

# Profiling Institutional Diversity Across the Australian VET Sector

## BRIEFING



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and Leo Goedegebuure

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# EXECUTIVE SUMMARY

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The briefing report covers the findings of a collaborative research project aimed at portraying in a novel and transparent way, the institutional diversity of providers in the Australian Vocational Education and Training (VET) sector. The research team adapted an approach previously used by LH Martin Institute in 2013 to profile the diversity of Australian universities. The results of this research highlight the significant diversity existing across 35 providers out of the 100 largest VET providers invited to participate. In 2012, the top 100 VET providers covered 75% of all providers delivering publicly funded VET based on the NCVER figures. By 2014, the market share of the Top 100 providers had fallen to 60% of publicly funded VET (publicly funded does not include VET FEE-HELP).

The last 20 years has seen dynamic change in the sector. The inexorable direction of the change has been to create an open training market for VET. The publicly owned training institutions of TAFE (Technical and Further Education) have been the institutions most affected by the changes in State and Federal government policy and the subsequent rise in importance and dominance of private providers of VET. An underlying principle for both the State and Federal governments in creating an open market has been to enhance consumer choice and ensure value for money for governments.

An accelerating trend is the centralisation and amalgamations of TAFE Institutes, driven by the view that a larger critical mass of corporate and education services will provide economies of scale. It is worth noting that this trend is also evident within higher education particularly in relation to a greater centralisation and growth of professional/corporate services. Indeed this model is also apparent with the rise of corporate private providers. From a system perspective, systems with more diversity perform better than systems with less diverse institutions. While the rapid increase in provider numbers has been well documented, it is much less clear whether this created a fundamentally more diverse system that caters for the diverse needs of consumers, both students and employers, or whether it has just meant “more of the same”. It also is less clear how policy makers have responded to this diversity in demand, other than through the assumed positive effects of “level playing fields” through “contestable markets”. In this sense the clear emphasis is on the diversity of institutions within the system, rather than on different tertiary systems.

An additional and emerging question relevant to the results of this research is the National Innovation and Science Agenda (NISA) as presented by the Turnbull government late 2015. The NISA quite rightly places the requirement on our tertiary institutions to develop a highly skilled workforce capable of entrepreneurial thinking, digitally literate and able to collaborate and innovate. An approach reflective of the T-shaped professional, strongly grounded in disciplinary knowledge but able to work across disciplines, to listen and to communicate in team-based settings. It also calls for better articulation and collaboration between industry and tertiary education institutions, and for a better balance between basic and applied research to drive innovation and socio-economic growth. The NISA in addition emphasises Australia being located in the most dynamic and fastest growing region in the world, arguing for a further international orientation. Given the bipartisan nature of the discussion on innovation, questions then remain about whether the current nature of VET institutions and the overall system are fit for purpose, and if the State and Commonwealth policy settings are supporting or hindering responsive, empowered institutions.

The LH Martin Institute along with partner organisation NCVER endeavoured to shift the discussion of diversity to a more considered level, and move beyond speculation and assumption to examine the form and diversity of the largest providers of publicly funded VET. This endeavour has been supported by the two leading industry associations of TAFE Directors Australia (TDA) and the Australian Council for Private Education and Training (ACPET). During the course of the project, in late 2015 NCVER has for the first time released data on Total VET Activity, as opposed to only publicly funded VET, uncovering the level of privately funded VET activity, and the providers that now could be considered to be the largest providers across all funding sources.

For the purposes of this report, the data used is the most recently available from 2014 of publicly funded VET (approval to use this data was granted individually by each provider), and forms the basis for providing detailed profiles for 35 public and private providers from across Australia. The profiles use this NCVER data as the primary source, supplemented by some data provided directly by the providers on aspects not covered by nationally available public data. Thus, for the first time, this report provides a unique look at VET providers across the States/Territories and the VET system. Each institutional profile covers four dimensions: Teaching and Learning; Student Profile; International Orientation; and Applied Research, Industry Collaborations and Partnerships. Each dimension contains a suite of data driven indicators. A fifth aspect of the diversity discussion covers the governance arrangements across jurisdictions. This highlights the different governance arrangements between States/Territories, and between public and private providers.

The results show that the 35 providers fall into one of 5 major groupings, and that these types are represented across the States and Territories, with clear differences in the sample between public and private providers. A number of interesting and important outliers are highlighted and this includes those providers with capacity to deliver higher education and those with a significant international orientation.

The aim of this report is to enhance the critical understanding of Australian VET providers, with a view to prompting an evidence based discussion that will enrich national and institutional policy making and strategy. It is hoped that ultimately this will lead to more transparency and clarity about the design of the tertiary education sector and the policy settings within which it operates.

# INTRODUCTION

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In 2013 the LH Martin Institute made a first attempt at profiling Australian universities to get a better handle on the similarities and differences across the sector. The ensuing research briefing “Profiling Australian Universities” was received positively, although it also became clear that improvements to the methodology could be made.

In 2014-15 the research team embarked on a similar exercise focusing on the top -100 VET providers. Early in the discussion it became clear that this was a much more complicated exercise. The reasons for this were partly due to the number of providers in the sector, but also to the inconsistencies in policy and data, and the diverse governance arrangements between States/Territories and types of provider. The current research briefing presents the outcomes of this work.

The briefing discusses the policy context, the question why diversity and transparency are desirable, and provides a short history of TAFE and the Vocational Education and Training sector. The research methodology and findings are then outlined, and the groupings of providers that emerge from the analysis are presented. This then leads into a discussion on implications for the future structure and policy settings for the VET system.

## The Policy Context

Education is considered a vital precursor to sustaining economic growth, especially when it is highly engaged with industry in supporting innovation and entrepreneurial responses. Schools and universities have a well-articulated place and purpose in the national education and training system, yet this clarity is not evident in any discussion around vocational education and training. The dialogue and policy is confused, with competing and divergent views, and as a result the effectiveness of the sector in addressing these national priorities is severely hampered. One only has to look at the never ending reviews and restructures of our public institutes within the VET system to see how this is limiting progress within those Institutions, and impeding the overall effectiveness of the system.

The policy confusion and political ‘finger pointing’ has also resulted in the development of some poor policy, with even poorer regulation and control. This combination has resulted in the VET FEE- HELP debacle and rorting of the system on an industrial scale by a handful of private providers. This has only served to damage even further community and industry confidence in the sector and has seriously damaged the reputation of VET overall and of quality public and private providers.

Policy decisions over the last 8 years have had many unintended consequences. The number of providers significantly increased (although has now declined somewhat) and therefore ostensibly increased choice for the student and employer. Yet in many States/Territories the number of subsidised course offerings have been significantly reduced, and in many cases with the price for qualifications significantly increasing. For TAFE Institutes education services have become less ‘local’, with a greater proportion being delivered online.

## Why diversity matters?

Among both policy-makers and tertiary education researchers there is agreement that overall diversity serves to strengthen a tertiary education system. Three key arguments support this (Van Vught, 2008). In the first place more diverse systems better meet the diverse needs of students. With a move to universal participation (Trow, 2007) the student body by definition becomes more diverse. A wide range of institutions offers students the opportunity to select one that best reflects their preferences and abilities and enhances the chances of successful completion.

In the second place, more diverse tertiary education systems enhance social mobility. They provide different access points and articulation pathways compared to the traditional small elite higher education systems pre-WWII, that almost exclusively catered for the social elite. Diverse tertiary education systems thus allow for increased participation of various equity groups.

In the third place, more diverse tertiary education systems better meet the needs of the labour market. Increasingly we observe specialisation and differentiation in labour markets, which reflects the need for different types of graduates. More diverse systems will produce this diversity in graduates.

## Why transparency matters?

Accepting that diversity is a good thing also raises the question of how to make policy-makers and institutional leaders see the forest instead of the trees. High degrees of institutional diversity can lead to confusion as it becomes less clear what the real differentiators are. This in turn may hinder institutional leaders to develop distinct market niches and it may hinder key stakeholders to understand who is doing what in the system.

With Federal and State/Territory governments being important stakeholders, not being able to fully grasp the degree of diversity across the system inhibits effective policy making and can easily result in the 'one size fits all' approach that increasingly appears to be the solution to issues and problems. Examples here are the not very nuanced policy debate on deregulation in higher education and the moves to contestable markets for VET across our States/Territories. A better understanding of who is doing what across the system allows for better targeted policies that in turn will further enhance diversity, rather than reduce it, and so stimulate innovation. Transparency thus becomes a necessary condition. The institutional profiles that are at the heart of our project serve as transparency tools. They allow internal and external stakeholders to see what each Institution does and what it stands for.





# HOW HAVE TAFE AND VOCATIONAL EDUCATION AND TRAINING DEVELOPED SINCE FEDERATION?

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At the establishment of the Federation, education across all levels (primary, secondary and tertiary) was considered a State responsibility (still is technically under the constitution), and while the involvement of the Commonwealth has steadily grown in the other areas of education, technical tertiary education until the 1970s remained almost totally within the States/Territories jurisdiction.

The growth of technical education institutions prior to and since Federation has been driven by a mix of community and industry interests, and government intervention. Some institutions were created by acts of parliament, some evolved from schools of mines and mechanics institutes, and many were driven by local community interests and benefactors. For most of the time, technical education institutions were small and local, and arguably responsive to the local community and industry and fully a State/Territory responsibility.

In the 1970s there was increasing demand for the Commonwealth to contribute to the cost of providing technical education. A number of reviews were conducted the most significant of which being the 1974 Commonwealth report, 'TAFE in Australia: a report on needs in technical and further education' commonly referred to as the Kangan Report. In response to the report the Commonwealth then provided significant funding for TAFE including staff and curriculum development, and physical infrastructure (Goozee, 1995).

From this point on the Commonwealth increasingly provided funding for labour market programs and apprenticeship support. This culminated in the 1990s with the Commonwealth, States and Territories reaching an agreement to establish shared responsibility in areas that have become synonymous with TAFE in Australia: nationally recognised competency training, prior learning, the central role of industry, the development of a more open training market, and national governance bodies for TAFE and VET.

At one point in 1992 the Commonwealth proposed assuming full responsibility for funding TAFE, but the offer was rejected and has only recently been revisited in 2015, although with as yet limited consideration.

The establishment of the Australian National Training Authority (ANTA) in 1994 heralded an era of much greater collaboration in funding and planning between the Commonwealth, State and Territories. This resulted in the further refinement of a national training system. Significant in this was the establishment of the Australian Qualifications Framework (AQF) in 1995 which covered the complete trajectory of education from schools, TAFE and VET, to higher education. It was also during the 1980-90s that Australian traineeships grew in importance and the launching of the New Apprenticeship system in 1998 allowed for User Choice funding, which was the first real opening up of the training market.

Coinciding with the formation of open markets, was a related reform for States and Territory governments to move from being the 'owner-provider' with the TAFE institutes as government departments being the primary delivery agency for technical education, to the State or Territory governments being increasingly at arm's length from TAFE under a 'purchaser-provider' arrangement. It was also at this time across Australia that TAFEs became less the local 'one town/one suburb' college, becoming progressively larger entities across geographical/metropolitan regions. This coincided with a move to establish TAFEs as Statutory Authorities.

In 2004 the Commonwealth increasingly formalised a Federal government role for VET with the closure of ANTA and the transfer of responsibilities to a Federal government department, and the establishment of the Ministerial Council for Vocational and Technical Education in November 2005, with skills and workforce development a COAG priority. The greater mingling of responsibilities between the States, Territories and Commonwealth has been governed by a series of National Partnership Agreements. National reforms included the establishment of income contingent loans (VET FEE-HELP) allowing VET students to access loans for full fee qualifications at Diploma and Advanced Diploma level.

Beginning in Victoria in 2008 with the introduction of the Victorian Training Guarantee, the States and Territories progressively introduced major reforms that allowed funding to follow the student, with TAFE becoming only one of many providers able to access government subsidies for the delivery of training services. Each State and Territory introduced a version of the student entitlement model, and in most cases the demand for training exceeded the supply of funds available at the State or Territory level.

The establishment of the Australian Skills Quality Authority (ASQA) in 2011 referred greater regulatory power from the States and Territories (with the exception of Victoria and Western Australia) to the Commonwealth. The establishment of ASQA was partly in response to the rapid increase in providers, now working across jurisdictions and concern about the capacity of States and Territories to manage the number and type of providers; this meant that any RTO (including those from Victoria and Western Australia) that crossed borders or had international operations was also subject to ASQA regulations. The effectiveness of ASQA subsequently has been called into question, with the body being held responsible for many of the concerns about quality and the massive rorting of public funds in the recent VET FEE-HELP debacle.

The introduction of contestable markets, with market designs that vary considerably from State to State, has applied considerable pressure to traditional TAFE Institutes, and has forced rapid change in the governance and business orientation of TAFEs, to the extent of the financial viability of some TAFEs in Victoria being seriously questioned. The State reforms also facilitated the rapid rise of private providers as major players in the delivery of vocational education and training, and the formation of new models of corporate private providers with a national reach. The release in 2015 by NCVER of the Total VET activity shows for the first time the extent of the change, with providers being required to report both publicly and privately funded VET.

While the Commonwealth (often with the endorsement of the States and Territories) has driven the need for national consistency in areas such as regulation, training packages, and data, in many ways Australia still has eight separate VET systems with States and Territories pursuing individual agendas. The question then is how diverse are individual providers across Australia, are there identifiable profiles within a State or Territory, or are types of providers identifiable across Australia regardless of the State? Are TAFEs more alike than previously thought, or increasingly more like a private provider? An additional question of central importance is whether the changes have resulted in better service and outcomes to the student, employer, and the State.

# WHAT IS TOTAL VET ACTIVITY AND WHY IS THIS IMPORTANT?

In November 2012, the then COAG Standing Council on Tertiary Education Skills and Employment (SCOTese) agreed to the introduction of the mandatory reporting of nationally recognised training activity from 2014 and onwards. This is referred to as 'total VET activity' (TVA) to reflect that information regarding vocational education and training (VET) provision is now collected from all types of providers and not merely the providers receiving Commonwealth or State/Territory funding.

TVA information is derived from the National VET Provider Collection and the National VET in Schools Collection, with duplicated activity removed.

TVA covers accredited activity submitted by Australian providers, including VET delivered by TAFE institutes, universities, community education providers, enterprise providers, private training providers, schools and Australian training providers delivering VET at overseas campuses (NCVER, 2016).

## What are the differences between total VET and government-funded activity?

Government-funded activity covers Australia's government-funded VET system, which is broadly defined as all activity delivered by government providers and government-funded activity delivered by community education and private training providers.

**TABLE 1** Comparison of scope reported in government-funded students and courses and total VET students and courses, 2014

	Government-funded students and courses			Total VET students and courses		
	TAFE and other government providers	Community education providers	Private training providers	TAFE and other government providers	Community education providers	Private training providers
Commonwealth / state funding	✓	✓	✓	✓	✓	✓
Fee-for-service – domestic	✓	✗	✗	✓	✓	✓
Fee-for-service – international	✓	✗	✗	✓	✓	✓

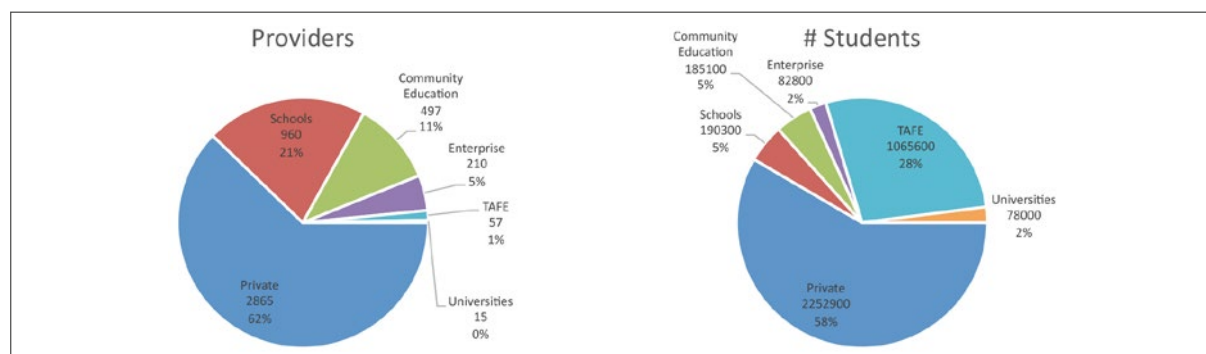
Source: NCVER, 2016 (unpublished data)



## TVA Summary Statistics

In 2014, the participation rate of Australians aged 15 to 64 years in VET is estimated at 23.3%. There were 4601 accredited Australian training providers enrolling almost 4 million students (NCVER, 2016). The number of providers by type and their share of total students is shown in Figure 1, with further detail of training activity shown in Table 2.

**FIGURE 1** Number of Providers by type and number of students enrolled by type



Source: NCVER, 2016 (unpublished data)

**TABLE 2** Comparison of training activity reported in Government-funded students and courses and Total VET students and courses, 2014 <sup>[1]</sup>

CHARACTERISTIC	GOVERNMENT-FUNDED STUDENTS AND COURSES <sup>1</sup>	VET IN SCHOOLS	TOTAL VET STUDENTS AND COURSES	APPROXIMATE ADDITIONALITY <sup>2,3</sup>
<b>Number</b>				
Students	1 789 100	247 200	3 908 000	1 927 200
Program enrolments	2 121 700	388 100	3 581 000	1 153 700
Subject enrolments	15 876 700	3 238 000	27 514 400	9 030 900
Hours of delivery	546 926 400	71 882 300	818 186 400	219 897 100
Training providers <sup>4</sup>	2 071	1 784	4 601	1 454
<b>Average per provider</b>				
Students per provider	864	139	849	1 325
Program enrolments per training provider	1 024	218	778	793
Subject enrolments per training provider	7 666	1 815	5 980	6 211
Hours delivered per training provider	264 088	40 293	177 828	151 236
<b>Average per student</b>				
Program enrolments per student	1.2	1.6	0.9	0.6
Subject enrolments per student	8.9	13.1	7.0	4.7
Avg. no. hours per student	305.7	290.8	209.4	114.1

**Notes:**

- <sup>1</sup> In accord with the scope definition, this includes about 1.4 million government-subsidised students and 0.4 million fee-for-service students at public providers. It does not include all forms of government-funded training, including the majority of activity delivered by schools.
- <sup>2</sup> Excludes data that has been reported more than once by the same training provider in different collections. Consequently, the additionality numbers are greater than the sum of Total VET students and courses less Government-funded students and courses less VET in Schools.
- <sup>3</sup> The number of training providers is a distinct count for each collection. As some training providers have submitted to more than one collection, the numbers for each separate component do not sum to the TVA total.

Source: NCVER, 2016, p.18.

<sup>[1]</sup> Totals are as quoted in relevant publications, but may not sum due to rounding

Across all training providers, 14.1% have more than 1000 students and are categorised as large training providers, 45.1% are medium-sized (100-999 students), and 40.8% are small providers, with less than 100 students. While the majority of students study with larger training providers, it would appear that the student profile is similar across government-funded and privately funded training categories.

While private training providers comprise 62% of all providers, they provide proportionally less of the small training provider niche (54.2%). Schools and community education providers as small training providers comprise 28.3% and 11.7% respectively of this category.

Almost 60% of training occurs in the metropolitan regions of Australia, and TAFE remains the majority provider in regional locations; overall private providers have increased their market share at the expense of TAFE under open market conditions.

A comparison between the training occurring in the government-funded market and that in private training markets suggests that while the student base appears in aggregate to be mostly the same, there are niche markets which are catered for by the diverse range of training providers. For example, TAFE is delivering more training in engineering and related technologies (trades) area, bearing the brunt of some of the harder-to-deliver and more costly, longer courses, while private providers dominate the health training market especially in aged care.

The TVA provides insight into the public and private provision of VET, in what has previously been a shadow system with estimates of volume and participation. For the first time we have clarity as to the extent of private provision, and an understanding at the aggregated level which providers are doing what.

## The research process in brief

It has been well canvassed in the media as to the number of providers in the Australia vocational education and training sector, with a figure previously close to 5000. This is in stark contrast to higher education with only 40 public universities, 1 private university and 2 international universities, and around 130 private higher education providers. Given the very large number of (small) VET private providers, the research team in consultation with the reference group decided to focus on the 100 largest VET (public and private) providers delivering government-funded VET by total student numbers.

The LH Martin Institute formed a working partnership with NCVER on the project, and utilised the 2012 publicly available data, and subsequently (with individual provider approval) the 2014 data. However, while the previous LH Martin Institute profiling diversity report on universities had access to readily available detailed public data on all dimensions, the NCVER data was limited in areas of applied research, industry collaboration, revenue, and governance. Therefore, we implemented a survey for the 100 largest VET providers and matched this to NCVER data. The survey received 35 usable responses, representing a response rate of 38% (35 out of a potential 91 providers).

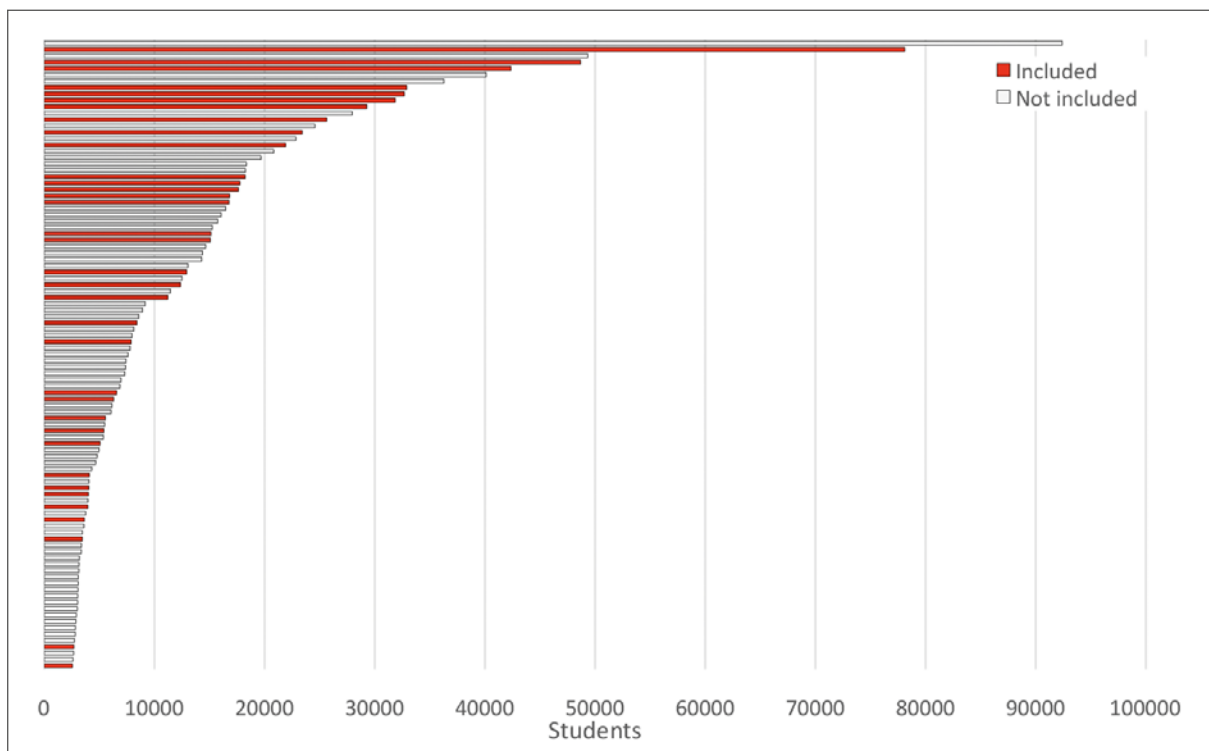
It is important to note that during the course of this project, the number of providers has reduced from the initial 100 to 91, largely due to major restructures of TAFEs. This has affected TAFE providers in Queensland, Victoria, South Australia and most recently in Western Australia, which again highlights the degree of change occurring across the sector. Change has also affected the private providers with at least one provider going into receivership. The names of the providers as reported in this briefing were current as at the end of January 2016.

Relative to the population of the 100 largest providers, the survey respondents tended to be larger providers. Half of the top-20 providers responded to the survey compared to around one third (35%) of all other providers.

Based on the NCVER 2014 data, these 35 providers enrolled just over half (55%) of all students in the top-100 providers and roughly a third (32%) of the total sector. The skewness of the sample towards relatively larger providers has implications for indicators used in this report which relate to scale, such as total number of students, international students, external agreements, and comprehensiveness of program offerings.

The final sample also includes more public providers than private, and this was also true of the original top-100 providers (based on the 2012 data) for publicly funded VET, the majority of these providers were also public providers. The sample of respondents and non-respondents by total student numbers is shown in Figure 2 below. Further detail regarding the survey sampling process is outlined in Appendix B.

**FIGURE 2** Survey respondents by total students based on NCVER 2014 data (except Australian Institute of Fitness and Catholic Education Office Parramatta, based on 2012 NCVER data)



## Setting the profiles

Based on the NCVER and survey data, each provider has a profile containing 24 indicators (see Appendix D for details). Each indicator is presented in an ordinal scale from low (1) to high (5), as represented by the length of the bars on each institution's sunburst profile. Indicators are grouped and colour-coded into four dimensions:

- Teaching and Learning;
- Student Profile;
- Applied Research, Industry Collaborations and Partnerships;
- International Orientation.

The **Teaching and Learning** dimension focuses on the range of offerings to students and modes of teaching. This includes: the number of fields the provider delivers in to (t1), number of levels (t2), number of higher level qualifications offered independently (t3) and in partnership (t4), pass rate (t5), relative balance between classroom-based versus non-classroom teaching (t6), and relative share of teaching at higher levels (t7).

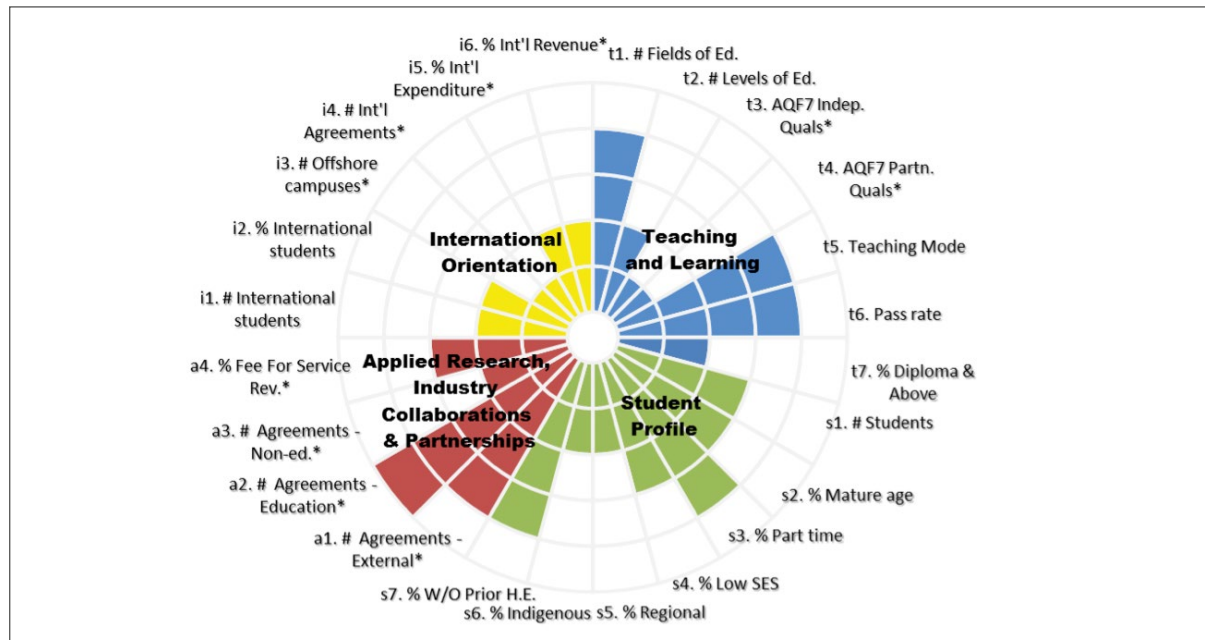
The **Student Profile** dimension contains indicators for the diversity of students enrolled within a provider and the relative size of the student cohort. This includes: the number of students (s1), percentage of mature age students (s2), part time (s3), low SES (s4), regional (s5), indigenous (s6), and without prior higher education (s7).

The **Applied Research, Industry Collaborations and Partnerships** dimension represents the connectedness of individual VET providers with other organisations. This includes: the total number of agreements with external organisations (a1), educational agreements (a2), non-educational agreements (a3), and the proportion of total revenue from fee for service activities (a4).

The **International Orientation** dimension includes six indicators for international engagement. These include: total international students (i1), percentage of international students (i2), number of international campuses (i3), number of agreements with international organisations (i4), percentage of revenue dedicated to international activities (i5), and percentage of revenue derived from international activities (i6).

An example profile for the 'Median Provider' is shown in Figure 3. This is representation takes the median score for each of the indicators.

**FIGURE 3** 'Median Provider' sunburst profile (\* Indicator data drawn from institutional survey)



The research team and reference group determined that the provider profiles clearly demonstrated considerable diversity and that it was possible to subjectively classify the providers into discrete groups. The initial classification indicated that providers fell into one of the following four categories.



**TABLE 3** Subjective classifications of RTOs by the research team and reference group based on institutional profiles

	DOMESTIC	INTERNATIONAL
<b>Specialised</b>	Specialised - Domestic (privates, high in mature age and part-time)	Specialised - International (none to date fit this category)
<b>Comprehensive</b>	Comprehensive - Domestic (regionals)	Comprehensive - International (metro)

However, it was also decided that the research team should explore quantitative methods for classifying providers based on indicator data. This was to remove potential bias and subjectivity from the process, as well as offer an opportunity to examine if the expert advice was sound.

Correspondence analysis (CA) allows us to statistically summarise the data for 35 RTOs across 24 indicators in a two-dimensional output. This provides a useful visualisation from which to view the approximate distance between providers on the 24 indicators and roughly classify providers into groups. The results of the CA are shown in Figure 4 and they broadly confirm the subjective classifications of the research team and reference group. The CA process is outlined in more detail in Appendix D.

In Figure 4, each provider is represented by a blue square, and each indicator is represented by two red dots, corresponding to the high and low poles for the given indicator. For visual purposes, these dots are connected with a straight line in the colour associated with the given dimension.

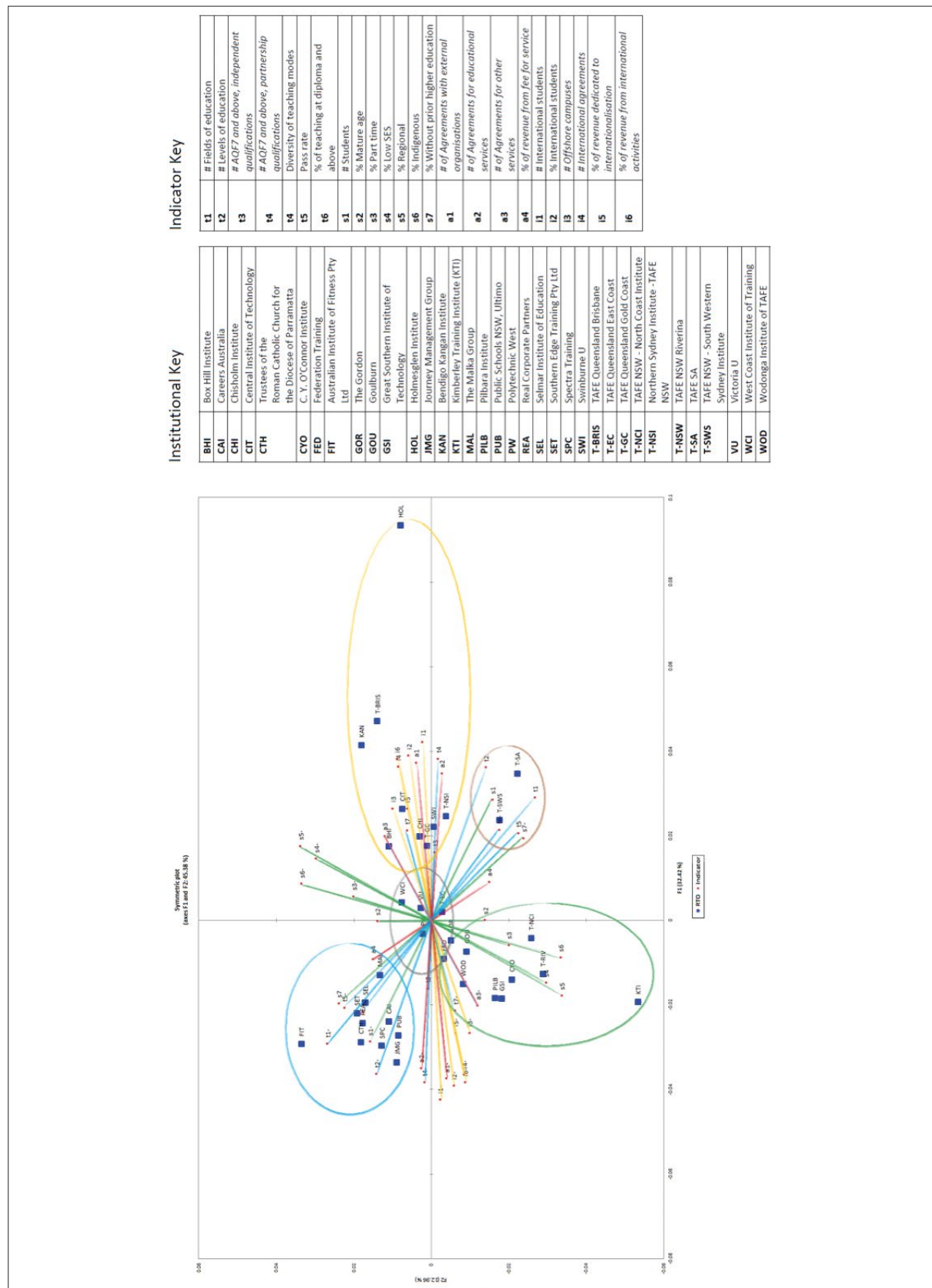
For example, the first indicator within the International Orientation dimension, “# International students”, is represented by the two dots for “i1” and “i1-” connected by a yellow line. Indicator lines that run parallel to the x and y axis are more “powerful” in terms of differentiating the providers. Indicator lines which are closer to each other are correlated and capture similar attributes.

For example, all of the international indicators (i1, i2, i3, i4, i5 and i6) run roughly horizontal along the x axis, suggesting that these indicators are both powerful differentiators and capture similar attributes. Providers that lie on the right-hand side of Figure 4 are more international, while those on the left-hand side are more domestic. International providers also tend to be more comprehensive in their fields and levels of course offerings, as shown by their closeness to the positive poles on these indicators (t1, t2).

Along the vertical y-axis, the most powerful indicators tend to be the types of students taught, including mature age (s2), part time (s3), low SES (s4), regional (s5), and indigenous (s6). Providers located at the bottom-half of Figure 4 tend to teach more of these types of students, differentiating them from others.

CA does not automatically place the providers into groups, but the output identifies at least five clear groups. These have been manually circled in Figure 4 and will be discussed further.

**FIGURE 4** Correspondence analysis output for 35 RTOs (represented by blue squares) and 24 indicators (represented by lines)



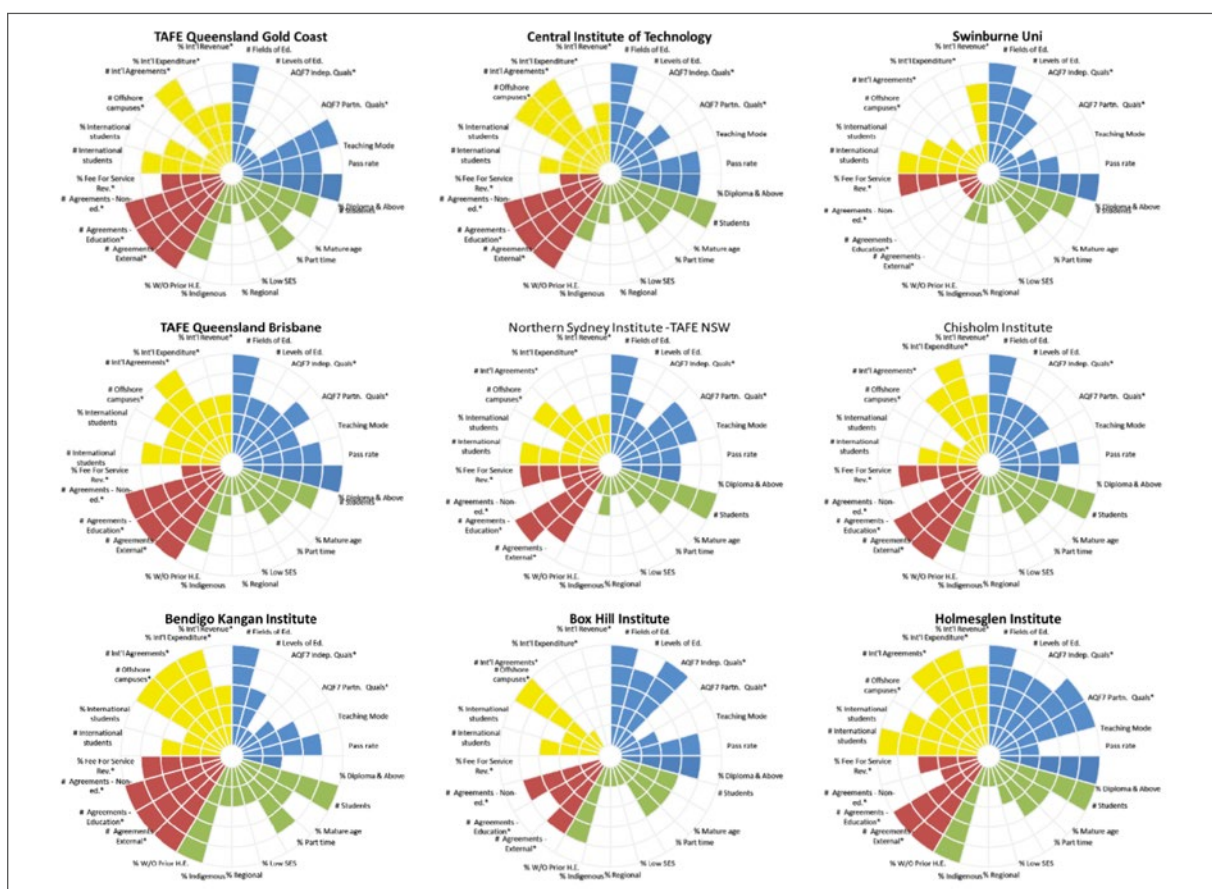
# TYPES OF PROVIDERS

The statistical process of correspondence analysis provided a nuanced classification showing that providers were clustered into one of five groups. These five groups are broadly described as those with higher international and external engagement, regional and remote, specialised and domestic, large comprehensive with a diverse student base, and those with a mixed profiles. A detailed technical discussion of each group is provided in Appendix D.

## Group 1 – International orientation and external engagement

This group contains nine providers: Holmesglen Institute, TAFE Queensland – Brisbane, Bendigo Kangan Institute, Central Institute of Technology, TAFE NSW – North Sydney Institute, Swinburne University, TAFE Queensland – Gold Coast, Box Hill Institute, and Chisholm Institute. This group is differentiated by their greater international orientation and number of external agreements, and clearly some diversity is evident within this group. Not unexpectedly all of these providers are metropolitan based with the majority located in Victoria, and all but one on the eastern seaboard. The predominance of Victorian providers is significant, and points to either capacity or governance arrangements that have allowed this commercial activity to flourish.

**FIGURE 5** Group 1 Providers - International orientation and external engagement



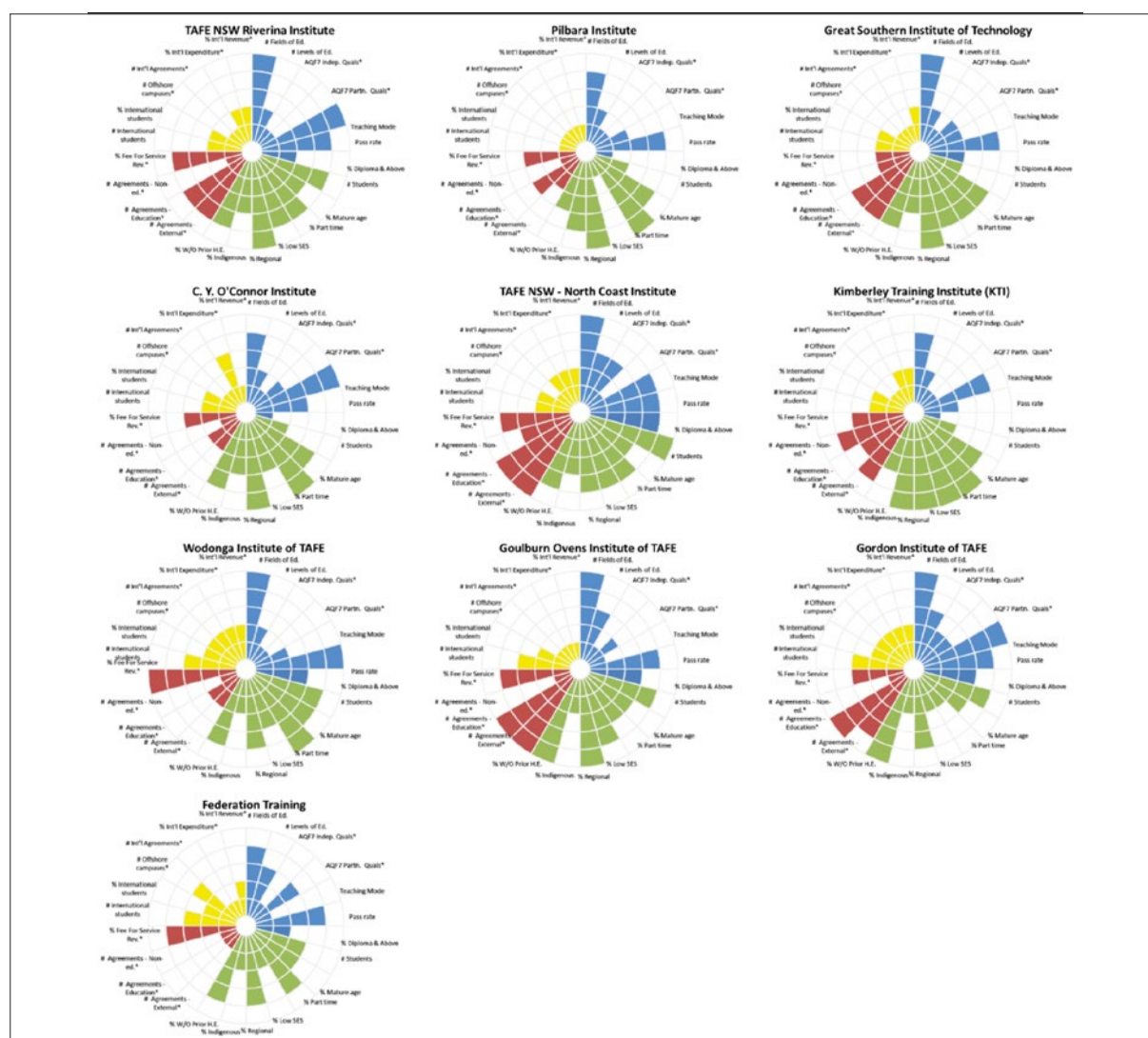
## Group 2 – Regional and remote

Group 2 providers score high on the student dimension indicators, particularly those for regional, low SES and indigenous students, while being less engaged in the international dimension that characterise the Group 1 providers. However, a lack of international orientation is in itself not a differentiating characteristic, as most providers in the sample score lower on international indicators.

This group of ten providers contains considerable diversity. Kimberley Training Institute is an outlier due to its high proportion of regional students (96%), while Federation Training and the Gordon Institute of TAFE are positioned on the opposite side of this group as their profiles are show a mix of results on regional, SES and part-time students. Federation Training and Gordon Institute of TAFE are deliberately drawn on the intersection of Groups 2 and 5, because the groups are based on the CA results and could be feasibly placed in either group.

It should be noted that the lower engagement in internationalisation of the regional and remote by Group 2 providers is not an indication of their lack of capacity to engage in international partnerships or to enrol international students, as virtually all score highly on fields of education. Rather, it is more likely a reflection of where onshore international students prefer to study, which is clearly in larger metropolitan institutions as opposed to regional locations.

**FIGURE 6** Group 2 Providers - Regional and remote





## Group 3 – Specialised and domestic

This group of 10 providers include: Australian Institute of Fitness, Trustees of the Roman Catholic Church for the Diocese of Parramatta, Southern Edge Training, Real Corporate Partners, Selmar Institute of Education, Spectra Training, Journey Management Group, Public Schools NSW – Ultimo. Broadly, these can be characterised as small and domestically focussed providers, with programs in a narrow range of fields and levels, targeted towards students with no post school or further education and training. These providers also tend to be city-based, domestically oriented and private providers. The exception is Public Schools NSW Ultimo, which is public, but is specialised in education in a narrow range of fields and exclusively at the lower levels (Certificate I to Certificate III) due to its high school student base.

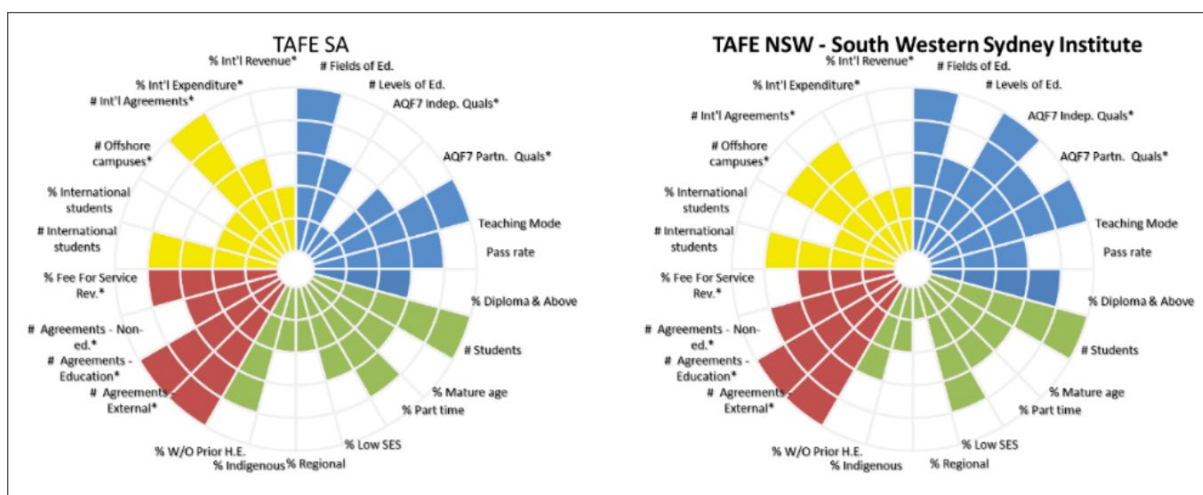
**FIGURE 7** Group 3 Providers - Specialised and domestic



## Group 4 – Large comprehensive with diverse student populations

Group 4 contains only two providers: TAFE NSW - South Western Sydney Institute and TAFE SA. These providers are in some ways the polar opposites of Group 3, they are large, comprehensive, and somewhat more internationally oriented. This makes them more similar to the larger providers in Group 1, but these providers also have a reasonably large share of non-traditional students, the sort of students that tend to characterise Group 2 providers. The most likely reason for this combination is their delivery across a large and diverse geographical region, thereby catering to a more diverse student population.

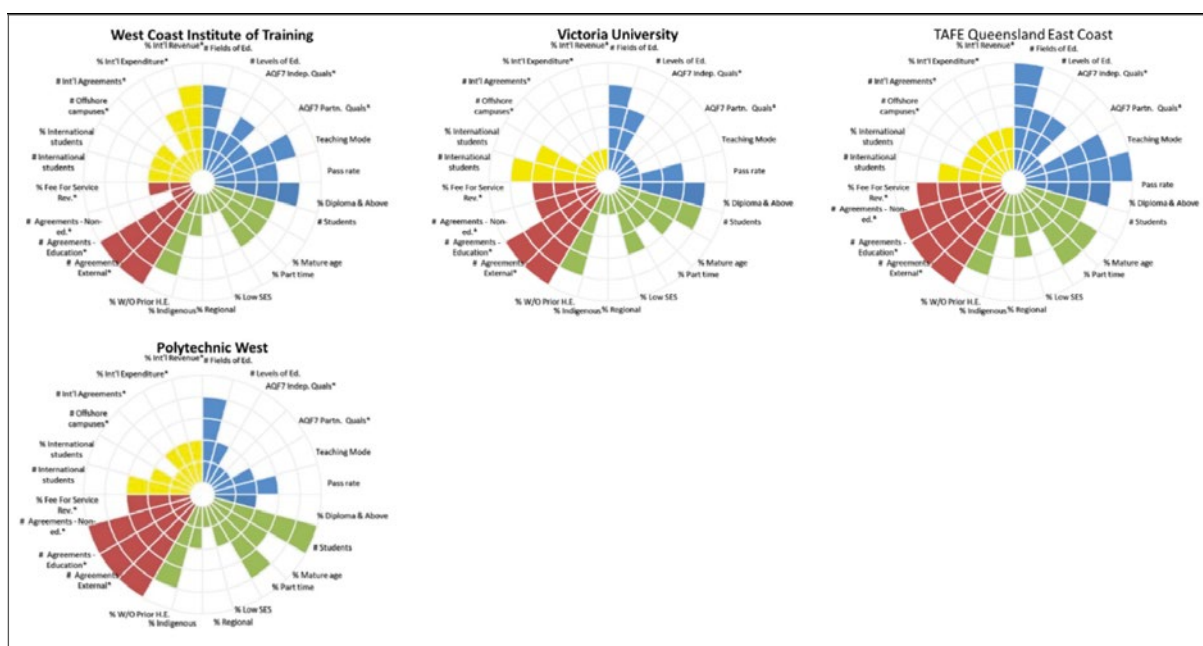
**FIGURE 8** Group 4 Providers – Large comprehensive with diverse student populations



## Group 5 – Mixed profile providers

The final group of providers, Group 5, lie close to the mid-point of the correspondence analysis. These four providers, West Coast Institute of Training, TAFE Queensland East Coast, Polytechnic West and Victoria University can be described as having a mixed profile, broadly reflecting the typical or 'median RTO' profile in Figure 3. They tend to have numerous external agreements, meaning these providers are similar to group one, but without a strong international orientation. These providers are neither comprehensive in their teaching programs across fields and levels, nor specialised, and they likewise cater to students of different backgrounds, without scoring high on any particular demographic indicator.

**FIGURE 9** Group 5 Providers – Mixed profile



## How have the most recent changes to the WA TAFEs affected the profiles?

One of the challenges in this project has been the restructuring of the public providers. In April 2016, major changes were made to the TAFE sector in Western Australia. These changes are part of the State Government's 'Training Sector Reform Project'. One of the key recommendations was to reduce the number of colleges from eleven to five: three colleges to be set up in regional WA and two to be established in the metropolitan area. The metro based colleges would have a mandate to partner with the regional colleges in servicing the needs of industry and the community.

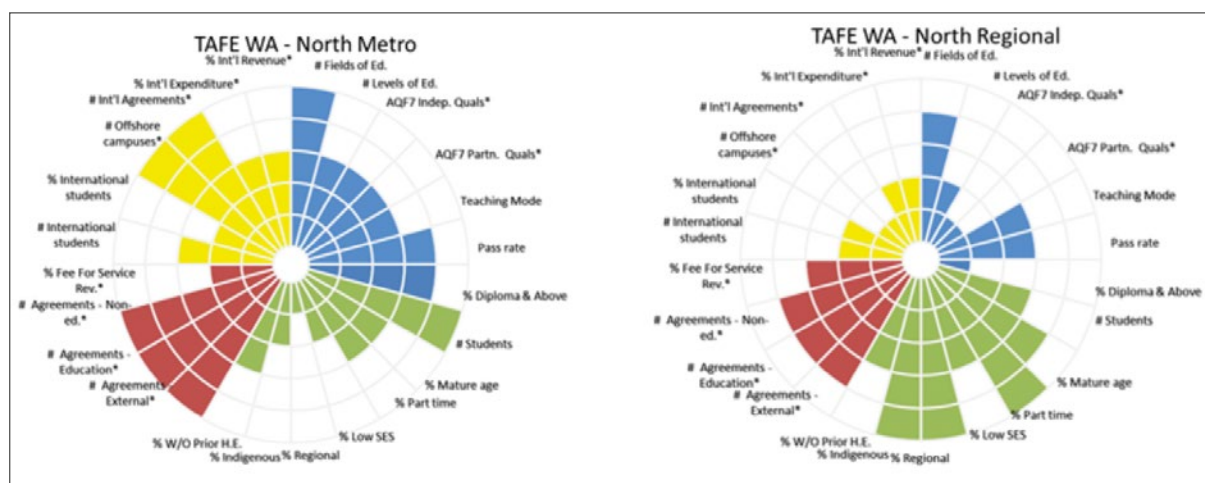
The five new TAFE colleges are:

- **North Metropolitan TAFE** formed by the merger of Central Institute of Technology and the West Coast Institute;
- **South Metropolitan TAFE** formed by the merger of Challenger Institute of Technology and Polytechnic West;
- **Central Regional TAFE** formed by the merger of Durack Institute of Technology, three campuses of CY O'Connor Institute and the main campus of the Goldfields Institute of Technology;
- **South Regional TAFE** formed by the merger of the Great Southern Institute, South West Institute of Technology, one campus of CY O'Connor Institute and one campus of the Goldfields Institute of Technology; and
- **North Regional TAFE** formed by the merger of the Pilbara Institute and the Kimberley Training Institute.

Managing Directors have been appointed on an interim basis until the positions are filled through a competitive process. The positions were advertised nationally on 18 June 2016.

As not all Institutes in the previous WA TAFE system participated in this research it is therefore not possible to profile the new institutes; however it is possible to estimate the profile for North Metropolitan TAFE and North Regional TAFE using the previous institute data. These profiles are shown below in Figure 10. As a merger between two regional RTOs both within Group 2, North Regional TAFE would likely remain within Group2. North Metropolitan TAFE involves a merger between two RTOs previously in Groups 2 and 5. We estimate that the merged entity for North Metropolitan TAFE would be part of Group 1, due to its relatively international, comprehensive and externally engaged profile. These profiles could be finalised and verified with the approval of the new Managing Directors.

**FIGURE 10** Estimated profiles for selected WA TAFEs



It should be noted that the 'Training Sector Reform Project Report' did not follow a number of the key recommendations of the Independent Review of Vocational Education and Training in Western Australia (Seares, 2014), chaired by Emeritus Professor Margaret Seares. These recommendations relating to governance centred on the need for TAFE colleges to be provided greater autonomy. This then supports the discussion on governance in the next section of this report.



# GOVERNANCE STRUCTURE

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The governance of VET in Australia is at best complicated, and this has not improved in recent years. Indeed it could be argued it has become worse. At the macro level the confusion of responsibilities between the States/Territories and the Commonwealth is an issue that needs to be resolved. A consistent view across Australia as to the purpose and role of TAFE as the public provider is yet to be articulated and implemented, equally the role and function of private providers in the delivery of publicly funded VET is inconsistent across the States/Territories. The operation of a training market varies markedly across the country, and has been subject to rapid and unpredictable policy changes, leaving public and private providers confused, angry, and financially embarrassed.

While the funding of VET is now effectively shared (albeit uncomfortably) between the Commonwealth and the States/Territories, the States/Territories still retain control of providers within their jurisdictions, and the extent to which providers are able to access the State or Territory public funds. This *control* has directly affected both the number of *for profit* private providers operating within the State or Territory, and the way that TAFE as the public provider is regarded and governed. What is equally clear is that these departmental directions and policy positions are subject to political vagaries, and have resulted in some 180 degree policy changes with a change of State government, hardly a stable basis for enabling a responsive internationally orientated VET system.

While TAFE across Australia has progressively become a form of Statutory Authority, the levers at the disposal of TAFE Boards concerning employee status and conditions, asset control and divestment, and the taking of more calculated financial risks and investment are still more typical of a State Government department, as opposed to an independent company managed by a board of directors. Table 4 below shows the governance arrangements of the providers included in the sample of 35, and while the picture is not conclusive at least two trends are evident.

The first is a distinct difference in the governance arrangements of Group 3 providers, the lighter shading indicating more private sector/ independent enterprise arrangements and, as previously remarked, this group almost exclusively consists of private providers. The second trend is not as clear in the table below due to providers being classified as belonging to Group 1-5 under the correspondence analysis, but what is shown is a tendency for the Victorian TAFE Institutes/Dual Sector TAFE divisions to have a greater level of autonomy in their governance arrangements, averaging at least two or more independent governance measures and therefore being more like self-governing entities.

This then poses some questions about VET governance and what is enabling in terms of the mission of the various providers; clearly not all providers are created equal, raising the question if these structures are fit for purpose.

**TABLE 4** Governance structure, assets ownership, majority employment status and financial reporting by RTO and group

C.A. GROUP	RTO	GOVERNANCE STRUCTURE	ASSETS OWNERSHIP	MAJORITY EMPLOY.	FINANCIAL REPORTING
1	Northern Sydney Institute -TAFE NSW	a.	a.	a.	a.
	TAFE Queensland Gold Coast	b.	a.	b.	a.
	TAFE Queensland Brisbane	b.	a.	b.	b.
	Chisholm Institute	b.	b.	c.	a.
	Bendigo Kangan Institute	b.	b.	c.	b.
	Box Hill Institute	c.	a.	c.	a.
	Central Institute of Technology	c.	b.	b.	b.
	Holmesglen Institute	c.	b.	c.	b.
	Swinburne University of Technology	d.	d.	c.	a.
2	Goulburn Ovens Institute of TAFE	a.	b.	b.	a.
	TAFE NSW Riverina Institute	b.	a.	b.	a.
	TAFE NSW - North Coast Institute	b.	a.	c.	a.
	C. Y. O'Connor Institute	b.	b.	b.	a.
	Wodonga Institute of TAFE	b.	b.	c.	b.
	Kimberley Training Institute (KTI)	c.	a.	b.	b.
	Great Southern Institute of Technology	c.	b.	b.	b.
	Pilbara Institute	c.	b.	b.	b.
	Federation Training	c.	b.	c.	a.
	The Gordon	c.	b.	c.	a.
3	Public Schools NSW, Ultimo	a.	a.	a.	a.
	Real Corporate Partners	g.	c.	d.	d.
	Spectra Training	g.	c.	d.	d.
	Trustees of the Roman Catholic Church...	h.	b.	c.	e.
	Careers Australia Institute of Training	h.	c.	c.	e.
	Southern Edge Training Pty Ltd	h.	c.	c.	e.
	Australian Institute of Fitness Pty Ltd	h.	c.	d.	b.
	The Malka Group	h.	c.	d.	b.
	Journey Management Group P/L	h.	c.	d.	e.
	Selmar Institute of Education	h.	c.	d.	e.
4	TAFE NSW - South Western Sydney Institute	a.	a.	b.	a.
	TAFE SA	c.	a.	c.	a.
5	Polytechnic West	c.	a.	b.	b.
	TAFE Queensland East Coast	c.	a.	b.	b.
	West Coast Institute of Training	c.	b.	b.	b.
	Victoria University	d.	b.	c.	c.



**Notes**

**Governance structure:** (a.) Institution operating within a government department (with or without an advisory board); (b.) Institution/business unit within a state-wide network under a statutory authority with a government appointed board; (c.) Statutory authority with government appointed board at the Institution level. (d.) VET provider within a dual sector university. (e.) Not for Profit Association or company with an elected board. (f.) RTO unit within an enterprise i.e. Enterprise RTO. (g.) Public company listed on the share market, with a shareholder elected board. (h.) Privately owned and not publicly listed company.

**Assets ownership:** (a.) Assets are owned and managed by the State Government. (b.) Assets are vested in the Institution (and disposal of assets may require State Government approval). (c.) Fully owned or leased assets are held by the company or association. (d.) A combination of the above.

Majority employment status: (a.) State government employees. (b.) Employees of the Statutory Authority, with uniform state government conditions. (c.) Employees covered under an enterprise agreement. (d.) Employees with individual agreements.

**Financial reporting:** (a.) Financial report and audit through the State Department. (b.) Financial report and audit as individual entity. (c.) Not for Profit Company/Association, independent audit tabled at AGM. (d.) Publicly listed company, public annual report to shareholders. (e.) Privately owned company, no public reporting of annual financial result.

# SO WHAT DOES IT MEAN?

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It is clear that coherent strategic policy is required from the State/Territory and Federal governments to position and enable the tertiary education system to deliver on national priorities. This in turn begs the question what is the strategic orientation and capacity of our institutions to deliver on those priorities?

The value in profiling institutional diversity among VET providers is that the differences and similarities are readily evident. The sunburst profiles are striking as a methodology to quickly and easily compare providers. Given the national architecture of the VET system, it is expected that some national similarities will exist and it is clear from this research that groups of providers cross the State boundaries, with some providers having more in common with providers in other States/Territories as compared to their own. Clear examples are TAFE Queensland Gold Coast and Bendigo Kangan Institute.

What is also evident is the difference between providers within the same State/Territory. An example of this being Wodonga Institute vs Holmesglen Institute. These differences suggest a healthy respect for the constituents that the organisations serve, as clearly the student populations are quite different. Given that TAFE is still the majority provider in regional communities for government-funded VET; a distinct and valuable purpose is being served by retaining regional TAFE providers in touch with their student and industry needs. However, this diversity is being gradually reduced across Australia.

The profiles of the smaller providers are also instructive. These highly focussed providers tend to have a narrow scope with a distinct student demographic, and arguably well targeted industry engagement as evidenced by higher fee for service revenue. Given a sample size of 35, these providers are a distinctive group in the initial top 100, albeit with limited sample size. An extension of this work involving additional niche providers will add clarity to the discussion as to the function these providers play in the overall VET system.

What is worth noting is the trend Australia wide to a more conglomerate TAFE with centralised corporate structures, centralised marketing, and standardised services. This model (in varying degrees) is evident in Queensland, SA, WA, and is, judging by a recent Boston Consulting Group report, on the cards for TAFE NSW. Tasmania and NT already have effectively whole of State TAFE providers with TasTAFE and Charles Darwin University (as a dual sector). Victoria is the real outlier, with many more standalone TAFEs and with arguably a higher level of institutional autonomy than any other jurisdiction.

While TAFEs around the country are considered to be more independent as statutory authorities, many are this in name only, meaning that TAFE is effectively more easily controlled by the State department. This is borne out by the number of TAFEs that do not directly employ their staff (many are public sector employees) and do not own and control their infrastructure. With staff and infrastructure being the two most important resources of any organisation, this raises some questions and compares the governance arrangements of our public VET Institutions unfavourably with Australian higher education institutions, and indeed private RTOs who do by and large own their physical assets, and employ their staff directly.

Given the national focus on innovation, it is also significant that the state with the most autonomous TAFEs is also the most highly engaged in international student delivery both onshore and offshore. An argument can be made that this more entrepreneurial business model is positively linked to employment and governance structures that enable a more responsive organisational approach.

Another trend of note is the centralisation of education services to large regional centres or the State metropolitan region. In response to reduced income, TAFE Boards and Executives have made rational business decisions to concentrate on the more profitable student populations, inevitably meaning small regional communities have less face-to-face services, with a greater expectation that these students will travel or access service online. This in itself is unsurprising as few higher education providers can sustain regional delivery locations. The proposed withdrawal of Deakin University from Warrnambool is one such example. Regional populations are already underrepresented in higher education; any withdrawal by the public provider of VET (which has the capacity to expand into higher education) will only exacerbate this trend.

The Total VET Activity data also raises some interesting questions about the diversity of the system, and while the results are still at the aggregate level, obviously a significant volume of VET is being undertaken and paid for privately. Clearly then this is addressing a specific need for the individual and/or enterprise, by that private provider and is to be valued as part of a diverse system. The profiles of the private providers included in the sample indicate a strong orientation to specific student markets and targeted industry engagement, and that the organisational response is to provide only a limited and targeted range of qualifications. This nimble and focussed approach to specific market segments is surely a sign of healthy diversity.

One of the clearest findings of the profiling and the correspondence analysis is the unique provider that serves regional and under-represented groups, providers who are also comprehensive in terms of their delivery. This poses a question that as TAFE providers are amalgamated into larger structures will this type of TAFE provider in time disappear from the system and will this make any difference to the outcome for regional Australia?

For example do the States/Territories with very large TAFEs covering both metropolitan and regional areas better serve their regions by having conglomerate TAFEs, meaning is there a strategic focus on service for all regardless of location, or does a metropolitan bias emerge. Are regions better served by regionally focussed providers (Group 2), and will more private providers with a regional focus emerge and if they do, will the service be comprehensive and address the most expensive areas of delivery. It goes to the broader question of whether the benefits of diversity of institutions can be achieved by having separate RTO units within large structures (for example TAFE QLD), or whether diversity requires greater independence as a provider?

What has also emerged from this study is the rise of private providers who do have a distinct industry focus, and have the significant differences in governance structures enabled this close alignment with industry, and increase in market share.

The results are certainly relevant, enabling providers to benchmark against providers of all types, and involving additional providers in this process will only add value for institutions. For governments and policy makers the results highlight the current and changing diversity of the sector, and given the premise that diversity and transparency is by definition a good thing, how is this to be enhanced in any future discussion on the Australian VET sector?





# APPENDICES

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## APPENDIX A

### Membership of the Reference Group

The membership of the reference group was established by invitation, and the members included those previously involved with the research briefing Profiling Diversity in Australian Universities (2013), Senior Fellows of the LHMI with VET and TAFE expertise, peak bodies for TAFE and private providers and NCVER as a partner in the research.

The reference group has met formally on three occasions, and has provided broad and strategic advice, as well as detailed and specific commentary on the research processes and materials.

### Members of the Reference Group

**Rod Camm** CEO, ACPET

**Toni Cavallaro** NCVER, Manager National Collections Branch

**Hamish Coates** Melbourne Centre Study of Higher Education

**Larry Davies** Former WA ACPET representative

**Neil Fernandes** Senior Fellow LHMI and Former MD of Central Institute of Technology

**Jeff Gunningham** Senior Fellow LHMI, and Former CEO TAFE SA

**Phil Loveder** NCVER, Manager, ISC

**Bruce Mackenzie** Senior Fellow LHMI

**John Maddock** Senior Fellow LHMI

**Elizabeth McGregor** Senior Fellow LHMI and Institute Director, North Coast Institute TAFE NSW

**Peter Noonan** Senior Fellow LHMI and Professorial Fellow Mitchell Institute

**Martin Riordan** Senior Fellow LHMI and CEO, TDA

**Brendan Sheehan** Senior Fellow LHMI and Consultant, Tertiary Advisory

**Robin Shreeve** Senior Fellow LHMI and Institute Director, Western Sydney Institute TAFE NSW

**Helen Zimmerman** Senior Fellow LHMI and Chief Corporate Affairs, Navitas

### Research Team

**Peter Bentley** Research Fellow, LHMI

**Leo Goedegebuure** Director, LHMI

**Ruth Schubert** Associate Director, LHMI

## APPENDIX B

### Process for determining patterns of providers

#### Collecting the data and sample selection

To keep the project manageable, in consultation with the reference group we decided to focus on the top-100 largest VET providers by total student numbers, across both the public and private sector. A partnership with NCVER was established to obtain access to the 2012 publicly available data, and subsequently, the latest 2014 data which became available in late 2015. In 2014, the top-100 Providers accounted for around 60% all students enrolled in VET providers receiving public funding.

Whilst NCVER collects a substantial amount of data for the VET sector, significant gaps were identified for applied research and engagement, and international orientation. Given the importance of these dimensions for the overall profiling exercise, it was decided to collect this data through a separate institutional survey (see Appendix C). This survey was piloted in late 2014 and implemented in 2015. The survey received 35 usable responses, three from the pilot phase and 32 from the full implementation. Due to mergers within TAFE SA, TAFE Queensland, and Federation Training, and the closure of BAWM (known as Buildit Learning, Diverse Learning or RTO Edge), only 91 out of the original top-100 were available to survey. Therefore, our sample of 35 providers represented a response rate of 38% (35 out of a potential 91 providers).

The survey asked providers to report based on their most current data, either 2013 or 2014, depending on availability at the time of survey. The survey data was initially matched to each institution's 2012 NCVER data. However, in late 2015 the NCVER data became available for the top-100 providers for the 2014 calendar year, to utilise the most current data, as well as data that most closely matched the reference period for the survey data, we matched the survey data with the 2014 NCVER data (thereby replacing the 2012 NCVER data).

While the 2012 NCVER data was used for identifying the sample of top-100 providers, the 2014 data was used for our analyses. There were two exceptions to this because the top-100 providers in 2012 were not the same as the top-100 in 2014. Two of the top-100 providers from 2012 who responded to our institutional survey (Australian Institute of Fitness and Catholic Education Office Parramatta) were outside the top-100 in the 2014 NCVER data. For these two providers we use 2012 NCVER data in our analyses. Due to the merger within TAFE SA, the top-100 providers in 2014 were only 98 providers by the time the 2014 data became available.

Relative to the population of the top-100 providers, the survey respondents tended to be larger. Half of the top-20 providers responded to the survey compared to around one third (35%) of all others. Based on the NCVER 2014 data, the included 35 providers enrolled just over half (55%) of all students in the top-100 providers and roughly a third (32%) of the total sector. The skewness of the sample towards relatively larger providers has implications for indicators which relate to scale, such as total number of students, international students, external agreements, and comprehensiveness of program offerings.



## APPENDIX C

### Detailed explanation on establishing the profiles

#### Setting the profiles

Drawing upon data from NCVER and the institutional survey, the profiles provide insight into four dimensions:

- Teaching and Learning
- Student Profile
- Applied Research, Industry Collaborations and Partnerships
- International Orientation

These dimensions are broadly consistent with those established internationally in the higher education sector (e.g. U-Map and U-Multirank), as well as in the LH Martin Institute's previous report *Profiling diversity of Australian Universities*. However, these reports on diversity in higher education included five dimensions in total, with two dimensions dedicated to research: Research Involvement and Knowledge Exchange. The profile of diversity in the VET sector merges this into a single dimension for Applied Research, Industry Collaborations and Partnerships. This decision reflects the substantive differences between the VET and higher education sector in the research domain. Whereas research production and research training are institutional missions within the higher education sector, the more applied application of research to education and training is the priorities within the VET sector.

A number of indicators underpin each dimension, with 24 indicators in total across the four dimensions. The total number of indicators and the relative number of indicators within each dimension reflects a combination of practical, technical and substantive considerations. Practically, the research team sought to profile each institution in a way that was comprehensive across dimensions and intuitively interpretable, avoiding information overload from more than 24 indicators and labels.

To keep the comparisons as transparent as possible, the profiles mostly rely on publically available NCVER data (14 out of 24 indicators). Technically, these indicators also have stronger reliability and consistency of reporting, with less risk of subtle differences in interpretation associated with self-reports. However, this data is overwhelmingly concentrated in the two dimensions associated with teaching and students, and with only limited publically available for applied research or internationalisation, and the available data does not accurately reflect industry or enterprise engagement. Therefore the profiles rely on institutional survey data for applied research and internationalisation, and these comprise a smaller share of the total indicators.

The **Teaching and Learning** dimension focuses on the range of offerings to students and modes of teaching. This includes the number of fields and levels of education a provider delivers into (specialised to comprehensive), the number of higher level qualifications offered independently and in partnership, and the relative share of teaching at higher levels. This dimension also includes an indicator for pass rate (at the individual unit pass rate not to be confused with pass or completion rate for whole qualifications) and the diversity of teaching modes based on the relative balance between classroom-based versus non-classroom teaching (with an equal balance indicating greater diversity). This data has been drawn primarily from the NCVER data.



The **Student Profile** dimension contains indicators for the diversity of students enrolled within an RTO and the relative size of the student cohort. This includes, on a headcount basis, the percentage of students who are mature age, part time, low SES, regional, indigenous and without prior higher education, as well as the total number of students. Superficially these are comparable with many student demographic categories in the higher education or other education sectors, but one must be cautious when drawing comparisons. VET students are more likely to be enrolled part-time and in short course programs, leading to a high ratio of headcount students per full-time equivalent student. Data for this dimension is also drawn exclusively from the NCVET data.

The **Applied Research, Industry Collaborations and Partnerships** dimension reflects the specific nature of VET in the area of knowledge exchange and engagement. In this dimension the profile represents the connectedness of individual VET providers with other organisations. This includes three indicators for the number of agreements with external organisations for educational and other services, and the proportion of total revenue from fee for service activities (excluding state and federal government contestable funds). Data for this dimension is drawn exclusively from the institutional survey.

The **International Orientation** dimension includes six indicators for international students (total and percentage), international agreements, international campuses, and revenue dedicated to and derived from international activities. Some of these indicators are comparable to higher education providers, but it is important to note that internationalisation is significantly less overall in the VET as compared to the higher education sector and positively skewed by a handful of providers. Only 39% of the top-100 largest providers have more than 100 international students and in only two of the top-100 providers do international students comprise more than 10% of the total student cohort.

As expected, providers with few international students are unlikely to be engaged in the other indicators for internationalisation, such as revenue or international branch campuses. Therefore, internationalisation tends to take a more binary distinction between the minority who are engaged substantially, and the majority with either no or limited international engagement. Most of the data for this dimension has been drawn primarily from the institutional survey.

Operationalising the framework and creating each institutional profile required judgements about performance thresholds. The raw data for each indicator was checked for its distributional qualities (central tendency, variability and skewness) and converted into an ordinal scale from '1' to '5'. These categories generally reflected a range from 'low' to 'high', as represented by the length of the bars on each institution's sunburst profile. For a small number of Providers, missing data on indicators was left blank on the chart.

The thresholds for each ordinal rank were 'derived' or arbitrarily set (with guidance from the reference group, rather than based on quintiles or equal intervals between ordinal categories). This required balancing the risks of showing artificial diversity where substantive differences were minor, against showing minimal diversity where small differences are relevant. For example, quintiles would have shown diversity on all indicators (e.g. 20% in each ordinal category) and would have inflated diversity in the skewed indicators for internationalisation (due to most Providers having minimal engagement). Likewise, quintiles would have under-represented the substantial number of part-time students and students from disadvantaged backgrounds in Providers. Interval thresholds (e.g. '1' = 0-20%, '2' = 21 to 40%, etc.) were clearly not appropriate due to means often lying at the upper or lower extremes of the percentage range. Therefore, the thresholds were derived in consultation with the steering committee judgements. This means that substantive engagement and differences between provider profiles should be understood with close reference to the cut-offs on each indicator.

An example profile for the 'Median Provider' is shown in Figure 3. This representation takes the median score for each of the indicators. For the 14 indicators utilising NCVER data for the top-100 providers, the median is the 50th ranked provider on the given indicator, however for the 10 indicators utilising the provider survey data, the median is the 18th ranked provider on the given indicator (out of 35 respondents). Figure 3 is an aggregation of all these median scores; it does not represent any actual provider. Nevertheless, this profile can be understood as a reference point for individual Providers when comparing their relative position on each indicator.

A cursory glance of Figure 3 also suggests the typical top-100 VET provider teaches into a broad range of fields (11 of 13) to mostly part-time students (84%), and has a relatively high number of external agreements (contracts, exchange of letters, MOUs) for educational services (27) and limited international orientation. While this is partly true in aggregate for the sector, in practice these stereotypes are not applicable to most providers because many indicators are skewed. Therefore, one of the goals of this exercise has been to examine diversity (and similarity) across providers based on raw indicators, allowing the research team to group providers together with others with similar profiles.

## APPENDIX D

### Investigating patterns of diversity

The NCVER and survey data has allowed the research team to provide a unique profile for each provider. Viewed in isolation these profiles are of intrinsic value. However, most providers probably have a reasonable idea about their performance on each indicator; after all, they provided us with the data. Therefore, the goal is to go beyond presenting this data back to each provider, or “borrowing their watch to tell them the time”. The briefing is intended to provide value to the sector and individual providers by investigating diversity across the sector as a whole, and relative positioning of individual providers within the sector.

In June 2015 the LH Martin Institute organised a steering group workshop with around 20 experts within the VET policy arena. During this workshop, participants were asked to place de-identified profiles into groups based on the overall visual data, as well as expert judgement regarding indicators of greatest relevance. These profiles were based on the 2012 NCVER data and the survey responses for around 25 Providers who at the time had responded to the survey. It was evident that the profiles were visually engaging, and that these were also useful for classifying Providers based on certain shared characteristics and patterns across dimensions, such as different student profiles for internationally engaged providers compared to regional providers and TAFEs.

Some of these patterns were directly evident and agreeable to all participants, but the workshop relied on subjective interpretations of the data which were not always agreed upon. It became evident that the research team should explore quantitative methods for classifying providers based on indicator data and investigate whether these results offer coherent outcomes. The workshop also led to a refinement of the indicators and a renewed effort to increase the number of respondents to the survey.

Quantitative classification can proceed in different ways with varying levels of reliance on purely statistical characteristics of each provider versus expert (subjective) judgment. For example, in the previous LH Martin Institute report on the university sector, universities were classified into six groups based on hierarchical cluster analysis. Each group (or “cluster”) contained institutions

which carried similar characteristics, based on their standardised scores on each indicator. This was a purely statistical approach. It contained certain methodological choices which affected the outcome, but it did not involve any subjective judgement regarding which university belonged to which group or the number in each group.

In our study of the VET sector the research team took a more “hands on” approach to our classification of Providers and utilise correspondence analysis (CA). CA is a method which allows us to summarise, in a relatively simple two-dimensional output, the data for 35 Providers across 24 indicators. Conceptually it is similar to a two-dimensional scatterplot, but extends it to include more than two indicators.

While it is possible to present three indicators for each provider on a two-dimensional output, it is not possible to directly visualise more than three indicators. According to Greenacre, the essence of CA is to identify the low-dimensional subspaces which approximate the profiles by eliminating the dimensions along which there is little dispersion (p. 43). This allows us to have an imperfect, but useful visualisation of the data from which we may view the approximate distance between providers on the 24 indicators, allowing us to roughly classify providers into groups based on similarity across multiple dimensions.

Before presenting the CA output, we should outline some important methodological decisions and their implications for interpreting the results. Firstly, whereas missing data are blank on the sunburst charts, we replace these missing values with medians in the CA results. Secondly, the sunburst profiles present ordinal results for each indicator (from low ‘1’ to high ‘5’), but we use the raw standardised (z-score) data in the CA results.

The use of standardised scores is a requirement when presenting data with different scales and units of measurement on the same chart (e.g. totals and %s). The main difference between the data presented in the sunburst profiles and the CA output is the general loss of information in the former, in particular for outliers. For example, Holmesglen Institute has 4,200 international students, more than doubles the next highest within the sample, and is 4.4 standard deviations above the mean.

However, in terms of ordinal categories, much of this information is lost when making a visual comparison with other providers which may score ‘4’ on the same variable, but have substantially fewer international students. Likewise, the former Kimberley Training Institute and Goulburn Ovens Institute of TAFE have the same ordinal score on their sunburst profile for the proportion of regional students, but there are meaningful differences on their raw percentages (96% regional at KTI, 81% at Goulburn). Therefore, the groupings of providers from the CA results will not always match the visual similarities in the sunburst profiles.

## Correspondence analysis results

The results of our CA are shown in Figure 4. Figure 4 is an imperfect visual representation of the relationship between indicators and providers because it is restricted to two dimensions (represented by horizontal and vertical axes) which capture the greatest amount of inertia (or variance) between the indicators and providers. Around half of the total information is lost by representing the data in this way (total inertia for the chart is 45.38%), but the benefits are that we can readily visualise the relationship between Providers and multiple indicators.

Each provider is represented by a blue square and each indicator is represented by two red dots, corresponding to the high and low poles for the given indicator. For visual purposes, we have connected these dots with a straight line in the colour associated with the given

dimension. For example, our first indicator within the *International Orientation* dimension, “# International students”, is represented by the two dots for “i1” and “i1-” connected by a yellow line. The first indicator in our *Applied Research, Industry Collaborations and Partnerships* dimension, “# of Agreements with external organisations”, is represented by the two dots for “a1” and “a1-” connected by a red line.

When examining the horizontal axis, certain indicators appear to run roughly parallel from left (low pole) to right (high pole). It is also along the horizontal axis that there is the greatest amount of variance (32.42% of inertia), with the vertical being the secondary axis (12.96% of inertia). This suggests that certain indicators running horizontally are correlated and differentiate between providers. For example, providers with more international students (i1) also tend to have more external agreements (a1), which probably relates to the size of the given provider. Likewise, the relatively parallel lines for all of the international indicators (i1, i2, i3, i4, i5 and i6) suggest that these indicators are capturing similar attributes for certain providers, differentiating them from others.

This is intuitively consistent with what we may expect; providers with few or no international students are unlikely to have strong international orientation or the scale for many external agreements. However, there are also more difficult to interpret results, such as the roughly horizontal line for “Diversity of teaching modes” (t4), suggesting that providers with relative balance between classroom and non-classroom teaching also tend to have more international orientation and international agreements.

Taking into account where the sample of providers is placed along these predominantly horizontal axes, there is a group of providers which tend to lie close to the positive poles of these indicators. We have manually drawn this as a group on Figure 4, labelled as Group 1. This group contains nine Providers: Holmesglen Institute, TAFE Queensland – Brisbane, Kangan Institute, Central Institute of Technology, TAFE NSW – North Sydney Institute, Swinburne University, TAFE Queensland – Gold Coast, Box Hill Institute, and Chisholm Institute. Group 1 are broadly differentiated by their greater international orientation and number of external agreements. Clearly there is diversity within this group, not all providers’ score high or equally high on the same indicators. This is to be expected when indicators are not perfectly correlated. Therefore, the selection of this group is somewhat arbitrary. Indeed Holmesglen Institute, Bendigo Kangan Institute and TAFE Queensland – Brisbane could have been feasibly placed into separate group based on their placement on the right-hand side of the positive poles on these international indicators. However, the purpose of our exercise is to reduce complexity by identifying patterns of diversity. Keeping the number of groups to a minimum is a major part of this process. Therefore, we treat this as a single group, whilst acknowledging the existence of certain outlier providers.

When examining the vertical axis, we notice that the indicators most perpendicular to the horizontal relate to the *Student Profile* dimension, namely: % Mature age (s2), % Part time (s3), % Low SES (s4), % Regional (s5), and % Indigenous (s6). Again, this suggests that these indicators are correlated and help differentiate Providers. Lying in the bottom-left quadrant of Figure 4, we identify 10 Providers and allocate them as Group 2 Providers: (former) Kimberly Training Institute, TAFE NSW – Riverina, TAFE NSW – North Coast Institute, (former) C.Y. O’Connor Institute, (former) Great Southern Institute of Technology, (former) Pilbara Institute, Wodonga Institute of TAFE, Goulburn Ovens Institute of TAFE, Federation Training, and the Gordon Institute of TAFE.

Group 2 providers lie closest to the positive poles for many of the student indicators. This is particularly the case for regional, low SES and indigenous students. While these providers are also only weakly engaged in the international dimensions which characterise Group 1 providers, a lack of international orientation is in itself not a differentiating characteristic. Most providers score low on international indicators, hence located on the left-hand side of the vertical axis. Similarly, there are no providers differentiated by a relatively low share of regional, low SES and indigenous students (i.e. in the top right quadrant, close to the vertical axis). Therefore, we see these unique student characteristics as differentiating predominantly regionally-oriented Group 2 providers from the others. However, again we should note that this group contains at least one outlier in the Kimberley Training Institute, located below the positive poles for these indicators. Likewise, some providers, such as Federation Training and the Gordon Institute of TAFE, lie on the opposite boundary of this group.

The next clearly identifiable group are those located in the top-left quadrant. We place 10 providers into this Group 3: Australian Institute of Fitness, Trustees of the Roman Catholic Church for the Diocese of Parramatta, Southern Edge Training, and the Real Corporate Partners, Selmar Institute of Education, Spectra Training, Journey Management Group, Public Schools NSW – Ultimo, Careers Australia, and The Malka Group.

These providers lie close to the negative poles for # Fields of education (t1-), # Levels of education (t2-), Pass rate (t5-) and # Students (s1-), as well as the positive pole for the % of students without prior higher education (s7). Broadly, these can be characterised as small and domestically focussed Providers, with programs in a narrow range of fields and levels, targeted towards students with no prior higher education. These providers also tend to be city-based, domestically oriented and be private providers. Group 3 providers also lie close to the positive pole for the % of teaching at diploma and above (t6), but these results ought to be treated with caution. Each group of providers contains considerable diversity on this indicator and it appears to be more of a statistical anomaly.

Group 4 lies in the bottom right quadrant and contains only two providers: TAFE NSW - South Western Sydney Institute and TAFE SA. These Providers are in some ways the polar opposites of Group 3; they are large (s1), comprehensive (t1, t2) and somewhat more internationally oriented. This makes them more similar to the larger providers in Group 1, but these providers also have a reasonably large share of non-traditional students, the sorts that tend to characterise Group 2 providers. The most likely reason for this combination is their role as a multi-campus TAFE provider, catering to a wider variety of student needs.

The final group of providers, Group 5, lie close to the mid-point of all axes. These four providers – West Coast Institute of Training, TAFE Queensland East Coast, Polytechnic West and Victoria University can be described as having a mixed profile. These providers tend to have numerous external agreements, similar to Group 1 providers, but without a large international orientation. They are neither comprehensive in their teaching programs across fields and levels, nor specialised, and they likewise cater to students of different backgrounds, without scoring high on any particular demographic indicator. It is a group which contains providers which could feasibly be placed into multiple groups.

# Profile dimensions and indicators

**TABLE 5** Dimensions and indicator details

DIMENSION	INDICATOR LABEL	INDICATOR DESCRIPTION	INDICATOR SOURCE
Teaching and Learning	t1. # Fields of Ed.	Number of different fields the RTO delivers courses in based on current enrolments.	NCVER - COUNTCOURSEFOES
	t2. # Levels of Ed.	Number of different levels the RTO delivers courses in based on current enrolments (1-18) based on the Australian Standard Classification of Education (ASCED): Graduate diploma; Graduate Certificate; Bachelor degree (Honours); Bachelor degree (pass); Advanced diploma; Associate degree; Diploma; Certificate IV; Certificate III; Certificate I; Certificate II; Year 12; Year 11; Year 10; Other non-award courses; Statement of attainment not identifiable by level; Bridging and enabling courses not identifiable by level; and Education not elsewhere classified	NCVER - COUNTCOURSELOES
	t3. AQF7 Indep. Quals	Number of AQF Level 7 and above offered by an RTO in their own right.	RTO survey - Q3
	t4. AQF7 Parth. Quals	Number of AQF Level 7 and above offered by an RTO in partnership with another provider.	RTO survey - Q4
	t5. Teaching Mode	Ratio of all teaching which is classroom based versus non-classroom based.	NVCER - CLASSROOM_PERC
	t6. Pass rate	Pass rate based on the hours of enrolment with the following formula: (Assessed-pass + Recognition of prior learning nfd or granted) / (Assessed-pass + Recognition of prior learning nfd or granted + Assessed-fail + Withdrawn).	NVCVER - LPR
	t7. % Diploma & Above	Percentage of students enrolled in diploma and above course at the 3 Digit Qualification ASCED Level. Calculated as the sum of diploma and above students divided by the sum of all students (diploma and above + apprentices + preparatory)	NCVER - HIGHERLEVEL
Student Profile	s1. # Students	Total number of students based on the headcount for all enrolled students.	NCVER - STUDENTS
	s2. % Mature age	Proportion of students over 30 years of age.	NCVER - OVER30S
	s3. % Part time	Proportion of students whose program of study constitutes less than 75% of the normal full-time study load. Calculated based on hours of delivery, with students undertaking 540 or less hours regarded as a part-time.	NCVER - PARTTimestUDENTS
	s4.v % Low SES	Proportion of students from the bottom two quintiles (or bottom 40%) based on Australian Bureau of Statistics' Socio-Economic Indexes for Areas (SEIFA).	NCVER - SEIFA
	s5. % Regional	Proportion of students residing outside a major city, as determined by the Accessibility/Remoteness Index of Australia (ARIA) classifications for inner regional, outer regional, remote and very remote.	NCVER - AREAMAJOR
	s6. % Indigenous	Proportion of all students with known indigenous status.	NCVER - INDIG
	s7. % W/O Prior H.E.	Proportion of all students who do not hold a degree or higher prior education.	NCVER - DEGREEORHIGHERPRIORED



DIMENSION	INDICATOR LABEL	INDICATOR DESCRIPTION	INDICATOR SOURCE
Applied Research, Industry Collaborations and Partnerships	a1. # Agreements - External	Sum of current documented agreements (contracts, exchange of letters, MOUs) with domestic/international organisations for: A. Educational services; B. Provision of other related services (i.e. employment services, consultancies); and C. Other.	RTO survey - Q5
	a2. # Agreements - Education	Sum of current documented agreements (contracts, exchange of letters, MOUs) with domestic/international organisations for educational services (only).	RTO survey - Q5
	a3. # Agreements - Non-ed.	Sum of current documented agreements (contracts, exchange of letters, MOUs) with domestic/international organisations for non-education services (i.e. employment services, consultancies) and other services.	RTO survey - Q5
	a4. % Fee For Service Rev.	Proportion of total revenue from fee for service (excluding State and Federal Government contestable funds)	RTO survey - Q6.4
International Orientation	i1. # International students	Total headcount for all international students enrolled	
	i2. % International student	Total headcount for international students divided by the headcount for all students.	NCVER - INTERNATIONAL STUDENTS
	i3. # Offshore campuses	Total current overseas campuses and/or delivery sites.	RTO survey - Q8
	i4. # Int'l Agreements	Sum of current documented agreements (contracts, exchange of letters, MOUs) with international organisations for: A. Educational services; B. Provision of other related services (i.e. employment services, consultancies); and C. Other.	RTO survey - Q5
	i5. % Int'l Expenditure	Proportion of total expenditure committed to VET international engagement and international marketing.	RTO survey - Q9
	i6. % Int'l Revenue	Proportion of total revenue from international onshore and international offshore activities.	RTO survey - Q6.5 & Q6.6

**TABLE 6** Dimensions and indicator descriptive statistics

	INDICATOR LABEL	CUT-OFFS					DISTRIBUTION					DESCRIPTIVE STATISTICS				
		1st	2nd	3rd	4th	5th	Q1	Q2	Q3	Q4	Q5	Mean	Med.	Min	Max	n
Teaching and Learning	t1. # Fields of Ed.	1-2	3-5	6-8	9-11	12	6	17	15	16	46	9.25	11	1	13	100
	t2. # Levels of Ed.	1-4	5-8	9-12	13-17	18	20	45	31	4	0	7.43	8	1	15	100
	t3. AQF7 Indep. Quals	0	1-2	3-5	6-9	10+	23	3	6	1	2	3.1	0	0	39	35
	t4. AQF7 Partn. Quals	0	1-2	3-5	6-9	10+	21	6	4	3	1	1.5	0	0	12	35
	t5. Teaching Mode	* See note					35	13	17	21	35	13	17	21	36	17
Student Profile	t6. Pass rate	>60	60 to <70	70 to <80	80 to <90	90+	2	6	18	45	24	83.5	84.1	56.5	100	95
	t7. % Diploma & Above	0-10	>10 to 20	>20 to 30	>30 to 40	>40	33	22	16	10	19	23.9	19.6	0	99.8	100
	s1. # Students	0-3000	3000-6000	6000-14000	14000-23000	23000+	8	30	25	20	17	13109	7914	2611	92403	100
	s2. % Mature age	0 to 1	>1 to 25	>25 to 50	>50 to 75	>75	5	5	57	30	3	43.7	45.3	0	78.3	100
	s3. % Part time	<60	60 to <70	70 to <80	80 to <90	>90	6	10	21	33	30	81.4	83.5	20.7	100	100
	s4. % Low SES	0-20	>20 to 40	>40 to 60	>60 to 80	>80	6	32	35	20	7	48.2	46.7	6.6	97.6	100
	s5. % Regional	0-20	>20 to 40	>40 to 60	>60 to 80	>80	39	19	4	11	27	44.7	24.2	2.7	99.8	100
	s6. % Indigenous	0-1	>1 to 5	>5 to 15	>15 to 30	>30	17	54	19	7	3	6.2	3	0	90.6	100
	s7. % W/O Prior H.E.	<80	80 to <85	85 to <90	90 to <95	95+	3	2	12	37	46	94.1	94.4	72.9	100	100
	a1. # Agreements - External	0	1-10	11-20	21-50	51+	3	7	2	7	16	115.1	40	0	555	35
Applied Research...	a2. # Agreements - Education	0	1-5	6-10	11-25	26+	5	6	3	3	18	81.8	27	0	549	35
	a3. # Agreements - Non-ed.	0	1-5	6-10	11-25	26+	12	6	5	4	8	33.3	5	0	397	35
	a4. % Fee For Service Rev.	None	>0 to 5	>5 to 10	>10 to 25	>25	2	6	9	14	3	14.4	10.5	0	100	34
	i1. # International students	0	1-100	100-1000	1000-2000	2000+	40	21	26	10	3	346.9	23	0	4220	100
International Orientation	i2. % International students	None	>0 to 5	>5 to 10	>10 to 20	>20	40	49	9	1	1	2.3	0.1	0	85.1	100
	i3. # Offshore campuses	0	1-2	3-5	6-9	10+	21	6	2	3	3	2.5	0	0	19	35
	i4. # Int'l Agreements	0	1-5	6-10	11-25	26+	20	6	1	2	6	33.2	0	0	505	35
	i5. % Int'l Expenditure	None	>0 to 1	>1 to 2	>2 to 5	>5	15	10	5	1	3	1.3	0.1	0	12	34
	i6. % Int'l Revenue	None	>0 to 5	>5 to 10	>10 to 20	>20	12	14	5	3	0	3.4	1	0	16.8	34

**\*Note:** RTOs with 45-55% of their teaching as classroom based (versus other non-classroom forms) = [5] (i.e. a roughly equal balance between classroom and non-classroom teaching), 35-45% or 55-65% classroom based = [4], 25-35% or 65-75% = [3], 15-25% or 75-85% = [2], and RTOs with 0-15% or 85-100% classroom based teaching = [1] (i.e. highly reliant on one form of teaching).



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