

2016 NCCD Continuous Quality Improvement Project

*Department of
Education*

Final report

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Glossary

Abbreviations	Description
ACAT	Aged Care Assessment Team
EAL/D	English as an Additional Language/Dialect
CLAAS	Checklist of Learning and Assessment Adjustment for Students
CQIP	Continuous Quality Improvement Project
DDA	<i>Disability Discrimination Act</i>
DSE	Disability Standards of Education
ESA	Education Standards Australia
FGDs	focus group discussions
ICSEA	Index of Community Socio-Educational Advantage
JWG	Joint Working Group to Provide Advice on Reform for Students with Disability
PCOC	Palliative Care Outcome Collaboration
SEA	Social-educational advantage
LBOTE	Language background other than English
MoE	Margin of Error
NCCD	Nationally Consistent Collection of Data
QA	Quality Assurance
QDTP	Quality Differentiated Teaching Practice
SwD	Students with Disability
SA4	Statistical Area 4
SA/SRs	System Authorities and Sector Representatives
TOEFL	Test of English as a Foreign Language
VET	Vocational Education and Training

Executive summary

Introduction

The Commonwealth Department of Education and Training (DET) engaged PwC to undertake the 2016 Continuous Quality Improvement Project (CQIP), for the Nationally Consistent Collection of Data on School Students with Disability (NCCD), the purpose of which is to review the quality and consistency of the 2016 NCCD data, identify trends across jurisdictions and sectors, identify drivers of variability and make recommendations for improvements for the NCCD in 2017.

We were tasked with answering the following questions:

- Are schools accurately and consistently making decisions around the NCCD processes and determining the level of adjustment?
- Is there accurate and consistent application of the NCCD across sectors, and jurisdictions?
- What is the type, range and quality of evidence that is being collected by schools?
- Amongst those schools in the longitudinal component, have there been any changes in the school's understanding of NCCD and what were the factors that contributed to these changes?
- Were any students excluded from the data collection who should have been included and if so, what were the reasons for not including them?

Findings relating to each of these questions have informed our overall conclusions about the suitability of the 2016 data for use in policy and decision making and recommendations to support improvements in data quality.

To answer these questions PwC undertook:

- interviews with the Principals and staff responsible for completing the NCCD at 552 schools
- focus group discussions (FGDs) with school and SA/SR representatives
- desktop reviews of policy relating to funding for students with disability
- a literature review that investigated drivers and treatments of data variability
- a review of professional learning materials.

The DET generated a list of schools for inclusion in the sample. The sample size is greater in 2016 than 2015 (507 verse 407) which means that findings at the national and jurisdictional level have higher statistical reliability this year (the margin of error at the national level has reduced from 4.7 to 4.2 per cent and across all jurisdictions is now under 15.4 per cent). An additional 44 schools were included in the sample as part of the longitudinal component. Analysis for these schools has been considered separately and in addition to the analysis done using the 507 schools in the random sample.

The overall sample includes:

- schools that were randomly selected by the DET (507) but stratified according to specific characteristics (eg special schools verse mainstream schools, remote, regional and metropolitan and small verse large); and
- 44 schools that, based on the fact that they demonstrated a limited understanding of the NCCD in 2015, were identified for inclusion as part of a longitudinal component of the project.

Quantitative analysis has been applied to these subsets of the sample. Findings from the qualitative components of the project have been considered alongside quantitative analysis and collectively information conclusions and recommendations.

Findings

Is the data robust (of sufficient quality) to inform decision-making at State/Territory level, National, sector and school levels?

- **The data is of sufficient quality to inform policy at the national level**
- **Data is suitable to be considered as one component among others when developing policy at the jurisdictional and sector level**
- **The sample size was not sufficient to inform, at a statistically reliable level, an assessment of data quality at the school level. However, within the random sample of schools 88 per cent demonstrated a comprehensive or sound understanding and application of the NCCD model.**

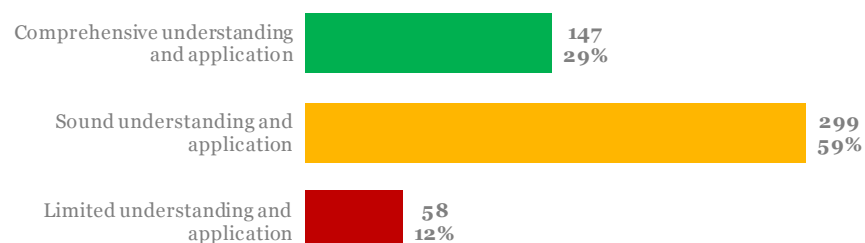
The data collected in the NCCD is of sufficient quality to inform policy at the national level.

Our conclusion stems from collation of findings from the case studies that were explored during the interviews with the schools in the sample, analysis of which shows that, at the national level, the PwC interview team agreed with the:

- student's inclusion in the NCCD 98 per cent of the time
- category of disability 86 per cent of the time
- chosen level of adjustment 78 per cent of the time.

Level of alignment across these components is an indicator of the accuracy of the data.

Among the random sample¹, 88 per cent of participating schools demonstrate a comprehensive or sound² understanding and application of the NCCD model (comprised of 29 per cent with comprehensive and 59 per cent with a sound understanding and application). Demonstration of correct understanding and application of the model is an indicator of data quality.



Schools with a comprehensive or sound understanding of the NCCD are confident in their decision to include/exclude a student from the NCCD and whilst some students may not have been included in the collection, based on parental consent, uncertainty about evidence, lack of willingness to impute a disability and application of the '10 week' rule, we do not believe these numbers to be significant.

We have confidence in the data **at the jurisdictional and sector level**, although sample size means that the margin of error is greater than at the national level. We found that there is variability in data quality³ across

¹ The 507 schools selected by the DET.

² In the 2015 CQIP report the schools that were not demonstrating comprehensive or limited understanding and application were described as having 'some understanding'. In this report, the methodology underpinning the decision to categorise schools across the three levels of understanding is consistent with that in 2015, however, the 'middle' category, into which the majority of schools fall, has been re-labelled 'sound'. This term reflects our findings that NCCD processes have, in many cases, become embedded as business as usual in schools and that there is a cultural shift happening in many schools around inclusivity and adjustments for disability. This is a positive development which has come to the fore in 2016 and is reflected in the positive connotations associated with the term 'sound'.

³ Taking into account PwC judgement about understanding and application, alignment on level of adjustment and category of disability and evidence.

jurisdictions and sectors. Some variability across jurisdictions and sectors is inherent and expected.⁴ However some of this variability is driven by the different approaches taken by the sector and jurisdiction. On this basis we suggest that **this data is suitable as a component that is considered when developing policy at these levels.**

Across jurisdictions:

- Tasmania demonstrates the highest percentage of schools with a combined comprehensive and sound understanding of the NCCD (97 per cent). This compares to the Northern Territory with 75 per cent of schools demonstrating an equivalent level of understanding and South Australia and Victoria with 81 per cent and 86 per cent respectively.
- Level of alignment regarding selection of the level of adjustment is highest in Western Australia (where PwC agreed 87 per cent of the time) and lowest in Queensland (where PwC agreed 70 per cent of the time). When considering category of disability the highest alignment is in Tasmania (92 per cent) and the lowest in Queensland (79 per cent).

Across the three sectors:

- Catholic affiliated schools demonstrated the highest level of understanding and application of the NCCD with 97 per cent of schools demonstrating either a comprehensive or sound understanding (compared to 86 per cent and 89 per cent in the Government and Independent sectors respectively).
- Level of alignment regarding selection of the level of adjustment is highest in Catholic affiliated schools (83 per cent) and lowest in the Independent sector (77 per cent). For category of disability the level of alignment is similar, with the highest level of alignment being in the Independent sector (88 per cent) followed by the Catholic sector (87 per cent) and Government (85 per cent).

The Catholic sector is producing NCCD data that is high quality and accurate. In Figure 1 we describe a number of components to the approach undertaken in the Catholic sector that contributes to better performance.

⁴ The NCCD data provided by DET in 2015 and 2016 has been analysed considering differences in performance across jurisdictions and sectors over time. Privacy legislation means that in the NSW and WA Government sectors schools for which there are less than 6 students included in either the level of adjustment/category of disability have been omitted from the data. On this basis we would not suggest making conclusions about performance trends based on this analysis. We are confident in the findings of the analysis that is based on data collected as part of the CQIP.

Figure 1: Components of the approach to the NCCD adopted in the Catholic sector

There are a number of components of the approach to the NCCD adopted in the Catholic sector that contribute to better performance. Implementation models and the role of the Catholic Education Commission in each jurisdiction varies, however, in principle, the following are elements that are consistent across the sector:

- Embedding of the NCCD's 'level of adjustment' terminology across all processes/templates/discussions about students with disability
- Consideration of adjustments (with associated documentation) across a set number of domains
- Using a system that enables
 - centralised collation of evidence
 - visibility of student records among all teachers at the school and is a cumulative record of their time at the school
 - easy access to appropriate training materials about the DDA/DSE and NCCD.
- External review of school data by the central office
- Ease of access to advice and support with consultants that are regionally and centrally based and are well known to the schools
- Strong relationships with external specialists (eg speech pathologists, paediatricians) who are able to support students and teachers.

At a school level:

The sample size was not sufficient to inform, at a statistically reliable level, an assessment of data quality at the school level. As a result, we cannot recommend with statistical confidence the utilisation of the data at the school level. However, we note that, within the random sample of participating schools 88% of schools demonstrated a comprehensive or sound understanding and application of the NCCD model.

Has quality improved since 2015?

There has been little change in data quality year on year.

At the **national level**, in line with 2015 review, we found that the majority of schools across all jurisdictions and sectors have a comprehensive or sound understanding and application of the NCCD. Among schools in the respective random samples in 2015 and 2016 a comprehensive or sound understanding of the NCCD model was found:

- in 2016, in 88 per cent of schools, with a 4.2 per cent margin of error (a range of 83.8 to 92.2 per cent)
- in 2015, in 89 per cent of schools, with a 4.7 per cent margin of error (a range 84.3 to 93.7 per cent).

This stability in overall understanding and application of the NCCD occurred despite a skew to non-metropolitan areas (nationally 31 per cent of schools do not lie within a significant urban area but 40 per cent are included in the sample)⁵ which should have been expected to lower the understanding (given our finding that smaller and more remote schools generally have a lower understanding of the NCCD). The percentage of special schools demonstrating a comprehensive or sound understanding of the NCCD remained stable at 92 per cent year-on-year.

This positive finding in part reflects the cultural shift towards inclusivity and adjustment that is underway in many schools (the NCCD can be a contributing factor to this cultural shift). It is also representative of the 'business as usual' approach to the NCCD that many schools have developed. PwC teams anecdotally reported this cultural shift across the country this year, which is a notable change from prior quality assurance studies.

⁵ The larger sample in 2016 permitted better representation of regional, rural and remote schools; the sample was split 61:31:8 between metropolitan, regional and rural/remote schools.

In terms of levels of alignment, 2016 results are similar to the 2015 results in that the largest variance in alignments of level of adjustment are in the extensive (29 per cent compared with 21 per cent) and QDTP (27 per cent compared with 24 per cent) levels of adjustment. When considering the category of disability, the largest variance in 2016 was identified in the physical category (25 per cent). This is different to 2015 when the greatest variance was in the sensory category (19 per cent).

At the **jurisdictional level**, Tasmania has demonstrated the greatest improvement, with 97 per cent of schools demonstrating a comprehensive or sound understanding of the NCCD model. Western Australia has also demonstrated some improvements in understanding and application. NSW and Victoria have demonstrated a stable performance year-on-year. In South Australia 81 per cent of schools demonstrated a comprehensive or sound understanding and application of the model (compared to 94 per cent in 2015).

While we can hypothesise that some of these changes are due to actual underlying differences rather than random variation, it is impossible to confirm this statistically due to the small sample sizes (particularly in the smaller jurisdictions where the proportionally larger changes were witnessed).⁶ In some cases (eg in Tasmania) the changes witnessed align and reflect qualitative information from the focus group discussions and the PwC team's direct observations. Figure 2 highlights the factors that underpinned Tasmania's improved performance.

Figure 2: Factors that contributed to Tasmania's improved performance in 2016

The Tasmania SA/SR FGD highlighted the following characteristics that may be attributed to its improved performance:

- Cross-sector moderation and central moderation processes: there were state wide moderation meetings that included all schools and SA/SRs from all three sectors. The Catholic and Independent SA/SRs also worked with every school to discuss all students that were entered in the data collection. Section 8 describes the Tasmania moderation processes in more detail.
- Continuous collation of evidence: a sector in Tasmania reflected that schools are now focusing on collecting evidence throughout the year as opposed to one point in time.
- Open systems for collecting/storing evidence: one sector has a system that is open to external professionals. This allows medical professionals and/or parents to update student information on a regular basis.
- Leadership involvement: in one sector, the learning support co-ordinator discusses and reviews every submitted student with the school Principal.
- The Ministerial Taskforce Review made recommendations that the Department establish processes to ensure every school is "inclusive and disability ready". Extensive work has been undertaken to ensure inclusive teaching and learning programs and inclusive education training is in every school, linked to school improvement processes.

By sector, at a national level, Catholic affiliated schools have demonstrated the greatest improvement in understanding and application of the NCCD, with 97 per cent of Catholic affiliated schools showing a comprehensive or sound understanding in 2016 (compared to 95 per cent in 2015). The performance of the Catholic affiliated schools is grounded in having the highest level of training, moderation processes and evidence of contacting SA/SR to resolve challenges. The Catholic sector has invested in developing comprehensive NCCD platforms for use in their schools. These platforms all rely on a domain based approach to adjustments. There is some variability across jurisdictions in terms of quantum of domains, but the requirement that each teacher assess students across whichever domains are applicable in their jurisdiction is a discipline in approach that signals consistency of intent and a more standardised approach to decision making.

Among special schools, at an overall level performance has remained high year on year with 93 per cent demonstrating a comprehensive or sound understanding in both years. Within this total there were less schools with a comprehensive understanding in 2016 than 2015 (41 per cent compared with 72 per cent) and conversely, the amount of schools with a sound understanding has increased in 2016 to 52 per cent (from 20 per cent in 2015). While we found that students in special schools tended to be included in the NCCD at the

⁶ A 2 sample T-tests for finite populations at the 5% level of significance was used to determine if the year-on-year change was statistically significant.

right level of adjustment and category of disability, in focus group discussions we heard that the currently available professional learning materials and case studies are not resonating in special school environments and that there is demand for greater collaboration among special schools to enable sharing of challenges and experiences in contexts that are very different to those in mainstream schools.

Among the 44 schools included in the **longitudinal component** of the study we found very limited evidence of transformation from poor to comprehensive level of understanding (2 of 44) and that the majority (23 of 44) demonstrated no change in performance year on year (ie still exhibiting a limited understanding of the NCCD).

Whilst there are some examples of SA/SRs working with schools to provide feedback and reflect on their previous approach and application of the NCCD, we found this to be inconsistent within and between sectors and jurisdiction.

That there has been no overall change in quality (as indicated by lack of change in understanding as well as levels of alignment) reflects a mismatch between areas of activity that schools prioritised for attention (60 per cent of schools indicated that they had instigated changes this year) and areas in which there is a positive correlation with improved quality. Table 1 highlights this mismatch.

Table 1: Difference between activities that schools undertook to prepare for the 2016 NCCD and activities that are shown to contribute to improved data quality

Activities undertaken by schools	Activities that improve data quality
Improved documentation and collation of evidence (34 per cent)	Training for classroom teachers in the NCCD and/or DDA/DSE
Earlier preparation for the data collection (18 per cent)	Training for school leadership in the NCCD and/or DDA/DSE
Improved review processes (16 per cent)	Use of a comprehensive student reporting system
	Moderation

Comment about relative robustness of data versus other policy initiatives

We suggest that comparison of levels of variability across different data collections (even when within the same sector) does not provide useful insight. Rather, the findings around strategies/approaches that have been implemented as outlined in the literature should be considered for relevance when seeking to reduce variability within the NCCD.

That being said, the NCCD has been subject to a high degree of internal and external scrutiny since its inception. Our review of the literature found that whilst professional judgement is a well-debated topic, most of the debate revolves around the reliability of professional judgement. **We found no peer reviewed academic papers with evidence of similar levels of rigour around the quality of the data that underpins policy positions across the education and health sectors.**

We did identify one small scale research study on the development and initial application of a tool, the Checklist of Learning and Assessment Adjustments for Students (CLAAS), by 21 teachers in Queensland. The CLAAS facilitates teachers in their assessment of students to determine the correct level of support and adjustment. The CLAAS trial findings suggested that the method provided teachers with a comprehensive list of adjustments and assisted teachers in recording the adjustments made. Furthermore, it was viewed as being useful and an appropriate tool to assist teachers to meet their legal, policy and professional obligations. The study concluded that using teacher professional judgement in the CLAAS framework may be useful to assist policy-makers in reviewing instructional and assessment practices and was appropriate for determining adjustments required by students with disabilities.

In Queensland, 'The Standards Project' (2013) demonstrates a shift towards moderation being embedded in professional practice. The program saw the Queensland education sector recognise the importance of exemplars of quality practice to illustrate requirements for teachers. The program also promoted a collaborative approach

to professional learning and development, aligned with the Australian Professional Standards for Teachers. The report noted that moderation can be externally applied through an expert review panel. This type of moderation may help to provide quality assurance controls in the moderation of variation in teachers' judgements.

Comments about variability – Drivers, legitimate variability or not

There are many factors that impact on the way a school understands and applies the NCCD model and that there are complex interactions between these factors. Using regression analysis as the basis for identification of the *key drivers* of variability in data quality we found them to be:

- whether classroom teachers and leadership have undertaken NCCD and/or DDA/DSE training
- whether the moderation/internal review process has led to changes in the level of adjustment
- whether the school has a comprehensive student reporting system in place
- whether or not the school is a special school.

This is consistent with the findings of the literature review which concluded that variability in data collections that rely on professional judgement stems from:

- education and training
- prior work experience
- other contextual considerations – this includes factors such as socio-demographics, geographical location and time allocated to the decision-making process.

Some variability across jurisdictions and sectors is inherent and expected. However variability is also driven by the different approaches that are taken by the sector and jurisdiction:

- in the gap analysis of professional learning material, we found that there is some deviation across jurisdictions and sectors in terms of the guidance (written and verbal) developed and provided by SA/SRs
- the systems that support schools to record student information (including the NCCD) are diverse, spanning comprehensive platforms (eg OneSchool for government schools in Queensland), a standardised personalised planning tool used in the Catholic sector and off-the shelf products that are purchased at the discretion of school administrators in the Government and Independent sectors
- the commitment to the development of capacity among teaching staff around students with disability varies across sectors and jurisdictions and is influenced by training budgets and the prioritisation of resources for professional learning about disability, the NCCD and DDA/DSE.

The literature review indicated that there are a number of strategies that can be employed to limit the variability of professional judgements. The treatments explored in the literature were:

- **professional learning and development** – education has been shown to reduce uncertainty and promote the dependability of evidence-based decision-making
- **prescribed criteria and standards** – the consistency of professional judgement can be improved through the incorporation of established criteria and guidelines, such as checklists and competency level descriptors
- **moderation and collaboration** – allows individuals to collaborate, validate and learn from one another and regulate the assessment and data collection process. Moderation also helps to reduce errors and biases in professional judgement.

These treatments are directly relevant to the identified drivers of variability and have informed our recommendations.

Do schools have the evidence to underpin their decision to include a student in the NCCD?

We were able to view evidence that supported a student's inclusion in the NCCD in 78 per cent of cases and schools are generally comfortable with the four elements of evidence prescribed by the NCCD model. The area for which there is least documented evidence is consultation with parents/carers.

Examples of evidence that was viewed include external diagnoses, teacher records relating to adjustments (their provision, the frequency of their requirement, records of meetings with specialists, video footage of students, work samples, individual learning plans, health plans), records that demonstrate ongoing monitoring and review (eg records of meetings with specialists, updates to behaviour plans and IEPs) and records of meetings/discussions with parents/carers (eg emails with parents, filing of phone records, signed IEPs). In cases where there was no formal evidence of consultation with parents/carers we were often informed that conversations happened informally/opportunistically (eg at the school gate) and the teachers were able to describe the interaction but acknowledged that they had not officially recorded the interaction.

There is a positive relationship between being a metropolitan school and being able to demonstrate the correct evidence to underpin a student's inclusion in the NCCD. The fact that regional and remote schools are less likely to collate suitable evidence relates to the increased likelihood that these schools are small, with limited staff who are responsible for teaching and administration, hence limited time to devote to NCCD evidence collation

What are the key factors that underpin correct application of the model?

There are a number of factors that influence a school's ability to correctly apply the NCCD model. Some of these relate to processes and approaches within the school, others relate to school demographics.

The following have been identified through interviews with schools, the analysis of the data collected, and relevant literature as drivers of quality data:

- **training** – schools in which all staff have undertaken the full suite of training (DDA/DSE and NCCD) are more likely to demonstrate a comprehensive understanding of the NCCD
- **team based approach/leadership** – schools in which leadership is involved in all parts of the NCCD processes are more likely to demonstrate a comprehensive level of understanding of the model. Similarly, leadership is considered critical to establishing a culture of inclusivity – an enabler of comprehensive or sound understanding of the NCCD
- **systems, process and support** – schools with a comprehensive filing and reporting system and process were assessed to have a better understanding of the NCCD than those with only a basic reporting system
- **moderation of the data** – we found that moderation most commonly happens *within* a school setting and that there are various approaches undertaken. Despite the divergent approaches and lack of assessment against external reference exemplars, schools that had moderation processes demonstrate a better academic understanding and application of the NCCD model. This is consistent with the literature which finds that moderation is a key treatment of variability because it:
 - allows individuals to collaborate, validate and learn from one another and regulate the assessment and data collection process
 - reduces errors and biases in professional judgement.

We have also found that there is a relationship between a number of demographic factors and likelihood that a school will correctly apply the model:

- **school location** – schools in metropolitan areas had a better understanding and application of the NCCD. This is likely explained by:
 - relative ease of access to the resources and facilities eg medical specialists, that contribute to a comprehensive understanding of the types of adjustments that students may need

- lower levels of staff turnover in metro areas and greater accessibility of training and professional development in metro areas.
- **school size** – larger schools have a better understanding of the NCCD, which reflects:
 - shared responsibility for the process across a number of staff and greater opportunities for collaboration and moderation
 - higher likelihood of exposure to a diversity of students with wide-ranging needs, disabilities and adjustments (prior experience of similar situations underpins teachers' confidence to manage complex cases).
- **sector** – Catholic affiliated schools demonstrated the highest level of understanding of the NCCD model, with 97 per cent of schools demonstrating either comprehensive or sound understanding
- **socio-economic factors** – we found a positive relationship between Index of Community Socio-Educational Advantage (ICSEA) ⁷ score and overall understanding and application of the NCCD at the national level.

Recommendations

We have developed a series of recommendations, based on the feedback and evidence received from schools, SA/SRs and the Commonwealth. The recommendations are clustered by priority level. We have considered the following elements when classifying the priorities:

- impact on quality for the 2017 collection, and each subsequent year
- time required for implementation
- barriers and risks to delivery

Mobilisation around these actions requires that accountability for their delivery be allocated. We suggest that immediate consideration be given to appropriate governance arrangements to ensure ownership and responsibility for delivering on the recommended actions.

We suggest that improved data quality in 2017 relies on implementation of **three essential, immediate actions** (see Figure 3) which respond directly to the drivers of variability:

- a **train the trainers** session for SA/SR representatives responsible for supporting schools as they apply the NCCD
- introduce a set of **principles to guide moderation**. (The development of the principles based approach to moderation is an action that we recommend takes place in tandem with localised piloting of cross sector/jurisdiction moderation. We have made this an immediate action to acknowledge the reality that the majority of moderation is happening within the school environment and that there are barriers to broader moderation that need to be addressed before there is likelihood of widespread adoption)
- implement a **feedback** mechanism to enable schools to learn about areas for improvement, eg where they may be making mistakes with student allocations or evidence collation. The approach would need to respond to the particular needs of the school and the relationship that it shares with its SA/SR – a commitment to continuous improvement on both sides would enable a better outcome.

These actions are mutually reinforcing and the train the trainer session could be leveraged to cover both training in the NCCD and agreement about the principles that underpin good moderation (irrespective of sector and jurisdiction), as well as the possible feedback mechanisms that schools and SA/SRs could introduce to encourage commitment to continuous improvement.

⁷ The Index of Community Socio-Educational Advantage (ICSEA) is a national scale of relative socio-educational advantage used in educational analysis

With these foundations in place it will be possible to continue to build a data set with less variability and increasing quality. Table 2 outlines these recommended subsequent actions for implementation over the medium to longer term.

Figure 3: Essential and immediate actions to effect improvement in the 2017 NCCD

Recommended action	<i>Rationale and outcome</i>
<p>1 Train-the-trainers A central training event for SA/SRs and relevant staff</p>	<p>Rationale: Schools reported they most commonly sought assistance from their SA/SR. The guidance and advice shared with schools needs to be consistent across the jurisdictions and sectors.</p> <p>Outcome: A more aligned and consistent understanding of the NCCD model and the requirements that are part of it. This will lead to reduced variability in schools, in both the how and why students are included and the evidence collected.</p>
<p>2 Introduce a set of principles to guide moderation Encourage moderation and reduce the perceived barriers to participating by providing principles and examples for moderation</p>	<p>Rationale: Assist Principals and Learning Support Coordinators in schools to efficiently perform an adequate level of review and moderation</p> <p>Outcome: Moderation is a key component to data quality. In reducing the perceived barriers, encouraging conversations within schools and across networks, school will be provided the ability to ensure all staff are correctly informed about the NCCD and the DDA/DSE.</p>
<p>3 Implement a feedback mechanism Give schools the ability to test and validate their completion of the NCCD</p>	<p>Rationale: To date, schools have not been provided with the opportunity to reflect on their understanding of the NCCD model, in relation to their peers.</p> <p>Without any external feedback, schools are under the belief they are completing the NCCD correctly – regardless of whether they are or not.</p> <p>Outcome: Giving schools a way to benchmark their own understanding and application, they will be able to focus on areas for improvement (where applicable).</p> <p>This will result in course-corrections and therefore improved quality of the data.</p>

Table 2: Summary of recommendations

Recommendation	Rationale	Outcomes
Immediate priorities		
4 Crowd-sourcing case studies Collate the case studies from the jurisdictions and sectors into a central repository.	Schools asked for more case studies. Across the country there is a large number of case studies that are only available to the local jurisdiction/sector. Collating and housing the many examples that are available will provide schools with a broader collection to draw from, while reducing duplication of work.	Schools will have a wider variety of exemplars that apply in their local context – leading to another source that schools can use to increase their understanding of the NCCD model and the DDA/DSE.
5 Eliminate barriers for schools to access DDA/DSE training Give schools cheap and easy access to a suite of DDA/DSE training.	The Commonwealth supplied training is considered costly and cumbersome to administer. As the DDA/DSE is essential to understanding, there should be easily accessible training for all schools.	An improved understanding of the DDA/DSE contributes to a culture of inclusivity.
6 Evidence: Develop guidelines for data collation	Schools noted that they are unsure of an appropriate amount and the types of evidence they are required to collect. Principles based guidelines will assist schools to feel confident in the quality of the evidence that is collated over time as the basis for a student's inclusion in the NCCD.	The evidence collected will have a minimum quantum and standard going forward.
7 Re-design the ESA website Design an easy to use website for all NCCD materials.	Provide schools a single resource they can navigate and locate resources.	Schools will spend less time searching for content and have access to the same materials regardless of jurisdiction or sector.
8 Centralise the guidance materials A central source for guidance, case studies, and templates.	In conjunction with the re-design of the ESA website, provide a consolidated location for all resources.	Schools and SA/SRs will be able to access the same materials, leading to greater consistency across Australia and reducing variability nationwide.
Medium term priorities		
9 Cross school/sector moderation	Schools expressed interest in a program to meet with other schools and discuss the NCCD and relevant topics. It was also noted that this is a challenge to arrange due competing priorities. A cross-school program will also encourage networking among schools and provide them with opportunities for	Schools will build networks on which they can rely for questions and clarifications of understanding. A moderation process will also assist schools to clarify misunderstanding and result in increased

Recommendation	Rationale	Outcomes
	discussion of things about which they are unsure eg particular student examples	data quality.
10 Introduce annual NCCD ‘refresher’ training Brief and thorough training module on the NCCD model.	To assist teachers in keeping up-to-date with the requirements of and any changes to the NCCD model.	An enhanced understanding of the NCCD model (including any changes) - appropriate to new and experienced teachers - to build and consolidate the knowledge base around adjusting for disability.
11 Introduce new teacher training Introductory training module on the NCCD and DDA/DSE for those who are new to the teaching workforce.	New teachers will not have been given the opportunity to learn about the NCCD and the DDA/DSE as part of their university training. A brief but thorough training program will introduce them to the NCCD and the DDA/DSE.	An understanding of the NCCD model and DDA/DSE legislation – leading to more retained knowledge, to maintain data quality.
12 Bi-annual refresher training on the DDA/DSE	In conjunction with other required training that teachers must undertake, offset knowledge loss (due to personnel movements) and refresh/update teachers’ knowledge on the DDA/DSE.	Ongoing commitment to meeting legal obligations as part of the DDA/DSE, enabling the cultural shift towards inclusive education.
13 Include DDA/DSE in job requirements for future school executives (leadership)	Principals are a key component to a school completing the NCCD and promoting an inclusive learning culture. To help cement understanding of the legislative requirements (DDA/DSE), add the requirements that applicants for leadership roles must have a minimum level of competency in the DDA/DSE, making adjustments and an inclusive learning culture.	A broader cultural shift to a more inclusive teaching and learning culture in schools.
14 Establish an NCCD ‘expert team’ A team to assist schools to prepare for the 2017 NCCD.	To act as the ‘centre of excellence’ for the NCCD – acting as support line for all schools.	By providing a central, mobile team that schools can rely on for resources and guidance, they will be better equipped for the NCCD and collect higher quality evidence while reducing inefficiencies. This will result in a higher degree of data quality for participating schools.
15 School level resource allocation Provide schools with the support (funding or aide) to enable teacher PD time.	Provide funding support to schools for use to enable teachers to participate in training on the NCCD (and broader inclusive education) - to cover course fees and relief costs.	Teachers will have a greater understanding of the NCCD, making of adjustments, collating evidence, etc, will lead to a more inclusive learning environment.

Recommendation	Rationale	Outcomes
Longer term priorities		
16 Quality Assurance owned by jurisdictions/sectors	A nationwide quality assurance and review program can be achieved by distributing responsibility to each SA/SR.	A national QA process will lead to improved understanding of the NCCD and DDA/DSE.
17 Student teacher exposure time Conduct research to identify a minimum amount of time that student-teachers should have in dealing with students with disability.	Teachers noted that new entrants to the teaching workforce may lack the experience and skills necessary to effectively teach a classroom that may have a student(s) with a disability.	By understanding what amount of placement time aspiring teachers should have, teachers of the future will be better equipped for the challenges they will face in classrooms. This will result in better outcomes for students.
18 Scholarships for Special Education courses Encourage students to commence a career in special education through targeted scholarship programs.	In some jurisdictions it was noted that there is an apparent shortage of special education teachers. There is a need to increase the number to ensure that students are not further disadvantaged.	By increasing the number of specially trained and certified teachers, the support and outcomes for students will be improved.
19 Improve preparation of new teachers to meet the elements of the Australian Professional Standards for Teachers that relate to students with disabilities Work with initial teacher education providers to ensure alignment between training provided and the Professional Standards.	There is a need to work with universities to assess and improve alignment of the courses available to new teachers and the Australian Professional Standards for Teachers that relate to students with disabilities. This will require that student teachers learn about the NCCD and DDA/DSE and will raise the 'base' level of understanding about adjustments for students with disabilities across jurisdictions around Australia.	To embed the NCCD, DDA/DSE and inclusive learning culture in schools.
20 Amend the teacher registration requirements Include specific requirements for students with disabilities or special education training.	Modifying the registration requirements for teachers to include understanding of the NCCD and DDA/DSE will help to cement an increased 'base' level of understanding across jurisdictions around Australia.	To embed the NCCD, DDA/DSE and inclusive learning culture in schools.
21 Confirm and roll-out a domain based collection and allocation system Collect data on set domains that are	To capture a broader picture of each student, encompassing academic, behavioural and other areas, will allow schools to develop a thorough understanding of each student.	Ensure that a consistent, broad, model allows each student to be considered in all aspects of school, expanding teachers understanding of their needs and potential adjustments.

Recommendation	Rationale	Outcomes
more broad than current.		
22 Development of an algorithm for student allocation with inputs from a standardised domain based collection system	Expanding the point above: Using an algorithm based on set domains to allocate students.	A model that uses an algorithm will increase consistency among schools.
23 Development of a set of standards for future systems	Reduce the barriers between schools and increase the quality of data in schools.	Ensure all future systems are built on a consistent framework, allowing interoperability, data transfer, consistency of data capture, etc.

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2 *Study context*

Education Ministers from all states, territories and the Commonwealth are committed to ensuring that all students have equal access to high quality education to achieve their full potential. Many students with disability require additional assistance with their schooling and the adjustments required to meet their needs are diverse.

The Nationally Consistent Collection of Data on School Students with Disability (NCCD) has been progressively implemented in schools across Australia and 2016 is the second year where all schools have been required to participate in the data collection.

It is important that data is robust, reliable and accurately reflects the diversity of needs of students with disability and reflection on the quality of data, from the most recent collection, will help identify opportunities for improvements in future data collections.

The purpose of the 2016 NCCD Continuous Quality Improvement Project (CQIP) is to review the quality and consistency of the 2016 NCCD data, identify trends across jurisdictions and sectors, identify drivers of variability and make recommendations for improvements for the NCCD in 2017.

The Department of Education and Training (DET) engaged PwC in the 2016 CQIP to answer the following series of questions, specifically:

- Is there accuracy and consistency in the decisions made by the school around the NCCD processes and determining the level of adjustment?
- Is there accuracy and consistency in the application of the NCCD across sectors, and jurisdictions?
- What are the types, range and quality of evidence that is collected?
- If the school was part of the longitudinal component, were there any changes in the school's understanding of NCCD and factors that contributed to these changes (eg number of times participated in NCCD, training, moderation and key personnel)?
- Were there any students excluded from the data collection who should have been included and what are the reasons for not including them?

To answer these questions a large team comprised of PwC staff and independent subject matter experts (SMEs), Professor Michael Arthur-Kelly from the University of Newcastle and Dr Umesh Sharma from Monash University undertook:

- interviews with 552 schools
- focus group discussions (FGDs) with school and SA/SR representatives
- desktop reviews of policy relating to funding for students with disability
- a literature review that investigated drivers and treatments for data variability
- a review of professional learning materials.

PwC also undertook a comparison of the 2015 and 2016 data on level of adjustment by jurisdiction, further details are available in Appendix B.

2.1 Quantitative Component – School based interviews

The interview questionnaire

School interviews were guided by an interview questionnaire which was designed in collaboration with the project SMEs. Based on the answers to the questionnaire, the interviewer gained an understanding of the school's context, professional learning undertaken for the NCCD, NCCD processes including any reviews and moderation, and application of the model through the use of case studies. The interviewer reflected on all of these components to arrive at a judgement about the school's overall understanding of the NCCD model.

PwC applied an iterative approach in the design of the questionnaire, reflecting inputs from SA/SR representatives and the DET. The PwC interview team were brought together in Sydney for a full day of training prior to embarking on discussions with schools. SA/SR and DET representatives were also invited to attend, with participation from the Departments of Education for SA, QLD, VIC, NSW, the NT, TAS and ACT, Independent Schools Associations from QLD, VIC, NSW and TAS and the Commonwealth DET. The PwC team subsequently participated in a teleconference with Catholic Education Offices from across the country where the project context and approach was explained, and the questionnaire shared and discussed. The purpose of this day was to ensure that all interviewers had a consistent understanding of the NCCD and DDA/DSE. The team was also trained in the questionnaire itself and provided with the skills to enable its delivery in a conversational tone, noting the need for consistency in approach.

The questionnaire was tested in the first week of school visits and based on feedback from SMEs, was updated to enable improved insight. The revised final questionnaire was noted by the JWG. Likewise, the SMEs provided feedback on the tone and delivery of interviews that they observed in the first week and based on their feedback, the PwC team focused on ensuring that adequate time was invested at the start of the interview to develop rapport with the school team and provide sufficient context for the visit.

The sample

The sampling framework used in the 2016 CQIP followed the approach of the 2015 CQIP and previous projects involving school sampling. The sample was generated by DET and it included 553 schools (an increase from 407 in 2015). A small number of schools in the sample, 44, had participated in the 2015 CQIP and based on repeat participation, form the longitudinal component of the study. These schools had demonstrated a poor understanding of the NCCD in the 2015 CQIP and the purpose of their inclusion in this year's sample was to allow PwC to investigate their relative performance this year and the factors that may have contributed to improvement (or not). These schools (like all schools) had not received feedback on their 2015 NCCD performance.

The remaining sample (507 schools) was split across mainstream and special schools and stratified according to specific characteristics (eg remote, regional, metro and small versus large). The sample was split 61:31:8 between metropolitan, regional and rural/remote schools, which means that findings are skewed by the fact that 40 per cent of the schools are in non-metropolitan areas (when in fact nationally 31 per cent of schools do not lie within a significant urban area).⁸ In 2016 the sample was intentionally biased towards more regional and remote schools, compared to the 2015 sample (which was proportionate to schools). Additionally, at the request of the JWG, the sample was skewed towards the smaller states to improve their sample coverage, more so than NSW, VIC or QLD.

For the 507 randomly selected, non-repeat visit schools, we can be more confident in this year's result compared to 2015 and the results have a smaller margin of error (MoE).⁹ Figure 4: details the proposed sampling framework for participating schools in the 2015 and 2016 CQIP as well as respective MoEs.

⁸ Per ABS definition of *Significant Urban Area*.

⁹ The MoE is the range that is allowed for in the case of varying circumstances (and therefore results) across schools in the sample. For example, in the 2015 CQIP, when we reported that a third of participating schools were completely confident in their understanding and application of the NCCD model, the margin of error was 4.75% at the national level. That means if every school in the country was asked the same question, 95 out of 100 times, between 28.75% and 37.75% of schools would be completely confident (33% +/- 4.75%). The margin of error would increase at the jurisdiction or sector level due to the smaller sample sizes.

Figure 4: 2016 random sample and MoE

2016 Final sample					Margin of error				
State	Government	Catholic	Independent	Total*	State	Government	Catholic	Independent	State MoE
NSW	75	21	20	122	NSW	11.1%	21.0%	21.3%	8.7%
VIC	66	18	17	107	VIC	11.8%	22.7%	22.8%	9.2%
QLD	49	14	13	80	QLD	13.7%	25.6%	26.3%	10.7%
WA	31	8	8	50	WA	17.3%	33.9%	33.8%	13.5%
SA	27	7	7	44	SA	18.4%	35.9%	35.8%	14.3%
TAS	21	6	6	35	TAS	20.2%	37.1%	36.0%	15.4%
NT	21	6	-	35	NT	19.9%	33.2%	34.3%	15.0%
ACT	20	6	6	34	ACT	19.3%	36.4%	32.1%	14.5%
Total	310	86	77	507	MoE	5.4%	10.3%	10.3%	
Number of Special schools				28	National level MoE:				4.2%

2015 Final sample					Margin of error				
State	Government	Catholic	Independent	Total	State	Government	Catholic	Independent	State MoE
NSW	75	20	19	114	NSW	11.1%	21.6%	21.9%	9.0%
VIC	54	17	11	82	VIC	13.1%	23.4%	28.8%	10.6%
QLD	45	11	10	66	QLD	14.3%	29.0%	30.2%	11.8%
WA	30	6	7	43	WA	17.6%	39.4%	36.2%	14.6%
SA	22	5	5	32	SA	20.5%	43.0%	42.9%	16.9%
TAS	8	5	5	18	TAS	34.0%	41.3%	40.4%	22.3%
NT	6	5	5	16	NT	39.3%	38.0%	39.2%	23.5%
ACT	5	5	5	15	ACT	42.8%	40.7%	36.5%	23.9%
Special Schools				24					
Total	245	74	67	410	MoE	6.1%	11.1%	11.6%	
					National level MoE:				4.7%

The greater number of schools in the 2016 random sample than that in the previous year permitted a better representation of regional, rural and remote schools. As such, smaller jurisdictions, such as Tasmania, the Northern Territory and the Australian Capital Territory have better (decreased) margins of error than in 2015 (see Figure 5).

Figure 5: 2016 final sample MoE compared to 2015

MoE compared to 2015

** Negative results = improvement from 2015*

State	Government	Catholic	Independent	State MoE
NSW	-0.0%	-0.5%	-0.6%	-0.3%
VIC	-1.3%	-0.7%	-6.0%	-1.4%
QLD	-0.6%	-3.4%	-3.9%	-1.1%
WA	-0.3%	-5.5%	-2.5%	-1.1%
SA	-2.1%	-7.0%	-7.0%	-2.6%
TAS	-13.8%	-4.2%	-4.5%	-6.9%
NT	-19.4%	-4.8%	-4.9%	-8.5%
ACT	-23.5%	-4.3%	-4.4%	-9.4%

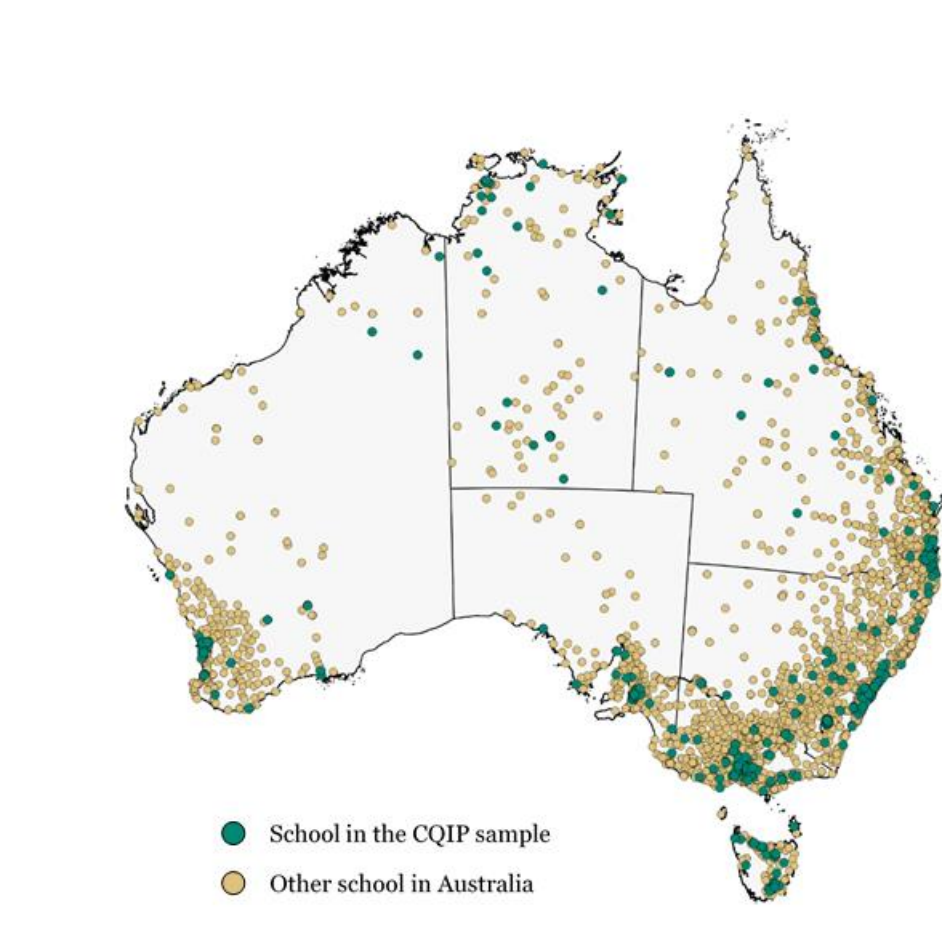
While the preference was for face-to-face interviews, in 25 cases the interview took place either via video conference or teleconference. These were necessitated by a mismatch between school availability and PwC's travel schedule or as a result of unforeseen circumstances, for example, key school team members were sick thus requiring a rescheduling of the meeting. In addition, in a number of cases the randomly selected school declined to participate in the project which necessitated an alternate school, demonstrating similar characteristics, be substituted into the sample.

The final school sample is represented in Table 2 and Figure 6.

Table 3: Final school sample

Type of school	Sample	Visited	Face-to-face	Telecon./ Video con.	Partially participated/ Unable to complete	Variance
Mainstream schools (random sample)	479	464	430	23	11	-15
Special schools	28	44	44	-	-	+16
Longitudinal component	46	44	40	2	2	-2
Totals	553	552	514	25	13	-1

Figure 6: Location of schools in random sample across Australia – 2016



Due to the nature of the questionnaire, the total number of schools that answered each question varies across reported data and charts. Questions with self-reported answers or those which required PwC assessment could not be answered in schools where the main person responsible for NCCD in 2016 could not be accessed (eg retired or on leave), or the school's knowledge of the NCCD was so limited that the questionnaire could not be completed. Moreover, some questions allowed multiple options to be selected by the school and/or PwC.

Figure 6 shows 507 randomly selected schools were distributed across metropolitan and remote areas in Australia. 2016 CQIP has a greater representation of remote schools compared where 220 schools were regional, rural/remote 507 schools 2016 CQIP.

Quantitative analysis has been applied to three subsets of the sample:

- mainstream schools (random sample) – 464 schools
- special schools (random sample) – 44 schools
- longitudinal sample – 44 schools.

2.2 Qualitative component

Desktop Reviews

In order to provide greater depth of understanding and complement the survey analysis, PwC undertook the following desktop reviews:

- 1 A **literature review** which focused on the identification and treatment of drivers of variability in data collection where professional judgement is required. Professor Claire Wyatt-Smith from the Australian Catholic University was engaged as a subject matter expert to review this piece of work. The literature review has been provided as a separate report.
- 2 A review of professional development materials produced by SA/SRs to support school understanding and application of the NCCD. This review, referred to as the '**gap analysis**' considers consistency (or divergence) of guidance produced by SA/SRs to that available on the national ESA site.
- 3 A review of state and territory policies that inform eligibility for and level of funding available at the school level for students with disability.

The findings from these are considered alongside quantitative analysis and collectively inform our recommendations.

Focus group discussions

Focus group discussions (FGDs) were convened with representatives from schools and with SA/SRs. These discussions enabled exploration of initial data results and provided participants with the opportunity to reflect broadly on the NCCD process and the QA process in which they had participated.

The first series of focus groups was conducted with school representatives (nominated by the SA/SRs) in Sydney, Adelaide, Geelong and Brisbane.

The framework for the 90-minute discussion was co-designed by PwC with SMEs and based on early data-related trends.

The discussions were facilitated by the SMEs and themes explored were:

- 1 **Evidence** – identifying schools' understanding of evidence requirements for the NCCD, does this vary by level of adjustment and category of disability, and what are the systems that are used to collate and store evidence?
- 2 **Moderation** – is the term 'moderation' consistently understood, what are schools' experiences with the moderation process, does moderation lead to changes in the data, is the process valuable and could it be improved?
- 3 **Leadership** – what does 'leadership' look like across school settings, what is the relationship between leadership, a school's culture of inclusivity (or not) and the way in which the NCCD is viewed within that culture, and what is the role of school leadership throughout the NCCD process?
- 4 **Advice, support and professional development** – where do schools turn to for advice, support and professional development relating to the NCCD and disability broadly, what is their level of satisfaction with the advice, what type of support and professional development do schools access, what is the ease of access, and what are the suggestions for improvement?
- 5 **Challenges** – what are the hurdles that schools face when implementing the NCCD and some suggestions for pragmatic solutions for implementation at the school level?

An additional eight focus groups were conducted with SA/SRs across each jurisdiction near the end of the survey and after the school FGDs. PwC facilitated these discussions exploring data trends and outcomes in collaboration with school representatives. Participants were encouraged to speak freely and reflect on the NCCD

as well as broader themes around funding, support and inclusive education culture. These discussions have been considered when framing funding and recommendations.

The quantitative analysis is considered, alongside qualitative findings from FGDs and desktop reviews, to enable a set of findings and recommendations that acknowledge the complex relationship between the various elements that underpin an accurate understanding and application of the NCCD and ways to reduce the variability in the dataset going forward.

3 *NCCD quality over time*

3.1 *Are schools implementing the model accurately in line with the National model?*

An assessment of the understanding of the NCCD at each school visit was made by the PwC interview team after completing the questionnaire. PwC's decision about how well a school understood and applied the NCCD, an indicator of the quality of the data, reflected consideration across a number of elements.

The discussion provided schools with the opportunity to describe to PwC at a high level which students they had included in the NCCD and why. Schools were asked to present four student case studies across the various levels of adjustment. Case studies enabled a more granular demonstration of the school's application of the NCCD. The student's condition was described along with details of the basis for the school's decision to classify the student at the selected level of adjustment and category of disability. Supporting evidence was considered.

To assess schools' understanding of the DDA/DSE, the interview included three statements that had been developed in conjunction with the SMEs. The statements were included to assess how the person or school team responsible for the NCCD understood and interpreted the DDA/DSE, including related concepts such as reasonable adjustments and imputed disability.

A school was assessed to have a comprehensive understanding of the NCCD model if the PwC interview team assessed that:

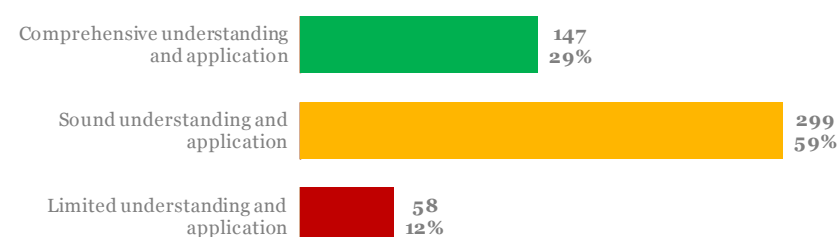
- the team responsible for the NCCD had been trained in the DDA/DSE
- all students that were eligible to be included as per the model (and these students only) had been included
- the selected adjustment level and category of disability was in line with the NCCD model definitions, and
- the school was able to provide necessary evidence to support student inclusion in the model.

This approach is consistent with how school performance was assessed in 2015.¹⁰

At a national level, among the random sample, we found that:

- 88 per cent of participating schools demonstrate a comprehensive or sound understanding and application of the NCCD model (comprised of 29 per cent with a comprehensive understanding and application of the NCCD model and 59 per cent with a sound understanding and application)
- 12 per cent of schools had a limited understanding and application of the NCCD model (see Figure 7).

Figure 7: Understanding and application of the NCCD model among 504 schools in the random sample, 2016 results

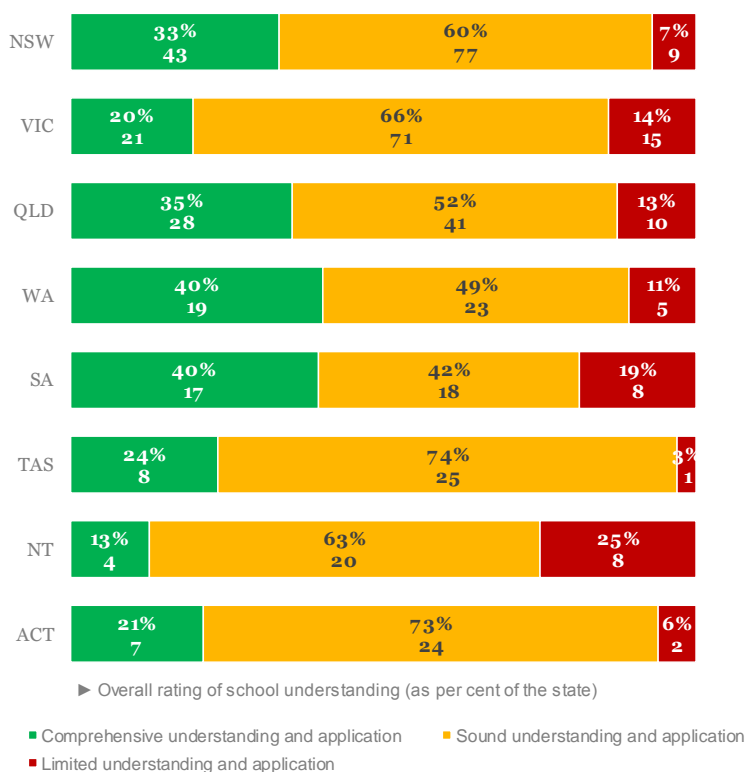


¹⁰ A more sophisticated approach using a composite indication could also be considered in assessing school performance. Appendix C describes the index, which could be used as a comparison point for future data collections, and the weighting given to each of the criteria in more detail.

Schools' understanding and application of the NCCD was analysed by sector and jurisdiction.

WA and SA demonstrated the highest percentage of schools with a comprehensive understanding and application of the NCCD at 40 per cent of their respective samples. Among Tasmanian sample schools, 24 per cent demonstrated a comprehensive level of understanding but when combined with those with a sound understanding (74 per cent), Tasmania is the jurisdiction with the lowest evidence of limited understanding and application (3 per cent) (see Figure 8). SA and the NT had the highest proportion of sample schools demonstrating limited understanding at 19 and 25 per cent respectively.

Figure 8: Understanding and application of the NCCD model by jurisdiction



Appendix A describes the Figure 8 results by sector and jurisdiction.

The NT was found to be the only jurisdiction to have significantly fewer schools with a sound or comprehensive understanding compared to the rest of the country. However, when the relevant sector is also taken into account, SA and VIC Government schools as well as QLD Independent schools were found to have statistically less schools with a sound or comprehensive understanding.

By sector, Catholic affiliated schools demonstrated the highest level of understanding, with 41 per cent of schools having a comprehensive understanding and application of the NCCD model. Refer section 5.3 for more detail.

Alignment within the school sample

Alignment is an indicator of accuracy and a component of data quality. Based on the case studies that were collated, our analysis shows that the PwC interview team agreed with the:

- student's inclusion in the NCCD 98 per cent of the time
- chosen category of disability 86 per cent of the time
- chosen level of adjustment 79 per cent of the time.

PwC was more likely to agree with the level of adjustment and category of disability selected in schools assessed as being confident in their understanding of the NCCD model (89 per cent).

When we consider the level of misalignment, the largest variance identified in selecting the level of adjustment by schools compared to PwC interview team's assessment was at the extensive (28 per cent) and QDTP (27 per cent) level of adjustment as a total per cent of student case studies discussed (Figure 9). Figure 10 shows that 25 per cent of student case studies at the extensive level discussed were assessed to be at the substantial level of adjustment and 25 per cent of QDTP were assessed to be at the supplementary level of adjustment.

Figure 9: 2016 Alignment, level of adjustment (PwC assessment and school judgement) and details of misalignment

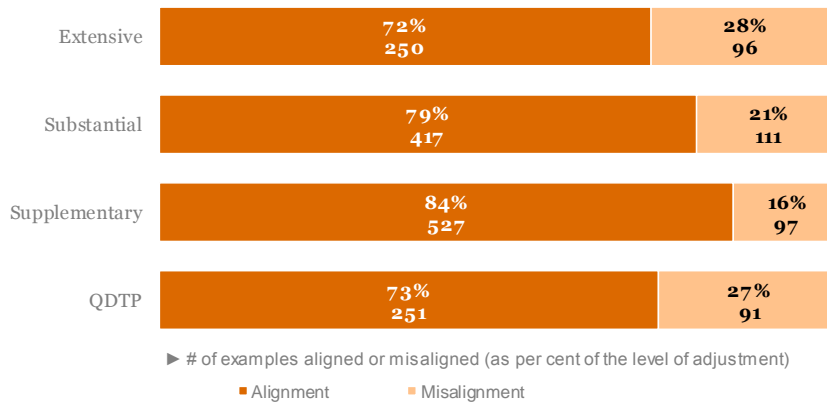
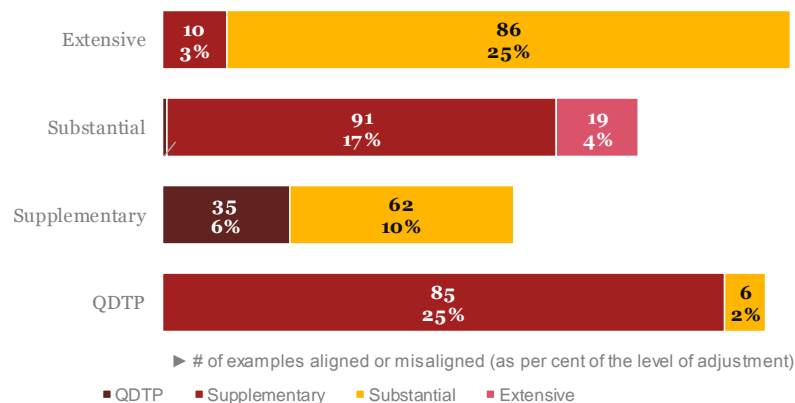


Figure 10: Breakdown of 2016 Misalignment in level of adjustment (PwC assessment and school judgement) and details of misalignment



The 2016 results are similar to the 2015 results in that the largest variance in alignments of level of adjustment are in the extensive and QDTP level of adjustment (Figure 11 and Figure 12). However, the 2016 alignments are based on a larger number of student case studies (1840 students) compared to 1008 student case studies in 2015. Further, PwC assessment in 2016 was more comprehensive in requesting a minimum of four student case studies across the different levels of adjustment and different categories of disability.

Figure 11: 2015 Alignment, level of adjustment (PwC assessment and school judgement) and details of misalignment

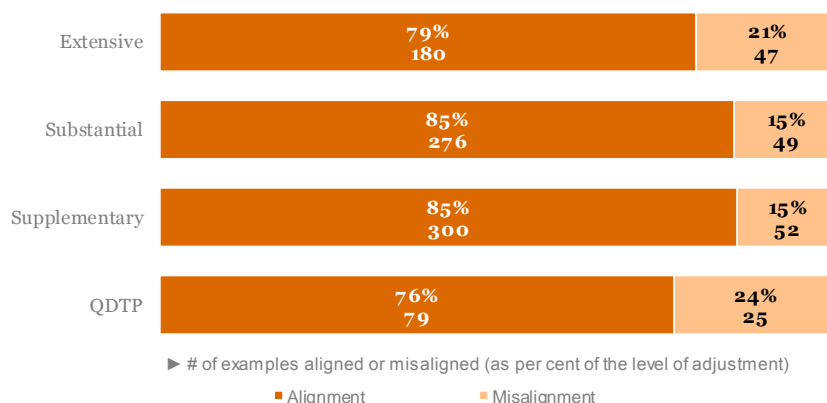
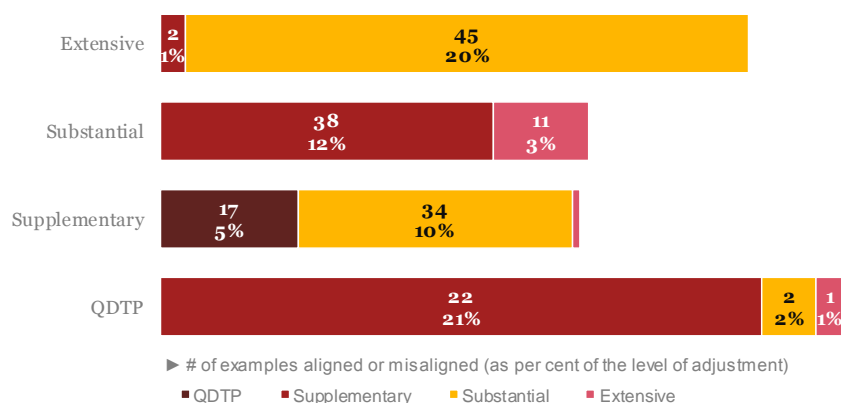


Figure 12: Breakdown of 2015 Misalignment in level of adjustment (PwC assessment and school judgement) and details of misalignment



When we consider the level of misalignment, the largest variance identified in selecting the category of disability by schools compared to PwC interview team's assessment was at the physical category of disability (see Figure 13). Of the 279 number of case studies discussed for this category, 12 per cent of the students were assessed to be at sensory category of disability (see Figure 14).

Figure 13: 2016 Alignment, category of disability (PwC assessment and school judgement) and details of misalignment

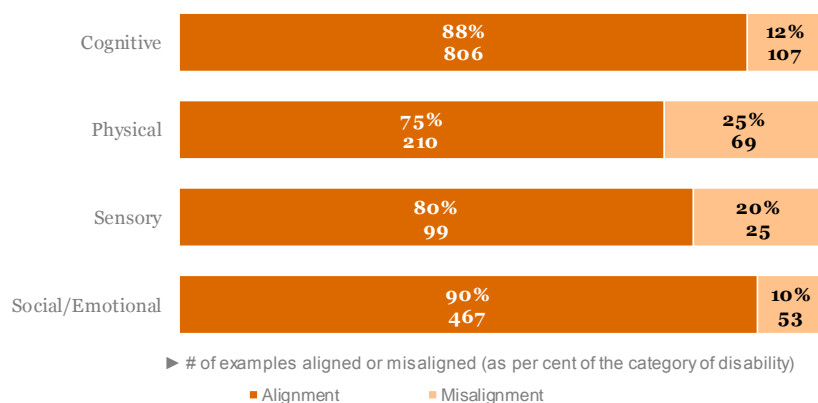
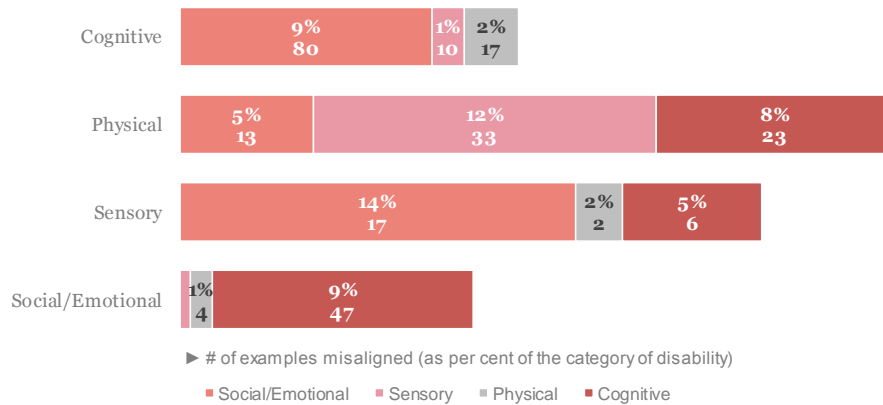


Figure 14: Breakdown of 2016 Misalignment in category of disability (PwC assessment and school judgement) and details of misalignment



Compared to 2015 CQIP results, the largest variance in category of disability is in sensory (Figure 15). Of the 48 number of case studies discussed in 2015 CQIP for this category, 10 per cent of the students were assessed to be at social emotional category of disability (see Figure 16).

Figure 15: 2015 Alignment, category of disability (PwC assessment and school judgement) and details of misalignment

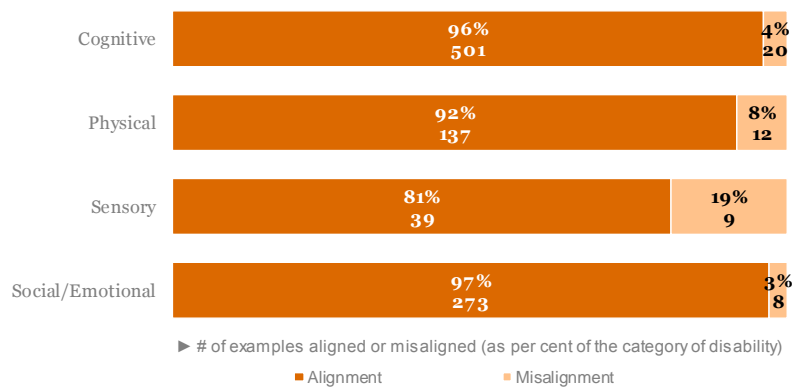
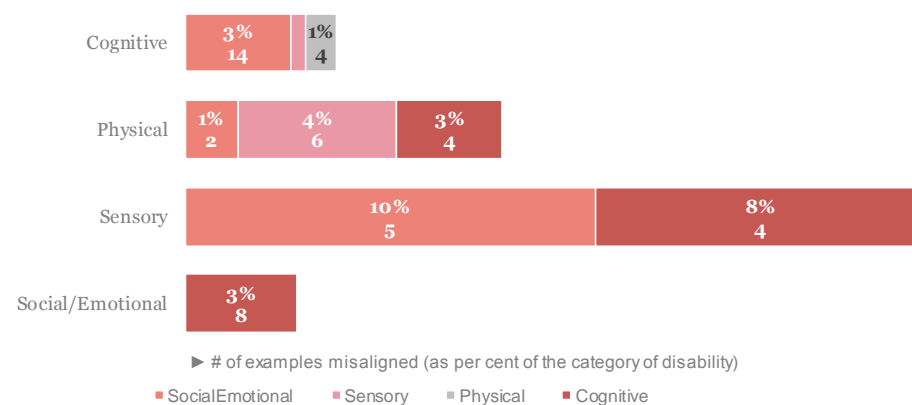


Figure 16: Breakdown of 2015 Misalignment in category of disability (PwC assessment and school judgement) and details of misalignment



Are schools implementing the model accurately in line with the National model?

By jurisdiction, as illustrated in Figure 17, the level of alignment regarding the selection of the level of adjustment was highest in WA (where PwC agreed 88 per cent of the time) and lowest in QLD (where PwC agreed 70 per cent of the time). When we consider the category of disability (Figure 18), the highest alignment was in TAS (92 per cent) and lowest in QLD (79 per cent).

Figure 17: 2016 PwC assessment on alignment for level of adjustment by jurisdiction

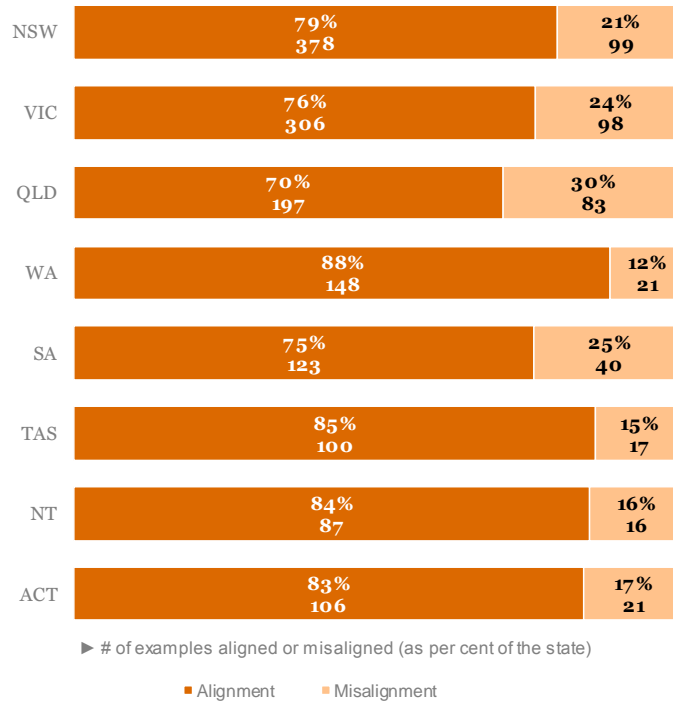
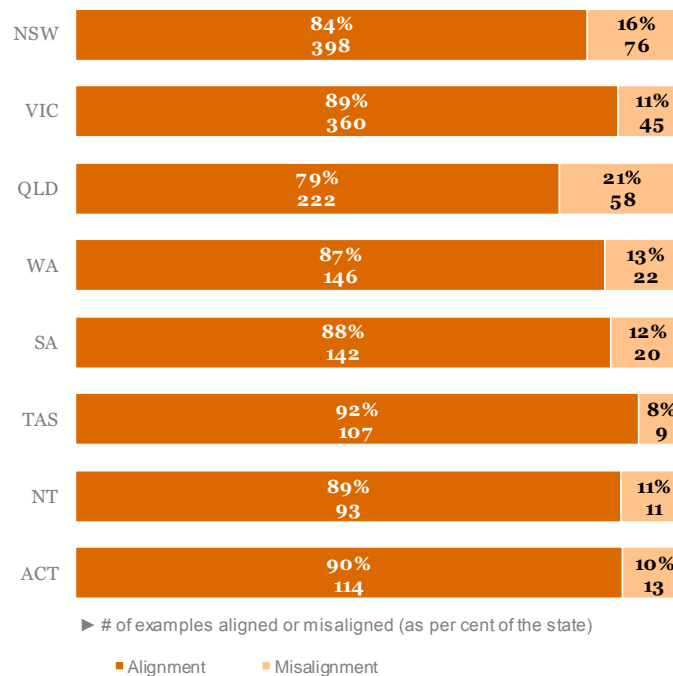


Figure 18: 2016 PwC assessment on alignment for category of disability by jurisdiction



As illustrated in Figure 19, across the three sectors, the highest level of alignment when selecting the level of adjustment was in Catholic affiliated schools (83 per cent) and lowest in the independent sector (77 per cent). For category of disability (Figure 20) the level of alignment was largely similar, with the highest level of alignment being in the Independent sector (88 per cent) followed by Catholic (87 per cent) and Government (85 per cent).

Figure 19: 2016 PwC assessment on alignment for level of adjustment by sector

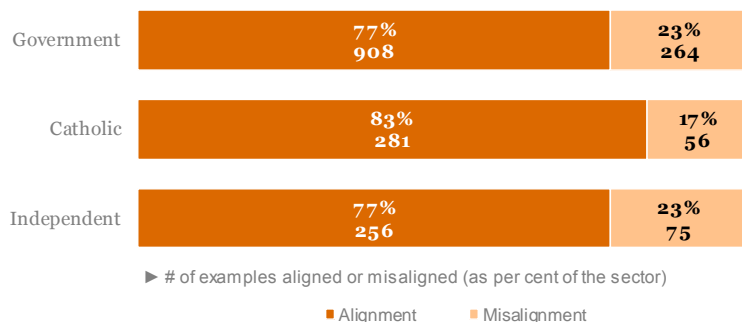
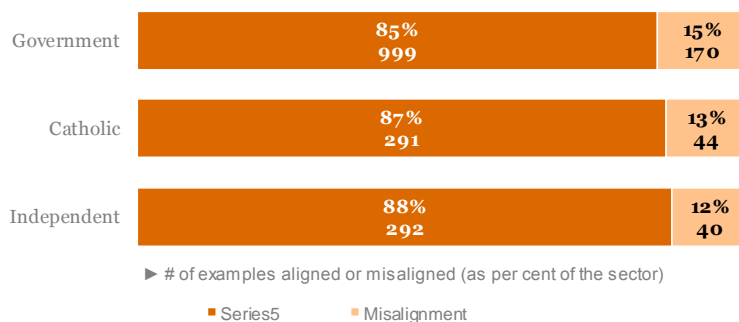


Figure 20: 2016 PwC assessment on category of disability by sector



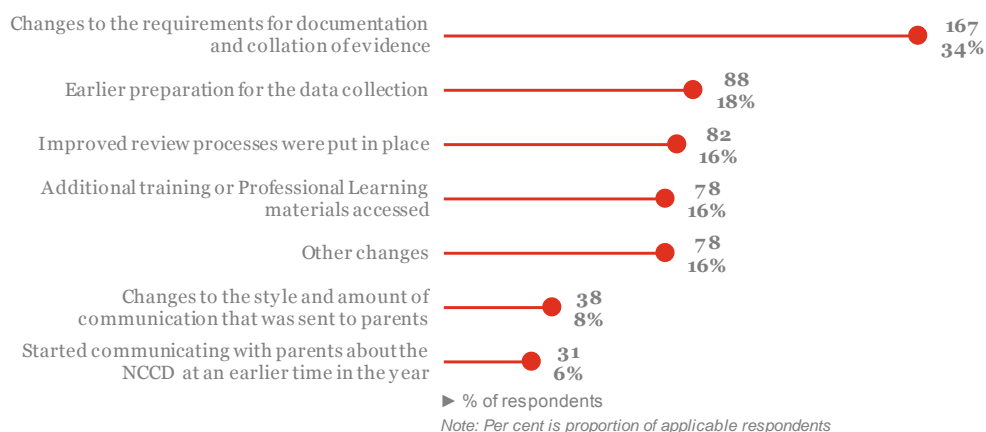
3.2 Has quality improved since 2015? Why or why not?

Year on year performance of schools in the random sample

There was no formal feedback loop about the NCCD process and data for schools. This means that in most cases schools were implementing the 2016 NCCD without knowing areas for improvement in 2016. That being said, as shown in Figure 21 almost 60 per cent of schools indicated that they had instigated changes this year, mostly relating to:

- improved documentation and collation of evidence (34 per cent)
- earlier preparation for the data collection (18 per cent)
- improved review processes (16 per cent).

Figure 21: Changes implemented in preparation for the 2016 NCCD



Despite these school level changes, at the aggregate level there has been minimal impact on quality at the national, jurisdictional and sector level since 2015. The overall stagnation in quality reflects a mismatch between areas of activity that schools prioritised for attention and areas in which there is a positive correlation with improved quality.

At the national level, 29 per cent of schools have a comprehensive understanding and application of the model (compared to 34 per cent in 2015). Schools that have a sound understanding and application have increased. 59 per cent of schools have a sound understanding and application of the model in 2016 (compared to 55 per cent in 2015). The proportion of schools with limited understanding has not changed, 12 per cent of schools had a limited understanding of the NCCD model in both 2016 and 2015.

As can be seen in Figure 22, at the jurisdictional level, Tasmania has demonstrated the greatest improvement, with 97 per cent of schools demonstrating a comprehensive or sound understanding of the NCCD model (refer to Figure 23 for detail about Tasmania's improvement). NSW has demonstrated a stable performance year-on-year. VIC and WA have also demonstrated some improvements in quality. SA has with 81 per cent of schools demonstrating a comprehensive or sound understanding and application of the model (compared to 94 per cent in 2015). A further breakdown of the analysis by jurisdiction/sector are detailed in Appendix A.

While we can hypothesise that some of these changes are due to actual underlying differences rather than random variation, it is impossible to confirm this statistically due to the small sample sizes (particularly in the smaller jurisdictions where the proportionally larger changes were witnessed). ¹¹ In some cases (eg in Tasmania) the changes witnessed align and reflect qualitative information from the focus group discussions and the PwC team's direct observations.

¹¹ A 2 sample T-tests for finite populations at the 5% level of significance was used to determine if the year on year change was statistically significant

Figure 22: Year on year performance by Jurisdiction



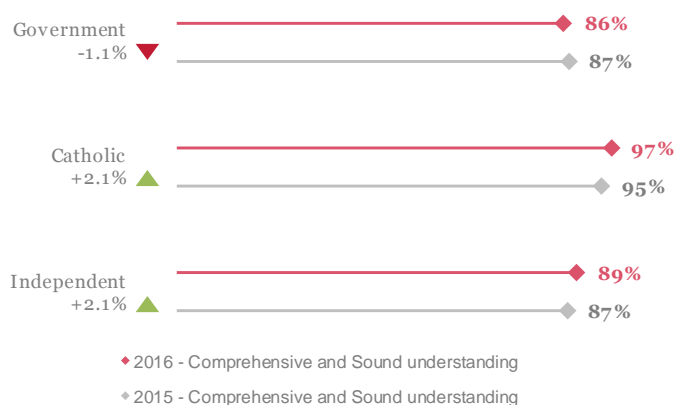
Figure 23: The factors underpinning Tasmania's improved performance

The Tasmania SA/SR FGD highlighted the following characteristics that may be attributed to its improved performance:

- Cross-sector moderation and central moderation processes: there were state wide moderation meetings that included all schools and SA/SRs from all three sectors. The Catholic and Independent SA/SRs also worked with every school to discuss all students that were entered in the data collection. Section 8 describes the Tasmania moderation processes in more detail.
- Continuous collation of evidence: a sector in Tasmania reflected that schools are now focusing on collecting evidence throughout the year as opposed to one point in time.
- Open systems for collecting/storing evidence: one sector has a system that is open to external professionals. This allows medical professionals and/or parents to update student information on a regular basis.
- Leadership involvement: in one sector, the learning support co-ordinator discusses and reviews every submitted student with the school Principal.
- The Ministerial Taskforce Review made recommendations that the Department establish processes to ensure every school is “inclusive and disability ready”. Extensive work has been undertaken to ensure inclusive teaching and learning programs and inclusive education training is in every school, linked to school improvement processes.

By sector, at a national level, Catholic affiliated schools have demonstrated the greatest improvement in understanding and application of the NCCD, with 97 per cent of Catholic affiliated schools showing a comprehensive or sound understanding in 2016 (compared to 95 per cent in 2015) (see Figure 24). Government sector schools have shown a deterioration in performance, with 86 per cent of schools demonstrating a comprehensive or sound understanding (compared to 87 per cent in 2015).

Figure 24: Year on year performance by sector



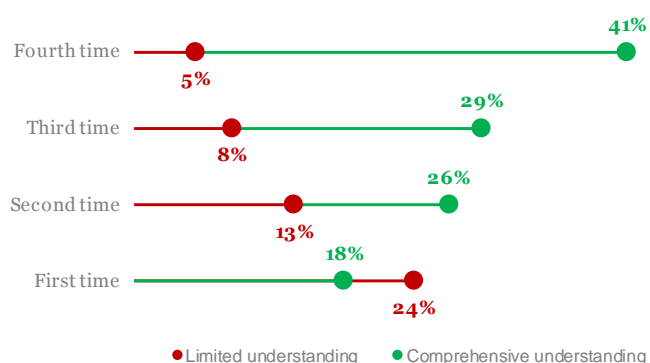
The performance of the Catholic affiliated schools is grounded in having the highest level of training, moderation processes and contacting SA/SR to resolve challenges. Central to the Catholic sector approach is a domain-based methodology and systematic approach to collecting NCCD data. Section 5 describes each of these aspects in detail.

Identified drivers of quality

Experience

There is a positive correlation between experience with the NCCD model and its correct application. For example, 41 per cent of second time participants had a comprehensive understanding of the model compared to 18 per cent of first time participants (see Figure 25). Further, there were only 5 per cent of those participating for the fourth time assessed to have limited understanding and application of the model compared to 24 per cent of first time participants. (Note that Figure 25 reflects the number of times that schools have participated in the NCCD as articulated by the interviewee. We note that there are very few schools across Australia – perhaps only 6 – that have only completed the NCCD once and that Figure 25 indicates a more substantial number of first time schools. This lack of reconciliation reflects gaps in knowledge, systems and processes at some schools – ie that the leadership is unaware of and unable to find the data to accurately confirm the number of times that the school has completed the NCCD).

Figure 25: Schools' experience in NCCD and understanding of the model



Team based approach to training

A team based approach to training that covers the full suite of content (DDA/DSE and NCCD) leads to a better understanding and application of the model. Over a third of the schools that received training across the school on the full suite of content have a comprehensive understanding and application of the model compared to only 17 per cent of schools that did not have a team based approach and accessed only some training (refer to Section 5 for more detail).

There is, however, an associated risk with relying on old training rather than undertaking annual refresher training. Discussions with SA/SRs highlighted that the University of Canberra training on the DDA/DSE is not compulsory across jurisdictions and sectors, which may lead to variations in school performance (and therefore the quality of the NCCD Data).

Moderation

School and system level moderation is a worthwhile process that is associated with improved performance; 29 per cent of schools that had a moderation process had a comprehensive understanding of the NCCD compared to 3 per cent of schools that had no moderation process in place (refer to Section 6 for detail).

Leadership

Leadership is essential to good process for the NCCD. Stability in leadership enables the establishment and nurturing of a school culture that embraces inclusivity. Stewardship from school leaders is also vital for setting expectations about shared responsibility for identifying, documenting and implementing adjustments for students with disability. Leaders' prioritisation of resources and training for all school staff contributes to an embedded approach to the NCCD (refer to Section 5 for more detail).

Areas that present the greatest challenges for schools

Implementing an approach that relies on professional judgement

FGDs highlighted that teachers are uncomfortable, in some cases, using professional judgement as the basis for including a student in a data collection that represents adjustments being made for students with a disability. There remains caution about 'imputing a disability' when a student does not have a diagnosis from medical a professional(s) and, in some cases, schools did not include students that did not have a medical diagnosis. This is not unexpected as teachers come to term with a shift away from medical/actuarial based approaches to students with disability and is consistent with literature review.

There is likely to be variability in professional judgement due to differences in existing professional knowledge of teachers, prior experience with the NCCD and other contextual factors (eg not all classrooms have the same mix of learning disabilities). This will contribute to variability in categorisation of students.

Use of the QDTP level of adjustment

It was highlighted in the discussions with schools at the FGDs that they value the inclusion of QDTP as a level of adjustment. Schools indicated that this option enabled teachers to reflect on and capture all of the effort that is being allocated to making learning adjustments that are consistent with quality teaching practices to enable students with disability to access learning. This collation of information is useful to inform discussions with other teachers, parents and the students themselves. Moreover it is in line with inclusive learning and consistent with a shift towards a Universal Design for Learning approach – an educational framework based on research in the learning sciences, including cognitive neuroscience that guides the development of flexible learning environments that can accommodate individual learning differences. However, it was reflected that teachers' experience and school context contribute to differences in understanding of QDTP. This echoes the findings from the literature review that point out teacher experience and education as drivers of variability in professional judgement.

Deciding on category of disability

Distinguishing between the physical and sensory disability categories remains a challenge for schools. This aligns to the largest variance between schools' and PwC team's assessment of the category of disability. This year the issues of trauma and mental health were more prominent than in 2015 and schools are grappling with the challenges associated with these complex disabilities and how they relate to the NCCD.

Multiple data collections

Schools also highlighted the confusion that arises from running two data collection processes that relate to disability, the census and the NCCD. This confusion stems from the use of different definitions and evidence requirements.

The Census for schools contributes to the calculation of the annual entitlement of students with disability receiving designated government funding. Data included in the census involves a count of the number of students in each category of disability attending a school. The NCCD, on the other hand, is interested in the number of students requiring adjustments as a result of an imputed or diagnosed disability, their level of need and the category under which their disability falls. The definition of disability is much broader under the NCCD, as consistent with the Disability Discrimination Act 1992 and the Disability Standards for Education 2005. The Census is thus clearly distinct to the NCCD.

As another layer of complexity, there is divergence amongst states and territories as to the definitions, eligibility and requirements for funding designated to students with disability. This means the basis for the calculation of funding for students with disability, as informed by the Census, varies across states and territories.

Time constraints

Our analysis and the FGDs highlight that the time required to input NCCD data is one of the most significant challenges facing schools. The school FGD emphasised the need for a technical solution that enables easy upload of data from the school system into the NCCD.

Special schools – year-on-year performance

The proportion of special schools in the random sample was higher in 2016 (7.5 per cent) than in 2015 (6 per cent).

The small number of special schools visited (44 in the random sample) meant that it was difficult to determine statistically significant differences between them and the random sample. Testing for statistically significant change at any lower level was also not possible with the sample size (ie jurisdiction/sector). For this reason we are unable to provide factors that impacted a school's understanding of the NCCD with any strong statistical backing. We have continued to rely upon survey responses and other qualitative analysis for this report.

Special schools face the challenge of dealing with an enormous breadth of disability including students with complex mental health issues. It was reflected in the FGDs that the NCCD processes, advice and professional learning does not always resonate in special school environments. Making individualised adjustments for each student is core business for teachers in special schools and so at an overall level special schools demonstrate comprehensive or sound understanding and application of the NCCD. That being said, there are areas of misalignment in terms of levels of adjustment and category of disability which could reflect the challenges associated with applying a model that has been developed with a mainstream lens in a special school context. Discussions with special schools in the focus groups indicated a need for targeted training and greater discussion among special schools to enable a sharing of cases and approaches.

At an overall level we found a slight change year-on-year in performance among special schools with 93 per cent demonstrating a comprehensive or sound performance in 2016 compared to 92 per cent in 2015 (see Figure 26 and Figure 27). Within this total there were less schools with a comprehensive understanding in 2016 than 2015 (41 per cent compared with 72 per cent) and conversely, the amount of schools with a sound understanding has increased in 2016 to 52 per cent (from 20 per cent in 2015).

Figure 26: Special Schools' understanding and application of the NCCD, 2016

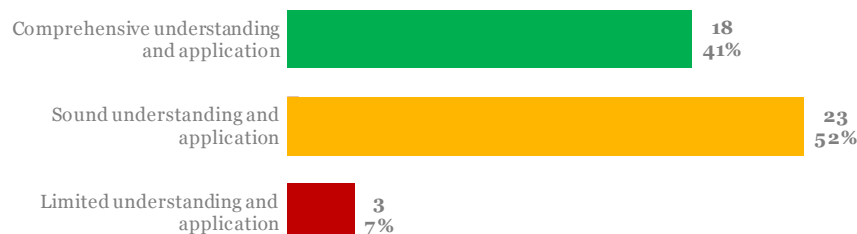
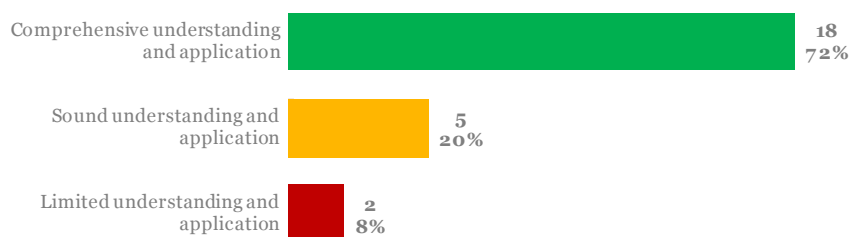
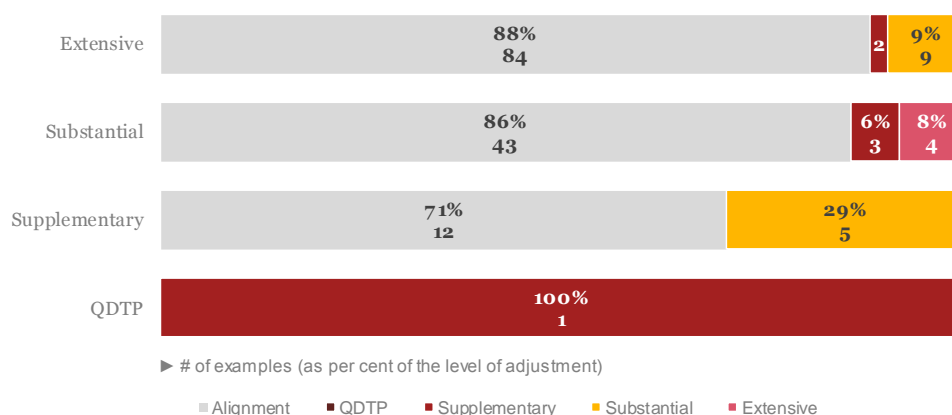


Figure 27: Special Schools' understanding and application of the NCCD, 2015



When considering alignment between PwC's judgement for level of adjustment and that of the special school we found that we were aligned in 85 per cent of cases. Figure 28 shows school judgement on level of adjustment was aligned 70 or more per cent of the time for extensive, substantial and supplementary level of adjustment. In the cases of misalignment by level of adjustment, the greatest divergence between PwC and the school was at the supplementary (29 per cent) and QDTP levels (100 per cent). There was only one QDTP student example of the total number of student case studies discussed for special schools hence the misalignment shows there was 100 per cent and PwC assessed the student to be at the supplementary level of adjustment.

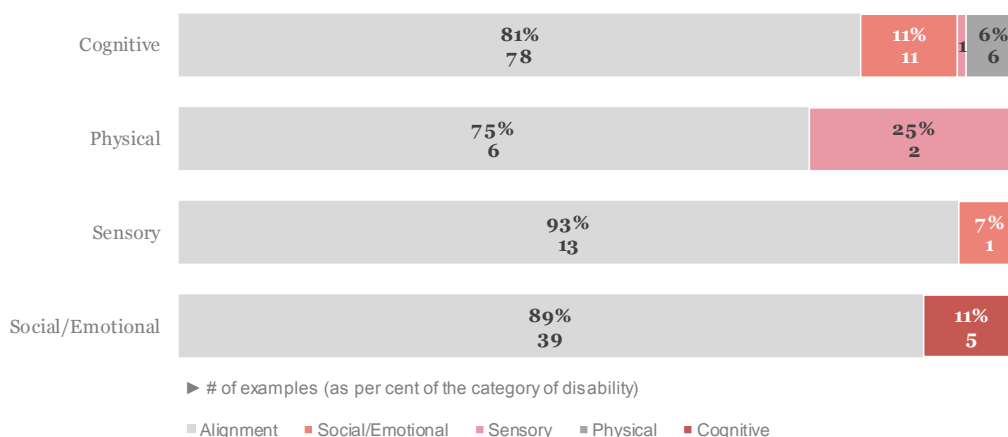
Figure 28: Accounting for the misalignment by level of adjustment, Special Schools



When considering alignment by category of disability, PwC and the sample special schools were aligned in 84 per cent of cases.

In cases of misalignment by category of disability, the greatest variance between PwC and the school was at the physical category with 25 per cent of cases assessed to be at the sensory category (see Figure 29).

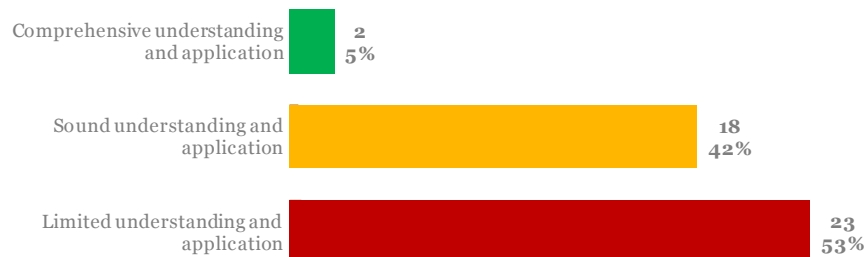
Figure 29: Accounting for the misalignment by category of disability, Special Schools



3.3 What are the schools that have improved quality doing that is different? The longitudinal study

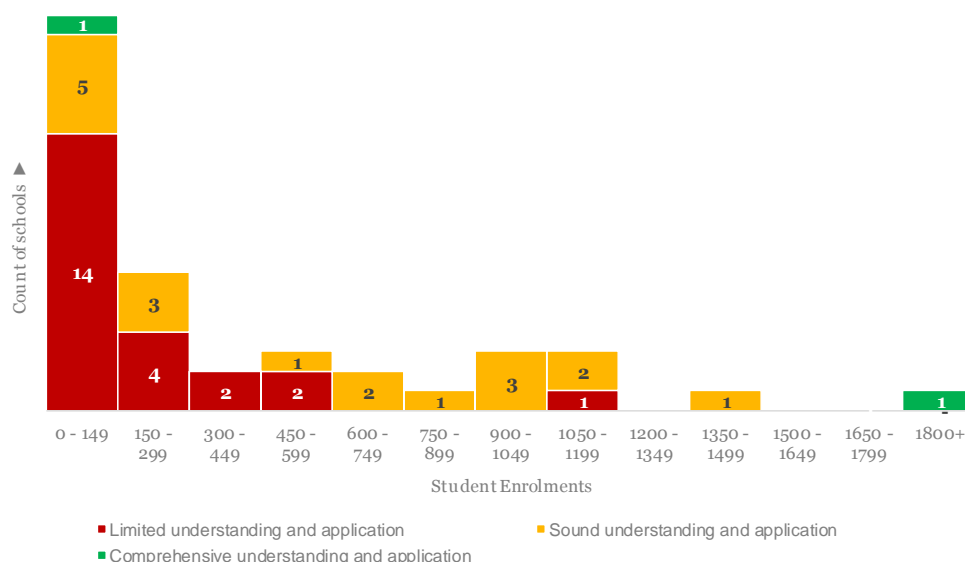
PwC's longitudinal analysis shows that two schools within this sample that had a limited understanding and application of the NCCD model in 2015 now demonstrate a comprehensive understanding and application, 18 have improved and now have a sound understanding (compared with limited in 2015), and 23 have shown little or no change from 2015 and still demonstrate a limited understanding and application of the NCCD (see Figure 30).

Figure 30: Understanding of the NCCD, longitudinal study



The larger re-visit schools demonstrate better understanding and application of the NCCD compared to smaller schools (see Figure 31).

Figure 31: Size of longitudinal schools and understanding and application of the NCCD



A variety of changes underpinned the transformation of two schools that now demonstrate a comprehensive understanding and application:

- large structural changes across the school. This involved dismantling and integrating the associated special school into the mainstream setting, allowing the school to share specialist teachers' knowledge (eg adjustments that can be put in place to deal with a specific disability) with mainstream teachers
- a school-wide push towards leveraging existing systems more effectively and efficiently by directing teachers to familiarise themselves with these systems
- greater leadership involvement throughout the NCCD process
- leadership is more invested in inclusive teaching, professional learning and standardising best-practice use of school systems
- a renewed and increased emphasis on training covering a wide range of topics including the DDA, DSE and NCCD embedding the NCCD into school processes as 'business as usual'.

See Appendix D for case studies on transformation and best practice.

4 School demographic factors that impact on data quality

As a part of the 2016 NCCD CQIP we explored how school-specific characteristics impact the quality of the data collected in schools. These characteristics include school location, size, sector and type.

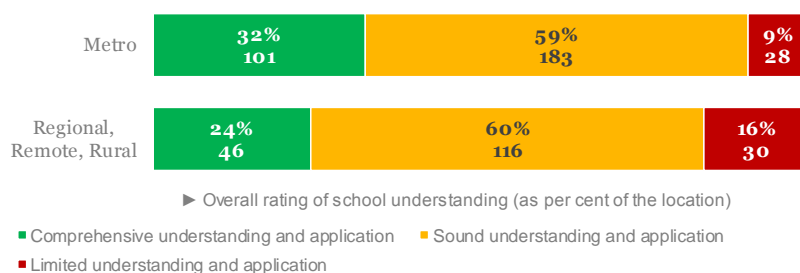
4.1 School location

Location had an impact on schools' understanding and application of the NCCD model. Of the 507 schools in the random sample, 312 were metropolitan schools (61 per cent) and 195 schools were in regional, remote and rural areas (39 per cent).

Of the total number of schools in the random sample, only 504 schools' understanding and application of the NCCD could be assessed based on answers provided to the administered questionnaire. Assessment of a school's level of understanding on the NCCD could not be made where the main person responsible for NCCD in 2016 could not be accessed (eg retired or on leave), or the school's knowledge of the NCCD was so limited that the questionnaire could not be completed.

Schools in metropolitan areas had a better understanding and application of the NCCD model (see Figure 32). Across metropolitan schools overall, we found that 91 per cent of schools had either comprehensive or sound understanding of the NCCD. Nine per cent had limited understanding.

Figure 32: Understanding of the NCCD model by school location

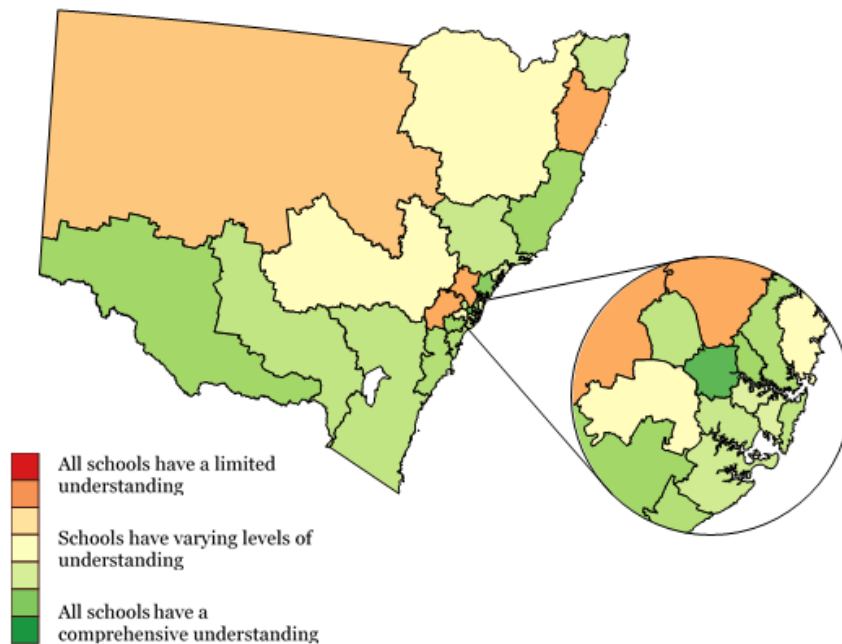


84 per cent of regional, remote and rural schools were assessed to have comprehensive or sound understanding and application of the NCCD model.

Figure 33 shows the schools locations by statistical area 4 (SA4) and the assessed level of understanding and application of the NCCD using NSW as an example.¹² Green SA4s represents schools that PwC assessed to have comprehensive understanding, while red SA4 represents schools that PwC assessed to have limited understanding. In between colours such as orange and yellow represent schools that range from having limited to comprehensive understanding of the NCCD. Further, Figure 33 shows there are variations within jurisdictions where schools in the metro areas were assessed to have more comprehensive understanding and application of the NCCD than the schools further away from the metropolitan city.

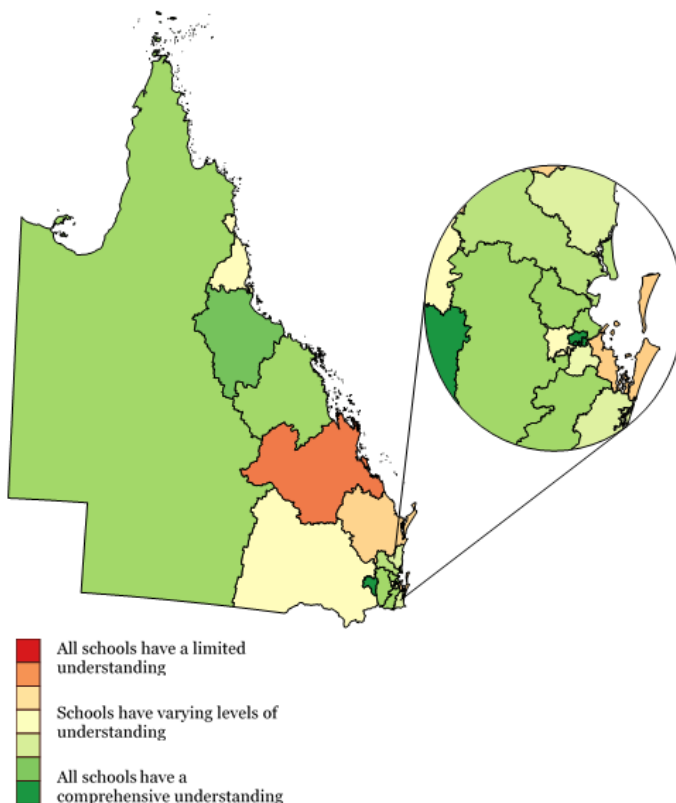
¹² Australian Bureau of Statistics (2016), Statistical areas level 4 (SA4s) are geographical areas that replace the whole of Australia. There are 106 SA4s across Australia and was designed to represent labour force data. Further details are available at: <http://www.abs.gov.au/ausstats/abs@.nsf/o/B01A5912123E8D2BCA257801000C64F2?opendocument>

Figure 33: PwC assessment of school's understanding of the NCCD model in NSW by school location



However, Figure 34 shows that a number of SA4s further away from the metropolitan city in Queensland that were assessed to have comprehensive level of understanding in remote areas. Most of these schools had leadership involvement and also training which school leadership undertook for either the DDA/DSE or the NCCD.

Figure 34: PwC assessment of school's understanding of the NCCD model in Queensland by school location

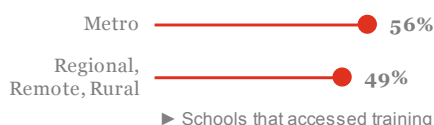


Metro based schools have easier access to the resources and facilities that lead to a more comprehensive understanding of the types of adjustments that students may need. This includes access to medical professionals and specialists. While technology continues to play a growing larger role in distribution of materials and advice, distance from a metropolitan area was linked to a reduction in overall understanding (however, understanding is not a negative linear relationship with distance).

Regional and remote schools are also more likely to experience short-term staff engagements and/or turnover at the leadership level. The evidence in the literature highlights the association between consistent staffing and reduced variability. FGDs with schools and SA/SRs reiterated the challenges associated with staff turnover and the increased risk of variability in approach to understanding and appreciation of the NCCD. At a broad level, the risk linked staff turnover, and associated loss of knowledge, extends across the education sector with the impending retirement of a large number of experienced teachers and principals, and an acute shortage of teachers trained in special education.

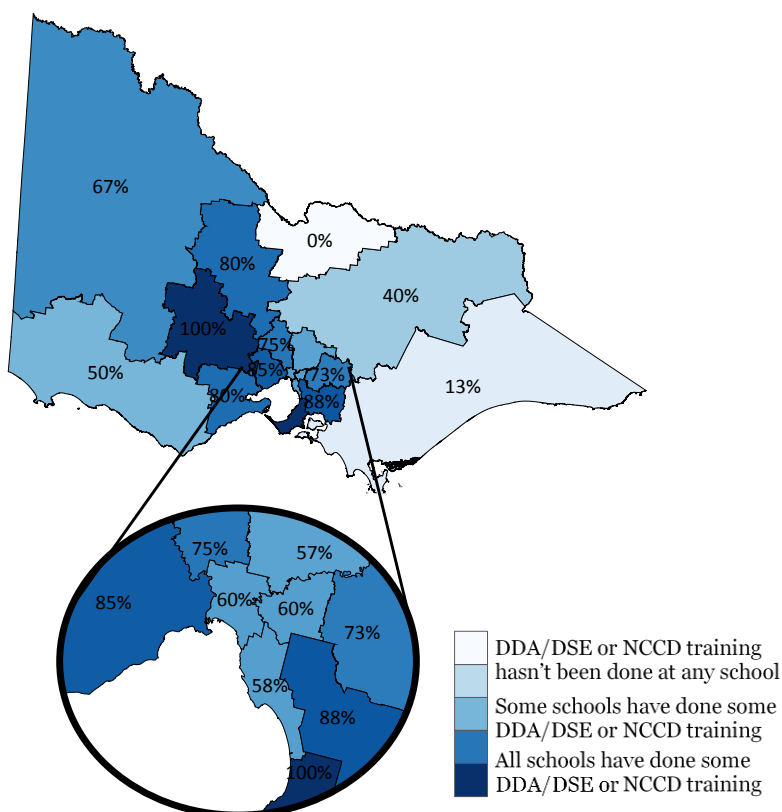
Another challenge related to being in a regional, rural and remote areas is access to training and professional development. Schools in rural and remote locations accessed face-to-face training less than metropolitan schools (see Figure 35). Available literature suggests that a consistent understanding of processes and reduction of variability are dependent on a consistent knowledge base. With a lack of training and support, this knowledge-base is subject to greater variability.

Figure 35: Training by school location



As an example, Figure 36 shows the relationship between access to and uptake of training in metro and non-metro areas in Victoria. Schools in metropolitan areas undertook more training (dark blue shading) than non-metropolitan schools with limited access to training (white and pale blue shading).

Figure 36: Training in Victorian metropolitan and non-metropolitan schools



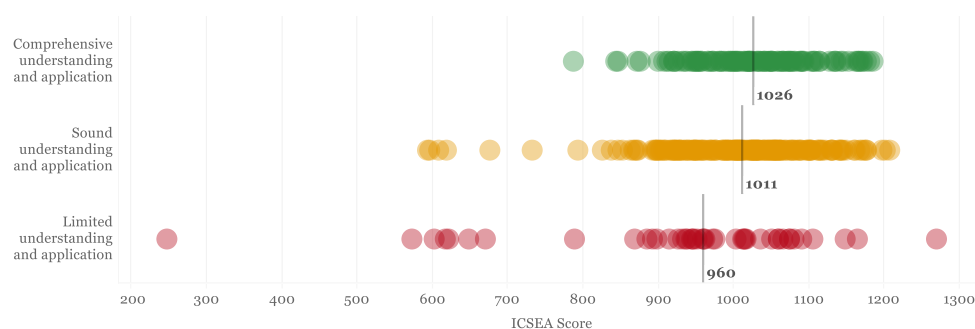
4.2 Socio-economic factors

In order to understand the relationship between socio-economic factors and the quality of data collected by schools, we also considered the Index of Community Socio-Educational Advantage (ICSEA) measurement across schools in the random sample. The ICSEA is a national scale of relative socio-educational advantage¹³ used in educational analysis.

Socio-educational advantage factors are used to calculate ICSEA, including household income, level of education and employment of parents of students enrolled at a school. In conjunction with SEA factors, ICSEA also considers school remoteness, percentage of enrolments of students who are Aboriginal and Torres Strait Islander or of disadvantaged language background other than English (LBOTE)¹⁴. Schools with enrolled students from affluent households with higher education attainment and professional employment will have a higher ICSEA.

We found a positive relationship between ICSEA score and overall understanding and application of the NCCD at the national level. Figure 37 shows that among schools with a comprehensive level of understanding the median ICSEA score was 1026. This fell to 1011 at the sound level of understanding and among those schools with a limited understanding of the NCCD the median ICSEA score was 960.

Figure 37: Relationship between median ICSEA score and level of understanding of the NCCD



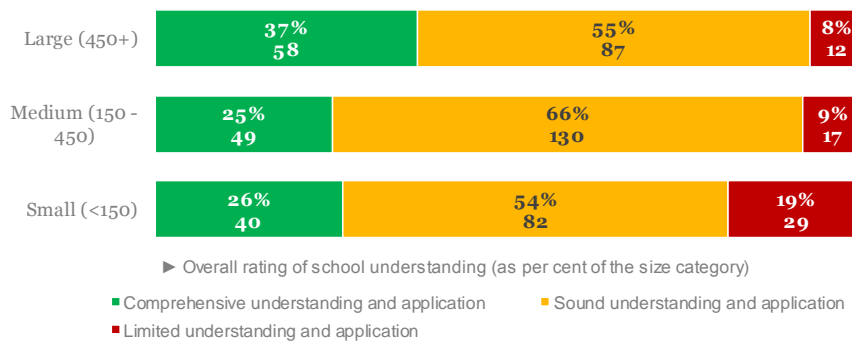
4.3 School size

Our findings show that larger schools have a better understanding of the NCCD (see Figure 38). Schools with 450 enrolled students or more were more likely to demonstrate a comprehensive understanding and application of the NCCD (37 per cent). Medium sized schools slightly underperformed compared to those with less than 150 students enrolled, with 25 per cent have a comprehensive understanding, compared to 26 per cent respectively.

Schools with 150 students or less were found to have the largest proportion of schools with a limited understanding of the NCCD, with 19 per cent of small schools assessed to be in this category. In contrast, 8 per cent of large schools and 9 per cent of medium-sized schools were assessed to be in the lowest level of understanding.

¹³ NSW Department of Education and Training, 2010. Explaining ICSEA [online] Available from http://www.schools.nsw.edu.au/media/downloads/schoolsweb/news/announcements/yr2010/jan/what_is_icsea.pdf (Accessed on 23/01/2017).

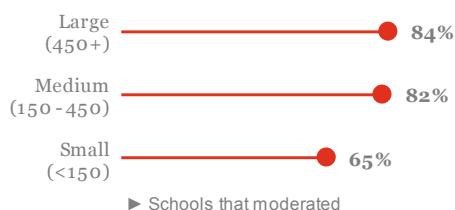
¹⁴ Australian Curriculum, Assessment and Reporting Authority, 2011. Guide to Understanding ICSEA [online] Available from https://acaraweb.blob.core.windows.net/resources/Guide_to_understanding_ICSEA.pdf (Accessed on 24/01/2017).

Figure 38: Understanding of the NCCD model by school size

Discussions with schools at FGDs revealed that in smaller school settings, the Principal had a more prominent role in leading and implementing the NCCD. The Principal was primarily responsible for the completion of the NCCD in 51 per cent of small schools, compared to 20 per cent of medium schools and 12 per cent of large schools.

The leadership in smaller schools have several roles including teaching and administration. This was found to be problematic where leadership retired or moved onto other schools, leaving behind a knowledge gap amongst remaining staff of lesser experience with the NCCD. Typically, larger schools have knowledge shared among a wider number of staff. This reduces knowledge gaps and also provides staff with the ability to collaborate, using collective knowledge.

Moreover, in school FGDs, we found that, while smaller schools expressed having greater opportunities for informal communication amongst staff, the data shows a formal moderation processes was only reported by 65 per cent of small schools, as compared to 84 per cent of large schools which implemented a moderation process on collected NCCD data (see Figure 39).

Figure 39: Moderation by school size

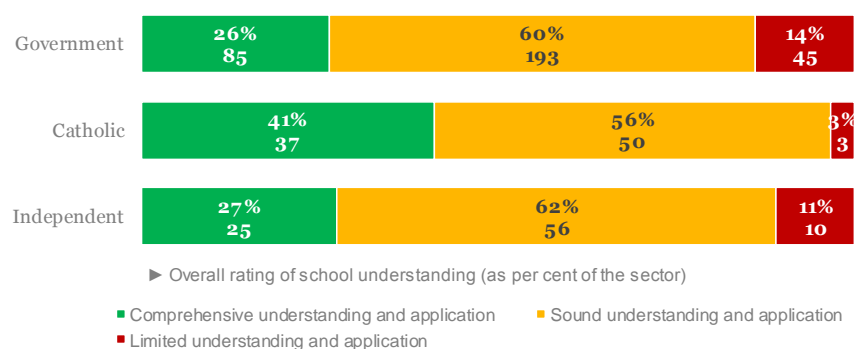
As evidenced in available literature, greater experience within an industry may improve a professional's skill and accuracy of assessment. Moreover, a professional's ability to manage complex cases is influenced by their prior experience of similar situations. By virtue of size, schools with a higher number of students will thus have greater potential of being exposed to students with wide ranging needs, disabilities and adjustments.

4.4 Sector

Across the three sectors, Catholic affiliated schools demonstrated the highest level of understanding of the NCCD model, with 97 per cent of schools demonstrating either comprehensive or sound understanding. Only 3 per cent of Catholic schools were found to have a limited understanding.

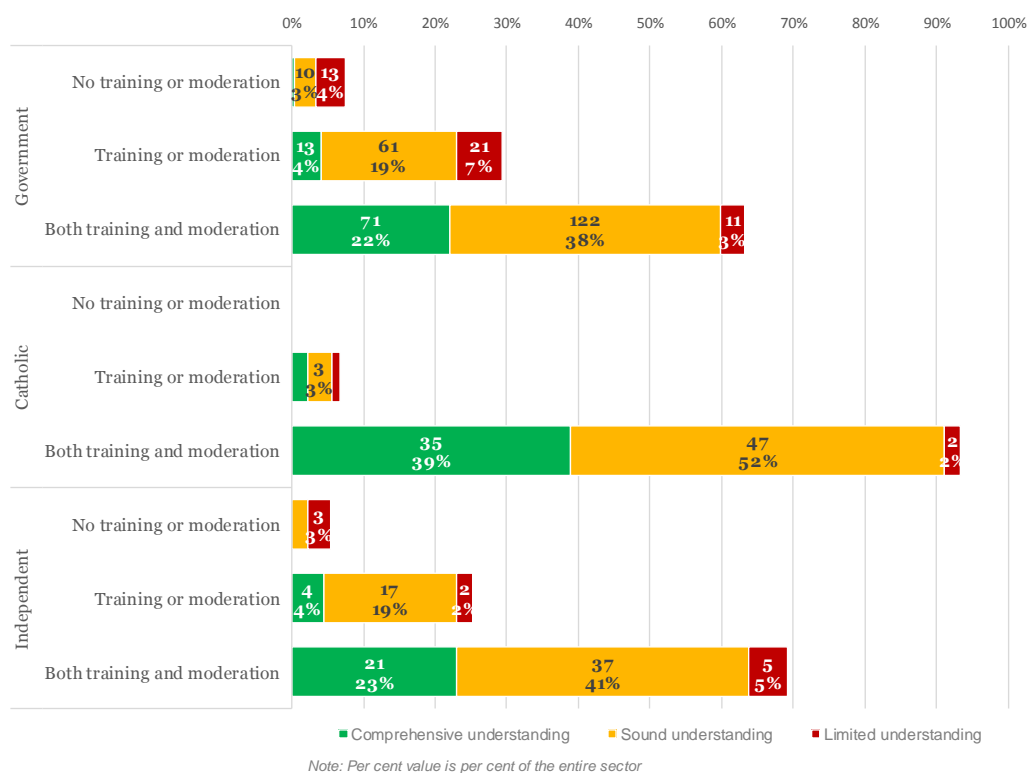
School understanding and application of the NCCD in Government and Independent schools is comparable (see Figure 40). Just over a quarter of schools in both sectors were found to have a comprehensive understanding. The majority of Government and Independent schools had a sound understanding, while 14 per cent and 11 per cent of schools in Government and Independent sectors respectively had a limited understanding of the NCCD model.

Figure 40: Understanding by sector



There was a positive correlation between schools undertaking both training and moderation and their level of understanding about the NCCD. The data shows that Catholic schools who had undertaken training and moderation had a better understanding of the NCCD than Government and Independent schools (see Figure 41).

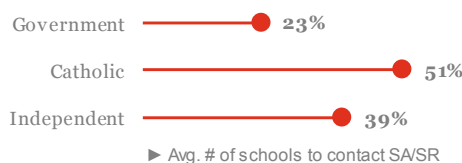
Figure 41: Training and moderation influencing understanding of the NCCD model



In addition to training, accessible SA/SR support on an as needed basis, either in person or via phone call, was found to be a useful source of guidance for schools in developing their understanding and processes around the NCCD. FGDs with schools revealed systemic (in Queensland) and multi-level moderation in Catholic affiliated schools.

Qualitative analysis of interviews with schools found that there was an existing and valuable relationship between the Catholic Education SA/SR (regional consultants) and the affiliated schools. As such, 51 per cent of Catholic affiliated schools self-reported having contacted their SA/SR directly to resolve challenges they faced, compared to just 23 per cent of Government schools and 39 per cent of Independent schools (see Figure 42). Moreover, interviews and FGDs with SA/SRs suggested collaboration by Catholic Education authorities across states as a way of improving consistency across the sector.

Figure 42: Schools contacting their SA/SR to resolve challenges faced by sector



The Catholic sector overall demonstrated a degree of consistency in approach to the NCCD that was not evident in the Government and Independent sectors. Figure 43 collates a list of principles that guide application of the NCCD in the Catholic sector and which would have utility across all jurisdictions and sectors.

Figure 43: Some principles that underpin good performance in the Catholic sector

There are a number of components of the approach to the NCCD adopted in the Catholic sector that contribute to better performance. Implementation models and the role of the Catholic Education Commission in each jurisdiction varies, however, in principle, the following are elements that are consistent across the sector:

- Embedding of the NCCD's 'level of adjustment' terminology across all processes/templates/discussions about students with disability
- Consideration of adjustments (with associated documentation) across a set number of domains
- Using a system that enables
 - centralised collation of evidence
 - visibility of student records among all teachers at the school and is a cumulative record of their time at the school
 - easy access to appropriate training materials about the DDA/DSE and NCCD.
- External review of school data by the central office
- Ease of access to advice and support with consultants that are regionally and centrally based and are well known to the schools
- Strong relationships with external specialists (eg speech pathologists, paediatricians) who are able to support students and teachers.

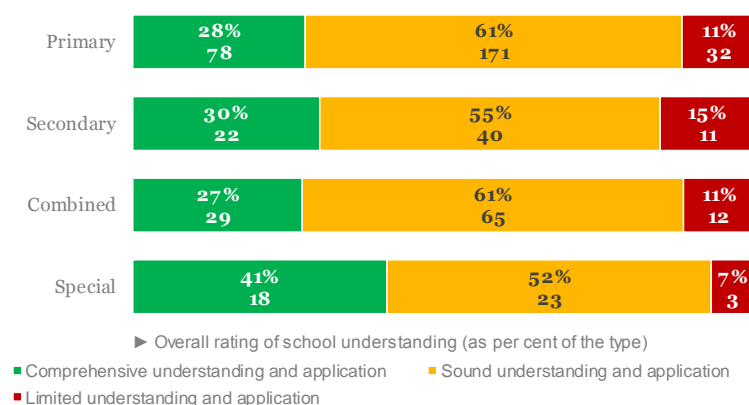
4.5 Type of school: primary/secondary/special

The quality of the NCCD data is influenced by the type of school surveyed.

Special schools exhibited a better understanding as their core business is in providing learning adjustments for students with disability. Almost half of special schools (41 per cent) were found to have a comprehensive understanding of the NCCD, with only 3 per cent of special schools assessed in the lowest category of understanding (see Figure 44).

However, discussions with SA/SRs and schools revealed that process advice did not resonate as strongly with special schools. Qualitative discussion suggested that special schools need to be considered differently; this could be achieved through targeted professional learning instead of changing the national materials to ensure there is a consistent approach.

Figure 44: Understanding of NCCD model by type of school



When comparing primary and secondary schools, qualitative analysis of interviews with schools revealed that it was more difficult for secondary schools to implement effective processes where teachers are spread across subject areas. This was confirmed in the FGDs with SA/SRs and schools.

For example, processes of evidence collection and moderation were easier in primary schools because teachers are able to spend more time with their students, as compared with secondary school settings where students transition between subjects and teachers. While a greater degree of difficulty was expressed by secondary schools, this did not significantly affect their level of understanding. The level of understanding of combined schools was comparable to that in primary and secondary school settings.

5 *School processes that impact on data quality*

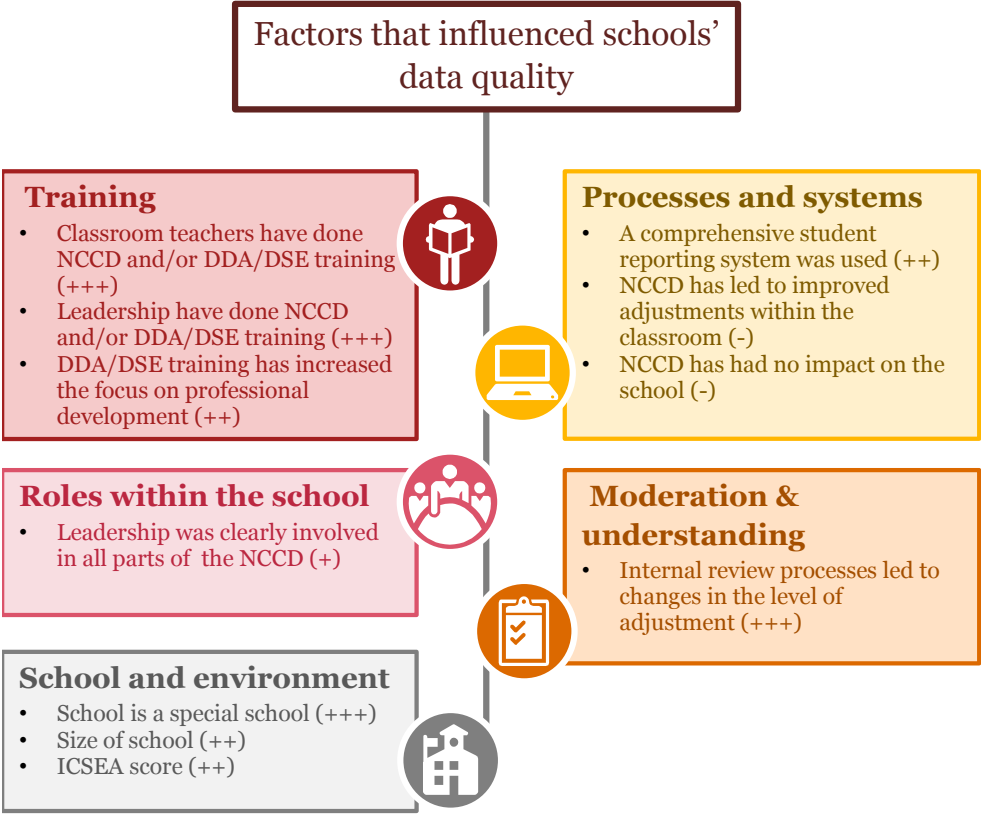
Chapter 4 explored the relationship between school demographics and NCCD performance. In this section we investigate how four broad themes influence the quality and process of NCCD data collection at a school level. These themes are:

- team approach/leadership
- training
- systems and processes and support for the NCCD
- moderation.

As part of the analysis of the PwC interviews, PwC undertook a regression analysis, to consider the strength of relationships between selected variables. In this regression analysis¹⁵ we found that a complex relationship exists between these four factors (Figure 45) and that together they influence the quality of the data at the school level. The diagram signals the strength of the relationship between each of the elements and the school's NCCD performance (across a spectrum from a strong positive relationship, indicated by '+++' to a weak negative relationship indicated with '-').

¹⁵ A logistic regression was used to determine the importance of variables in classifying schools with only a limited understanding of the NCCD model. The full set of possible variables was reduced into a smaller subset of potentially important variables using various search methods (eg stepwise regression). With this short list of variables an exhaustive search was used to find the best logistic regression model. The final list of variables used in the logistic regression was determined using the Akaike Information Criterion (AIC).

Figure 45: Factors that influenced schools’ data quality per the regression analysis



The influence of a team based approach/leadership, training and systems and processes that support the NCCD are explored in this chapter. As moderation is an area of specific interest, findings and recommendations have implications that span across sectors and even jurisdictions. Chapter 6 addresses moderation in more detail.

5.1 Team approach/leadership

The importance of school leadership and a team based approach to the NCCD was highlighted during the school FGD and throughout school visits. Participants at the school FGDs reflected that the responsibility for the NCCD should not be limited to the disability support coordinator but shared among a broader school team with support from the school executive.

We found that the definition of ‘school leadership’ varies by size and context of a school. At a smaller school, school leadership consists of only the principal while at a larger school this term represent a team consisting of the principal, assistant principal and disability support coordinator. (Figure 46) shows that leadership was involved in some way in the vast majority of schools (90 per cent).

Figure 46: Leadership involvement

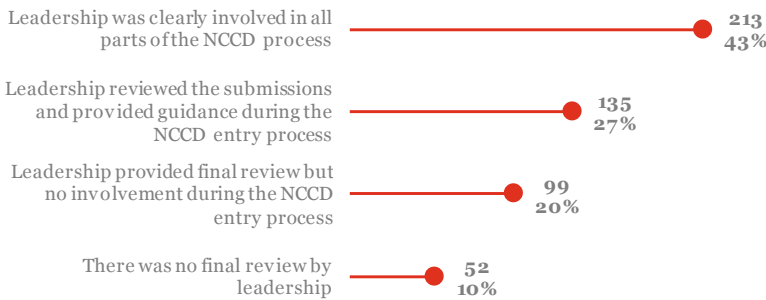
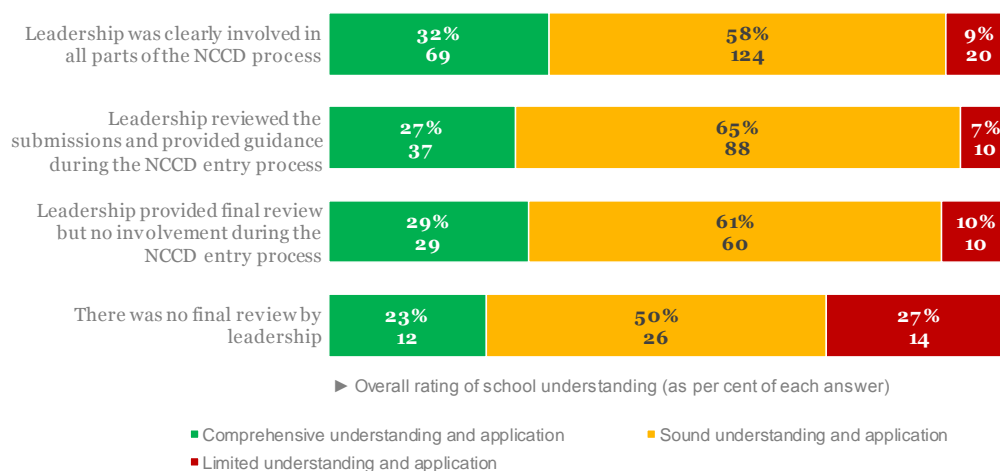


Figure 47 shows that schools in which leadership is clearly involved in all parts of the NCCD process are more likely to demonstrate a comprehensive level of understanding and application.

Figure 47: School's understanding and leadership involvement



A culture of inclusivity at a school was found to be an enabler of comprehensive or sound understanding and application of the NCCD. This is because the concept of identifying needs and providing adjustments that are personalised to the student is familiar to all teachers and they are able to embed this approach in their day to day practice. To achieve this, leadership support is critical to ensure all staff engage with the model, and that there is a shift from the perception that the NCCD is a point in time, compulsory data collection to it being a contributor to an inclusive education model.

While not all schools are on this journey, in 2016 we found that the shift towards inclusive education was happening at many schools and that in such environments the NCCD was one enabling process. For these schools the NCCD itself was not the focus, rather it was a point in time representation of an ongoing process of review of students with disability and their educational adjustments. One school, in a focus group discussion made the comment that the NCCD was 'an excellent thing that has finally happened, we are seeing more change now that in the last 25 years'. The SMEs also shared a view that the NCCD represents an innovative approach to disability within the educational setting – it is ground-breaking across the world and Australia's efforts are being closely watched by other countries that are grappling with this shift.

5.2 Training

Training was found to be a key factor in a school's understanding in the NCCD. During school visits, school staff were asked what training had been undertaken, and by whom, prior to completing the NCCD.

Understanding and breadth of training, specifically the DDA/DSE, was found to be positively correlated with schools' understanding of the NCCD. Figure 48 shows training for all staff in the DDA/DSE is occurring in just over a quarter of the schools in the sample. It also shows the positive relationship between having undertaken training in the DDA/DSE and having a comprehensive understanding of the NCCD.

Figure 48: Training and level of understanding for DDA/DSE

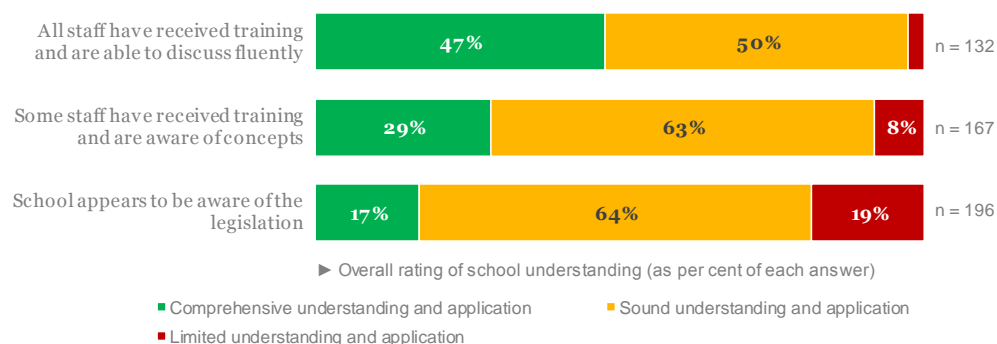
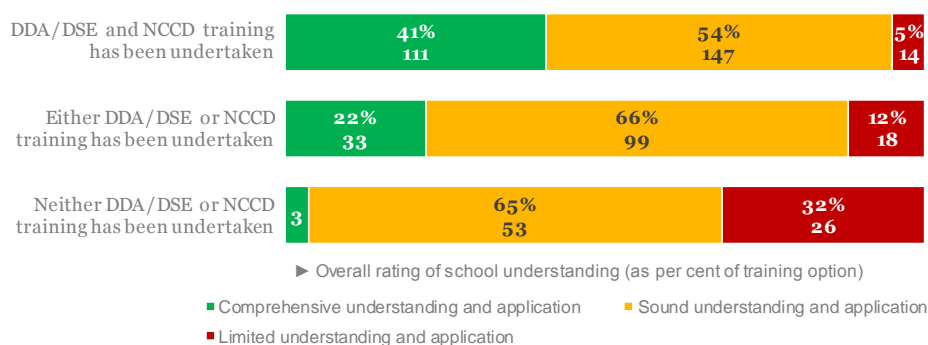


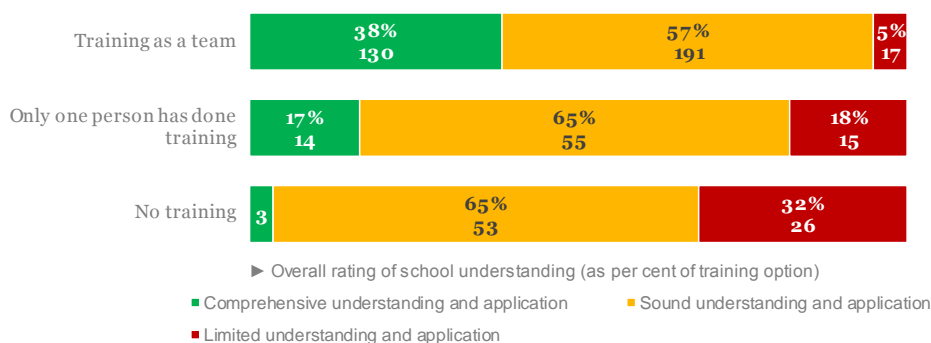
Figure 49 shows schools which complete a full suite of training (the DDA/DSE and the NCCD) were assessed to have a better understanding of the NCCD than those which only undertook one form of training or no training.

Figure 49: Training and level of understanding for DDA/DSE



Further, Figure 50 shows there is a positive relationship between team based training compared to a single person completing training at school.

Figure 50: School approach of completing the training



While most schools have completed training, it was found that 97 schools or 19 per cent of schools had completed training in 2014 or earlier. In regression analysis, it was also found that in QLD, schools that had participated in the NCCD pilot and had not undertaken training subsequent to that did not have a comprehensive understanding of the NCCD. This could be due to the fact that these schools were not aware of the key changes to the model.

Both SA/SRs and school representatives reflected the need for annual refresher training to make sure that schools are aware of key changes and can address any gaps in understanding at the start of the year. An example of this is the change from 'no adjustment' to 'QDTP'. It was found that some schools were interpreting no adjustment as students had not received any support even through quality teaching. The change of this term had clarified the definition for teachers and acknowledged that adjustments were provided for students within the quality differentiated teaching practice for teachers to consider inclusion of students in the NCCD.

The Teacher Education Ministerial Advisory Group (2014) reported that that professional development in skills and strategies for special education was also varied in teacher qualification. This has an impact on teachers' ability to work with students with disability, and judgement for the NCCD as not all teachers have the same level of training in special education. The literature review suggests that having a core requirement in special education for teacher education could reduce the variability by preparing teachers to work effectively with students with special needs.

Further, the academic literature indicates a positive relationship between training and consistency of judgement across other industries. The variability in professional judgement can effectively be reduced by

training, because the consistency of judgements over time and the comparability of judgements are dependent on a consistent knowledge base.¹⁶ Moreover, available literature suggests that training was necessary in order to improve the dependability of teacher's summative assessment.

Training for special schools

'Special schools' include a broad range of schools, from those catering to students with specific learning or sensory disabilities to mental health referral schools or homeless youth centres.

It was reflected in the FGDs and during visit to special schools that the current professional learning materials for the NCCD, some cases were difficult to interpret and apply to the special school setting.

The basis for this assertion was that students in special schools require educational adjustments that are, in many cases, significantly different to those in mainstream schools and the need in reflecting their complex needs.

Rather than changing the professional development materials or the NCCD model to specifically address challenges at special schools, FGD participants indicated that there was appetite for greater connectivity between schools and a need for a forum in which the challenges that are specific to those schools can be discussed. It was also suggested that targeted face to face training about the NCCD would be well received among special schools.

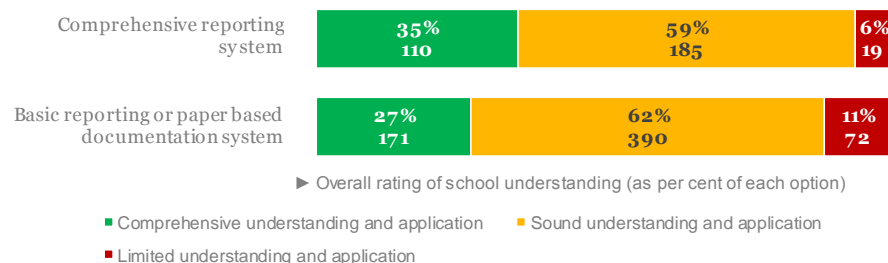
The suggestions are aligned with the finding of the literature review which found that inter-rater reliability of professional judgement was made possible by an active, evidence-based and collaborative decision-making process among colleagues in other industries.

¹⁶ Wyatt-Smith, C. and Klenowski, V., 2013. Explicit, latent and meta-criteria: types of criteria at play in professional judgement practice, *Assessment in Education: Principles, Policy & Practice*, vol. 20, no. 1, pp. 35-52.

5.3 Systems, process and support

It was found that 33 per cent of schools have a comprehensive reporting system and 42 per cent of schools have paper based filing systems. Schools with a comprehensive filing and reporting system and process were assessed to have better understanding than those who only had basic reporting system (Figure 51).

Figure 51: The relationship between the type of student reporting system and understanding and application of the NCCD



Comprehensive student reporting system stores a range of documentation such as individual learning plans, attendances and communication history with parents/carers. This provides a platform for teachers to capture and regularly update information on the needs and support provided to students and communication with parents/carers. Hence a comprehensive system enables schools to collate and reflect on evidence to better inform teacher judgements on the NCCD. Figure 52 outlines the characteristics of a comprehensive system.

Figure 52: The characteristics of a comprehensive system

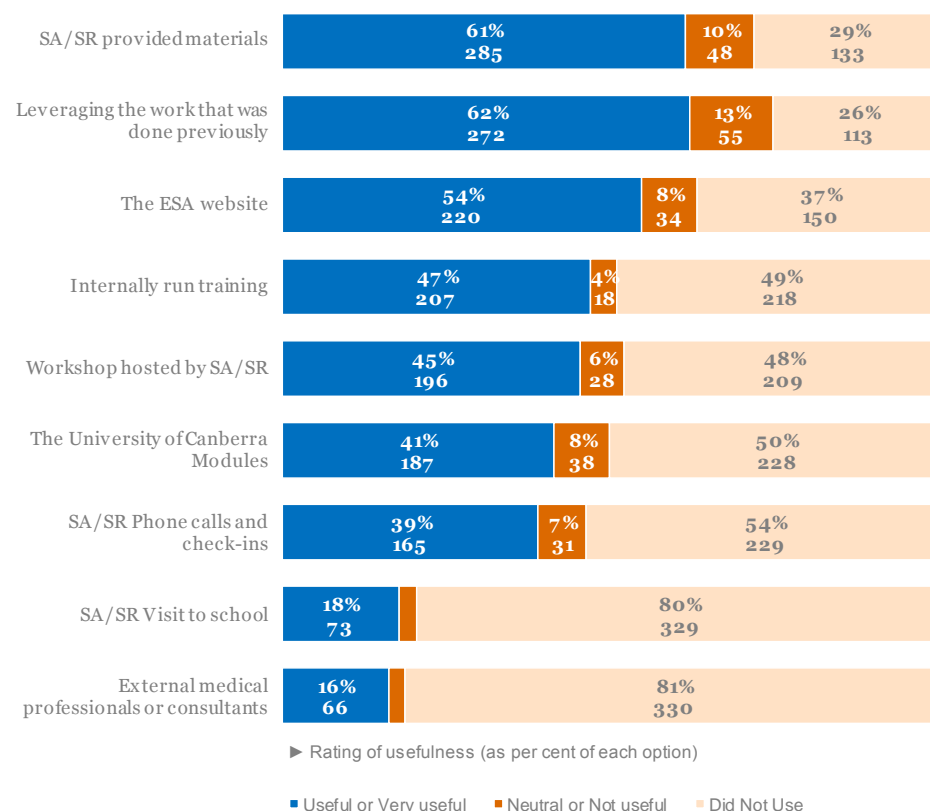
- One centralised system that stores a range of documentation including, individualised learning plans, grading, attendances and communication history
- A central co-ordinator of information
- Includes up-to-date and centrally located student records that can be accessed by the appropriate people such as the principal, learning support team, class room teachers
- Allows student information to be transferred across grades and schools
- Templates and/or checklists to collect evidence
- A well maintained filing system.

Comprehensive filing systems have benefits beyond the NCCD. Such systems enable teachers to continuously reflect on the adjustments provided to students with disability. Further, if a system allows the sharing of information across grades or from school to school, it informs the teacher at the point in time in order to best provide adjustments for the students.

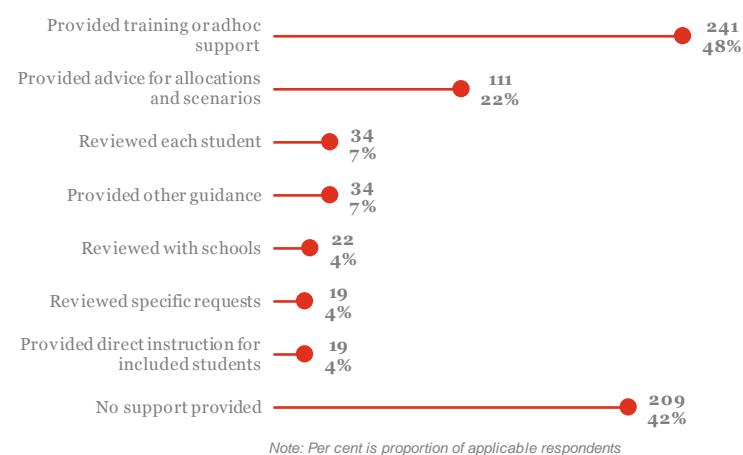
Systems were also found to be important in streamlining the process of collecting and uploading student data. It was reflected by schools in the focus groups and during conversations at school visits that an automated system is important to minimise time for inputting data and in resolving technical challenges. During the FGD, schools also reflected that technical support at the timing of uploading the data would be helpful.

We found that 35 per cent of schools were provided with training and support relating to the NCCD and 30 per cent received no assistance at all. Schools are primarily turning to their SA/SRs for advice, support and professional learning. Schools interact with their SA/SRs via phone calls, face to face training or accessing local SA/SR website. The national NCCD website was identified as the other resource that schools utilised.

Figure 53 shows that where schools have turned to for support and their level of satisfaction with that which was provided.

Figure 53: Type of support that schools accessed

Where schools have received support from SA/SRs directly, it was either direct training or *ad hoc* support such as phone calls on an as needs basis. When schools actively sought support on the NCCD model, it was in relation to the allocation of adjustment based on students' scenarios (Figure 54). This is consistent with what schools had reflected was the most challenging part of the model.

Figure 54: Reasons that schools received support from SA/SRs

It is important to know where and how to access external support. Equally, feeling supported within the school environment is also an important indicator of successful application of the NCCD. A supportive environment is one that highly values inclusive education, allocate adequate time to discuss adjustments provided to students and embeds the NCCD as an agenda item into staff meetings. In many supportive environments, we found that school leadership has acknowledged that teachers may need time off class to complete the data collection, moreover, leaders stewarded the process in supportive environment and were available to discuss and review the data. Leaders in these environment ensure adequate staff training in the NCCD, DDA/DSE and other specific disabilities.

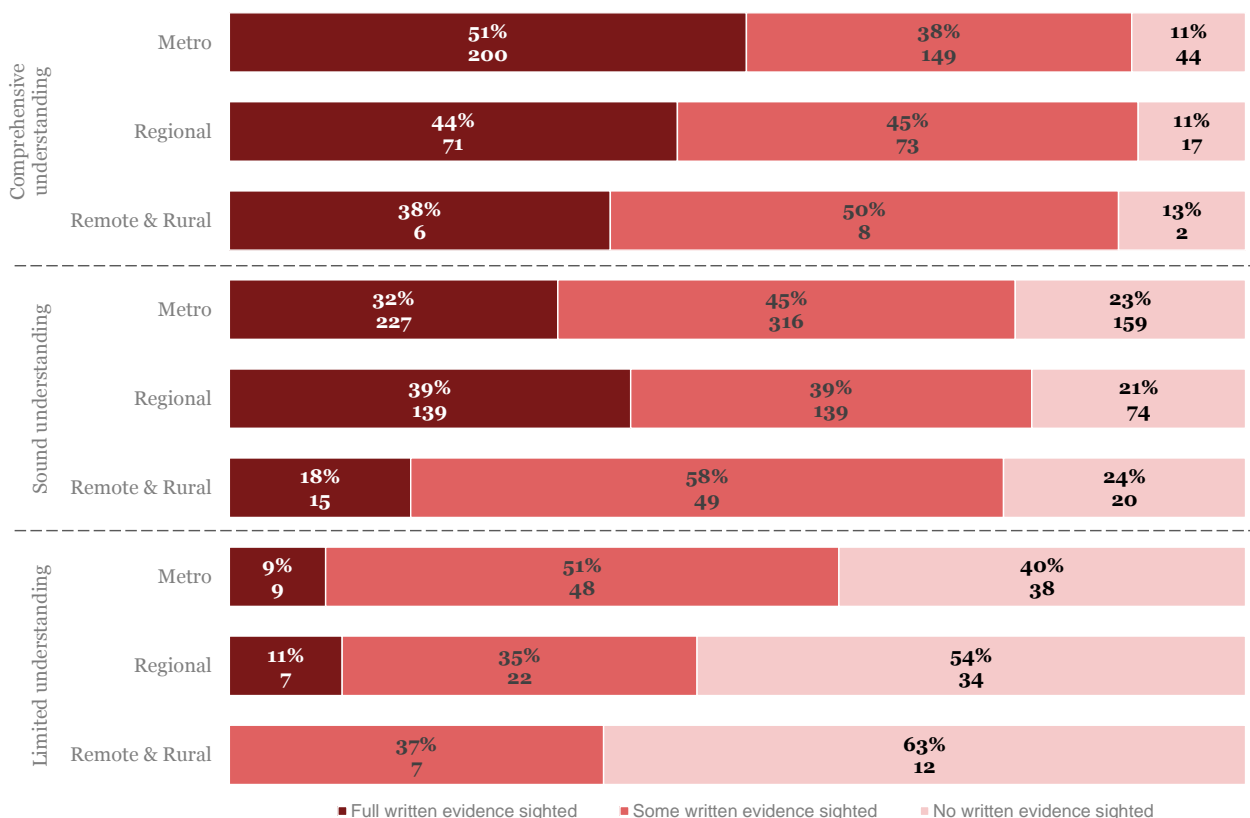
5.4 Evidence

We were able to view evidence that supported a student's inclusion in the NCCD in 78 per cent of cases and schools are generally comfortable with the four elements of evidence prescribed by the NCCD model. The area for which there is least documented evidence is consultation with parents/carers.

Examples of evidence that was viewed include external diagnoses, teacher records relating to adjustments (their provision, the frequency of their requirement, records of meetings with specialists, video footage of students, work samples, individual learning plans, health plans), records that demonstrate ongoing monitoring and review (eg records of meetings with specialists, updates to behaviour plans and IEPs) and records of meetings with parents/carers (eg emails with parents, filing of phone records, signed IEPs). In cases where there was no formal evidence of consultation with parents/carers we were often informed that conversations happened informally/opportunistically (eg at the school gate) and the teachers were able to describe the interaction but acknowledged that they had not officially recorded the interaction.

Schools that had a comprehensive understanding of the NCCD model were much more capable of displaying evidence for the inclusion of students in the NCCD. They were able to provide some form of written evidence 89 per cent of the time compared to 53 per cent of student examples from schools with a limited understanding¹⁷ (see Figure 55). The contrast was more pronounced in particularly rural and remote areas than in metropolitan, and to a lesser extent, regional areas.

Figure 55: Breakdown of student examples by the type of evidence presented



¹⁷ Some schools were unable to provide student examples due to a complete lack of understanding and have not been included in this analysis hence the level of evidence in schools with a limited understanding is worse than reported above.

5.5 Approaches that are common among high performing schools

Overall, where a school has performed well, generally we found that:

- it approached the NCCD as an ongoing process which was not driven by compliance with data requirements but which was useful for identifying student needs and providing and demonstrating appropriate adjustments
- leadership stewarded a culture of inclusivity
- it makes available completed a broad range of professional learning including those that related to DDA/DSE and the NCCD, encourages and enables teachers to apply to this in their day-day practice
- it maintains an up-to-date (either electronically or through a structured approach to hard copy files) and centrally located system to keep student information and evidence.

Where a school finds the NCCD challenging, we found that the school:

- had one single person completing the collection and views data collection as an administrative process
- had not undertaken any training on NCCD, DSE/DDA or related special education training
- did not have a formal system in place which made it difficult to collate evidence and to share student information across school
- did not prioritise resource allocation to the NCCD process within the school.

6 Does moderation influence the quality of the NCCD data?

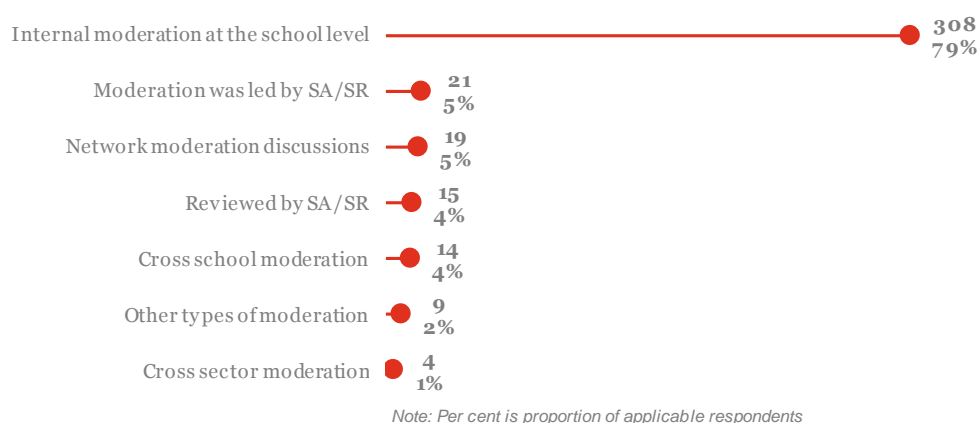
6.1 How it happens

The moderation process allows individuals to collaborate, validate and learn from one another to regulate the assessment and data collection process. It is a key treatment in reducing variability in teacher professional judgement.

Discussions with schools and SA/SRs highlighted that the term ‘moderation’ as it relates to the NCCD is variously understood. There was generally an appreciation that moderation involves conversations and collaboration among professionals, the result being that there is a consistent approach to understanding of levels of adjustment and category of disability. In some cases schools and SA/SRs demonstrated different understandings of the term moderation eg schools indicated that they had not engaged in a moderation process with their SA/SR but SA/SRs indicated that they had in fact moderated the data, but had used the term ‘feedback session’ with the school. That being said, moderation is not guided by standards or guidelines and in the majority of cases does not involve the use of exemplars.

While external moderation is not common practice, discussions with schools and SA/SRs reflected that there is demand for cross schools/sector or even jurisdiction level moderation. The challenge, however, is that it is resource intensive. Further, it was reflected that the relevance to funding needs to be clearly articulated for moderation to be prioritised and supported beyond the school level. We found that most commonly moderation involves professional conversations *within* a school setting; 79 per cent of schools that moderate have an internal moderation process at the school level (Figure 56). Moderation against external reference exemplars is not the norm.

Figure 56: Types of moderation



The level of involvement of different personnel varies by the size of the school. It was reflected in the FGDs that in small school settings the principal is usually responsible for the entire process. In larger schools there is a mix of personnel involved in the moderation process.

As previously mentioned, Tasmania has demonstrated the most significant improvement at the jurisdictional level and one of the key underpinnings of this improvement is application of quality moderation

Figure 57 highlights the components of the Tasmanian approach to moderation.

Figure 57: Tasmania – Demonstrating the benefits of quality moderation

Tasmania has demonstrated a quality approach to moderation. In discussions with Tasmania's SA/SR representatives highlighted some key components of the approach:

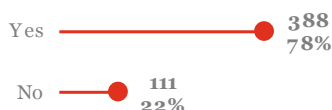
- Cross sector moderation: the Department of Education in Tasmania had state-wide moderation meetings that were extended to the Catholic and Independent sectors. A different level of adjustment was discussed on each of the four days.
- Broader input: the Department brought in professionals to the state wide moderation meetings. This allowed for a more expansive discussion on the levels of adjustment and category of disability.
- Shared evidence and examples: the different sectors discussed student examples and evidence, and also referred to case study examples from the national site.
- Central moderation process: in addition to the state-wide moderation meeting (also referred to as 'network day' by the Tasmania Independent sector), the Catholic and Independent sector SA/SRs reviewed school data (all students) and worked with each school to confirm that the students are correctly represented in the data.

6.2 Who does moderation?

'Moderation' is a term that is interpreted widely – we found differences in perceptions of the 'moderation' process and experience between schools and SA/SRs, eg in some cases SA/SRs indicated that they had moderated school data but the school did not realise that they had been moderated. We have based our findings about moderation on the feedback received from schools.

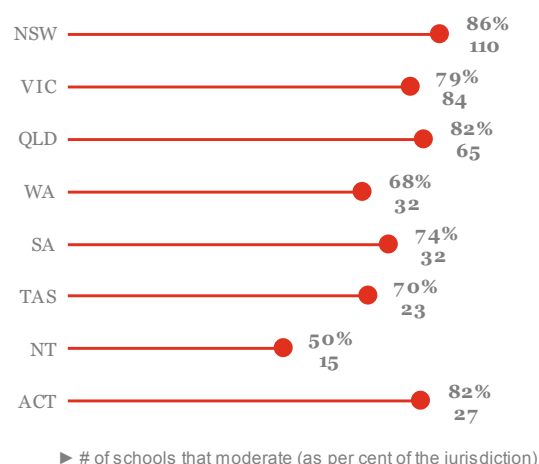
The majority of participating schools (78 per cent) had some form of moderation process in place (see Figure 58).

Figure 58: Whether or not schools moderate

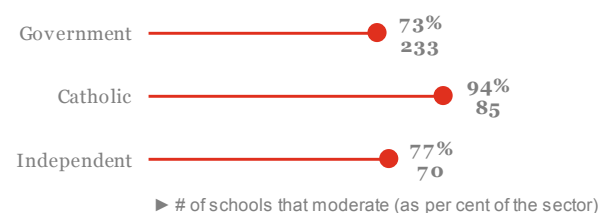


By jurisdiction, we found that NSW had the largest proportion (86 per cent) of schools (as a per cent of the entire jurisdiction) that had moderation processes (see Figure 59). This was followed by ACT (82 per cent) and QLD (82 per cent). The NT had the smallest proportion of schools that indicated that they had moderated the NCCD data (50 per cent).¹⁸

¹⁸ This finding is reflective of the different perceptions of moderation between schools and the SA/SR. In the NT, every Government school is moderated by an NCCD Disability Advisor; then the Regional Managers for Disability moderate the school assessment tool data provided as well and the Corporate Project Leader moderates each school. This occurs before data extraction. Despite this, among NT government schools only 32 per cent indicated that the NCCD data had been moderated.

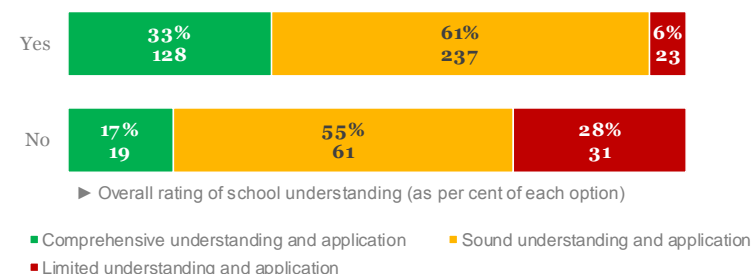
Figure 59: Whether or not schools moderate, by jurisdiction

Across the three school sectors, as illustrated in Figure 60, it was found that majority of Catholic affiliated schools had a moderation process (94 per cent), whereas, 73 per cent and 77 per cent of Government and Independent sector schools had moderation processes, respectively.

Figure 60: Whether or not schools moderate, by sector

6.3 Moderation and understanding of the NCCD

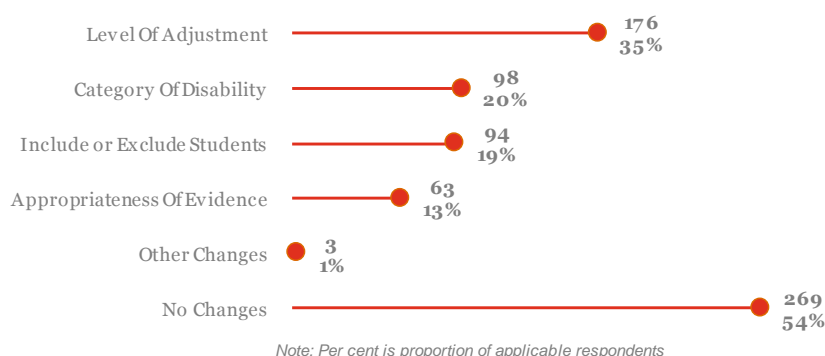
Schools with moderation processes demonstrate a better understanding and application of the NCCD model; 33 per cent of schools that had moderation processes demonstrated a comprehensive understanding and application of the model compared to 17 per cent of schools that did not have moderation processes (see Figure 61).

Figure 61: Moderation and understanding and application of the NCCD model

PwC was more likely to agree with the level of adjustment and category of disability in schools that moderate.

The influence of internal moderation on NCCD data is largely seen on the level of adjustment. We found that the level of adjustment changed (as a result of the moderation process) in 35 per cent of schools (see Figure 62).

Figure 62: Influence of moderation



6.4 Best practice moderation

The following were highlighted as characteristics of moderation best practice:

- **Leadership involvement:** leadership should perform school level moderation to not only ensure correct selection of the level of adjustment and category of disability but also ensure that all eligible students are accurately captured in the data.
- **Cross school moderation:** there is appetite for cross school networks to help the moderation process. Leadership should be involved in co-ordinating discussions with schools that have similar characteristics (eg size, primary or secondary, location) that would help consistent application of the model.
- **Cross jurisdiction moderation:** currently there are no cross jurisdiction networks. The FGDs, however, highlighted that there is demand for this type of moderation, and that it is being actively considered in some jurisdictions.

7 Conclusions

7.1 Suitability of the 2016 data for use in policy and program decision-making

Is the data robust (of sufficient quality) to inform decision-making at State/Territory level, national, sector and school levels? What is the statistical reliability of this data versus other ‘evidence bases’ underpinning policy/funding?

The NCCD has been subject to a high degree of internal and external scrutiny since its inception¹⁹. Our review of the literature found that, whilst professional judgement is a well-debated topic, most of the debate revolves around the reliability of professional judgement. We found no peer reviewed academic papers with evidence of similar levels of rigour around the quality of the data that underpins policy positions across the education and health sectors.

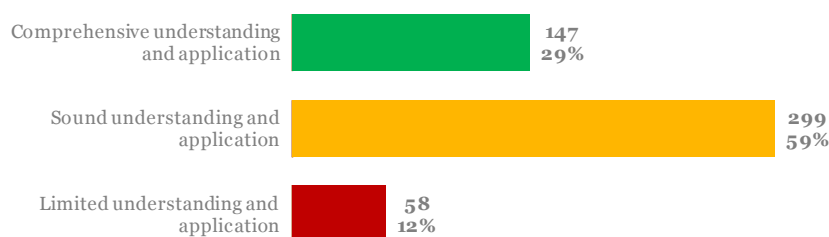
The data collected in the NCCD is of sufficient quality to inform policy at the national level.

Our conclusion stems from collation of findings from the case studies that were explored during the interviews with the schools in the sample, analysis of which shows that, at the national level, the PwC interview team agreed with the:

- student’s inclusion in the NCCD 98 per cent of the time
- chosen category of disability 86 per cent of the time
- chosen level of adjustment 78 per cent of the time.²⁰

Level of alignment across these components is an indicator of the accuracy of the data.

Among the random sample²¹, 88 per cent of participating schools demonstrate a comprehensive or sound understanding and application of the NCCD model (comprised of 29 per cent with a comprehensive understanding and application of the NCCD model and 59 per cent with a sound understanding and application). Demonstration of correct understanding and application of the model is an indicator of data quality.



¹⁹ The same level of rigour is not applied to data around Aboriginal and Torres Strait Islander (ATSI) students. For example, the ABS reporting of ATSI students in schools rely on families self-electing to identify as being Indigenous. The number of reported students has increased in recent years but the basis for this increase is not clear - it could relate to increasing self-identification, improved data collection processes, more Indigenous students attending school or a combination thereof. Funding policy and allocations are based on the ATSI numbers, despite the uncertainty about the reasons for the changes in the data.

²⁰ The statistical reliability of our findings in 2016 is greater than in 2015. In 2016 the CQIP random sample size increased from 407 to 507. This means that the margin of error (MoE) at the national and jurisdictional level has been reduced (from 4.7 to 4.2 per cent at the national level and that findings at the jurisdictional level are within a MoE of no greater than 15.4 per cent).

²¹ The 507 schools selected by the DET.

Schools with a comprehensive or sound understanding of the NCCD are confident in their decision to include/exclude a student from the NCCD and while some students may have been wrongly excluded from the collection, based on parental consent, uncertainty about evidence, lack of willingness to impute a disability and application of the '10 week' rule, we do not believe these numbers to be significant.

We have confidence in the data **at the jurisdictional and sector level**, although sample size means that the margin of error is greater than at the national level. We find that there is variability in data quality (taking into account PwC judgement about understanding and application, alignment on level of adjustment and category of disability and evidence) across jurisdictions and sectors. Some variability across jurisdictions and sectors is inherent and expected.²² However some of this variability is driven by the different approaches taken by the sector and jurisdiction. On this basis we suggest that **this data is suitable as a component that is considered when developing policy at these levels.**

Across jurisdictions:

- Tasmania demonstrates the highest percentage of schools with a combined comprehensive and sound understanding of the NCCD (97 per cent). This compares to the Northern Territory with 75 per cent of schools demonstrating an equivalent level of understanding and South Australia and Victoria with 81 per cent and 86 per cent respectively.
- Level of alignment regarding selection of the level of adjustment was highest in Western Australia (where PwC agreed 87 per cent of the time) and lowest in Queensland (where PwC agreed 70 per cent of the time). When considering category of disability the highest alignment was in Tasmania (92 per cent) and the lowest in Queensland (79 per cent).

Across the three sectors:

- Catholic affiliated schools demonstrated the highest level of understanding and application of the NCCD with 97 per cent of schools demonstrating either a comprehensive or sound understanding (compared to 86 per cent and 89 per cent in the Government and Independent sectors respectively).
- Level of alignment regarding selection of the level of adjustment was highest in Catholic affiliated schools (83 per cent) and lowest in the Independent sector (77 per cent). For category of disability the level of alignment was similar, with the highest level of alignment being in the Independent sector (88 per cent) followed by the Catholic sector (87 per cent) and Government (85 per cent).

At the school level:

The sample size was not sufficient to inform an assessment of data quality at the school level. **As a result, we cannot recommend with statistical confidence the utilisation of the data at the school level.**

Comments about variability – drivers, legitimate variability or not

We found that there are many factors that impact on the way a school understands and applies the NCCD model and that there are complex interactions between these factors. Using regression analysis as the basis for identification of the *key drivers* of variability in data quality we found them to be:

- whether classroom teachers and leadership have undertaken NCCD and/or DDA/DSE training
- whether the moderation/internal review process has led to changes in the level of adjustment
- whether the school has a comprehensive student reporting system in place
- whether or not the school is a special school.

²² The NCCD data provided by DET in 2015 and 2016 has been analysed considering differences in performance across jurisdictions and sectors over time. Privacy legislation means that in the NSW and WA Government sectors schools for which there are less than 6 students included in either the level of adjustment/category of disability have been omitted from the data. On this basis we would not suggest making conclusions about performance trends based on this analysis. We are confident in the findings of the analysis that is based on data collected as part of the CQIP.

This is consistent with the findings of the literature review which concluded that variability in data collections that rely on professional judgement stems from:

- education and training
- prior work experience
- other contextual considerations – this includes factors such as socio-demographics, geographical location and time allocated to the decision-making process.

Some variability across jurisdictions and sectors is inherent and expected. However variability is also driven by the different approaches that are taken by the sector and jurisdiction:

- in the gap analysis of professional learning material, we found that there is some deviation across jurisdictions and sectors in terms of the guidance (written and verbal) developed and provided by SA/SRs
- the systems that support schools to record student information (including the NCCD) are diverse, spanning comprehensive platforms (eg OneSchool for government schools in Queensland), a standardised personalised planning tool used in the Catholic sector and off-the shelf products that are purchased at the discretion of school administrators in the Government and Independent sectors
- the commitment to the development of capacity among teaching staff around students with disability varies across sectors and jurisdictions and is influenced by training budgets and the prioritisation of resources for professional learning about disability, the NCCD and DDA/DSE.

The literature review indicated that there are a number of strategies that can be employed to limit the variability of professional judgements. The treatments explored in the literature were:

- **professional learning and development** – education has been shown to reduce uncertainty and promote the dependability of evidence-based decision-making
- **prescribed criteria and standards** – the consistency of professional judgement can be improved through the incorporation of established criteria and guidelines, such as checklists and competency level descriptors
- **moderation and collaboration** – allows individuals to collaborate, validate and learn from one another and regulate the assessment and data collection process. Moderation also helps to reduce errors and biases in professional judgement.

These treatments are directly relevant to the identified drivers of variability and have informed our recommendations.

7.2 Recommendations to support improvements in data quality

We have developed a suite of policy options for consideration. There are three immediate actions, the implementation of which is essential to improving data quality in 2017. The range of options thereafter build on these essential foundations and have been clustered by timeframe.

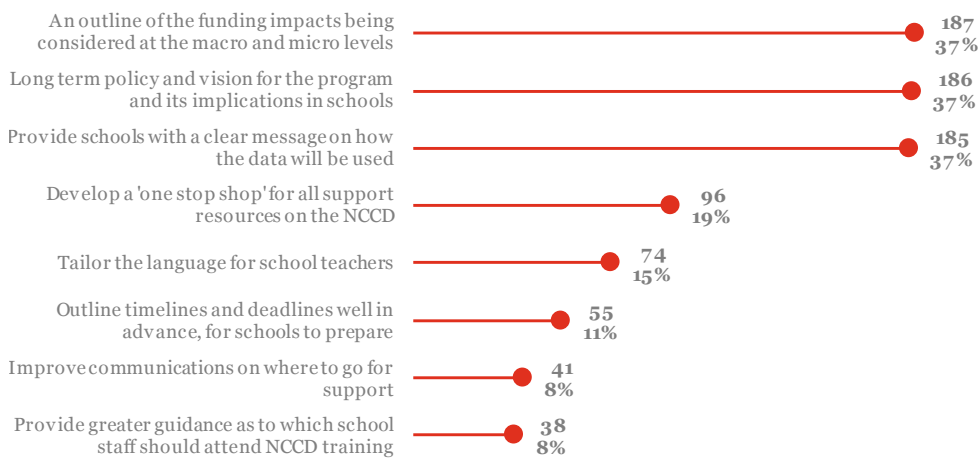
These actions are mutually reinforcing and the train the trainer session could be leveraged to cover both training in the NCCD and agreement about the principles that underpin good moderation (irrespective of sector and jurisdiction), as well as the possible feedback mechanisms that schools and SA/SRs could introduce to encourage commitment to continuous improvement.

Mobilisation around these actions requires that accountability for their delivery be allocated. Noting that the Commonwealth DET/JWG does not play an operational role with the NCCD, we suggest that immediate consideration be given to appropriate governance arrangements to ensure ownership and responsibility for delivering on the recommended actions.

As an overarching principle, we recommend that communication with schools about the policy vision and funding implications associated with the NCCD be prioritised. Instigation of a feedback mechanism so that schools know how they performed and areas for improvement will also contribute to a sense of purpose for this

data collection. These principles respond to feedback from schools when they were asked if there was anything about the NCCD that they would like PwC to feedback to the DET (Figure 63).

Figure 63: Feedback to the DET from schools



Note: Per cent is proportion of applicable respondents

Table 4 provides a summary of the recommendations with a full narrative following.

Table 4: Recommendations from the 2016 CQIP

Recommendations from the 2016 CQIP

Recommendation	Time horizon
1 Train-the-trainers.	Immediate
2 Introduce a set of principles to guide moderation	Immediate
3 Introduce a feedback mechanism	Immediate
4 Crowd-sourcing case studies	Medium term
5 Eliminate barriers for schools to access DDA/DSE training	Medium term
6 Evidence: Develop guidelines for data collation	Medium term
7 Re-design the ESA website	Medium term
8 Centralise the guidance material	Medium term
9 Cross school/sector moderation	Medium term
10 Introduce annual NCCD 'refresher' training	Medium term
11 Introduce new teacher training	Medium term
12 Bi-annual refresher training on the DDA/DSE	Medium term
13 Include DDA/DSE in job requirements for future school executives (leadership)	Medium term
14 Establish an NCCD 'expert team'	Medium term
15 School level resource allocation	Medium term
16 Quality Assurance	Longer term

Recommendation	Time horizon
17 Student teacher exposure	Longer term
18 Scholarships for Special Education courses	Longer term
19 Improve preparation of new teachers to meet the elements of the Australian Professional Standards for Teachers that relate to students with disabilities	Longer term
20 Amend the teacher registration requirements	Longer term
21 Confirm and roll-out a domain based collection and allocation system	Longer term
22 Development of an algorithm for student allocation with inputs from a standardised domain based collection system	Longer term
23 Development of a set of standards for future systems	Longer term

1. Train-the-trainers

A single, centrally coordinated event with interactive training should be held for all SA/SRs and relevant ‘front-line’ staff. The objectives of the training should ensure that all SA/SRs have access to the same information, clarify questions they may have, review of complex or difficult scenarios and increase networking among sector and jurisdictional representatives.

A central training program for those SA/SRs, as the source of help that schools’ turn to, will ensure that the most up-to-date and correct guidance is given to schools. Schools reported inconsistent and sometimes inaccurate answers to questions were given in 2016. The once-off investment would be an investment for the potential improvement in understanding around Australia.

We recommend this session be held as early as possible in term one – in order to maximise the opportunity to influence change in schools, ensuring that schools benefit from the shared knowledge, understanding and approach.

2. Introduce a set of principles to guide moderation

Schools who perform moderation tended to have better outcomes for students and better results in the QA – however 22 per cent of schools did not moderate. To help schools more efficiently run a moderation process a set of guidance principles should be crafted. Guidance should include examples of real-world situations to assist schools in adapting the principles for their own context.

3. Implement a feedback mechanism

Schools currently do not have any visibility of how their NCCD submissions compare to similar schools. SA/SRs need to let schools know if their data is comparable to other schools with a similar context. If there are significant differences these outliers should be explored in more detail. This will help identify schools who interpret the model in a different way and, through training, these differences can be reduced increasing the coherence of the data between schools.

4. Crowd-sourcing case studies

SA/SRs across Australia have spent countless hours creating case studies for their schools, which may have examples or nuances that others can use and learn from. A central repository should be built for all schools to both access and contribute to. A key factor to the repository is a classification and search function that will help users to find the case studies that are most relevant to them.

5. Eliminate barriers for schools to access DDA/DSE training

A free or low-cost training package that provides a comprehensive overview of the requirements under the DDA and DSE is needed. The current packages have been deemed prohibitively expensive and cumbersome to administer by several SA/SRs, and as such they will be not renew licences as they expire over the next 12 months.

Having an understanding of these pieces of legislation is crucial to having a comprehensive understanding of the NCCD model. An online training (and associated intellectual property) that, once developed, is owned by the Commonwealth is essential for the success of the NCCD going forward.

6. Evidence: Develop guidelines for data collation

The data collection model does not require schools to ‘collect’ evidence in such a way that constitutes additional workload, but to draw on evidence collated over the year to make decisions about classification of students included in the data collection. Whilst some schools have comprehensive systems which make evidence collation an embedded process, others expressed uncertainty around the evidence required (both quantum and type). To address this uncertainty we recommend that a set of criteria be developed, outlining examples of what would be considered both acceptable and not acceptable. To mitigate the risk of schools completing a ‘tick-a-box’ exercise, (and thus removing teacher judgement), it is suggested that a principles based guide be developed.

7. Re-design the ESA website

To maximise the utility and value of having a single website with the necessary materials, guides and examples, the ESA website should be re-designed and re-launched with the user experience (ie schools) in mind. The use of professional UX and UI design will assist schools’ navigation and thus utility of the website, helping it to become known as the easy to use place for resources and knowledge regarding the DDA, DSE and the NCCD.

8. Centralise the guidance materials

In order to minimise any misunderstanding caused by the use of out-dated guidance materials, a single source for the materials should be introduced, along with the removal of duplicate websites on each of the jurisdiction and sector websites.

While schools noted that they use their local intranet (SA/SR hosted) page for information, they also, in some cases, used Google to search for guidance materials, which returned old or another jurisdictions materials. Having a website for each jurisdiction requires time and investment to maintain, and may introduce language that leads to differences in the interpretation of the NCCD model. A single site will help to ensure the latest materials are available to all schools, reduce the time spent on maintenance and reduce the potential for variability in language and interpretation.

9. Cross school/sector moderation

Schools noted to PwC that they would be like to work more collaboratively with other local schools. The commencement of a cross-school moderation process would not just answer this request but also allow the leadership of schools to work with other leaders to develop and expand networks.

10. Introduce annual NCCD ‘refresher’ training

As teachers return to work at the beginning of the year they typically undertake a series of training programs to refresh their skills, knowledge and understanding on teaching standards, health and safety, etc. In order to continue embedding the NCCD and inclusive learning in schools, a brief but thorough program that re-focusses school leadership and teachers on their obligations under the DDA and DSE should be included as part of the training requirements at the beginning of each school year.

11. Introduce new teacher training

With an expected increase in teacher turn-over, a larger number of new teachers will be required. Many new teachers will not yet have been given the opportunity to review their requirements under the DDA and DSE, nor

will they have much hands-on experience in making adjustments. It is recommended that a specific ‘new-teacher’ training module be developed to assist new teachers understand specific requirements and the inclusive learning principles.

12. Bi-annual refresher training on the DDA/DSE

As the DDA and DSE are key to understanding the NCCD model, it is important that school staff remain aware of their legal obligations. In order to maintain a ‘base level’ of understanding, a refresher program should be developed and required to be completed every 24 months.

13. Include DDA/DSE in job requirements for future school executives (leadership)

Leadership is key component of the shift towards an inclusive learning culture. The ‘tone from the top’, set by executive leadership, permeates throughout a school. As such, we recommend that future school leadership positions include the requirement for a form of certification or compliance in understanding the DDA and DSE. The requirements will aim to ensure a more inclusive learning environment for all students.

14. Establish an NCCD ‘expert team’

To free up the resources of the Commonwealth and the SA/SRs, set up an ‘expert’ team to assist schools prepare for and complete the 2017 round, deliver feedback on last year, and run a hot-line to answer queries. This would be set up while simultaneously raising awareness of the service to schools.

This service could be set up in a number of forms:

- **Outsourced assistance model:** An outsourced team who undergo specialised training, are able to visit schools as needed, run the hotline and feedback delivery mechanism
- **Decentralised, dedicated expert team:** From across the jurisdictions, recruit and train a number of staff who will act as a central (but decentralised) team available for schools.

15. School level resource allocation

In following the trend of ‘one-line budgets’ and decentralised leadership, an allocation of resources can be made to schools to assist them to manage the time requirements associated with professional development. School leadership can decide the best use for resources, to maximise the impact on student learning and outcomes.

16. Quality Assurance owned by Jurisdictions/Sectors

In the course of the QA process in 2016, teachers noted that the opportunity for feedback was useful for their own understanding. To enable greater coverage of the QA, the process should be shifted to the SA/SR in each jurisdiction and sector. Aside from helping the overall data quality with the moderation, the process will give schools the chance receive feedback and to discuss any issues.

17. Student teacher exposure time

It was noted, during the course of the interviews, that new teachers don’t have adequate ‘on-the –job’ experience. Research should be conducted to determine a minimum time that a student-teacher should have in a class-room setting, as part of their practical experience course requirements.

18. Scholarships for Special Education courses

Recognising that there is an increasing demand for special education teachers, we recommend boosting the number of special education certified teachers completing degrees or diplomas. Financial incentives in the form of scholarships are an effective way to encourage students to focus on special education.

19. Improve preparation of new teachers to meet the elements of the Australian Professional Standards for Teachers that relate to students with disabilities

The adequacy of universities in preparing teachers to support students with disability varies. Universities and SA/SRs need to work together to firstly assess the degree to which the current courses align to the Australian Professional Standards for Teachers that relate to students with disability. Subsequently these courses will need to be modified so there is a greater alignment, ensuring teacher training includes the NCCD and the DDA/DSE. This will raise the 'base' level of understanding across jurisdictions around Australia.

20. Amend the teacher registration requirements

In conjunction with the above, amend the state based requirements for teacher registration to include components such as special education, personalised learning and inclusive education.

21. Confirm and roll-out a domain based collection and allocation system

As used by members of the Catholic systems, work across jurisdiction and sector boundaries to define a series of domains upon which students are measured. This approach would standardise the approach to decision making by teachers. This will result in the development of a common language in which teachers can communicate and will help to improve consistency among schools, and provide schools with additional rigour to capture evidence of their students' progress. This approach is aligned with the NCCD model in that teacher judgement is the basis for allocation of students.

22. Development of an algorithm for student allocation with inputs from a standardised domain based collection system

Building on the recommendation above, an algorithm could be developed which allocates students based on a standardised set of domains. Teacher judgements will inform each of the domains as inputs and student allocations, including their level of adjustment and category of disability will be determined by the algorithm. This will assist to reduce variability.

23. Development of a set of standards for future systems

As part of a broader systems change, developing a comprehensive set of standards upon which future data systems will need to incorporate and adhere to, will move education data to be captured, stored and shared across jurisdiction and system boundaries.

Enabling a more secure yet more accessible environment for student data will assist reduce the problems that schools face with students moving around the country.

The standards should also start to align the language that teachers use, enabling them to communicate and collaborate more effectively and efficiently.

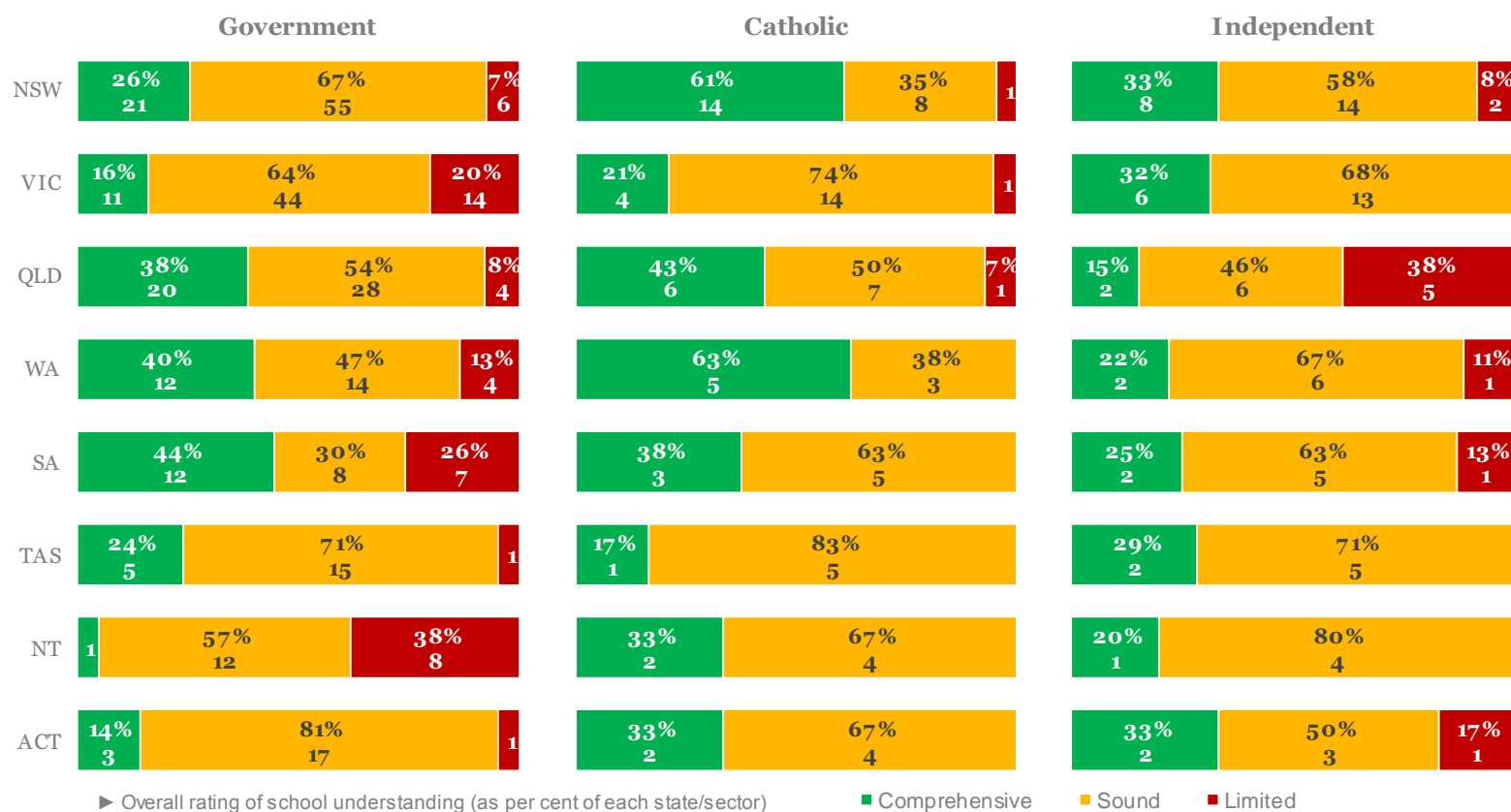
Appendices

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Appendix A Analysis by sector and jurisdiction

This section presents further breakdown of the 2016 schools' understanding and application based on PwC's assessment by jurisdiction and sector.

Figure 64: School's understanding and application based on PwC assessment (2016) by jurisdiction and sector



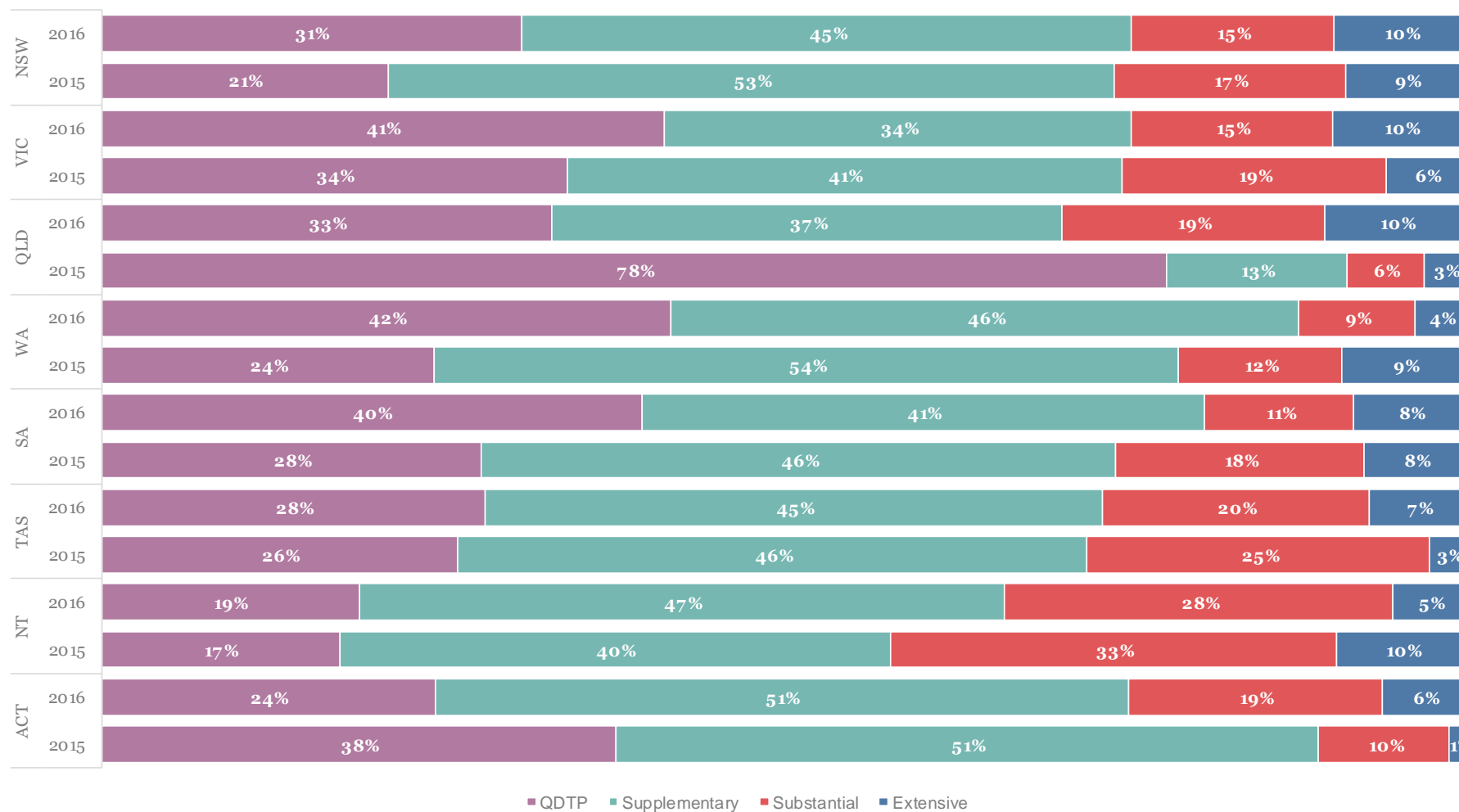
Appendix B Comparison of 2015 and 2016 levels of adjustment by jurisdiction

As part of the 2016 CQIP, analysis on total number of students across the levels of adjustments for participating schools were performed. This was then compared with 2015 CQIP desktop analysis. It should be noted this analysis would not be reflective of the total number of students identified in the NCCD for participating schools as the analysis was conducted for the data that were available to date. For the 2015 CQIP, the dataset was incomplete as data for Victorian Government schools was not received, while the 2016 CQIP did not receive NCCD counts for government schools in New South Wales and Western Australia.

Given the incomplete nature of the dataset across two years, the total student counts are likely to be lower for these jurisdictions.

Based on the available data, the analysis shows between 2015 and 2016, Queensland experienced the most significant decrease proportionally in QDTP while it has increased for most other jurisdictions except the ACT. For supplementary level of adjustment, Queensland has experienced the most increase proportionately while most other jurisdictions have decreased proportionately except in the Northern Territory. For all jurisdictions, there was less variation in proportion of students of substantial and extensive level of adjustment between 2015 and 2016.

Figure 65: Desktop analysis on total number of students included in the NCCD by levels of adjustment by jurisdiction



Appendix C Possible composite indicator

An alternative approach to assess schools' understanding and application of the NCCD could be the use of a composite indicator. The composite indicator calculates schools' level of understanding based on a number of weighted key factors contributing to the NCCD, including whether the school:

- was assessed to have a comprehensive, sound or limited understanding (50 per cent)
- has written, verbal or no evidence for student case study (25 per cent)
- staff undertook training and demonstrated comprehensive understanding for the DDA/DSE (25 per cent), for the DDA, there was a ranking based on the criteria:
 - The school appears to be aware of the legislation, including overarching obligations
 - At least one key member has been through a training program and is aware of the legislation requirements, including the term imputed disability
 - All the staff members have been through a training program such as the University of Canberra Modules or SA/SR hosted training and able to describe examples of the term 'imputed disability'.

For the DSE (the Standards), there was a ranking based on the criteria:

- The school appears to be aware of the Standards, including overarching obligations
- At least one key member has been through a training program and is aware of the requirements under the Standards, including the term reasonable adjustment
- All the staff members have been through a training program such as the University of Canberra Modules or SA/SR hosted training and able to describe examples of the term 'reasonable adjustment'.

Weightings applied to the composite indicator could be adjusted and used for comparison of results across years as long as the weightings are applied consistently year-to-year.

It was found that schools generally had a lower level of understanding and application using the composite indicator when compared with the approach of PwC judgement in 2016 and 2015.

When comparison are made for the government and Independent sector, the results follow a pattern similar to the overall results.

Figure 66: School's understanding and application based on PwC assessment (2015, 2016) and based on composite indicator comparison

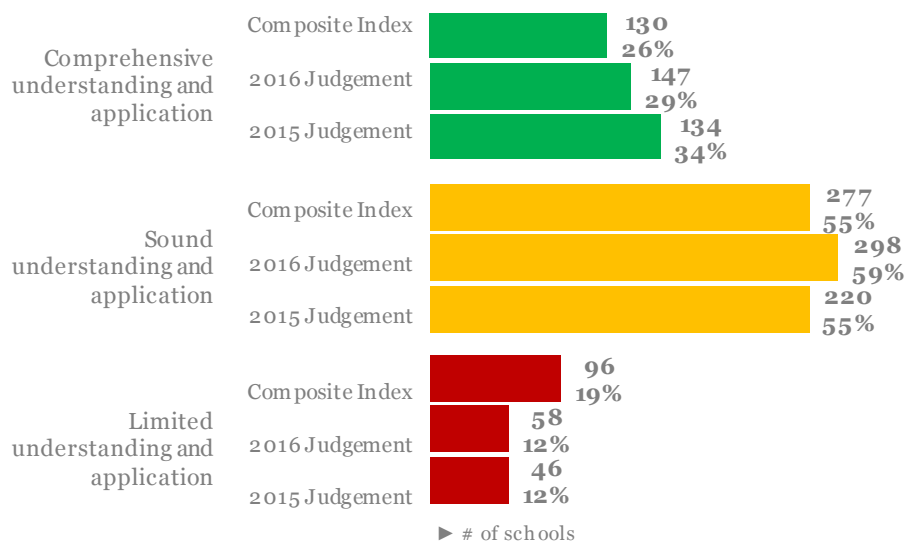


Figure 67: School's understanding and application based on PwC assessment (2015, 2016) and based on composite indicator comparison for government schools

Government Schools

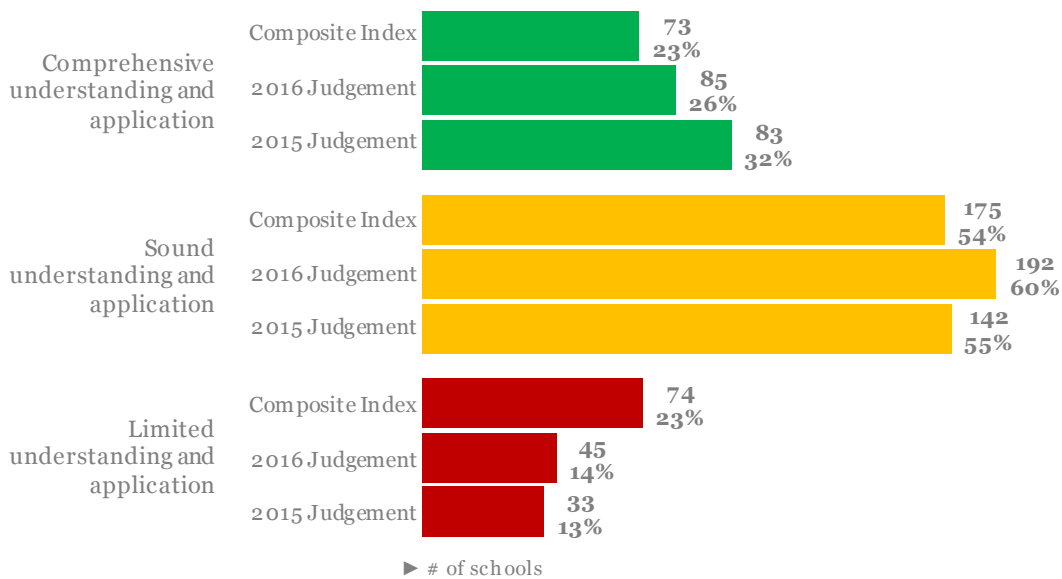
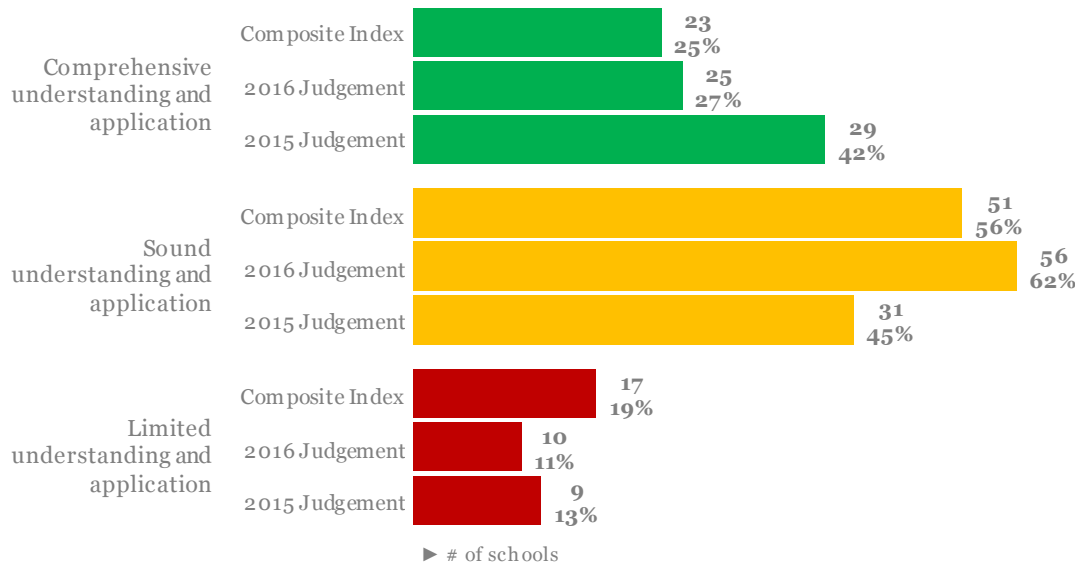


Figure 68: Comparison of school's understanding and application of the NCCD model based on 2015 and 2016 PwC assessment and 2016 composite indicator result, Independent schools

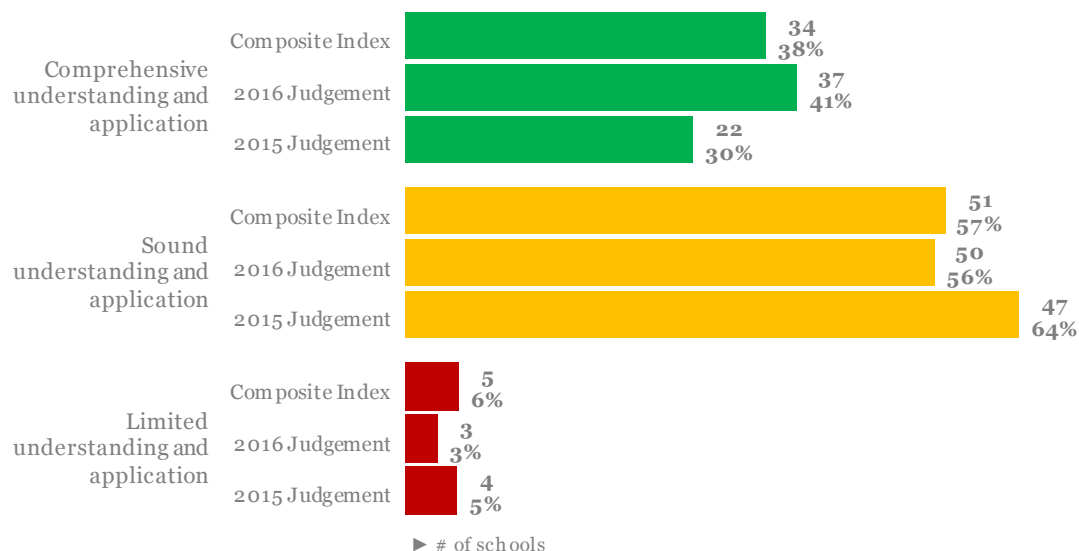
Independent Schools



When the comparison are made for Catholic schools, it was found that the composite indicator showed more schools with sound understanding than the results based on PwC assessment.

Figure 69: Comparison of school's understanding and application of the NCCD model based on 2015 and 2016 PwC assessment and 2016 composite indicator result, Catholic schools

Catholic Schools



The composite index provides a different approach to assess school's understanding and application of the NCCD. Based on this approach, it was found that a total of 15 schools scored 100 per cent based on the composite score, the median score for the school was 60, and that 12 schools had scored zero either because they had limited understanding of the NCCD and the DDA/DSE, and no evidence for students case study or that they were unable to answer a majority of questions for the NCCD.

Appendix D Case studies

PwC developed two case studies to demonstrate:

- that it is possible to transform performance in a short timeframe
- the essential elements that underpin accurate understanding and application of the NCCD

The case studies represent a generic approach and have relevance across schools that differ by size, geographic location, sector and jurisdiction.

It is intended that the case studies be considered as a blueprint for good practice at the school level and to assist schools in the implementation of the suggested approach.

We have developed a suggested continuum where activities have been categorised by whether they start, continue or stop.

To conclude we consider what good practice looks like from various perspectives: school leadership, teachers, disability support coordinators, students and parents/carers.

Case study 1 – Transforming NCCD performance in a short timeframe

BACKGROUND IN 2015:

School A demonstrated a poor understanding and application of the NCCD model. The poor performance was due to a lack of training, low level support from leadership, and no formalised system or processes for recording evidence. School A first participated in the NCCD in 2015.

WHAT CHANGED In 2016:

During 2016, the school underwent a **major school-wide transformation** that led to a very different environment for students and teachers. The resulting impact on the NCCD has been very positive and led to a strong performance improvement.

Key elements of the transformation were:

- **Leadership changes** that have seen a cultural shift towards a more inclusive teaching model and improved attitude towards the NCCD. Leadership is now more invested in inclusive teaching practices, prioritising in professional learning and standardising best-practice use of school systems.
- **A renewed emphasis on and investment in training and professional learning for all staff** covering the *Disability Discrimination Act (DDA)* and *Disability Standards for Education (DSE)* as well as the NCCD. This shifted responsibility for the NCCD from the Learning and Support team to being **a shared responsibility for all staff**. A key member of the school's executive championed the change.
- **A full review of staffing needs for each class** (e.g. individual student's needs, class sizes, allocation of Teaching Assistant, etc.), and leveraging existing resources more effectively and efficiently.

- A school-wide push to get teachers to familiarise themselves into **using the school student management system, leveraging it more effectively and efficiently**. This led to a 'group efficiency' where each additional contribution added significantly more value.

THE IMPACT:

NCCD processes in the school are now more **embedded** in 'business as usual' operations and considered an important component of inclusive education. This approach is enabled by leveraging existing systems to better record evidence of students' needs and details of adjustments that have been put in place in consultation with stakeholders (parents/carers, independent experts, etc.).

Transformation in performance has been enabled by the following good practices:

- **Empowering a key individual to lead the change**
- **Embedding the NCCD into 'business as usual' school processes**
- **Ensuring the involvement of leadership throughout the NCCD process**
- **Emphasising training in the DDA/DSE and NCCD as important underpinnings of an inclusive approach to education**
- **Leveraging existing systems**

Case study 2 – Elements of best practice

BACKGROUND:

School B has applied an inclusive education approach across teaching and operations. It has participated in the NCCD since 2014. The school has consistently demonstrated comprehensive understanding and application of the NCCD and a number of attributes underpin this performance:

TRAINING:

The school places a high emphasis on inclusive teaching practices and training on DDA and DSE among all staff mandating annual refresher training on these topics.

Learning and Support Team and School Leadership representatives attend NCCD training every year. These learnings are then disseminated across the teaching staff via discussions at staff meetings and other internal school forums.

LEADERSHIP & CULTURE:

The school executive team fosters a culture of inclusive education and shared responsibility. Leadership champions the NCCD process and demonstrates support by allocating resources to support the completion of the NCCD and coordinating the NCCD processes in the school including running sessions with teaching staff around case studies and attending training.

The leadership team also is a key part of the NCCD processes and provides insights and input into the process.

SYSTEMS & PROCESSES:

With the shared knowledge and training, the school creates shared accountability for NCCD processes across the staff. This ensures a greater breadth in understanding of the students' needs and level of adjustments.

Additionally, the school has aligned its documentation and processes with the NCCD - using consistent language to describe adjustments and domains for consideration when determining level of adjustment and category of disability.

SUPPORT & MODERATION:

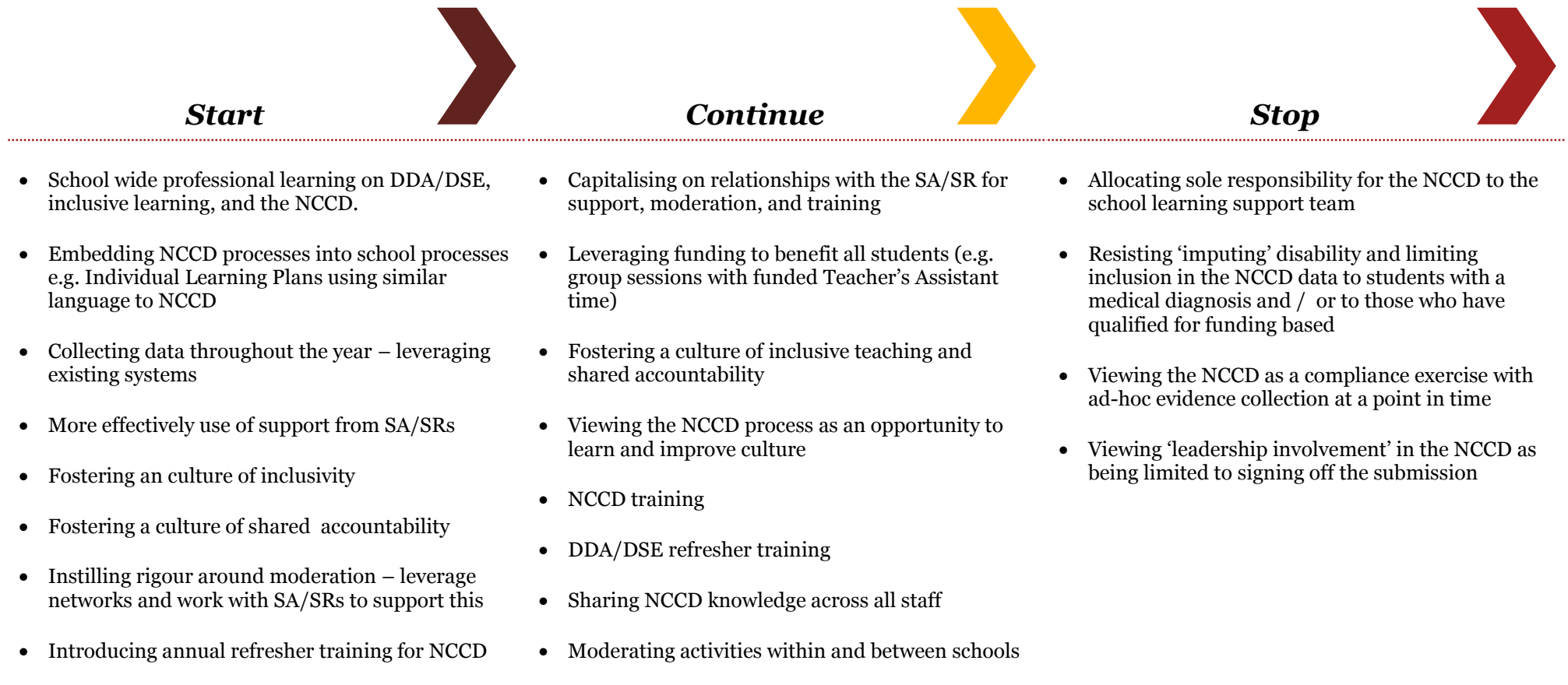
The school engages with its SA/SR quite regularly. The SA/SR adopts a proactive approach and hosts training, issues reminders, is involved in moderation activities with the school, provides assistance and support when required, and is easily contacted.

Accurate application of the NCCD is enabled by the following:

- **Strong relationship between the school and the SA/SR**
- **Support from school leadership support for NCCD processes**
- **Stewardship of an inclusive school culture by leadership**
- **Prioritisation of regular training in the DDA/DSE and NCCD for all staff**
- **Leveraging existing systems**
- **Embedding NCCD into school business as usual processes**

Elements of good practice

For consideration across levels of aptitude and experience with the NCCD



What does best practice look like for...

