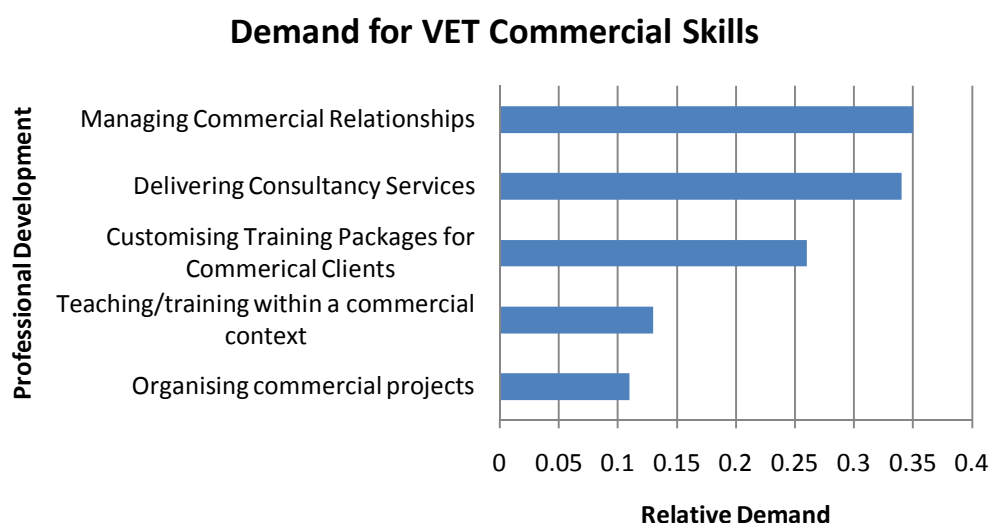
Figure A. Hypothetical result from using VETCAT with one fictional RTO to identify numbers and percentages of each type of VET practitioner



VETCAT not only provides a breakdown of practitioner types, and the relative proportion of these practitioner types within and across groups, it also provides comprehensive information about the demand for professional development. Specifically, VETCAT results outline the demand for skills within each of the nine skills sets in the *JMA Analytics Model of VET Capability Development*.

For example, in Figure B below, the demand for skills – and professional development – within the skills set of commercial skills is captured, for a hypothetical RTO.

Figure B. Hypothetical result from one RTO from using VETCAT to identify existing skills in one skills set area – commercial skills



VETCAT provides an easy to understand analysis of VET trainer and assessor existing skill levels, for instance within an RTO, as well as a comprehensive overview of the demand for skills amongst these practitioners. VETCAT can also be customised to meet your specific requirements. No matter how big or small a group your VET practitioners might be, we can adapt VETCAT to meet your unique reporting and benchmarking requirements.

VETCAT provides information that is indispensable for the design of high impact workforce development strategies. For further information about VETCAT, please contact: johnm@jma.com.au

Attachment 4. State/Territory benchmarking analyses of workforce development

The *JMA Analytics* Model of Capability Development identifies the skills sets of VET practitioners, and shows how these skills sets relate to different stages in the professional growth of practitioners – from foundation to advanced level. The model provides a clear and distinct way of conceptualising national and State/Territory shortfalls in capability development, and can be used by workforce development planners at State/Territory to re-examine capability building and workforce development within their jurisdictions.

Benchmarking analyses

Of the 2,230 VET practitioners who undertook the survey, 1744 (78.2%) indicated the State/Territory they worked in. We can therefore interpret the data in such a way that the unique attitudes and opinions of practitioners from each State/Territory are highlighted and benchmarked against the national average. Specifically, we can:

- undertake a detailed examination of VET practitioner skill levels at the State/Territory level. What skills are available and what skills are not?
- compare VET practitioner skill levels at the State/Territory level with national skill levels. How do the skill levels of VET practitioners rate against the national average?
- estimate, at the State/Territory level, the relative size of each practitioner group. How many foundation, specialist and advanced practitioners work in your State/Territory?
- compare the relative size of each practitioner group at the State/Territory level with those at the national level. For example, does your State/Territory have more practitioners than others, at the foundation level? At the specialist level?

Detailed information

JMA Analytics can augment such information with data that was not relevant in the body of this report but nonetheless will be highly valuable to planners. Specifically, our survey data provides detailed information about the relative demand for professional development for all nine VET skills sets, as well as for over 50 individual VET training and assessment skills. Hence, we can address questions such as:

- In what exact areas do VET practitioners in your State/Territory really want to do professional development? For example, what are their skill requirements for e-learning or diagnostic assessment or consultancy skills?
- How do they like to access professional development (e.g. face to face or online or distance education; daytime/evening) and who do they think should pay for it (employer; government; individual)?
- How well connected are they with their industry networks and do they want more information to keep up to date with their industry?

We can undertake these analyses in terms of different types of VET practitioners (e.g. TAFE, private RTO), by highest qualification level (e.g. Diploma or Masters), by work arrangement (e.g. full time, part time, workplace assessor) and by gender.

In brief, *JMA Analytics* is able to provide planners and policy makers with a clear and concise picture of VET capability at the State/Territory-level, as well as detailed analyses of the relative demand for professional development within each State/ Territory. Such information removes guesswork and is indispensable for the development of an effective workforce development policy.