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Top teachers

Sharing expertise to improve teaching

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Overview

Australia is not using its best teachers well. This report describes a new career path for top teachers that would make them responsible for leading professional learning and improving the teaching of the whole workforce. Over time it would transform school education, further professionalise teaching, and lead to students gaining about 18 months extra learning by age 15.

Australia already makes large investments in great teachers leading professional learning, but it's not working well. A Grattan Institute survey of 400 instructional leaders, 260 teachers, and 60 principals, conducted for this report, throws light on the problems.

It shows that teachers value learning from instructional leaders in theory, but in practice their teaching doesn't change. Instructional leader roles are not subject-specific enough, and the people in them don't get enough time to do their job effectively. Teachers tell us instructional leader advice is inconsistent over time, and that the best teachers are not promoted into the positions. Principals report that program funding chops and changes, making it difficult to embed real change.

With the performance of Australian students falling in international tests in reading, science, and especially maths, we must do better. Under our new model, Australia's best teachers would have dedicated 'day jobs' to improve teaching. There would be two new positions. They would be subject specific, so teacher development is more focused on building subject expertise. 'Master Teachers' (the top 1 per cent) would be the overall pedagogical leaders in their subjects, working across a network of schools in their region. They would help identify teacher needs and coordinate training. They would guide 'Instructional Specialists' (limited to 8 per cent of the workforce), who would work within their own schools to support and guide other teachers.

It would be a big shift from today. Professional learning would be better resourced, supported by subject experts, and built in to the everyday work of teachers. Every teacher would benefit from more than one hour a week with Instructional Specialists in their subject area. The new roles would help to spread evidence-informed teaching practices, and to generate new research in high-priority areas.

The roles would be selective and prestigious, similar in standing and pay to school leadership positions. Selection panels would include subject experts, rather than just school principals. The model would be designed to support primary and secondary schools of all sizes. It should be phased in gradually, building to more than 20,000 Instructional Specialists and 2,500 Master Teachers across the country by 2032. Instructional Specialists would receive salaries of up to $140,000 a year, and Master Teachers $180,000.

Our model would cost about $560 per government school student per year by 2032. Governments can afford it: our proposal would cost less than the planned increases to government school funding through the Gonski 2.0 model, and it would be one of the most effective ways to use the extra money. Non-government schools have had significant funding increases over the past decade, and will be fully funded by 2023. They should fund the model through their existing resources.

Recommendations

1. State governments and non-government schools should create an expert teacher career path to lead teacher professional learning. It should have two new roles:
    - *Instructional Specialists* should work to improve teaching in their school. They should set the standard for good teaching, build teaching capacity, and spread evidence-informed practices. They should be:
        - Located in all schools, but limited to 8 per cent of teachers;
        - Classroom teachers, but with a substantially reduced teaching load to ensure they have enough time to fulfil their instructional leadership role;
        - Specialists in a subject, with strong coaching skills;
        - Paid up to $140,000 per year on 3-to-5-year contracts.
    - *Master Teachers* should improve teaching across multiple schools. They should co-ordinate professional learning, support Instructional Specialists, and connect schools with research. They should be:
        - Located in all regions, but limited to 1 per cent of teachers;
        - The regional leaders in their subject, with no teaching load;
        - Deep experts in a subject, with proven ability to help other teachers improve their practice;
        - Responsible for developing the next generation of Instructional Specialists and Master Teachers;
        - Paid $180,000 per year on 5-year contracts.
    - Roles should be advertised by schools and filled competitively through a rigorous selection process. HALT certification should be a pre-requisite but will need to be made more efficient.
    - The new model should apply to both primary and secondary schools and it should be tailored to support schools of all sizes.
    - Each school should be allocated Instructional Specialist funding in proportion to its number of teachers, and then create the specific Instructional Specialist roles it needs.
2. System leaders should implement the model in four stages. The model should reach 80 per cent of full operating capacity in 2032 with 22,000 Instructional Specialists and 2,700 Master Teachers.
    - Stage 1 should include pilots in key subjects in a small number of regions, followed by randomised controlled trials.
    - State governments should fund the expert teacher career path by re-allocating existing resources and using planned funding increases under ‘Gonski 2.0’.
    - Non-government schools should fund the expert teacher career path through their existing resources.
3. The career path should be implemented as part of a broader package of reforms to attract high achievers to teaching.

Summary of the key changes

From: situation today	To: Grattan model
Ad hoc system for improving the workforce • Over-reliance on short-term coaching programs • Instructional leader responsibilities are often an add-on to busy jobs • Instructional leaders often have little voice in whole-school decisions • Little systematic identification of common teacher or school needs • Few structures to spread evidence and generate research	**Comprehensive system for improving the workforce** • New expert teacher career path where top teachers have the dedicated day job to support and develop other teachers in all schools • Two new roles, Instructional Specialists and Master Teachers, provide a cascading system of expertise across and within schools, connect formal training to in-school support, and help spread and build evidence
Insufficient scale to support all schools and teachers • Most coaching and instructional leadership programs are small scale • There are only about 600 certified HALTs • No systematic process to identify and prepare future instructional leaders	**Large scale so that every teacher benefits** • Covers every school and sector, both primary and secondary • 20,000+ Instructional Specialists, 2,500+ Master Teachers • Master Teachers and Instructional Specialists 'grow' the next generation
Teachers in instructional leader roles not set up for success • Most are generalist roles, few are focused on subject expertise • Few cross-school roles • Too little time to do the job • Unstable positions reliant on short-term funding • Salaries often too low and roles are perceived as unattractive	**Right roles** • Most are specialist roles focused on subject expertise • Both cross-school and in-school roles • Dedicated time release (incl. 0.3-to-0.5 FTE for Instructional Specialists) • Stable roles with long-term funding • Better salaries: $140k Instructional Specialists, $180k Master Teachers
Weak selection processes • Teachers feel that instructional leader jobs often don't go to best teachers • Every initiative has its own selection processes, creating inconsistency • HALT-certification recognises excellence but is not a tool for job-selection	**Right people** • Must show good teaching, subject expertise, and capability to lead • Competitive and rigorous selection involving expert input • Number of roles is capped with HALT certification a pre-requisite
Limited support and checks • Limited up-front training or ongoing support • Little oversight from experts in the same field • Inconsistent support from principals	**Right support and constraints** • Systematic upfront training, including how to coach other teachers • Master Teachers provide expert guidance for Instructional Specialists • Principals make good use of Instructional Specialists

Table of contents

List of Figures

List of Tables

1 Top teachers can improve teaching

Top teachers can help lift the quality of the whole teaching workforce. They can improve teacher professional learning, especially by making it more subject-specific – a critical area for Australia. Respected practitioners are well placed to spread evidence on 'what works' in schools as it becomes available.

If implemented successfully, the reform package described in this report could lead to students gaining about 18 months of extra learning by the time they are 15.[1]

1.1 Better teaching means better student results

Better teaching improves student learning.[2] A student with a great teacher can achieve in half a year what a student with a poor teacher can achieve in a full year.[3]

One of the key ways to improve teaching is through better teacher professional learning – the focus of this report.[4] It offers bigger and faster benefits than other high priority reforms, such as attracting more high achievers to teaching, or improving the quality of initial teacher education, which take more than 40 years to flow through. Our proposal will improve the teaching of the nearly 300,000 teachers who already work in Australian schools today, and it could be implemented within 12 years – by 2032.

1. This estimate is based on a very conservative effect size from the literature (0.03 standard deviations per year from Kennedy (2016)). We assume a student has a better teacher in every year of schooling, with additive benefits. For further detail see footnote 10 in Goss and Sonnemann (2019).
2. Hanushek et al (2005), Hanushek et al (1998), Aaronson et al (2007), Rockoff (2004), Leigh and Ryan (2011).
3. Leigh (2010).
4. Appendix A summarises the best literature on teacher professional learning.

1.2 Better roles for top teachers to improve professional learning

Australia's best teachers are under-utilised today in sharing their expertise and supporting others to improve. They are often confined to their own classrooms, or stretched with 'add-on' instructional leadership responsibilities without adequate time, guidance, or support to improve teaching in their school.

This report proposes a new 'expert teacher' career path to give the best teachers the dedicated day job of helping all teachers to develop and improve.[5] It proposes two new roles to help teachers with the type of professional learning known to be effective.[6] The roles would help strengthen teachers' subject expertise (so-called 'pedagogical content knowledge', or PCK) and help to integrate the curriculum with good teaching.[7] And the model makes good use of *experts* – both external and internal to schools – in identifying teacher needs and supporting improvement.[8] This feature is important; if expertise is lacking, team collaboration can simply reinforce the status quo.[9]

A key strength of our model is that it uses top teachers, who are well placed as respected practitioners, to guide other teachers and help spread evidence (see Box 1 on the following page).

5. It builds on descriptions in past Grattan Institute reports, Goss et al (2016) and Goss and Sonnemann (2019).
6. Effective professional learning is active, often includes coaching alongside training, requires expert input, collaboration and is sustained over time, see Timperley et al (2007), Darling-Hammond et al (2009), Walter and Briggs (2012), Desimone (2009), Kraft et al (2018) and Kennedy (2016). For a discussion of the limitations of current evidence see Sims and Fletcher-Wood (2018).
7. Effective professional learning is 'content focussed': Timperley et al (2007), Darling-Hammond et al (2009), Blank and Alas (2009), Yoon et al (2007).
8. Timperley et al (2007), Backes and Hansen (2018), Yoon et al (2007), Kraft et al (2018).
9. Timperley et al (2007, pp. xxvi, xliv), Sims and Fletcher-Wood (2018).

High-performing school systems overseas, such as in Singapore and Shanghai, use their best teachers – by subject – to lead and develop others through a 'teacher path'.[10] At the pinnacle are 'Master Teachers', who are overall pedagogical leaders for their subjects across many schools. They help train and guide 'Lead Teachers' or 'Instructional Specialists', who work within schools to develop other teachers.[11]

1.3 Our model has multiple benefits

The 2018 Gonski 2.0 report made two recommendations relevant to the role of top teachers: better teacher career paths, and more effective teacher professional learning.[12] This report shows how to do both in one go.

Chapter 2 shows that current instructional leader roles for top teachers are not working well enough. Chapter 3 describes how our proposed two new roles should be designed to lead teacher professional learning. Chapter 4 shows how our model would work in a typical primary and secondary school as well as across networks of schools. Chapter 5 outlines how to implement and phase-in the new model over the next 12 years, and Chapter 6 shows how to fund it.

Box 1: Top teachers to help spread evidence

Top teachers are powerful agents for change. Peers can have large impacts on shifting behaviours,[a] and teachers like learning from other teachers.[b]

As new evidence on 'what works' emerges, top teachers should help spread it in schools. Teaching has been much slower than other professions such as medicine and engineering to produce scientific evidence and incorporate it into practice. But things are gradually improving.[c] Top teachers can help teachers tailor new evidence-based methods to meet the needs of their students.

Top teachers are also well placed to influence teachers daily routines; a proven way to change old habits.[d] For example, they can integrate new techniques into teachers lesson plans, and make suggestions for new classroom materials, making it easier for teachers to move to new approaches.

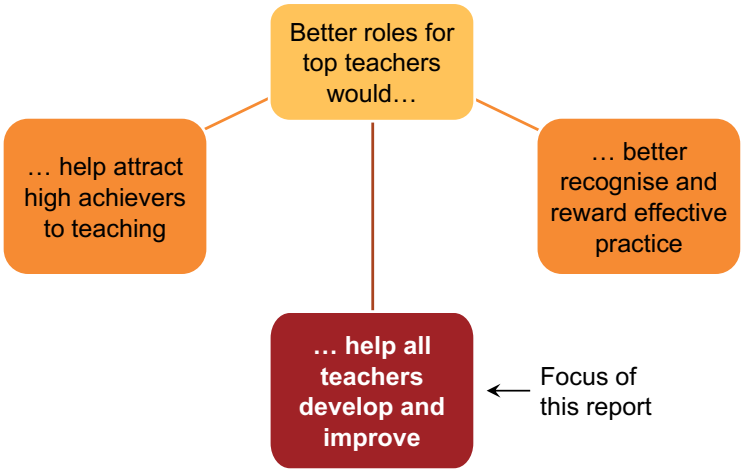
Top teachers can also help to generate new research – a key priority given the evidence-base is still in its infancy. Through their work in schools they can help identify priority research areas, as well as advise on how to implement new findings with teachers in classrooms.

a. Zhang and Goh (2018), Basford et al (2016), Gutberg and Berta (2017).
b. Walker et al (2019).
c. For example, see the Australian Evidence for Learning Toolkits: Evidence for Learning (2019). In the US, see the What Works Clearinghouse: Institution of Education Sciences (2019).
d. Sims and Fletcher-Wood (2018), Webb and Paschal (0206), Lally et al (2010), Wood and Neal (2007).

10. For discussion of how high-performing systems develop teachers see Jensen et al (2012), Jensen et al (2016), OECD (2011) and Barber and Mourshed (2007).
11. For further information see Jensen et al (2012, p. 74).
12. Gonski et al (2018, p. xiv): Recommendations 13 and 16.

The new career path offers two other major benefits. First, by recognising outstanding teaching, it would create incentives for all teachers to keep developing. Second, it would help to attract more bright young people to teaching. Lack of career challenge and low pay are key reasons bright young people are turning their backs on teaching today (see Figure 1.1).[13]

Figure 1.1: Creating new roles for top teachers would produce multiple benefits



13. For discussion of the importance of attracting high achievers see our past report, Goss and Sonnemann (2019). Dinham et al (2008) and Ingvarson (2016) also emphasise the importance of attracting high achievers and creating new career paths to reward and encourage teacher professional learning.

2 Current roles for top teachers aren't working

Many state and territory governments have invested in ways to use the best teachers to help others develop and improve. But these efforts do not go far enough in Australia. Coaching programs chop and change a lot, and designated roles in industrial agreements are often under-resourced and rarely subject-specific.

This chapter draws on a new Grattan Institute survey of more than 700 instructional leaders, teachers, and principals. The survey results make grim reading.[14] Many instructional leadership roles in schools across Australia today lack support and credibility. And they rarely lead to changes in how teachers teach.

2.1 Government policies under-utilise our best teachers

Today, top teachers can work in a variety of coaching roles in schools. Governments have funded an array of coaching programs over past decades, often targeted at disadvantaged or struggling schools, and in high-priority fields such as maths, science, and cross-curricular skills such as literacy or numeracy. But these programs have grown sporadically, and funding has been short-term (as an example, see Appendix B for a history of Victoria's scattered investments in targeted coaching programs).

The temporary nature of short-term coaching roles, with an unclear promotion path, can turn off top teachers who might otherwise be well suited to these coaching positions.

Roles for top teachers in industrial agreements do not go far enough

In addition to coaching programs, most states and territories have gradually increased the instructional leadership responsibilities of teachers at the top of the career ladder. For example, in 1997 Western Australia created a 'Level 3' category of classroom teacher, and Victoria has had 'Leading Teachers' since 1996 and 'Learning Specialists' since 2018.

But these industrial roles are often spread thinly and under-resourced.[15] They often focus on general teaching skills, rather than on specific subject areas.[16] School principals are often responsible for selecting teachers for the roles, without any external benchmarking.[17]

Since 2013, some teachers have been certified as Highly Accomplished and Lead Teachers (HALTs).[18] But certification isn't intended to change their actual day job, and many certified teachers feel their instructional leadership skills are under-utilised in their schools.[19]

There is not enough data on whether government policies are improving teaching and learning

We know little about the impact of government investments in top teacher roles on teacher professional learning. Anecdotally, experts and qualitative evaluations report that coaching programs have helped

14. Appendix C provides details about the responses, and how we did the survey.

15. For example, WA's Level 3 classroom teacher (L3CT) roles have only 0.1 FTE formal time release.
16. For example, WA's L3CTs must meet five competencies, but there is no requirement for content or subject specialisation.
17. For example, the principal is responsible for teacher selection in Victorian schools.
18. HALTs are certified against the Australian Professional Teacher Standards.
19. Discussed in a report by the Audit Office of NSW (2019). The HALT (2018) census found that almost half of HALTs say they get too little time or opportunity to lead the development of others in their school: AITSL (2019, p. 15).

other teachers,[20] but there are few well-designed research studies that rigorously assess the impact on student outcomes.[21]

More fundamentally, there is little data collected on teaching practices in classrooms at a system level. And some studies show signs that teachers don't have even good information on what constitutes high-quality teaching – and how far away their own practice is from it (see Box 2 for an example). Governments have many high-level definitions of effective teaching, but they are often not specific.

It is important to know the impact of investments in teacher professional learning, given it is hard to do well at a large scale.[22] If done half-heartedly, it can be money down the drain.

Given the dearth of data, we conducted an Australia-wide survey in 2019 to better understand how instructional leader roles are working in schools today. The remainder of this chapter discusses the results.

2.2 New Grattan survey of teachers show what is happening in schools

We surveyed 400 people with instructional leader responsibilities in schools, 260 classroom teachers, and 60 school principals across every state and territory and every school sector in Australia.[23] Across the board, we found problems in the way instructional leaders are perceived, utilised, and supported.

20. For example see Meiers et al (2008), SiMERR National Research Centre (2015), Commonwealth of Australia (2014) and Dinham (2016).
21. One exception is the NSW Literacy and Numeracy Action Plan 2016 evaluation. It found some improvement in student work but not in NAPLAN scores: Erebus International (2017).
22. For example, a US study analysed the impact of professional learning on more than 20,000 teachers, and found that most were not improving: TNTP (2015).
23. The survey of 60 principals is too small to be statistically significant but the findings are highlighted where they are strong.

Box 2: A 2017 phonics check revealed teachers lack self-awareness of their own need to improve

'Phonics' is an evidence-based approach to teaching young students to de-code and construct words when learning to read.

A 2017 phonics check in South Australia found that more than half of participating students failed basic threshold tests in phonics skills.[a] Teachers said they were 'surprised and disappointed' at their students' results, because they were already teaching using phonics methods. Before the study was done, the teachers were not aware of ways to improve their own practice.

A 2016 Australian study showed similar results, with more than half of the teachers who self-assessed as being 'great' in using phonics not meeting basic proficiency in that aspect of their teaching.[b]

a. Hordarcre et al (2017), Wheldall et al (2019).
b. Stark et al (2016). Another study by Fielding-Barnsley (2010) showed similar results.

Of-course, there are likely to be great small-scale coaching initiatives not captured, or easily seen, in our survey sample. However the overwhelming majority of participant responses do not look good.[24]

Classroom teachers believe instructional leaders can help in theory, but in practice they don't change their teaching

Our survey found nearly three-quarters of teachers agreed that, in principle, instructional leaders with deep pedagogical expertise can help improve their teaching (see Figure 2.1).

One teacher said: '*An instructional leader with diverse and effective pedagogical approaches can give perspectives that I am otherwise not familiar with.'* Another said: *'because clearly someone who is an expert in what you are doing for a job can help you – kind of a no brainer!'*

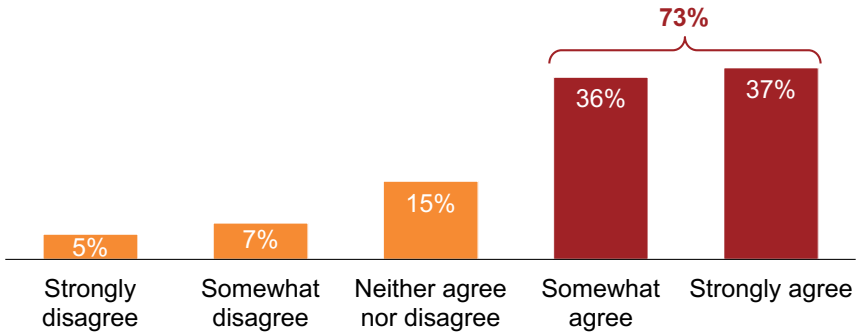
But there is a disconnect. Even though teachers respect instructional leadership roles in theory, they don't report changing their teaching in practice. About 70 per cent of teachers in our survey said that they 'occasionally', 'rarely', or 'never' change their teaching practices based on pedagogical advice from an instructional leader (see Figure 2.2).

It is hard to know why teachers are not changing their practice based on instructional leader support and advice. It could be because the teachers do not have opportunities to follow up the instructional advice with the kind of evaluation, reflection, and collaboration that they need to change their practice. Or it could be that the advice itself is low quality, or not practical, or simply because teachers do not respect it.

One teacher said: *'Often these people are out of contact with what goes on in the classroom itself. They have not been there for so long.'* Another said instructional leaders were *'rarely experienced teachers so [they have] limited views'.*

24. The full survey results are published in Chapter 1 of Goss (2020).

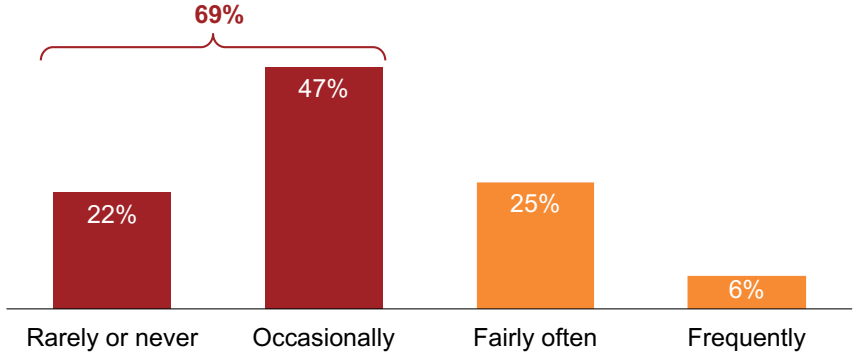
Figure 2.1: Most teachers believe instructional leaders can help . . .
Teacher responses to the statement 'instructional leaders can improve your teaching practice'



Note: Survey question (n=270): Teachers – In principle, do you agree that instructional leaders with deep pedagogical expertise can help you improve your teaching practice?

Source: 2019 Grattan survey on instructional leadership (Goss 2020).

Figure 2.2: . . . but in practice, most teachers don't change their teaching based on instructional leader advice
Teacher responses on how often they change their teaching practice based on advice from an instructional leader



Note: Survey question (n=285): Teachers – How often have you changed your pedagogical practices based on the advice of an instructional leader?

Source: 2019 Grattan survey on instructional leadership (ibid).

Advice from instructional leaders is inconsistent

Many teachers in our survey said the advice they received from instructional leaders was inconsistent. (Box 3 explains how instructional leaders are defined in our survey.) More than half reported that the pedagogical advice they received for a particular learning area over the past five years was 'fairly' or 'very' inconsistent (Figure 2.3).

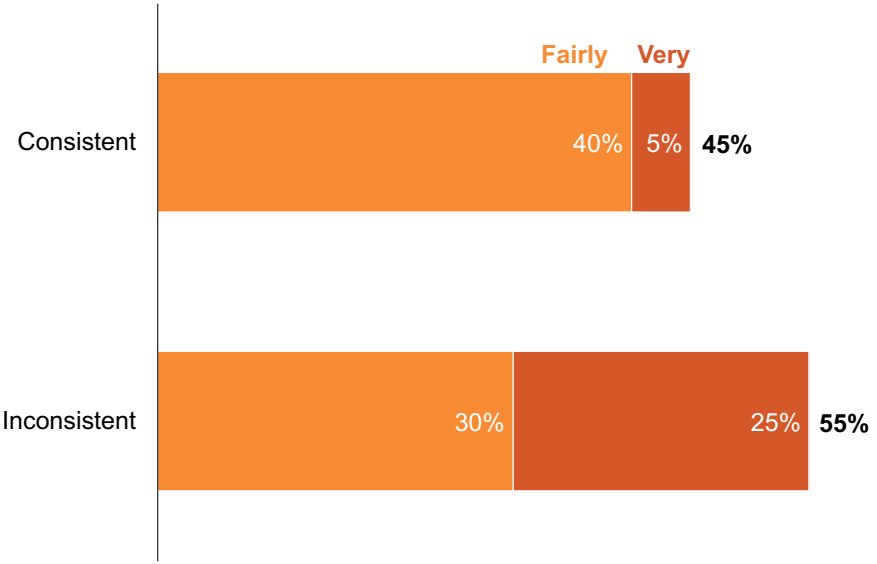
Several teachers questioned the quality and capability of instructional leaders. One teacher said: *'I have never had observations from someone who is familiar with the field and the range of pedagogical approaches.'*

Teachers also pointed to a chopping and changing of instructional leaders with competing views. One teacher said: *'Only two of our five leaders have been at the school for more than three terms.'* Another teacher attributed the instability to the absence of *'agreed pedagogical approaches and interpretations, or common agreements as to what inquiry-based learning, conceptual understanding, and personalised learning constitutes'*. A third teacher said pedagogical advice *'keeps changing depending on the latest fashion being pushed by the education department'.*

Box 3: Definition of 'Instructional leaders' in our survey

'Instructional leaders' in our survey are those, other than school principals, who self-identified as having significant responsibility for directly providing instructional leadership to others in their school. They occupied formal roles as teachers, subject heads, faculty heads, instructional leaders, and deputy principals.

Figure 2.3: Instructional leaders give inconsistent advice
Teacher responses on whether pedagogical advice received from instructional leaders was consistent over the past five years



Note: Survey question (n=281): Teachers – Over the past 5 years, how consistent was the advice you were given on pedagogy for particular learning areas?

Source: 2019 Grattan survey on instructional leadership (Goss 2020).

More funding and longer-term commitment is needed

Principals we surveyed commonly identified insufficient funds as a significant barrier to effective instructional leadership in schools, as seen in Figure 2.4. One said: *'Ideas and programs suffer from lack of funds*.' They were also frustrated by uncertainty about the duration of funds and programs. One principal said: '*There is no long-term government commitment – three or four years is not long enough to embed real change.'*

Instructional leaders do not believe their opinion carries more weight than the opinion of other teachers

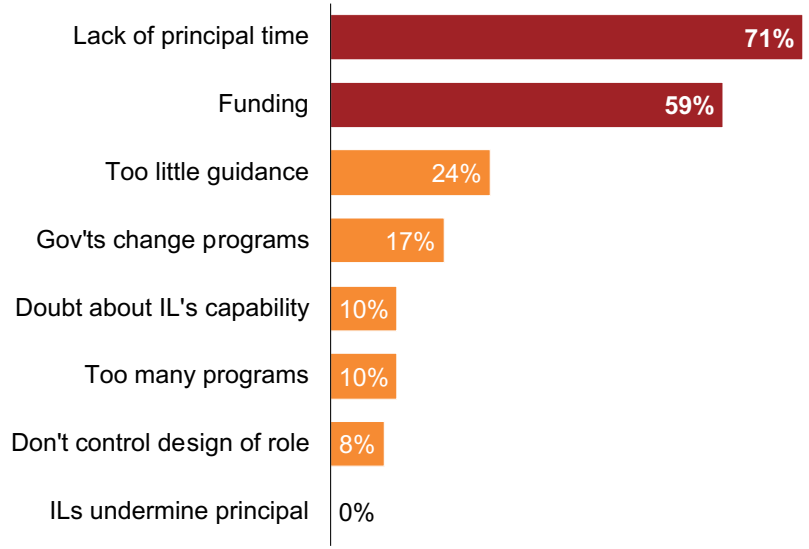
It can be difficult for instructional leaders to effect change if they, and the teachers they work with, do not perceive instructional leaders as having the authority to influence others. The instructional leaders in our survey did not perceive their opinion to be more authoritative than the opinion of others in collaborative team discussions.

Only 18 per cent of instructional leaders reported that their opinion 'carries more weight' than other teachers in collaborative conversations. About 53 per cent of instructional leaders reported that all views were equal (Figure 2.5 on the next page). A significant number of teachers (just over 30 per cent) also reported that all views were equal.

This lack of perceived authority is not universal. Staff at one school we visited viewed their instructional leaders as having more authority than average, with great results (see Box 4).

Figure 2.4: Principals rate their time and available funding as the major barriers to more effective instructional leadership

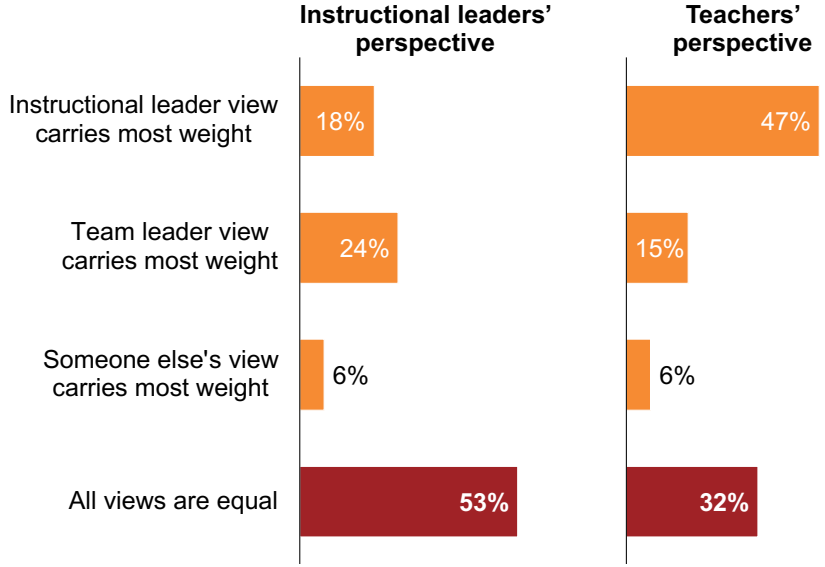
Principal's rating of their top two barriers to working effectively with instructional leaders



Notes: The chart shows the percentage of principals who rated each barrier as one of the top two barriers. This means that the percentages add to 200 per cent. Survey question (n=59): Principals – Please rank the following as barriers to principals working effectively with instructional leaders (ILs), from largest barrier (1) to smallest (8).

Source: 2019 Grattan survey on instructional leadership (Goss 2020).

Figure 2.5: Most instructional leaders, and one-in-three teachers, say that 'all views are equal' in discussions on teaching
Instructional leader and teacher responses to whose view carries the most weight in collaborative team discussions of pedagogy



Notes: Instructional leaders' survey question (n=438): Instructional leaders – When you meet with collaborative teams to discuss pedagogy, whose opinion carries the most weight? Teachers' survey question (n=289): When instructional leaders discuss pedagogy with collaborative teams, whose opinion carries the most weight?

Source: 2019 Grattan survey on instructional leadership (Goss 2020).

Box 4: Staff at one school viewed instructional leaders as having more authority – with great results

Unlike the broader survey results, at one school we visited 19 out of 20 teachers reported they have improved their practices due to the instructional leadership at their school. And all three instructional leaders at this school perceive that instructional leaders' opinions carry the most weight in collaborative discussions. About 70 per cent of the teachers at this school agreed with this statement, compared to only 47 per cent in the broader survey.

One teacher said: *'Our ILs [instructional leaders] have been paramount in developing our teaching practice in an entirely encouraging and supportive capacity.*'

The three instructional leaders are viewed as an integral part of the school leadership team, with pay and status equivalent to deputy principals. And the school has achieved outstanding improvement in student results since it introduced the new instructional leadership model and other major reforms.

2.2.1 Roles not set up for success

Not enough specialist focus

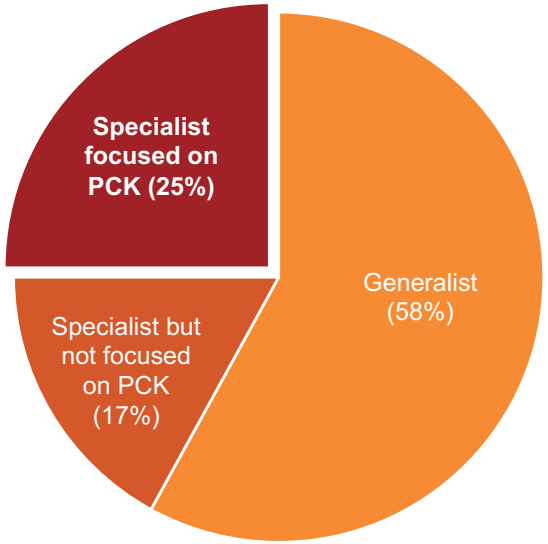
Our survey also explored the extent to which instructional leader roles focus on pedagogical content knowledge (PCK), and not just general teaching skills.

Effective professional learning is often 'content focused', with teaching strategies with specific curriculum content support, helping to develop teachers' subject expertise (see Box 5 on the following page).[25] But the instructional leaders in our survey reported more commonly being recruited to work as generalists (focusing on many aspects of teaching) rather than specialists in PCK. Only 25 per cent said they were recruited with a specialist focus on building teachers' PCK (Figure 2.6).

In one school we visited where instructional leader roles were more generalist than subject-specific, the teachers often thought they were 'already using' the new methods promoted in professional learning. One teacher said: *'This year we [teachers] all looked at the structure of the lesson… I'm now more aware of the structure of the lesson but it has not changed my practice.*' Another said: *'The instructional leader needs to belong to the faculty when providing instruction, as not all instruction applies to all faculties. An area/understanding of expertise and experience would be an advantage.*'

The teachers here are not to blame. It can be easier to see how a new approach is different from current practice if it is practically applied in a specific subject.

Figure 2.6: Instructional leader roles tend to be generalist, rather than focusing on specialised pedagogical content knowledge (PCK)
Nature of the role that instructional leaders were recruited into



Notes: Definition of 'generalist' is working across many aspects of teaching, such as curriculum, pedagogical content knowledge, general pedagogy, student assessment, student behaviour, and cross-curricular skills. 'Specialist' here is defined as a specialist in 1 or 2 area(s) only. Two survey questions (n=454): As an instructional leader, were you recruited to be a specialist in 1 or 2 particular element(s) of teaching practice, or to be a generalist across many elements? If a specialist, which element(s) of teaching practice were you recruited to specialise in?

Source: 2019 Grattan survey on instructional leadership (Goss 2020).

25. Timperley et al (2007), Darling-Hammond et al (2009), Blank and Alas (2009), Yoon et al (2007), Hawley and Valli (1999).

Instructional leaders don't get enough time

Overwhelmingly, instructional leaders in our survey said they were allocated insufficient time to do the job. Many told us that their own time was the single greatest barrier to providing instructional leadership.

One said the greatest barrier was *'high student demand on [Instructional leader] teachers' time',* and added: '*There is insufficient time to understand and support my role.'*

Instructional leaders who have formal time allocations for instructional leadership report spending 10 per cent more time on the role than they are 'formally' allocated, and say that ideally they would spend 35 per cent more time on the role, which is around 2.5 hours more each week (Figure 2.7).[26]

2.2.2 Teachers do not rate their instructional leaders highly

We asked teachers whether the instructional leaders in their school are among the best teachers. As Figure 2.8 shows, more teachers 'strongly disagreed' or 'disagreed' (43 per cent) than 'strongly agreed' or 'agreed' (33 per cent).

It is a problem if teachers lack confidence in instructional leaders. Instructional leaders cannot perform their function well without the confidence of the people they are charged with developing.

Unlike teachers, the principals we surveyed reported high levels of satisfaction with their instructional leaders. And 50 per cent of the principals rated the performance of their instructional leadership program as very effective or better.

26. Among those surveyed, instructional leaders are formally allocated 8 hours per week on average, spend almost 9 hours in reality on those tasks, and ideally want close to 11 hours a week to perform the role.

Box 5: Focus more on subject-specific skills

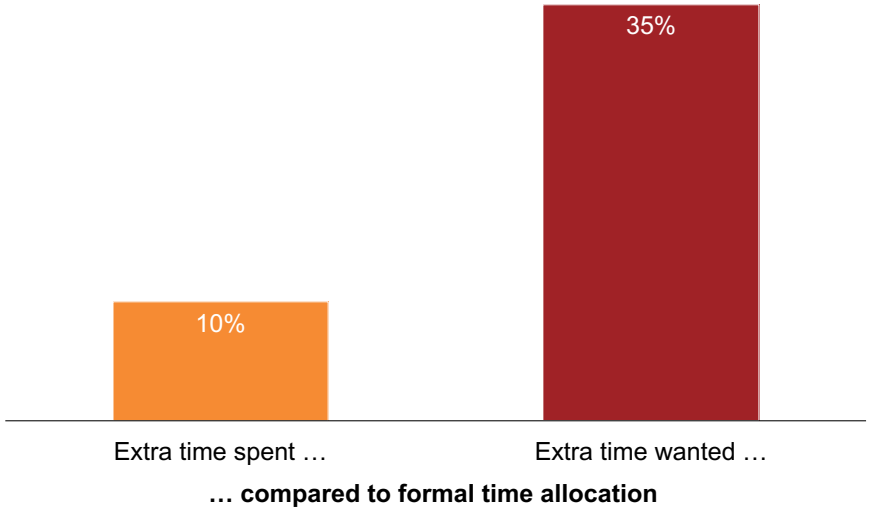
Pedagogical content knowledge (PCK) is an essential element of great teaching.[a] It is also a necessary foundation for teachers to be able to improve how they teach. Some research shows that when teachers have low PCK their engagement in professional learning activities is less effective, and teachers are more likely to think they are 'already doing' new teaching strategies. Timperley et al (2007) emphasise that *'. . . without content on which to base deeper understandings and extend teaching skills, there is no foundation for [teachers to] change'*.

There are some signs that teachers in Australia have been emerging from initial teacher education without strong PCK.[b] And in recent decades, teacher professional learning has focused a lot on building general teaching skills rather than PCK skills.

Data is scant but there some signs that teachers' PCK is low in Australia. For example, one-in-5 of our secondary school maths students in Year 8 are taught by 'out-of-field' teachers.[c] And fewer Australian teachers, on completing their university training, felt less prepared in PCK (63 per cent) than the international OECD average (71 per cent).[d]

a. Baumert et al (2010); Goulding et al (2002); Hill et al (2005); and Harris and Sass (2011).
b. There are now efforts to change this. Since 2015 the Australian Government has required all teachers to graduate with at least one area of specialisation: Teacher Education Ministerial Advisory Group (2015).
c. Thomson et al (2017, p. 181).
d. OECD (2019, Table I.4.20).

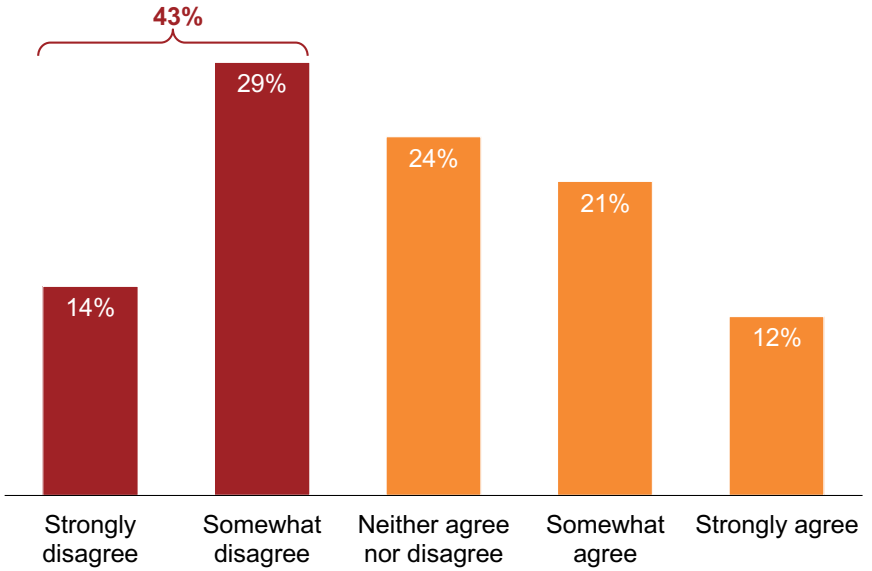
Figure 2.7: Instructional leaders want more time
Extra time spent on, and extra time wanted for, instructional leadership compared to formal time allocation, percentage



Notes: Survey question (n=232): Instructional leaders – Please estimate your hours per week for instructional leadership directly to other teachers. Excludes instructional leaders who reported having no formal time allocation and who appeared to misinterpret the survey question.

Source: 2019 Grattan survey on instructional leadership (Goss 2020).

Figure 2.8: Teachers do not believe their instructional leaders are among the best teachers
Teacher responses to whether the instructional leaders in their schools are among the best teachers



Note: Survey question (n=245): Teachers – Do you agree that the instructional leaders in your school are among the best teachers?

Source: 2019 Grattan survey on instructional leadership (ibid).

The conflicting results between principals and teachers could have several explanations. One is that teachers believe instructional leaders get promoted because they are 'mates' of the principal. One teacher said: *'Sometimes I feel like the people chosen are either well liked, [or] have been in the school a while and are "due" for a promotion.'*

A second explanation is that teachers are unaware of how good a teacher their instructional leaders actually are. As one teacher said: *'I haven't seen these teachers teach.*'

A third is that they are those appointed as instructional leaders are not the right fit, but principals are unaware.

Getting the right people is harder if the roles are unattractive

If more great teachers were attracted to, and applied for, instructional leader roles, selecting the right people would easier. But our survey shows the roles are not considered attractive.

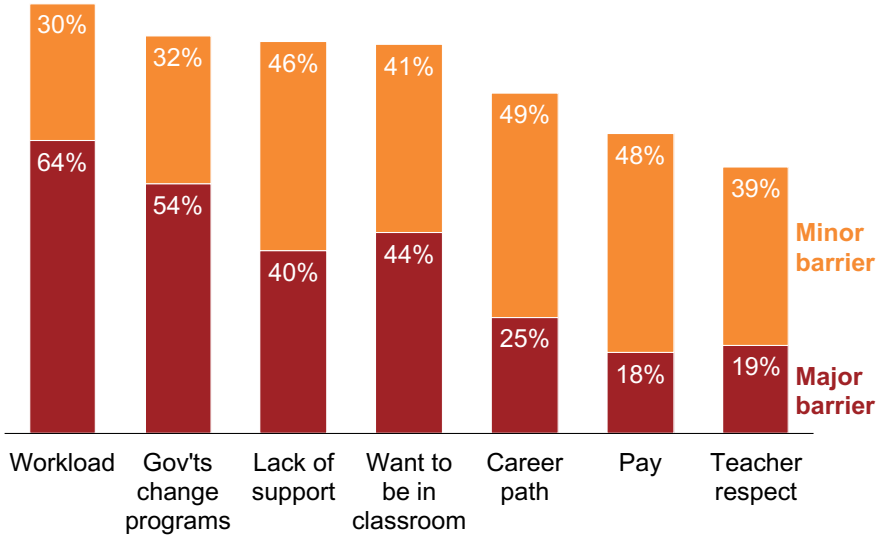
We asked teachers to rate seven potential barriers to becoming an instructional leader. The responses show that all seven potential barriers are a considerable drag on the appeal of the role (Figure 2.9).

Four of seven potential barriers were rated as major or moderate barriers by more than 85 per cent of teachers. Heavy workload was rated a major barrier by 64 per cent of teachers. More than half of teachers (54 per cent) rated government chopping and changing programs as a major barrier.

Our school visits revealed anecdotal stories of few teachers applying for new instructional leader roles. A school leader at one of the schools we visited told us: *'No-one is applying for the Learning Specialist roles . . . We put out a job advertisement and receive five or less applications. Two can be discounted as they don't have the right background. Two are left to consider if you are lucky.'*

Figure 2.9: Teachers see many barriers to taking on instructional leader roles

Teacher responses on barriers to becoming an instructional leader



Notes: Issues are shown in decreasing order of how commonly teachers cite them as being either a major or a minor barrier. Survey question (n=269): Teachers – Which of the following issues are barriers to attracting the best teachers to instructional leader (IL) roles?

Source: 2019 Grattan survey on instructional leadership (Goss 2020).

The school leader identified pay as a key barrier, with only a small salary increase when highly experienced teachers move from other positions, for a lot of extra work. One teacher at that school said: *'These roles are not very attractive . . . because of workload, resourcing, and compensation.'* The principal said she sees many other principals filling the instructional leader roles with less-experienced teachers, who are more willing to apply.

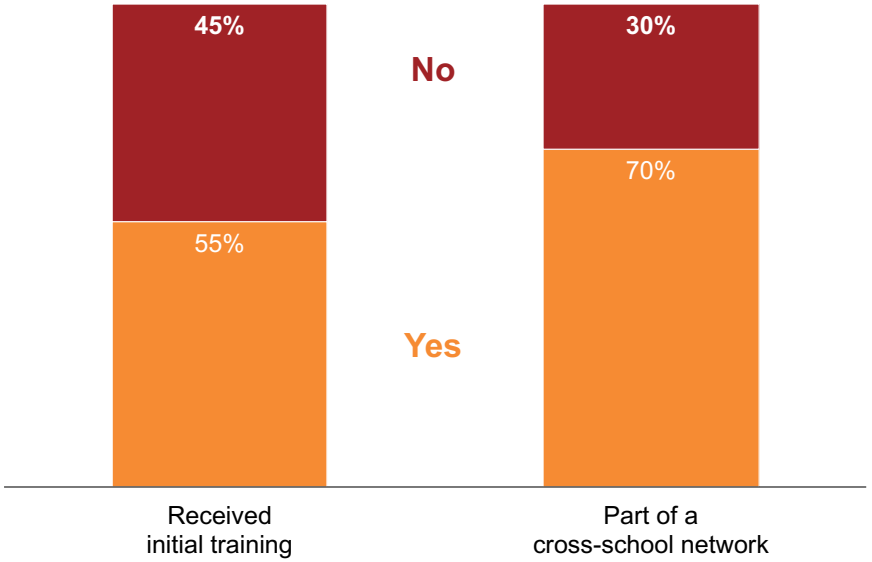
2.2.3 Instructional leaders get poor support

Too little training, network support, or teacher time

Too few instructional leaders receive additional training when they start their new role. Forty-five per cent of instructional leaders in our survey said they received no additional training at all (Figure 2.10). About 30 per cent are not in a cross-school network with other leaders.

In addition, instructional leaders report that classroom teachers do not have enough time to engage with them for their development.[27] If they are to do their jobs well, then adequate teacher time release is key. Teachers in our survey said they spent about one hour per week on teacher professional learning activities.[28] This is about average by international standards, but significantly less than the highest-performing East Asian systems.[29] Australia could do better.

Figure 2.10: Too many instructional leaders miss out on initial training or participating in a cross-school network
Instructional leader responses



Notes: Survey question (n=417): Instructional leaders – In which area(s) were you provided initial training for the instructional leader role? Survey question (n=427): Instructional leaders – As an instructional leader, do you participate in a cross-school network with other leaders?

Source: 2019 Grattan survey on instructional leadership (Goss 2020).

27. See Question 14 in Chapter 1 of the Technical Supplement to this report: Goss (2020).
28. Our survey defined 'professional learning activities' as including time for professional learning communities, mentoring, coaching, modelling and observing practice, and seminars. Our findings are similar to those in the OECD (2019) Teaching and Learning International Survey once methodological differences in the survey questions are taken into account.
29. OECD (ibid).

Instructional leaders get little expert advice

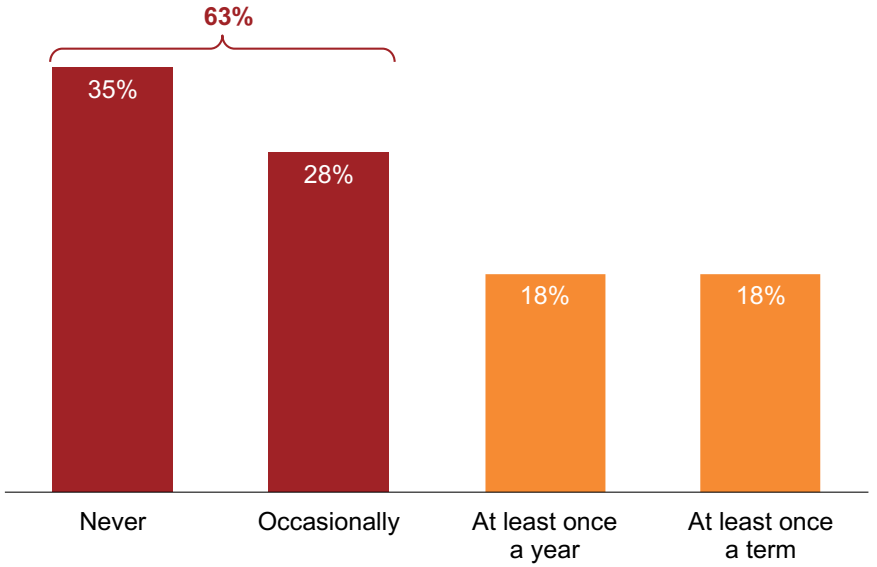
One of the key findings of our survey is that instructional leaders – providing direct development to teachers – operate without much oversight.

More than 60 per cent of the instructional leaders we surveyed said an external expert in the same field 'never' or only 'occasionally' checked or questioned their pedagogical advice to other teachers (Figure 2.11).

Only one quarter of the principals we surveyed said they incorporated external expert views into their instructional leaders' performance appraisal.

Instructional leaders do not appear to have much oversight from expert networks. Of the instructional leaders we surveyed who participate in a network, less than one in five participate in a network that is led (or co-led) by an expert. Nor do instructional leaders get a lot of time with school leaders, as Figure 2.4 on page 17 shows.

Figure 2.11: External experts rarely check instructional leaders' practice
Instructional leader responses on how often external experts check or question their pedagogical advice to teachers



Note: Survey question (n=429): Instructional leaders – As an instructional leader, how often has an external expert checked or questioned your pedagogical advice to other teachers, or suggested you use a different approach?

Source: 2019 Grattan survey on instructional leadership (Goss 2020).

3 A new expert teacher career path to lift teaching practice

We propose two new roles for the best teachers to improve teaching of the whole workforce: Master Teachers, who would work across schools at a regional level as overall subject leaders; and Instructional Specialists, who would work within schools.

This new model would overcome many of the problems identified in Chapter 2. Teachers in the new roles would have the dedicated day job of developing others in every school. The new roles would focus on specific subjects. The selection process would be rigorous. Successful candidates would have stable jobs with generous time release and pay, as well as training and mentoring from experts in the same field.

Every Instructional Specialist would benefit from guidance from Master Teachers. And every teacher would benefit from better professional learning.

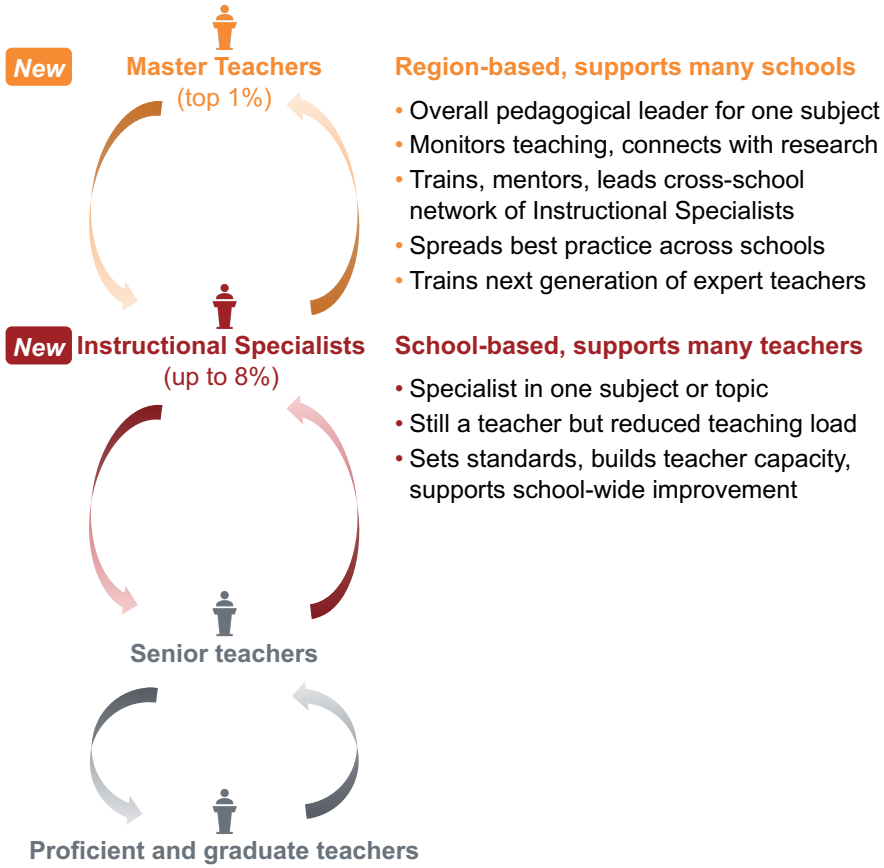
3.1 Two new roles to create an 'expert teacher' career path

The two new positions would create a cascading system of expertise to help all teachers improve (see Figure 3.1).

Master Teachers (1 per cent of the workforce) would be at the pinnacle of the teacher career path and work in their region to improve teaching practice across many schools in a subject.[30] They would have no direct teaching load, but would be the pedagogical leaders in their subjects.

Instructional Specialists (limited to 8 per cent of the workforce) would work to improve teaching practice in one subject in their school. They would be mentored by a Master Teacher. Instructional Specialists

Figure 3.1: The new career path would have two new positions that would facilitate two-way information flows



30. 'Subject' here refers to the key learning domains, with the exception of secondary sciences, and secondary humanities and social sciences. In these domains there would be new positions in physics, chemistry and biology, and in history, geography, and economics and business.

would split their time between classroom teaching and instructional leadership where they would demonstrate, coach, train, observe, and give feedback to other teachers.

Importantly, most of the new positions would focus on subject-specific teaching skills, a key area for improvement in Australia.

The two new positions would create multi-dimensional information flows. Master Teachers would help to connect research and evidence to schools; and Instructional Specialists would communicate school needs and promising practices to Master Teachers. There is also lateral peer collaboration with other experts in the same field to share learnings and generate new knowledge.

A key purpose of the new model would be to test and evaluate the precise methods for teacher development. For example, the model would test the right split of instructional leader time between coaching and observation. People in the new roles would also help to identify new areas for research more broadly, helping to build the evidence base more broadly.

The expert teacher career path would mean many of Australia's best teachers spending less time as classroom teachers. Some students would miss out on the benefits of being taught by them directly. But by helping other teachers improve, the best teachers would reach more classrooms and more students, and drive overall gains in student learning, as discussed in Box 6.

Every teacher would benefit from better professional learning and more practical support

Under our model, every teacher would work closely with an Instructional Specialist in their subject area for more than one hour per week, or about 54 hours per year.[31] Every teacher would be observed,

31. For more detail, see Appendix D.

Box 6: The benefits outweigh the costs

Several US studies show that the benefits of taking the best teachers out of their classrooms to develop other teachers outweigh the costs.[a] One key study examined a year-long teacher development program in Cincinnati Public Schools where highly effective mathematics teachers observed and gave feedback to mid-career teachers in other schools.[b] It found that the benefits of improvements in student scores were greater than the costs of high-performing teachers teaching fewer students themselves.[c]

Another study in Tennessee found meaningful lifts in student outcomes for low performing teachers when they worked together with highly skilled teachers at their school.[d]

A third study compared different models that extended the reach of highly effective teachers in four US state districts.[e] Student results improved more when highly effective teachers were taken out of their classrooms part-time to coach small collaborative teams of teachers than when the model was not in place.[f] The coaching model also performed better than when the highly effective teachers *directly* taught very large groups of students.

a. Taylor and Tyler (2012), Backes and Hansen (2018), Biancarosa et al (2010).
b. Taylor and Tyler (2012).
c. The study conservatively assumed that the highly effective teacher was drawn from the top 25 per cent of Cincinnati's teachers and their replacement was from the bottom 25 per cent.
d. Test scores in maths and reading improved 0.12 standard deviations in the year of treatment for the students of target teachers. Students of the higher-skilled teachers also benefited but to a lesser extentPapay et al (2020).
e. Backes and Hansen (2018).
f. In the multi-classroom model, team teachers' students scored 0.11 standard deviations higher in mathematics: Backes and Hansen (ibid). Another study by Biancarosa et al (2010) showed similar findings.

coached, and given feedback. They would get practical support in designing rigorous lesson plans, selecting materials, interpreting data, and diagnosing student needs. Master Teachers would visit their school each year, highlighting relevant research and tailoring it to local needs.

Beginning and early career teachers would have extra opportunities to be mentored by, and work intensively with, Instructional Specialists.

3.2 How to implement the Instructional Specialist roles

Figure 3.2 on the following page summarises how to define the right role for Instructional Specialists, choose the right people, and provide them with the right supports and constraints.

3.2.1 The right role for Instructional Specialists

Right scope

Instructional Specialists would have a dual role. They would be both a teacher (although with a reduced classroom load) and an instructional leader. Each Instructional Specialist would be responsible for improving teaching practice – and ultimately student learning – in one school in one subject.

Instructional Specialists would improve teaching in three key ways. First, they would demonstrate good teaching practice. To improve, teachers need to know the goal they are aiming for.

Second, Instructional Specialists would identify teacher development needs, and help them improve by training, observing, coaching, and giving feedback.[32] In diagnosing teacher needs, they would draw on guidance from external subject experts who visit the school every year (Master Teachers, discussed in the next section).

Third, they would be a formal part of the school leadership team to help influence school-wide processes and priorities in their subject area. They would help to review teaching approaches, lesson plans, and class materials. They would take on some (but not all) of the instructional leadership responsibilities for their subject that currently fall on school principals, their deputies, and heads of learning.

A key part of the Instructional Specialist role would be to build the skills of early career teachers.[33] They would also help to train future Instructional Specialists, discussed further in Chapter 5.

One school we visited systematically used instructional leaders in line with our model. They were part of the school leadership team, influenced school-wide directions in specific subjects, and drew on expert input followed by in-school seminars with one-on-one coaching support (see Box 7 on page 31).

Most Instructional Specialists would focus on subject expertise

Instructional Specialists would focus on building teachers subject expertise, and they themselves would need to be expert in their subject. Within each subject, their work would support implementation of the curriculum. In secondary schools they therefore would work closely with heads of faculties and heads of subjects (see Figure 3.3 on page 29).[34] Their work would not replace head of faculty roles, but complement it. Head of faculty responsibilities for curriculum and other administration would remain the same.[35]

32. For discussion of implementing evidence in schools, see Sharples et al (2019).

33. Sims and Fletcher-Wood (2018, p. 19) highlight the potential benefits of coaching programs for novice teachers, given they benefit from one-on-one interactions and explicit modelling of techniques. Instructional Specialists would focus less effort on teachers who show no inclination to improve, because coaching has the biggest impact with willing participants in committed schools: Kennedy (2016), Kennedy (2019), Kraft et al (2018, pp. 27–28).

34. This picture would look quite different for primary schools.

35. Collaboration needs to be done carefully, because existing faculty or subject heads may already see themselves as the instructional leader in their subject, even if

Figure 3.2: Key elements for implementing Instructional Specialist roles

Right role

Right scope

- Improve teaching practice in a school in a subject – a specialist, not a generalist
- Dual role as an instructional leader, and a teacher with a reduced classroom load
- Set standards, build teacher capacity (with extra focus on early career teachers) and support school-wide improvement
- Develop future Instructional Specialists

Role set up for success

- Stable role with 3-to-5-year appointments, recognised in industrial agreements
- Substantial time release (usually 0.3-to-0.5 FTE) to typically support 10-to-20 teachers
- Attractive salary of up to $140,000 (depending on time release)
- Teachers have time to work with the Instructional Specialist
- Responsible for teacher improvement but not appraisal – not a line manager
- Report to principal or deputy principal and part of senior leadership team

Right people

Right skillset

- Strong teaching capability proven by certification as a Highly Accomplished Teacher (HAT)
- Strong pedagogical content knowledge in the specialist subject
- Strong capabilities to lead adult learning (including emotional intelligence)

Rigorous selection process

- School advertises a position for a specific subject
- Competitive process is open to any HAT-certified teacher who can show the right skillset
- School-based selection panel includes a Master Teacher in the relevant subject

Right supports and constraints

Right supports

- Intensive up-front training that includes coaching skills and subject-based research
- Ongoing professional development and mentoring from a Master Teacher
- Peer support from cross-school networks to identify and share good practice
- Training for principals on how to support Instructional Specialists

Right constraints

- Work is guided and overseen by a Master Teacher in same subject area
- Master Teacher provides input into annual performance review
- Work aligned with existing school-wide priorities

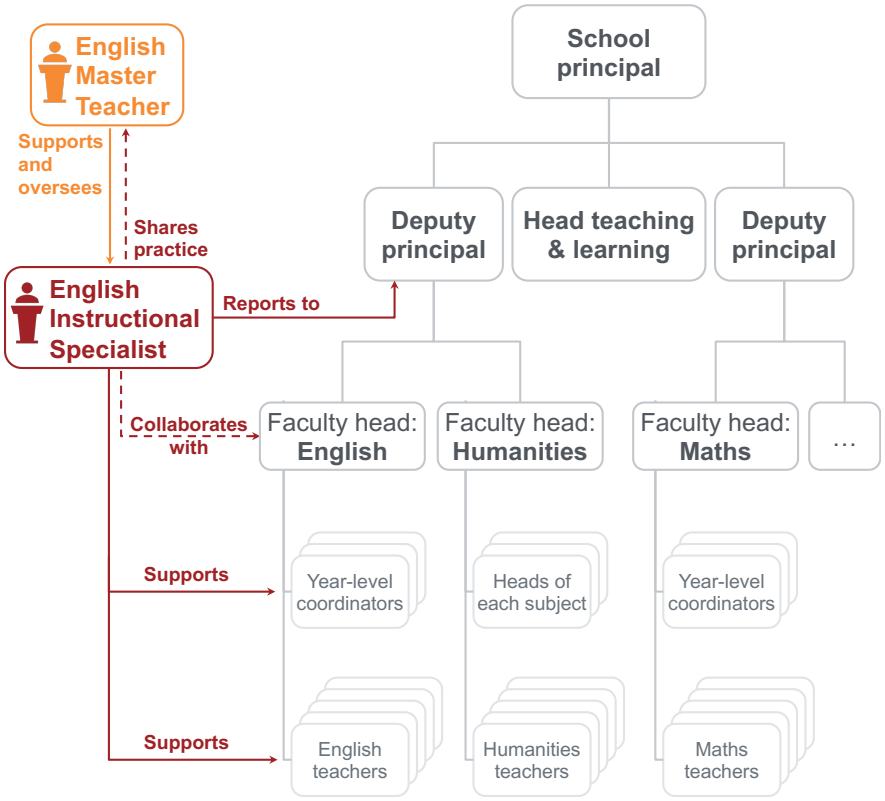
Most Instructional Specialists would focus on key learning domains such as English, maths, humanities, or science, but large secondary schools would have Instructional Specialists in other areas such as technology, health and physical education, and the arts. The remaining Instructional Specialist roles would support the cross-curricular priorities of literacy and numeracy, plus general teaching skills (called 'professional practice') including assessment and student feedback.

Setting the role up for success – sufficient time release

Instructional Specialists would need adequate time release to do their jobs well.[36] We estimate each Instructional Specialist would need time release of between 0.3 and 0.5 FTE (full-time equivalent) so that their job is not an add-on to their busy teaching schedules. For example, an Instructional Specialist with 0.5 FTE time release would spend around 19 hours each week developing other teachers in their school (see Figure 3.4). Instructional Specialists would still carry a teaching load, helping them to remain up-to-date with current practice and to build trusting relationships with other teachers.

The number of Instructional Specialists allocated to each school – and their combined time release – would be proportional to the number of full-time equivalent teachers in the school (see Figure 3.5), with adjustments for socio-economic status and school needs if required. On average, we would propose an overall school allocation of 0.3 FTE Instructional Specialist time for every 10 FTE teachers.[37] This would enable most schools to have Instructional Specialists in core subjects.[38]

Figure 3.3: Instructional Specialist positions within a large secondary school structure

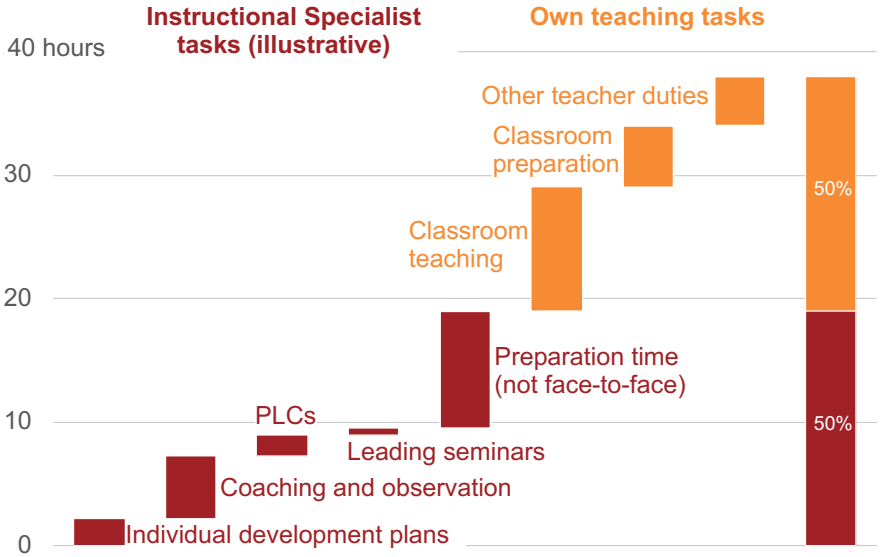


Notes: In large secondary schools with seven or more Instructional Specialist roles, the Instructional Specialists should report to a deputy principal, to avoid the principal having too many direct reports. In smaller secondary schools, or schools with three or fewer Instructional Specialist roles, the Instructional Specialists should report directly to the principal. The principal should decide the reporting arrangements in secondary schools with an intermediate number of Instructional Specialist roles. In most primary schools, Instructional Specialists should report to the principal.

they don't have the time, skill set, or mandate to do the job that is required. Faculty heads would continue to report directly to their school's senior leadership team.

36. Kraft et al (2018, p. 27) emphasises that simply adding coaching to administrators' existing responsibilities with little training or support is unlikely to result in high-quality or sustained coaching.
37. We estimate this amount of Instructional Specialist time based on an intensive model of teacher professional learning in the school, see Appendix D.
38. The Technical Supplement to this report provides further detail: Goss (2020).

Figure 3.4: How a typical Instructional Specialist might divide their time
Hours per week by activity for an Instructional Specialist with 0.5 FTE time release (illustrative)



Notes: Assumes standard week of 38 hours. These time splits should be taken as illustrative and are based on the analysis in Grattan's previous report Making time for great teaching. *PLCs (Professional Learning Communities) includes supporting teacher's lesson planning groups as well as research groups.*

Source: Jensen et al (2014), Grattan analysis.

Figure 3.5: The number of Instructional Specialists would grow in line with the number of teachers in a school

A school with this many teachers…	… would have this many Instructional Specialist FTE…	… which would equate to this many Instructional Specialist roles: Time split 1: 50% for IS role, 50% teaching	Time split 2: 30% for IS role, 70% teaching
10	0.3	0.6	1.0
30	0.9	1.8	3.0
60	1.8	3.6	6.0
90	2.7	5.4	9.0
150	4.5	9.0	15.0

Note: Our model assumes a combined time allocation of 0.3 Instructional Specialist FTE for every 10 teachers.

Source: Grattan analysis.

Instructional Specialists would have to have enough time to support classroom teachers. But the reverse is also true: classroom teachers would need to have enough time to make use of this support. In practice, schools may need to find new ways to give classroom teachers enough time to engage with Instructional Specialists.

Our model assumes that teachers would engage with Instructional Specialists for one hour per week, and more broadly in teacher professional learning activities for about 2.5 hours per week. This would require more teacher time for professional learning than is available today – our survey showed that teachers typically spend only one hour each week on professional learning. To create more teacher time, schools and governments should ensure teachers' time is used as efficiently as possible.[39]

Setting the role up for success – making the role attractive

To attract great candidates, Instructional Specialist roles should be set up as three-to-five-year appointments. In the longer term, the roles should be embedded in industrial agreements.

The roles should also attract significant extra pay to recognise the higher-level responsibilities. Pay would be up to $140,000, about $40,000 more than the highest standard rate for teachers today.[40] This would make Instructional Specialists' salary competitive with the earnings of high performing university graduates in other professions in Australia, as well as teachers internationally.[41]

Box 7: One school shows how instructional leaders can improve teaching practice

One school we visited has adopted an instructional leadership model very similar to the one proposed in this report. Instructional leaders at the school are deeply expert in their specialist fields, and work as part of the senior school leadership team to make major shifts in teaching, particularly in phonics and explicit instruction.

The school's approach to improving teaching is very methodical. First, external experts are engaged to identify the size of the improvement needed, and to advise on how to introduce new teaching techniques.

Second, the school uses a 'gradual release model' of teacher development, starting with all-staff seminars on the new practices, followed by teaching demonstrations, and intensive tailored support to individual teachers in their classrooms. Instructional leaders offer teachers one-on-one coaching and feedback. Teachers can opt-in to receive extra coaching.

One teacher at the school said: *'A few years ago, if we were told we were doing phonics, people would be lost. The professional development we've had with the instructional leaders, whole staff, and planning days. . . we've understood it better when planning and feel we can do it.'*

39. See Jensen et al (2014).
40. The extra pay would vary depending on the amount of time release. For example, 0.2 FTE equates to extra $20k, and 0.5 FTE equates to extra $40k. In most states and territories, an additional $40,000 would mean a total salary for Instructional Specialists would be between $137,000 and $146,000. See Goss and Sonnemann (2019, pp. 25–30) for more detail.
41. Top teacher pay for teachers in their 20s is not far behind their university peers, but by the time they hit their 30s and 40s their pay is far behind workers in other

Setting the role up for success – other considerations

Instructional Specialists would be responsible for teacher improvement but not teacher appraisal, so that development and evaluation could be kept separate.[42] In schools where the same person performed the Instructional Specialist role and faculty head role, there would need to be clear delineation between the functions of 'appraiser' and 'developer'.

Instructional Specialists would occupy senior roles in a school. In larger schools (including most secondary schools), they would report to a deputy principal. In smaller schools, they would be comparable in seniority to deputy principals, and report directly to the principal.[43]

Lastly, school leaders should opt-in to the program, to ensure that only those schools which are invested in the roles have them (discussed in Box 8).

Box 8: Instructional Specialists must be supported by the broader school environment

Instructional Specialists should work only in schools where the broader school environment is supportive.[a]

First, there would need to be strong school leadership that sets high expectations for teaching and learning.

Second, there would need to be a culture of continuous improvement and trust among staff, where teachers could be open, recognise personal weaknesses, and get help to improve.[b]

Third, early-adopter schools would need to have an agreed instructional model. It is much easier to provide effective specialist advice when all teachers share a common language and have common expectations of what effective practice entails.

a. Dinham et al (2008) emphasises the importance of strong school leadership and the assistance of colleagues and teaching teams for teacher success.
b. Bryk and Schneider (2003), Kraft and Papay (2014). Kraft et al (2018, p. 28) emphasises that coaching requires teachers to be willing to open themselves to critique and recognise personal weaknesses.

professions, see Goss and Sonnemann (2019, p. 26). Australia's salaries for top teachers are low relative to international comparisons: they are only 40 per cent higher than the starting salary, well below the OECD average of 80 per cent: OECD (2018, Section D3.2). For a recent paper on this issue, see Ingvarson (2018).

42. If teachers see coaching's cycles of observation and feedback as part of a process to get rid of ineffective teachers, they may be unwilling to acknowledge a coach's critiques or try new instructional techniques. See Stecher et al (2019) on the Gates Foundation's work; and Kraft et al (2018).
43. Smaller schools here includes those with up to three Instructional Specialists.

3.2.2 The right people as Instructional Specialists

Right skillset

Instructional Specialists would need a 'T-shaped' professional profile: strong skills across all teaching standards, plus deep expertise in their specialist subject. They would also need to have the capabilities, including emotional intelligence, to teach adults.

At present, the best way for a teacher in Australia to prove they have strong teaching skills is to be certified under the Australian Professional Standards for Teaching as a Highly Accomplished or Lead Teacher (HALT).[44] HALT certification should be a pre-requisite for applying to be an Instructional Specialist, but the current process must be made more efficient (see Box 9).

A rigorous selection process

Schools would advertise Instructional Specialist positions in a specific subject. The role would be tied to the school and driven by school need – the title of Instructional Specialist would not follow the person.[45] Numbers of Instructional Specialists would be limited to 8 per cent of the workforce. This would help to prevent a cost blowout such as occurred with the Advanced Skills Teacher scheme of the 1990s.[46]

The selection process should be competitive and open to any teacher who could demonstrate the right skillset. And to prevent principals from just choosing their favourite teachers, a Master Teacher in the relevant subject would sit on every selection panel.

44. One rigorous study shows that US certification efforts were an effective way to identify more effective teachers: Goldhaber and Anthony (2005). In Australia, all states except Victoria and Western Australia certify teachers as HALTs.
45. If a teacher moved to a different school, the title and its pay would not follow them.
46. The national Advanced Skills Teacher scheme was intended to increase top-end pay for only the highest-performing teachers. But it was poorly implemented. In Victoria, virtually everyone who applied got the pay rise: Ingvarson (1996).

Box 9: HALT certification should be a pre-requisite for the new roles, but must become more efficient

To be eligible for the new roles, teachers should be certified as a Highly Accomplished or Lead Teacher. There would need to be about 30 times more HALTs by 2032 than today to fill the anticipated 20,000+ Instructional Specialists and Master Teacher roles.[a]

The certification system needs to be more efficient. Anecdotal reports and a NSW report indicate that applications can take up a lot of teacher time.[b] Ways to improve efficiency should be explored, including simplifying the administrative requirements, better preparing teachers for the application process, and adequate resourcing for processing applications.

Efforts to improve efficiency should not come at the expense of rigour. Standards must be high to ensure only the right people are selected.

a. See Chapter 4 for details of our proposed roll-out process.
b. Audit Office of NSW (2019, p. 14).

3.2.3 The right supports and constraints for Instructional Specialists

Sufficient support

Instructional Specialists should get intensive training before they start the job, focusing on the 'soft skills' needed to coach and lead others in schools, as well deep pedagogical content knowledge.[47]

A Master Teacher would give Instructional Specialists ongoing professional development through cross-school networks, including workshops, mentoring, coaching, and in-school support. The cross-school networks would also serve as a source of peer learning for Instructional Specialists.

Principals would receive training to help them understand how they could get the best out of Instructional Specialist roles.

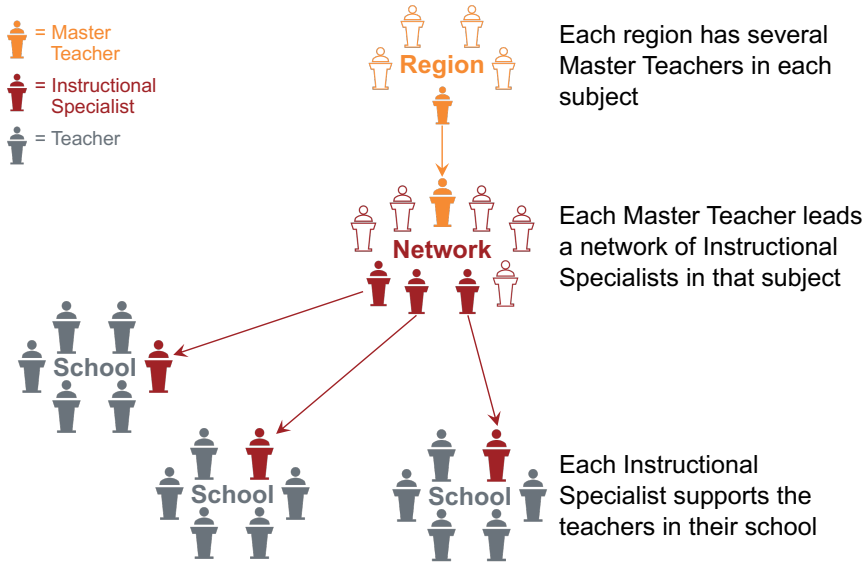
Appropriate constraints

Constraints would help Instructional Specialists do their jobs better and bring greater consistency where the evidence is clear.

Each Instructional Specialist would be overseen by a Master Teacher (see Figure 3.6). This would make practice across schools more consistent and help to ensure that Instructional Specialists used evidence-based techniques.

Instructional Specialists would report to the school principal or a deputy principal, but Master Teachers should also contribute to Instructional Specialists' annual performance reviews by providing their expert opinion. This would help to enhance the consistency of expectations and performance reviews across schools.

Figure 3.6: Master Teachers would guide Instructional Specialist advice in schools and provide an extra layer of quality assurance



47. People can be taught the skills for leading others: Lacerenza et al (2017).

3.3 How to implement the Master Teacher roles

Figure 3.7 on the next page summarises how to define the right role for Master Teachers, choose the right people, and provide them with the right supports and constraints.

3.3.1 The right role for Master Teachers

Right scope

Master Teachers would be the overall leaders of their subjects, working at a regional level. Each Master Teacher would be responsible for lifting student outcomes by improving teaching practice across many schools in one subject. Master Teachers would help in translating research evidence so that it was easy for schools to use. And they also help to identify emerging practices in schools to test further share across the broader system.

Master Teachers would split their time across five main tasks, with a similar amount of time on each task. They would:

- Spend at least two days per year in each school in their network, to understand current teaching practice and common teacher needs, to model better practice, and to track improvements;
- Collaborate with academics, curriculum experts, and relevant subject associations to identify the biggest areas for teaching improvement and to stay abreast of the research;
- Provide ongoing support to the Instructional Specialists (or school leaders) in their network to improve their teaching and help them interpret how to apply the research evidence, and to share effective practice across schools;
- Lead and coordinate professional learning for the Instructional Specialists in their network, for example by running a full-day working session every month;
- Prepare the next generation of Instructional Specialists and Master Teachers.

Fulfilling these tasks would be a full-time job, so Master Teachers would have no direct teaching load. But their teaching skills would have to stay current. Accordingly, they would spend time in classrooms weekly if not daily, either demonstrating great practice or observing teachers.

Setting the role up for success

Each Master Teacher would support a network of between 15 and 30 primary or secondary schools. This span of influence would enable at least two full-day visits to every school in the network each year, as well as regular remote interactions with every school.

Working through an Instructional Specialist is preferable to working directly with teachers; this model would both empower the Instructional Specialist and reduce the risk of teachers ignoring the advice of some ‘blow-in know-it-all’. The larger schools in each network would have an Instructional Specialist in the Master Teacher’s domain of expertise; that Specialist would be the Master Teacher’s main point of contact. Smaller schools would not have a dedicated Instructional Specialist, so the Master Teacher would support whoever the school leadership team nominated.

Master Teachers would be highly skilled and highly valuable, and their pay should reflect that. They should be paid about $180,000 per year – enough to attract great candidates who have many other options.[48]

Master Teacher pay would be higher than the pay of some principals and most deputy and associate principals. The higher pay rates would be affordable, because there would only ever be about one-eighth as

48. Our recommended salary is $80,000 more than the highest standard pay for teachers. See Goss and Sonnemann (2019, pp. 25–30).

Figure 3.7: Key elements for implementing Master Teacher roles

Right role

Right scope

- Improve teaching practice across many schools in one subject by applying the existing evidence-base and identifying and sharing effective new approaches
- No direct teaching load, but regularly in classrooms to demonstrate great practice
- Coach, mentor, observe, and give feedback to Instructional Specialists
- Develop the next generation of Master Teachers and Instructional Specialists

Role set up for success

- Stable role with 5-year appointments, recognised in industrial agreements
- Manageable span of control – typically support 15-to-30 schools
- Highly attractive salary of $180,000
- Work directly with Instructional Specialists (or faculty head if school has no Specialist)
- Report to regional leadership

Right people

Right skillset

- Outstanding teaching expertise proven by certification as Lead Teacher (LT)
- Deep pedagogical content knowledge plus knowledge of the relevant evidence base
- Proven capability to lead adult learning
- (Ideally) Track record of success as an Instructional Specialist and/or sponsorship from an existing Master Teacher

Rigorous selection process

- Region advertises a position for a specific subject and location
- Competitive process open to any LT-certified teacher who can show the right skillset
- State-wide selection panel with existing Master Teachers plus subject experts

Right supports and constraints

Right supports

- Intensive up-front training on coaching and system-level change management
- Ongoing professional development from researchers and international experts
- Peer network of Master Teachers to identify and share best practices

Right constraints

- Ongoing peer review to ensure advice to Instructional Specialists is evidence-based
- Impact on outcomes and teaching practice evaluated at a regional level
- Annual performance review includes input from schools and Instructional Specialists

many Master Teachers as principals and deputy principals.[49] However long-term we suggest pay for school leaders should be reviewed to ensure the relativities are sensible.[50]

Master Teachers would report to regional departmental leaders. To provide certainty, they would be appointed for fixed terms of five years.[51] And the job should be part of the industrial agreements.

3.3.2 Selecting the right people as Master Teachers

Master Teachers would be the overall subject leaders for their regions – for example in primary school maths or secondary school geography. They should be outstanding teachers – certified at Lead Teacher level – and they would have to know the curriculum well, have deep pedagogical content knowledge, and stay on top of the research evidence.[52] They would also have to demonstrate the emotional intelligence to help other teachers learn and change their practice.

The best way for interested candidates to develop Master Teacher capabilities would be to work as a dedicated Instructional Specialist for several years under the guidance of an existing Master Teacher. That Master Teacher could identify when the Instructional Specialist was ready to step up to the higher role. If the broader network leadership agreed, the Master Teacher should sponsor the Instructional Specialist and start to prepare them for the new role.[53]

Selection for Master Teachers should be a competitive process run at the level of the region, but with input from experts in the specialist area from across the state (or Australia) as well as existing Master Teachers. Given Master Teachers' pivotal role in quality control, it would be better to appoint no-one than to appoint a Master Teacher who was not yet ready or lacked an essential skill.

3.3.3 The right supports and constraints for Master Teachers

Education systems should invest in significant up-front training for all new Master Teachers. Improving teaching practice across multiple schools in a region requires system-level change management skills and higher emotional intelligence than improving teaching practice within one school.

Master Teachers would have to continue to learn, even after they are in the job. Education systems should invest in their Master Teachers by giving them ongoing professional development from the best researchers and international experts in their subject areas. Learning from peers would be equally important, for example by observing other Master Teachers with the same expertise, as well as learning from Instructional Specialists and schools.

A key part of Master Teachers' upfront training should involve how to collect evidence, as well as how to use evidence. The peer network of Master Teachers would also provide a valuable constraint around the use of evidence; Master Teachers should develop a culture of peer review and hold each other to account for living up to the standards they set (see Box 10).

49. There are probably about 20,000 principals and deputy principals; all of Australia's 9,000+ schools have a principal, and most have at least one deputy principal. Meanwhile there would not be more than about 2,500 Master Teachers.
50. In a previous report, we estimated that an increase in pay of $20,000 for principal and assistant principal salaries would cost about $250 million more each year across the country. See Goss and Sonnemann (2019, p. 33).
51. Master Teachers could reapply if they were still certified at Lead Teacher level.
52. For some applicants to the Master Teacher role, this would require waiving the Lead Teacher certification requirement to be a teacher in the past 12 months.
53. Being sponsored would not guarantee a Master Teacher role. First, a suitable Master Teacher role would have to be available. Second, selection is a competitive process.

More formally, the impact of Master Teachers on student outcomes and teaching practice should be evaluated at a regional level, and Master Teachers should have their performance reviewed annually by their region, with input from schools and Instructional Specialists. The job of a Master Teacher would be to improve teaching practice across their region, and they should be held accountable for doing so.

Box 10: Master Teachers would develop a culture of peer review and use of evidence

Master Teachers should develop a culture of peer review and use of evidence. This would include defining and upholding the professional knowledge and practices expected from a Master Teacher or Instructional Specialist in each subject area. In time, the cadre of Master Teachers could create their own subject-specific certification processes, similar to the specific professional colleges in medicine or associations of chartered accounting or engineering.

This aspect of the Master Teacher role would collaborate with and complement existing professional teacher associations in each subject.[a] The big difference is that the professional teacher associations rely – and benefit from – the energy of volunteers, whereas the dedicated day job of Master Teachers would be to improve teaching.

As they worked to apply existing evidence and create new evidence, Master Teachers would work closely with the proposed National Evidence Institute.[b] In essence, the National Evidence Institute would make the evidence ready for the workforce, while the Master Teacher cohort would make the workforce ready for the evidence.

a. The Australian Professional Teachers Association represents state joint councils of teacher professional associations. See https://www.apta.edu.au/.
b. See Reform 7 of the National Reform Agreement (Department of Education, Skills, and Employment 2019).

4 How the model would work for primary and secondary schools

Under our model, every teacher in Australia would get better access to expertise. This chapter shows how the model would work for typical primary and secondary schools, and how Master Teachers would work at a local area or regional level.

Very small or very large schools would have different levels of support. Master Teachers would give extra support to small schools that had no Instructional Specialist in a key subject. About 80 per cent of government school students attend schools where Instructional Specialists would cover the main subjects.

4.1 How the model would work for primary schools

Primary school teachers are expected to teach multiple subjects while catering for every child's specific needs. They can't be experts in everything (see Box 11). To help them improve, our model would give every primary school teacher in Australia better access to expertise in English, mathematics, professional practice,[54] sciences, and humanities and social sciences (HASS).

If the model were fully operational today, Australia's primary schools would employ about 11,000 Instructional Specialists, one per 11 primary school teachers.[55] They would be supported by 1,100 Master Teachers, one per 10 Instructional Specialists. Three-quarters of the roles would support government primary schools.[56]

54. Professional practice covers general pedagogy and how to work as a teacher.
55. The number of roles would then grow in line with the size of the teacher workforce.
56. Government schools educate 79 per cent of students in primary schools or 'primary-like' schools (combined schools that only offer up to Year 8). Many primary students in the non-government sector attend 'secondary-like' combined schools that offer Year 9 or above.

Box 11: Primary teachers can't be expert in everything

Australia's 6,000 primary schools employ about 120,000 FTE teachers and teach nearly 2 million students.[a] Most teachers lead a single class of 20-to-25 students, teaching subjects from English and mathematics to science, technologies, and humanities and social sciences.[b] They must also cover seven general capabilities[c] and three cross-curriculum priorities.[d]

Primary teachers must cater for a huge range in capability in each classroom, targeting their teaching to each student's current level of learning.[e] And as they cover the content, they must not just manage their classroom but engage their students in learning.[f]

Primary school teachers can't possibly be expert in all these areas, so they need support from experts in each of them.

a. Excludes primary school teachers and students in combined schools that offer Year 9 or above, which are treated as secondary schools in this report. The data for this analysis comes from ACARA (2018).
b. See Australian Curriculum (2020). The arts, languages, and health and physical education (HPE) may have specialist teachers.
c. Literacy, numeracy, ICT (information and communication technology) capability, creative and critical thinking, personal and social capability, ethical understanding, and intercultural understanding.
d. Aboriginal and Torres Strait Islander histories and cultures; Asia and Australia's engagement with Asia; and Sustainability.
e. Goss et al (2015).
f. Goss and Sonnemann (2017).

How the model would work for a typical primary school

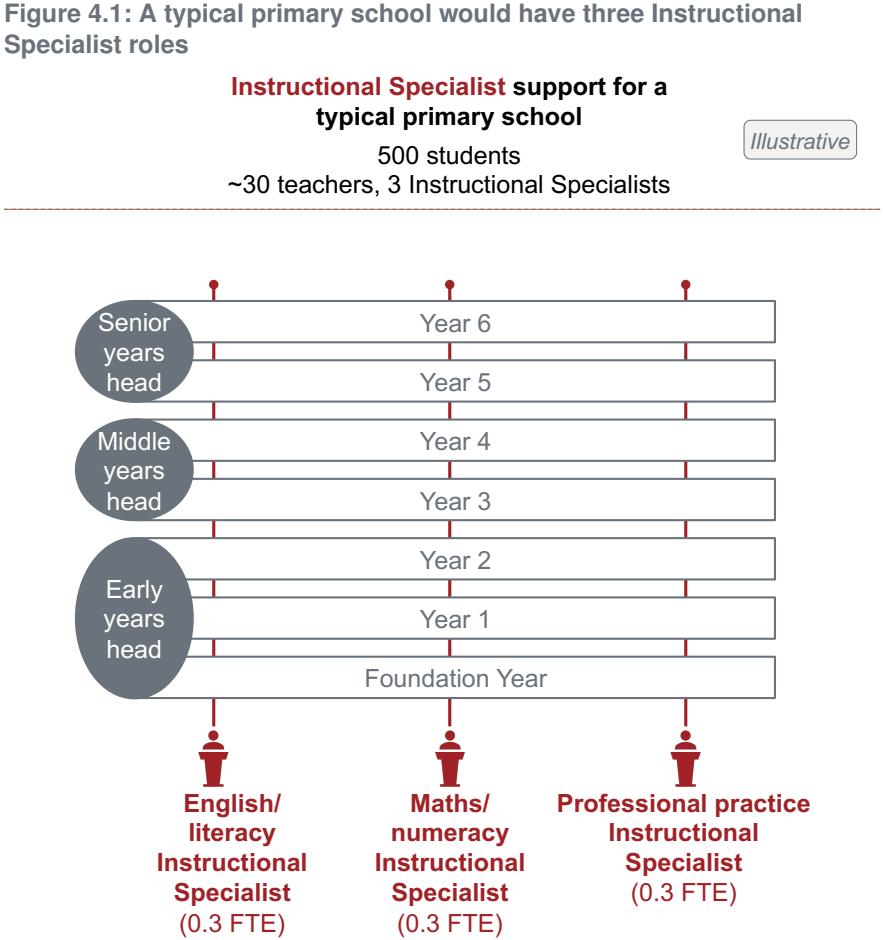
A typical primary school in Australia has about 500 students and employs about 30 teachers.[57] It has three classes at each year level in each of the seven years of primary school, starting with the foundation year[58] and finishing in Year 6.[59]

The senior leadership team is likely to include a Principal and two Deputy Principals, plus the heads of early years, middle years, and senior years. They all play a role in instructional leadership, but in practice the role can be quite limited: principals and deputy principals have busy jobs and can struggle to find time for instructional leadership, while the heads of each stage often have little or no time release.

Under our model, this typical 30-teacher primary school would get an Instructional Specialist allocation of 0.9 FTE.[60] As Figure 4.1 shows, the school could create three roles, each with 0.3 FTE time release:[61]

- An English Instructional Specialist, who would also support literacy instruction across the school;
- A maths Instructional Specialist, who would also support numeracy instruction; and
- A professional practice Instructional Specialist, who would also support beginning teachers.

Figure 4.1: A typical primary school would have three Instructional Specialist roles



Note: A typical government primary school has about 500 students. Catholic and independent primary schools tend to be smaller.

57. This is the size of the typical government primary school. Catholic and independent primary schools tend to be smaller. However, the vast majority of stand-alone primary schools are in the government sector.
58. The Australian Curriculum calls the first formal year of school the foundation year. Each state has its own name, such as 'Reception', 'Kindergarten' or 'Prep'.
59. South Australian primary schools currently include Year 7. Year 7 will move to high school by 2022. See South Australian Department of Education (2019).
60. 0.9 FTE = 30 teachers x 0.3 FTE time release per 10 teachers.
61. An alternative (with slightly more time release) is to create two Instructional Specialist roles – one each in English and maths – with 0.5 FTE time release.

In this scenario, each Instructional Specialist would spend 70 per cent of their time as a classroom teacher and 30 per cent of their time working to improve teaching across the school in their designated area. And each Instructional Specialist would be supported by a relevant Master Teacher from their local area (see Figure 4.2).

The typical primary school is not large enough to create a dedicated role for a science or HASS Instructional Specialist, but the heads of senior and middle years would get support from either a science or HASS Master Teacher each year.[62] That Master Teacher would visit the school at least twice per year, giving demonstration lessons as well as observing classes. And they would share best practices and materials from other schools and the evidence base.

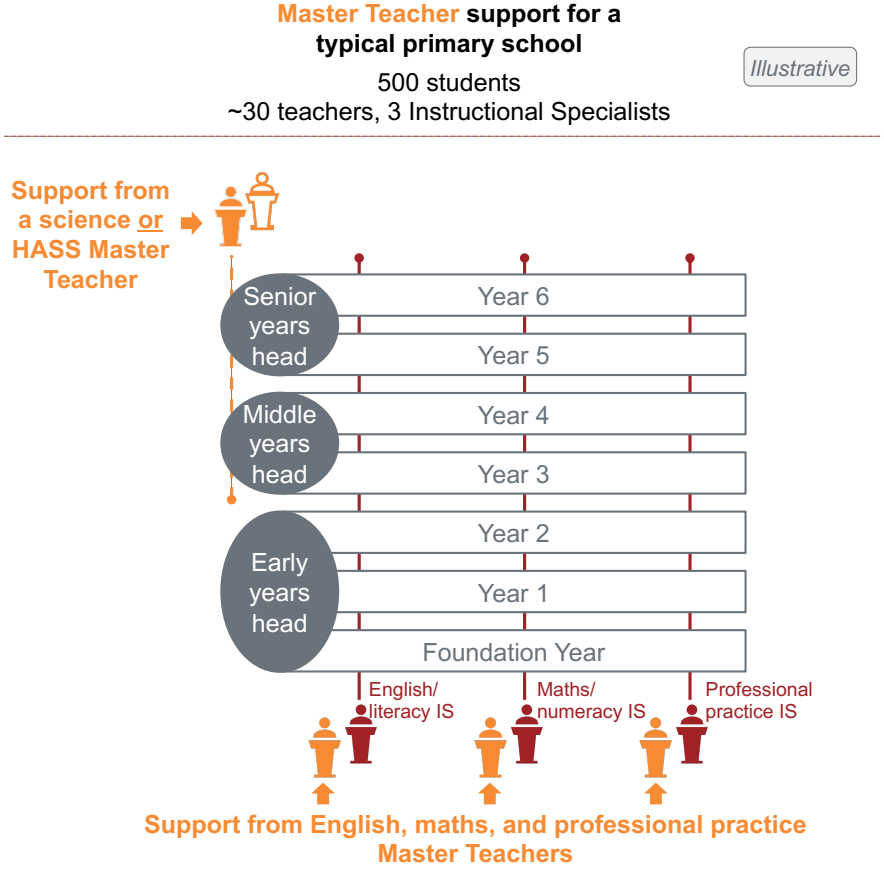
Support for smaller or larger primary schools

Smaller or larger schools would get different levels of support. Smaller schools would get less Instructional Specialist time, and would have fewer roles, or less time for each role, or both. But they would get more support from Master Teachers. Larger primary schools would get more Instructional Specialist time, and therefore have more flexibility.

Chapter 2 of the Technical Supplement shows how many primary schools there are of each size and describes how they might use their Instructional Specialists, and the Master Teacher support they would receive. Importantly, 80 per cent of government primary students attend schools that could have at least two Instructional Specialists with at least 0.3 FTE time release each – the minimum scale for the roles to be genuinely specialist across at least English and maths. By contrast, one-third of students in stand-alone Catholic primary schools and two-thirds of students in stand-alone independent primary schools attend schools smaller than this.

62. Alternating Master Teacher support in this way would keep Master Teacher costs down and encourage schools to focus their improvement efforts.

Figure 4.2: A typical primary school would be supported by up to four Master Teachers in any given year



Note: A typical government primary school has about 500 students. Catholic and independent primary schools tend to be smaller.

How primary Master Teachers would work at a local network level

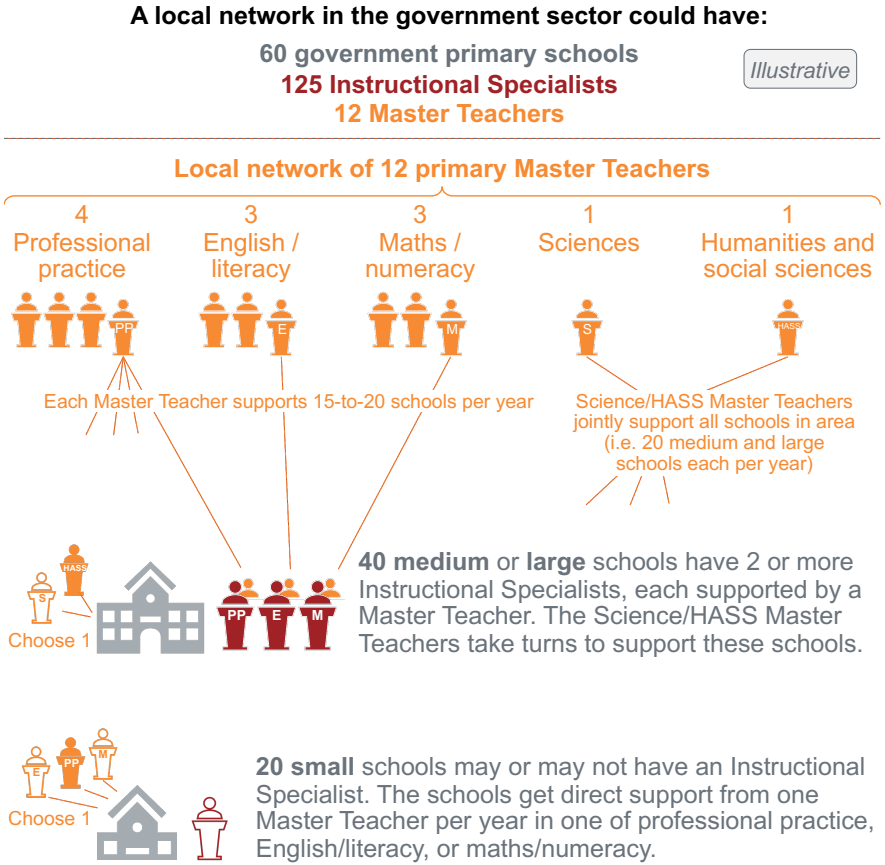
Under our model, a local network with 60 government primary schools would have about 12 Master Teachers.[63] They would support about 125 Instructional Specialists who in turn would help develop about 1,300 teachers.[64] Each Master Teacher would support between 15 and 20 schools each year.

As Figure 4.3 shows, the 12 Master Teacher roles could be split into:

- Professional practice: 4 roles, supporting 15 schools each;
- English/literacy: 3 roles, supporting 20 schools each;
- Mathematics/numeracy: 3 roles, supporting 20 schools each;
- Sciences: 1 role, supporting 20 schools each year; and
- Humanities and social sciences (HASS): 1 role, supporting 20 schools each year.[65]

This would give every school access to Master Teachers in the key primary school subjects. Instructional Specialists in medium and large schools would get direct support from a relevant Master Teacher, and the school would get extra support from a science or HASS Master Teacher each year. Smaller schools – about one-third of government primary schools – would get direct Master Teacher support, choosing each year from one of professional practice, English, or mathematics.[66]

Figure 4.3: Primary Master Teachers would support local networks with about 60 primary schools



Notes: In a typical network of 60 government primary schools, about 40 schools (65 per cent) would be medium or large, with more than 300 students. The remaining 20 schools (35 per cent) would be small, with less than 300 students. See Chapter 2 of the Technical Supplement for further analysis of the size distribution of primary schools: Goss (2020).

63. Networks of Master Teachers would work differently in each sector.
64. This equals about one Master Teacher per 10 Instructional Specialists, and one Instructional Specialist per 10 teachers.
65. The sciences and HASS Master Teachers would support half of the 40 medium or large schools each year, with the school choosing which subject to focus on.
66. The school would choose each year which Master Teacher to work with. This ensures that Master Teachers would have enough time to support each school.

4.2 How the model would work for secondary schools

Secondary school teachers typically teach one or two subjects, and need access to deep expertise (see Box 12).

If our model were fully operational today, Australia's secondary schools would employ about 13,000 Instructional Specialists, one per 12 secondary school teachers. They would get support from 1,800 secondary-focused Master Teachers, one per 7.5 Instructional Specialists.[67] Just over half of the roles would be in government secondary schools.[68]

Secondary Master Teachers would be more specialised than primary Master Teachers. For example, secondary Master Teachers could not be expert in all of humanities, or sciences. Instead, they should specialise in history, geography, or economics (the main humanities subjects), or physics, chemistry, or biology (the main science subjects).

Each school would have to decide how to use its Instructional Specialist allocation to best cover the subjects it offers. But across all sectors, 80 per cent of secondary students attend schools that could have at least five Instructional Specialists with at least 0.3 FTE time release each – enough for genuine specialisation and broad coverage across subjects.

How the model would work for a typical secondary school

A typical secondary school has about 1,200 students and employs about 90 teachers.[69] It probably has about 8 English and maths classes per year level, requiring English and maths faculties with 10 or more teachers. It also offers an increasing breadth of elective subjects as students become more senior.

67. Secondary schools have more Master Teachers per Instructional Specialist than primary schools, reflecting the need for deep expertise in more subjects.
68. Government schools educate 53 per cent of students in secondary schools or secondary-like schools that offer Year 9 or above.
69. This size of secondary school is fairly typical across all three sectors.

Box 12: Secondary school teachers need access to deep expertise

Australia's 2,800 secondary schools employ about 160,000 FTE teachers and teach nearly 2 million students.[a]

Most secondary teachers teach one or two subjects at multiple year levels. They must know the specific year-level curricula well, and also develop strong pedagogical content knowledge (PCK) to support students who are well ahead or behind in their learning.

But secondary teaching isn't just about content. Students tend to become less engaged through to about Year 9, which makes the job of their teachers even harder. Building relationships with students, as well as teaching at the right pace and in a way that makes learning active, are all vital skills.

To keep improving, secondary school teachers need access to deep expertise. This is especially true for those who are teaching 'out-of-field' – in subjects they were never trained to teach.

a. This includes combined schools that offer Year 9 or higher, because they need teachers dedicated to specific subjects. Our analysis treats them as secondary schools in order to estimate how many Instructional Specialist and Master Teacher roles are needed in each subject.

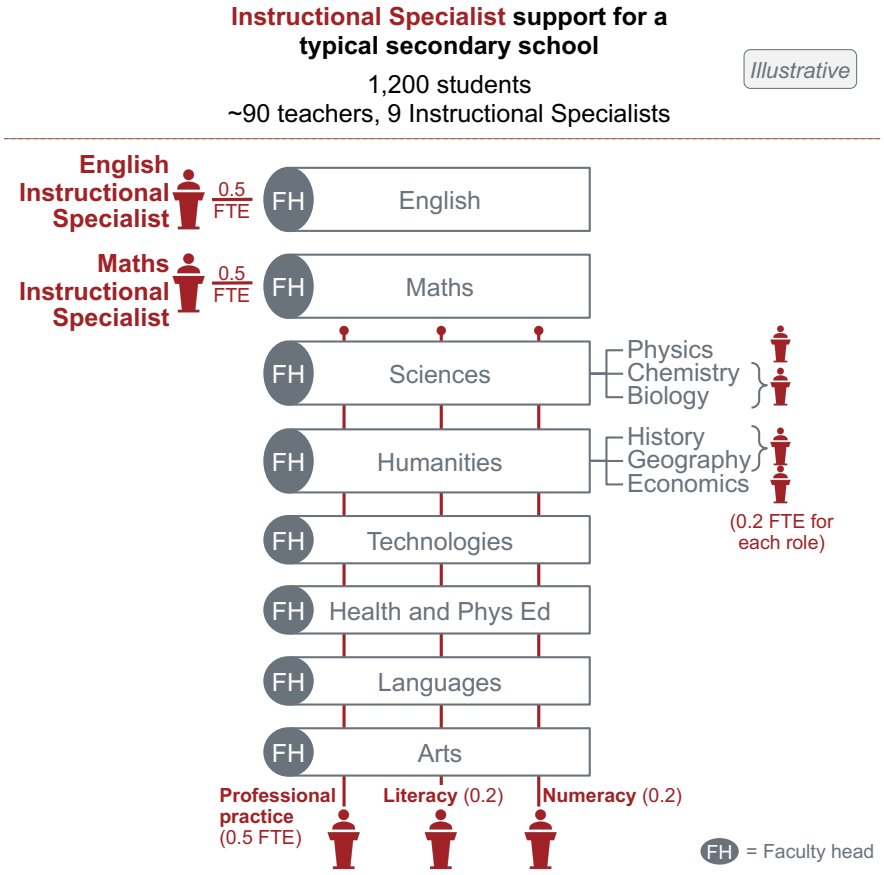
The senior leadership team will include a Principal, two or more Deputy or Associate Principals, as well as faculty heads for the different curriculum areas. The senior leaders already have big jobs, and limited time to focus on improving teaching.[70] Most faculty heads have limited release time, and what they have is often taken up by management or administrative responsibilities.

Under our model, a typical secondary school would get an Instructional Specialist allocation of 2.7 FTE.[71] As Figure 4.4 shows, the school could use this allocation to create nine roles, with the level of release time tailored to each role:

- An English Instructional Specialist (with 0.5 FTE time release);
- A maths Instructional Specialist (0.5 FTE time release);
- A professional practice Instructional Specialist (0.5 FTE time release), who would also support beginning teachers;
- A literacy Instructional Specialist (0.2 FTE);
- A numeracy Instructional Specialist (0.2 FTE), and
- Four Instructional Specialists (0.2 FTE time release each) in physics, chemistry/biology, history/geography, and economics.[72]

Each Instructional Specialist would be directly supported by a Master Teacher in their area (see Figure 4.5 on the following page).

Figure 4.4: A typical secondary school would have nine Instructional Specialists



70. The principal is effectively running a medium-sized business, while deputy principals deal with day-to-day issues that often cannot wait.
71. 90 teachers × 0.3 FTE per 10 teachers. See Chapter 3 of the Technical Supplement: Goss (2020).
72. An alternative model is to remove the dedicated literacy and numeracy roles and give 0.3 FTE time release to the four Instructional Specialists in sciences and humanities.

Under our model, the typical government secondary school would not get enough Instructional Specialist time to create dedicated roles covering every part of the curriculum. Instead, a relevant Master Teacher would support the faculty head for each of technologies, health and physical education (HPE), languages, and the arts.

How the model would work for smaller or larger secondary schools

Smaller secondary schools would get less Instructional Specialist time and would have to create fewer roles, or give each role less time, or both. But they would get more support from Master Teachers to ensure that all teachers had access to expert advice in their subject.

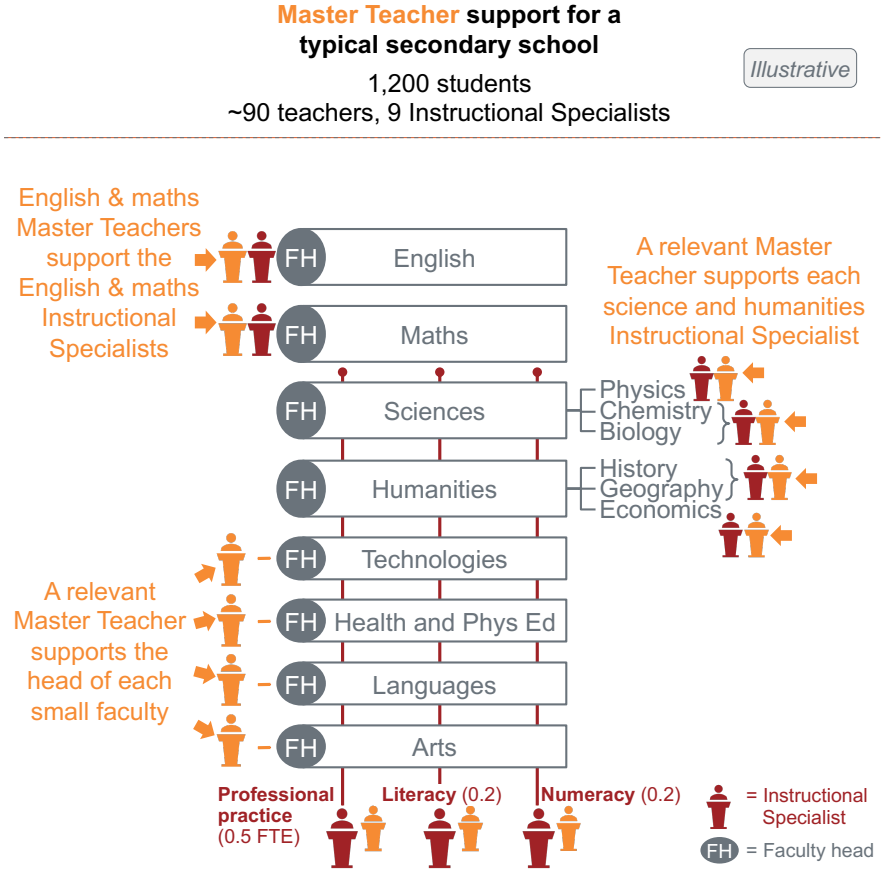
Very large secondary schools would get up to 13 Instructional Specialists, enough to cover most subjects.

Chapter 3 of the Technical Supplement shows how many secondary schools there are of each size and describes how they might use their Instructional Specialists, and the Master Teacher support they would receive.

How secondary Master Teachers would work at a regional level

Under our model, a region with 90 government secondary schools[73] would have about 52 Master Teachers who would collectively support about 450 Instructional Specialists.[74] There would be several Master Teachers per subject, each Master Teacher typically supporting 15-to-30 schools each year.[75]

Figure 4.5: A typical secondary school would be supported by a wide range of Master Teachers



Note: In this scenario, the school would be supported by up to 13 Master Teachers, covering every part of the curriculum as well as professional practice, literacy, and numeracy.

73. Networks of Master Teachers would work differently in each sector.
74. The region would have about 5,600 teachers, so this equals one Master Teacher per 9 Instructional Specialists, and one Instructional Specialist per 12 teachers.
75. Medium and large secondary schools would get Master Teacher support in every subject every year, while smaller schools would not.

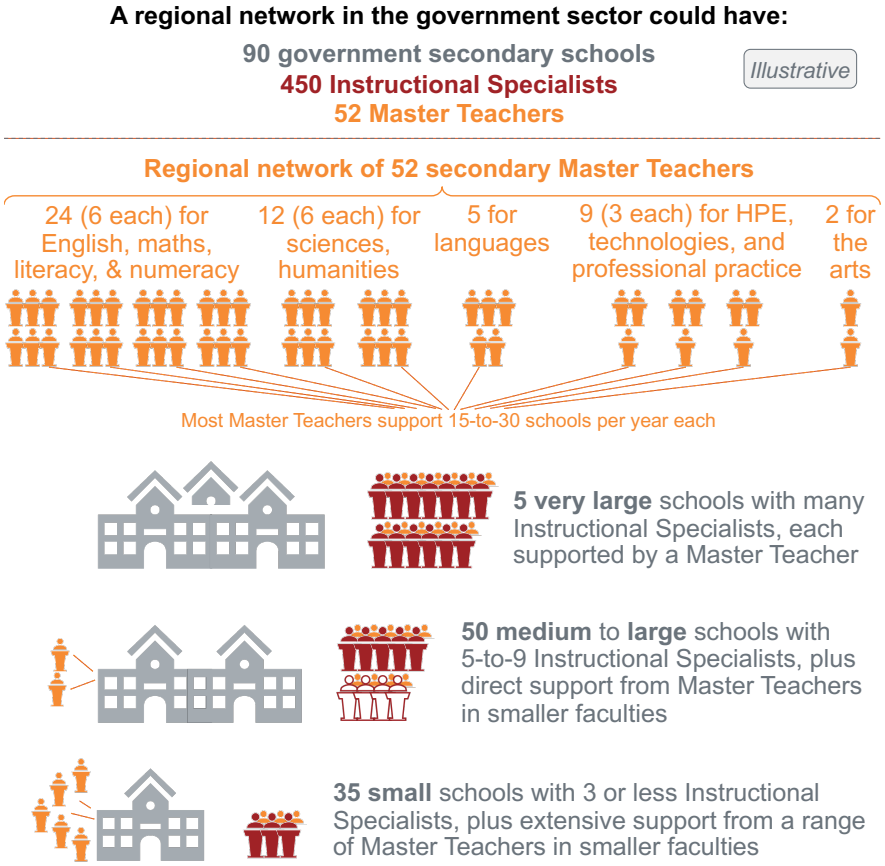
As Figure 4.6 shows, the 52 Master Teacher roles could be split into:

- English, maths, literacy, and numeracy: 6 roles each (total 24);
- Humanities and sciences: 6 roles each (total 12), split into:
  - 2 roles for each of history, geography, and economics; and
  - 2 roles for each of physics, chemistry, and biology;
- Languages: 5 roles, one for each major language taught;
- Health and physical education, technologies, and professional practice: 3 roles each (total 9); and
- The arts: 2 roles.

The six English and six maths Master Teachers would work with a consistent network of about 13 schools and Instructional Specialists. Their focus would be to improve teaching in English and maths classes. They would be supported by an equal number of literacy and numeracy Master Teachers whose job would be to support whole-school efforts to improve literacy and numeracy.

Other Master Teacher roles would vary in how they interact with schools and teachers. Language Master Teachers would support all teachers of that language across the region. Master Teachers in other subjects would consistently support large schools but rotate across smaller schools, with each school choosing its focus each year. This rotation model would ensure that every Master Teacher had enough time to support the schools they were working with each year.

Figure 4.6: Secondary Master Teachers would support regional networks with about 90 secondary schools



Notes: In a typical network of 90 government secondary schools, about 5 schools would be very large (more than 1800 students), 50 would be medium or large (600-to-1800 students), and the remaining 35 would be small (fewer than 600 students). See Chapter 3 of the Technical Supplement for further analysis of the size distribution of secondary schools: Goss (2020).

5 How to get there

Creating an expert teacher career path will take at least 12 years and should be done in four stages. The career path could be mature by 2032, with 80 per cent of the new roles in place.

Promising candidates for the roles should be identified and supported. Many more teachers would need to be certified as Highly Accomplished and Lead Teachers (HALTs). Teachers moving into the new roles would need to be 'back-filled', but this extra demand would increase the number of graduate teachers required each year by less than 5 per cent.

5.1 The size of the task

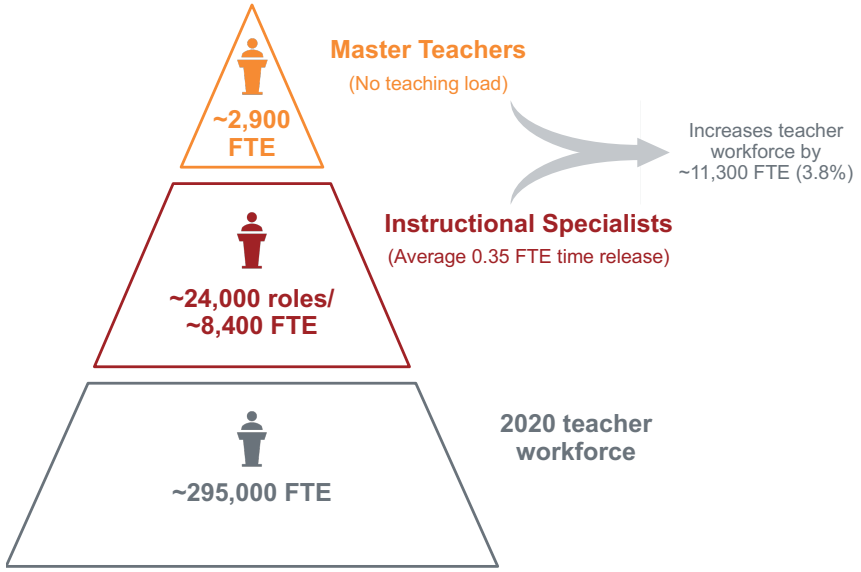
We estimate it will take more than a decade to develop a mature system of Instructional Specialists and Master Teachers. The obvious challenge is the sheer number of new roles.

If our model was fully operational today, there would be about 24,000 Instructional Specialists and 2,900 Master Teachers (see Figure 5.1). And the workforce would be 4 per cent larger than now (306,000 FTE versus 295,000). The increase in the workforce (about 11,000 FTE) is much lower than the number of new roles (about 27,000) because the average Instructional Specialist would have only about one-third of their time (0.35 FTE) allocated to instructional leadership.[76]

5.2 A four-stage process

The expert teacher career path would only modestly increase the size of the overall teacher workforce, but massively increase the number of instructional leadership positions with dedicated time release.

Figure 5.1: A fully operational expert teacher career path would have 24,000 Instructional Specialists and 2,900 Master Teachers



Notes: This analysis shows the impact on the size of the workforce if the expert teacher career path was fully operational in 2020 in all schools in the three school sectors. The number of Instructional Specialists and Master Teachers in a fully operational model would grow in line with the teacher workforce, which is projected to grow by 17 per cent from 2020 to 2032.

Source: Grattan analysis.

76. By comparison, a full-time teacher would be needed to back-fill each Master Teacher.

It should be implemented in four stages (see Figure 5.2):

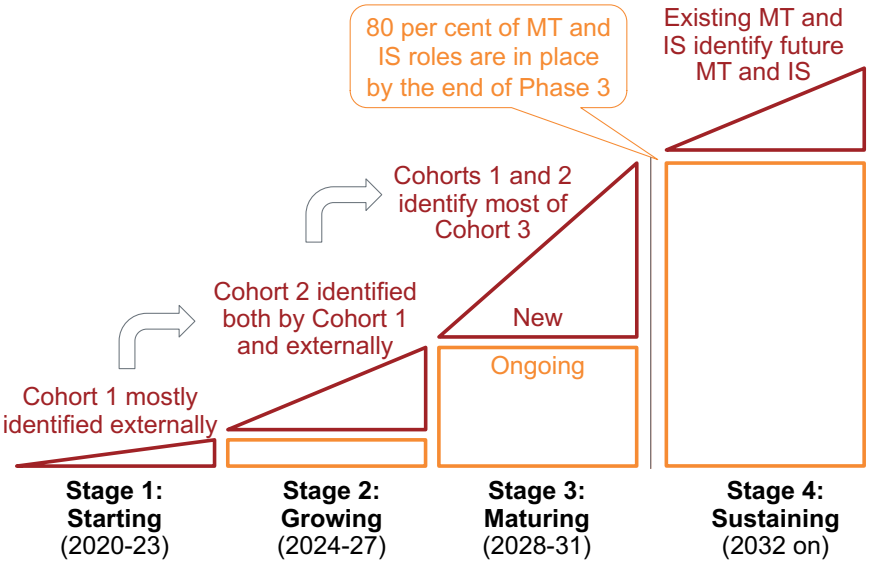
- Stage 1, the Starting stage, from 2020 to 2023, would establish the model;
- Stage 2, the Growing stage, from 2024 to 2027, would triple the number of roles;
- Stage 3, the Maturing stage, from 2028 to 2031, would increase the number of roles to about 80 per cent of full implementation; and
- Stage 4, the Sustaining stage, starting in 2032, would slowly increase the number of roles to cover all schools, and then the model would grow in line with the size of the teacher workforce.[77]

Finding applicants for the new roles should not be left to chance. Instead, promising candidates should be identified and encouraged to apply. During Stages 1 and 2, most would necessarily be identified "externally" (i.e. not by existing Instructional Specialists or Master Teachers). As the model matured, those already in the roles should increasingly take responsibility to 'grow' the next generation.

We recommend starting in 2020 with 500 Instructional Specialists and 60 Master Teachers, and then growing rapidly. Figure 5.3 shows the projected numbers for each role through to 2032 (the start of Stage 4), when there could be 22,000 Instructional Specialists and 2,700 Master Teachers. At this point, the model would be operating at about 80 per cent of its final scale,[78] and every school in Australia would be covered. Instructional Specialists would comprise about 6.4 per cent of the teacher workforce, and Master Teachers about 0.8 per cent (see Figure 5.4). The pool of Instructional Specialists and Master Teachers would then grow slowly until the model was fully operational in 2040.

77. Australia's teacher workforce is expected to grow at about 1.3 per cent per year over the medium to long term, driven by growing student numbers.
78. More roles are needed in 2032 than in 2020 because the workforce will be bigger.

Figure 5.2: Our model should be implemented in four stages, with 80 per cent of roles in place by 2032

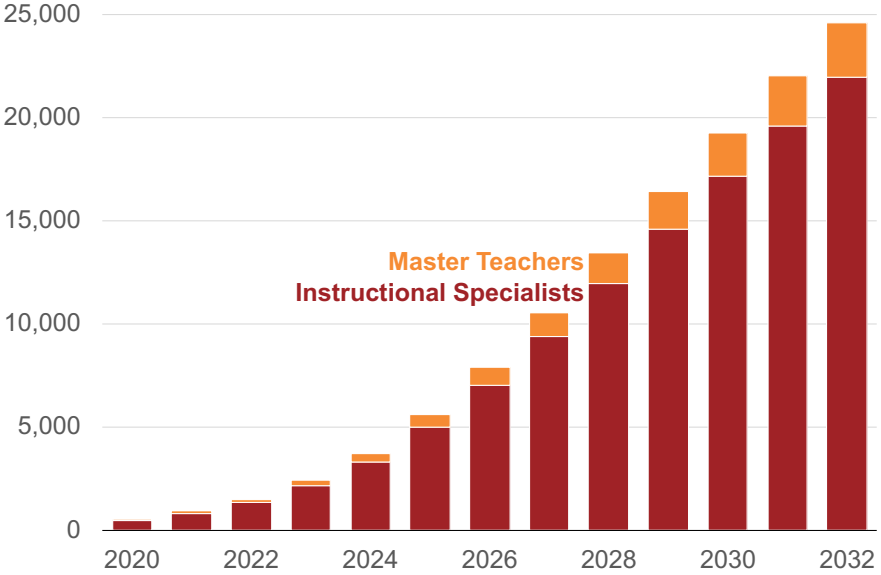


Note: The vertical scale gives an indication of the number of Instructional Specialists (IS) and Master Teachers (MT) in each stage.

Source: Grattan analysis.

Figure 5.3: It will take 12 years to build a cohort of about 20,000+ Instructional Specialists and Master Teachers

Projected number of Instructional Specialist and Master Teacher roles, all schools

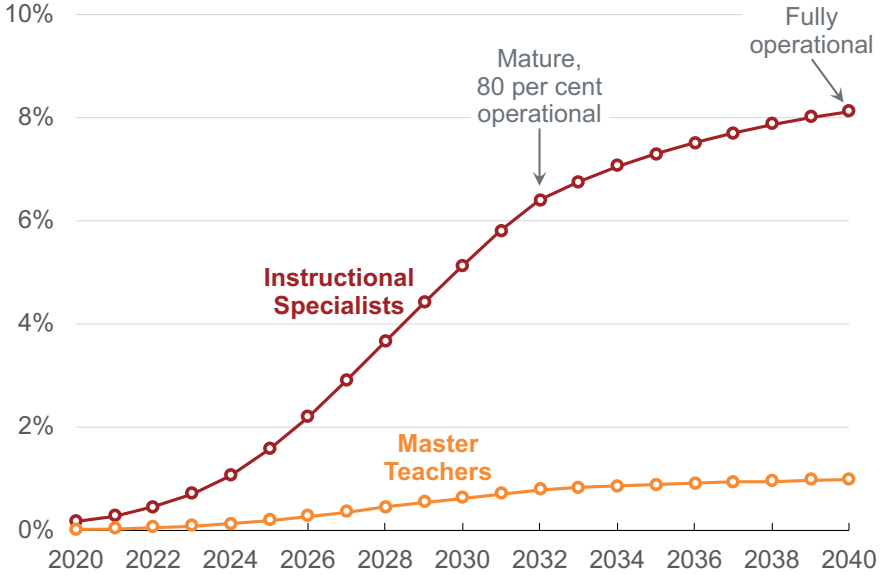


Notes: 'Instructional Specialists' refers to the number of people with an Instructional Specialist job, not their FTE time release. The model would be 80 per cent operational in 2032; a fully operational model would have 28,000 Instructional Specialists and 3,400 Master Teachers, in line with the projected growth in the teacher workforce.

Sources: ABS (2018), Grattan analysis.

Figure 5.4: Instructional Specialists and Master Teachers would comprise a growing proportion of the teacher workforce

Estimated proportion of teacher workforce in Instructional Specialist or Master Teacher roles, all schools



Note: 'Instructional Specialists' refers to the number of people with an Instructional Specialist job, not their FTE time release.

Source: Grattan analysis.

A multi-pronged approach to identify and support future Instructional Specialists and Master Teachers

The limiting factor in this model is the need to identify enough teachers with the potential to be an Instructional Leader or Master Teacher, and then encourage and support them to apply.[79]

Figure 5.5 shows the year-by-year projections for newly-created roles – i.e. the number of new people needed each year. During Stage 1, an average of 550 new Instructional Specialists and 70 new Master Teachers would be appointed each year. Most of Cohort 1 would need to be identified and supported to apply externally. Some may move across from existing programs focused on instructional leadership.

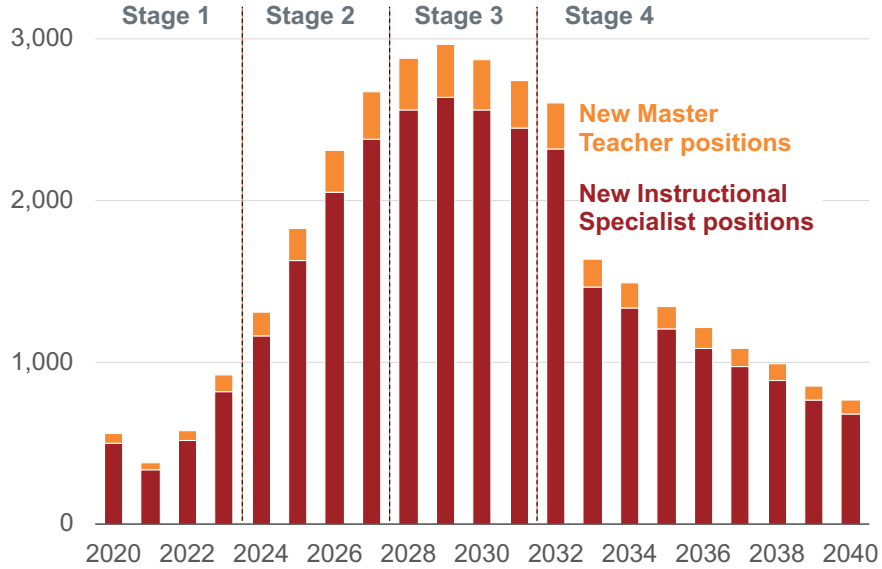
During Stage 2, about 1,800 Instructional Specialists and 220 Master Teachers would be appointed each year. Cohort 1 would identify some of Cohort 2, but much of Cohort 2 would need to be externally identified.

In the peak of Stage 3, about 2,600 new Instructional Specialist roles would be created each year. Cohorts 1 and 2 would identify most of them, with maybe one-in-five identified externally.[80] About 300 Master Teacher roles would be created per year. They would be identified from the ranks of experienced Instructional Specialists.

By Stage 4 the model would be approaching saturation, and fewer new roles would be created each year.[81] Existing Master Teachers would identify four-fifths of the next generation of Instructional Specialists, as well as all new Master Teachers.

Figure 5.5: Most of the new Instructional Specialist and Master Teacher roles would be created in Stages 2 and 3

Projected annual increase in the number of Instructional Specialist and Master Teacher roles, all schools



Notes: 'Instructional Specialists' refers to the number of people with an Instructional Specialist job, not their FTE time release. Implementation is anticipated to start in 2020 with 500 Instructional Specialists and 60 Master Teachers. The creation of new positions is expected to slow substantially after 2032 – eventually matching student enrolment growth – as the career path reaches maturity.

Source: Grattan analysis.

79. This identification and support process would focus strongly on pedagogical content knowledge (PCK).
80. Stopping external identification at Stage 2 would delay maturity by many years.
81. New Instructional Specialists would still be needed each year to replace existing Instructional Specialists who were promoted, retired, or had changed jobs.

We recommend that:

- Every experienced Master Teacher (i.e. one who had been in the job more than one year) would be expected to identify and support one potential new Instructional Specialist each year;
- Every experienced Instructional Specialist would be expected to identify and support one potential new Instructional Specialist every two years during Stage 1, one every three years during Stage 2, and one every 9 years during Stage 3;[82] and
- Education systems should invest substantially in 'external' identification and support processes during Stages 1 and 2, and to a lesser extent during Stage 3, with a strong focus on PCK.[83]

A key to our model is to include 'growing the next generation' in the job descriptions of Master Teachers and Instructional Specialists, and then to give them enough time to do it in practice. Appendix E estimates the time required to support the next generation during each stage.

5.3 Finding enough top teachers will be hard, but back-filling the roles will be much easier

Two common concerns about giving top teachers dedicated time for instructional leadership are how to find the right people, and the need to increase the size of the teacher workforce to back-fill the time the instructional leaders are away from the classroom. The first concern is justified. The second is not: the extra teachers needed under our model represents only a small increase above 'business-as-usual'.

82. The identification and support load for Instructional Specialists would drop a lot in Phase 3 because fewer new roles are created each year compared to the number of the existing roles, and there would be many Master Teachers by this stage.
83. The Mastery of Teaching program run by the NSW Education Department is an example of an initiative designed to do a similar function; it identifies teachers who have the potential to become a HALT and supports their HALT application process.

The number of HALTs is growing too slowly to meet the projected demand for Instructional Specialists and Master Teachers in our model

There are about 650 HALTs across Australia, a big increase since the first cohort of 123 HALTs was certified in 2012.[84] At present about 100-to-120 new HALTs are certified each year, and that number has been growing at about 25 per cent every year. Continuing this rate of growth for the next decade would meet only about one-third of the projected demand for Instructional Specialists and Master Teachers (Figure 5.6).

Ideally, Instructional Specialists should be certified as Highly Accomplished, and Master Teachers certified as Lead Teachers. But two changes would be needed. First, HALT certification would need to be available in every state. Second, HALT certification would have to be made more efficient, otherwise it would drastically slow the implementation of the expert teacher career path.

Our model addresses this issue by giving Instructional Specialists and Master Teachers the responsibility – and the time – to help would-be Instructional Specialists become HALT-certified, and to help them apply to be an Instructional Specialist or Master Teacher.[85] Our model would also make HALT certification more efficient by giving teacher registration authorities extra resources to review HALT applications.[86]

Back-filling the new roles is much less of a problem

Under our model, the average Instructional Specialist would spend 35 per cent of their time on instructional leadership and the remainder

84. Data from AITSL (Australian Institute for Teaching and School Leadership).
85. The role of Instructional Specialist or Master Teacher is very different from certification as a HALT. HALT certification recognises that a teacher is highly effective, but it has no expectation about their day job; the actual role description is left to schools to determine. Our new roles are all about the day job in schools, with certification being a pre-requisite to apply for the job.
86. By Stage 3 there would be perhaps 100 people across Australia involved in accrediting HALTs, versus 25,000 Instructional Specialists and Master Teachers.

teaching.[87] This figure, plus the number of Master Teachers, would determine the number of teachers required to back-fill the new roles: up to 1,200 extra FTEs per year. However, Initial Teacher Education (ITE) programs already graduate thousands of teachers every year to cope with existing promotions, retirements, and population growth. As Figure 5.7 shows, the extra teachers required to back-fill the expert teacher career path would be only a small increase on the number of new teachers needed under 'business-as-usual'. At peak our model would increase the number of ITE graduates required each year by less than 5 per cent.

5.4 Getting implementation right

Plan but adapt

The evidence about the best ways to develop teachers is still evolving, so this model should be refined iteratively.[88] The key is to test different implementation approaches,[89] evaluate them to learn what works in what context, then incorporate those lessons into future design.

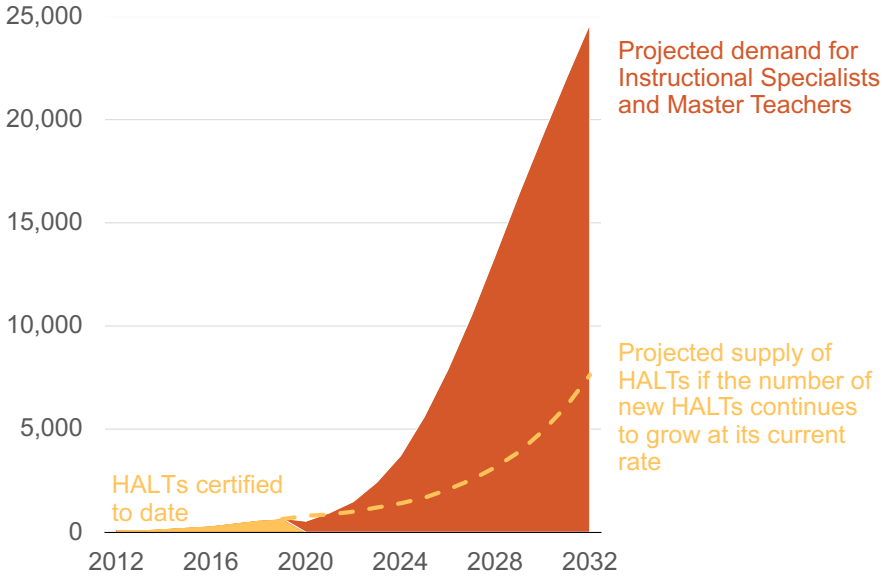
Over-invest early

It will be vital to choose the right people and schools in early implementation, because they would be responsible for working out the details of the model and showing what good looks like in practice.

Over-investing early could help build a positive track record, boosting the chances that early cohorts improve teaching and lift student

Figure 5.6: HALT numbers are growing much too slowly to meet the projected demand for Instructional Specialists or Master Teachers

Projected demand for Instructional Specialists and Master Teachers and projected supply of HALTs, all schools



Notes: Under our model, Instructional Specialists must be certified at the Highly Accomplished level defined in the National Professional Standards for Teachers, overseen by the Australian Institute of Teaching and School Leadership (AITSL). Master Teachers must be certified at Lead Teacher level.

Sources: AITSL, Grattan analysis.

87. In practice, some Instructional Specialists would spend up to half their time on instructional leadership, while others would only spend one day per week.
88. See *Towards an adaptive education system in Australia* for a discussion of this approach. Goss (2017).
89. For example, the time release given to Instructional Specialists, how the new roles interact with existing school leadership, the time split between coaching and observation, and the balance between PCK and general teaching skills.

outcomes. It would be relatively cheap because there would not yet be many Instructional Specialists or Master Teachers. Early investment would also help to grow the next generation: the first cohort of Master Teachers in particular would need dedicated time to identify and support their future peers.

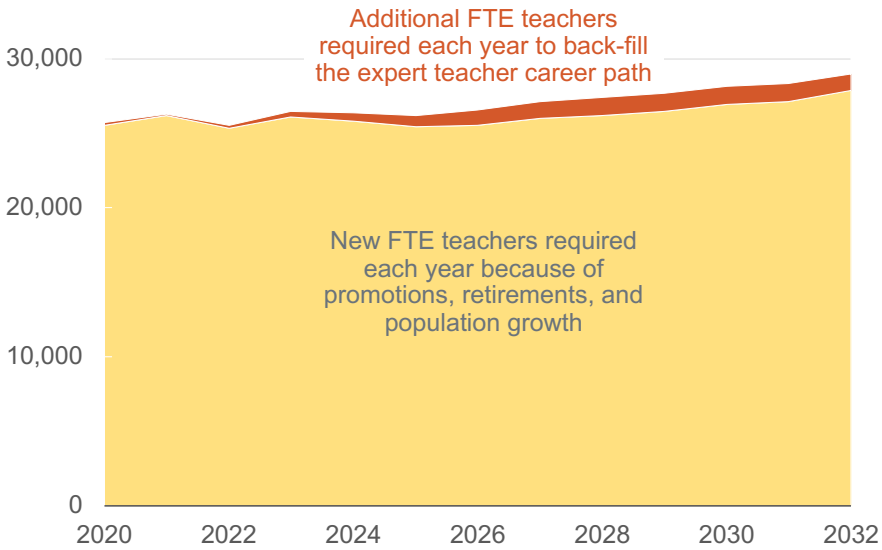
This early over-investment should be used to refine and test the model, via several pilot studies followed by one or more randomised controlled trials (RCTs) in Stage 1 (see Box 13). It would also be an opportunity to strategically choose which schools and locations got the new roles first.

Early success should drive a shift from a 'push' model of encouraging schools to hire Instructional Specialists, to a 'pull' model where schools demand them.[90] There is an Australian precedent for this shift. In NSW, hundreds of disadvantaged government primary schools got extra funding to hire an instructional leader as part of the *Early Action for Success* (EAfS) program. The program was focused on the first three years of primary school, but after experiencing the benefits, principals in 70 per cent of EAfS schools used their own funds to hire an instructional leader to expand the model all the way to Year 6.[91]

Build (carefully) on current models

All states have existing instructional leadership programs. But, as Chapter 1 shows, they are not delivering what teachers need. States should consider whether to integrate existing programs into the expert teacher career path. However, any instructional leaders that want the new roles must meet the same high standards that apply to a new Instructional Specialist or Master Teacher. And of course, nothing will change if education departments just re-badge existing instructional leadership programs as an expert teacher career path.

Figure 5.7: The expert teacher career path would require only a small increase in the number of new teachers being trained each year
Estimated increase in the number of new FTE teachers required each year to meet demand, all schools



Notes: Currently, new teachers are required when existing teachers are promoted to leadership positions or retire (estimated at 7 per cent per year), and to deal with population growth (based on ABS Population Projections Series B). Under our model, additional new teachers would be required each year to back-fill the growing number of Master Teachers and Instructional Specialists.

Sources: ABS (2018), Grattan analysis.

90. This implies that schools would opt-in until implementation was well advanced.
91. See Appendix B of Goss (2017).

Use technology to supplement face-to-face support

Master Teachers would support geographically dispersed schools. They should visit each school at least twice per year, and deliver in-person workshops for Instructional Specialists. Smart use of technology could dramatically reduce costs and travel time for Master Teachers and give every teacher in Australia access to expert support, no matter how remote. One rigorous study showed no statistically significant difference in impact between in-person and web-based virtual coaching.[92]

Manage the risks

Appendix G provides a full risk analysis. Based on overseas experience of large scale-coaching programs, the biggest risks are not being able to recruit enough high-quality coaches or provide enough ongoing support to maintain the quality of the coaching.[93] Our model addresses these risks by giving Master Teachers and Instructional Specialists extra time to identify and support the next generation of Instructional Specialists.

Other large-scale coaching programs have struggled if teachers are not sufficiently invested in the process.[94] Schools and teachers should opt-in to our model, at least until it is well-proven.

A specific risk is that education system leaders – or education unions – set an over-ambitious timetable for growing the number of Instructional Leaders and Master Teachers. It is easy to prioritise *quantity*, but *quality* is the key to success. It would be better to grow more slowly than appoint people who are not ready for the job or put them into environments that are not set up for success.

92. Powell et al (2010), cited in Kraft et al (2018, p. 573).
93. Ibid (p. 573).
94. Blazar and Kraft (2015), cited in Kraft et al (2018, p. 573).

Box 13: Stage 1 should include pilot studies and RCTs

Stage 1 should start with several pilot studies in a limited number of regions, covering both large capital cities and regional towns. The pilot studies would have three goals. First, to show how the model works in practice. Second, to get preliminary evidence on its benefits. Third, to use the evidence to refine the approach in preparation for a more rigorous evaluation.[a]

Each pilot study should start with about five schools – enough to warrant a Master Teacher – and grow into a cluster of perhaps 20 schools by the end of Stage 1.[b] At least one original school in each cluster should be large, so that it can train future Instructional Specialists and Master Teachers.[c]

The pilot should start with a limited range of subjects, giving priority to maths given Australia's recent poor results in the international PISA test.[d] Schools should be chosen carefully – they must be mature enough to implement a specialist model of expertise – and they should get extra support.

After the pilot studies, one or more randomised controlled trials (RCTs) should be run to rigorously test the model.[e] The RCTs should measure changes in teaching practice as well as the impact on student performance.

a. For example, how Instructional Specialists can best lead professional learning in their subject, how they work with existing instructional leaders in a school, or how best to deploy Master Teachers across multiple schools.
b. Some pilots should focus on primary schools, others on secondary schools. Each pilot should include schools of various sizes. The schools should be close enough to each other so that a Master Teacher can support them all.
c. A school with an English or maths faculty with 20 teachers is better placed to train an additional Instructional Specialist than one with 5 teachers.
d. The OECD's Programme for International Student Assessment. See Sonnemann (2019).
e. We have allocated $3 million per year to run the pilots and RCTs.

6 Funding the expert teacher career path

The cost of the expert teacher career path would start low but grow rapidly. By 2032, the cost would be about $560 per student per year, just 3 per cent of what government schools will spend anyway.

Government schools can afford these costs – they are roughly half of their anticipated growth in 'Gonski' funding. Non-government schools should use their existing resources. Creating an expert teacher career path is less matter of cost than of choices and political will.

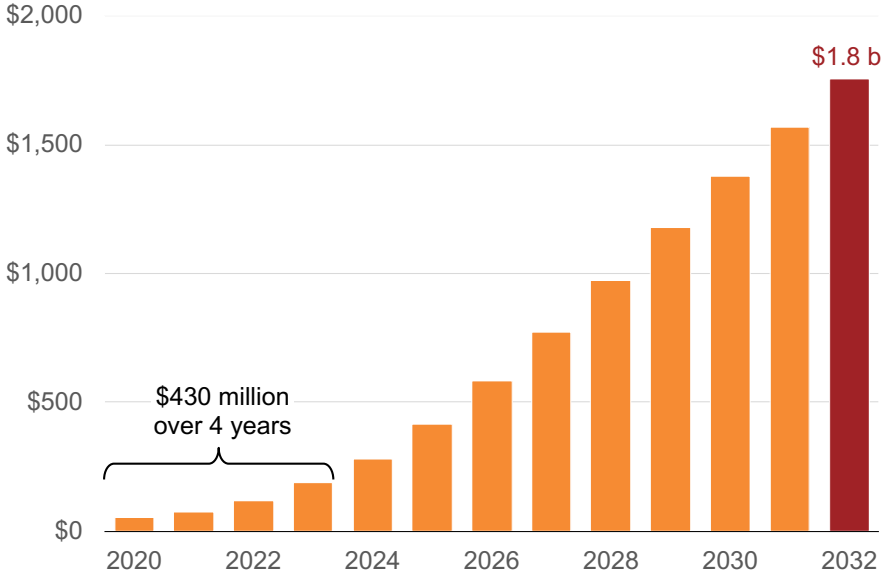
6.1 Costing the expert teacher career path

The expert teacher career path would be expensive but affordable. For government schools, the cost would be a little over $400 million for the first four years. Costs would then rapidly increase (see Figure 6.1). In 2032, when the model would be 80 per cent operational, it would cost government schools about $1.8 billion per year,[95] or 3 per cent of their projected funding (see Figure 6.2).[96] Even when fully operational in 2040, the model would still cost less than 4 per cent of projected spending on government schools.

Put another way, it would cost about $560 per government school student per year in 2032 (Figure 6.3), compared to projected funding of $19,500 per student. This cost would drop if some existing instructional leadership programs were rolled into the expert teacher career path.

Figure 6.1: For government schools, the annual cost of the expert teacher career path would hit $1.8 billion per year by 2032

Estimated cost per year, government schools, 2020 $millions



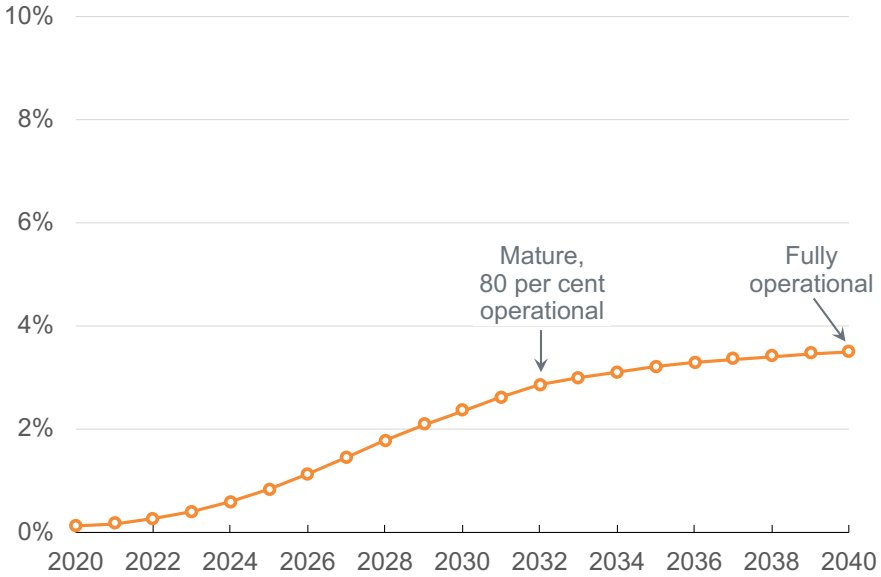
Notes: Costs include the extra salary paid to Instructional Specialists above the top standard rate of teacher pay; the cost of back-filling Instructional Specialists; Master Teacher salaries; selection and on-boarding costs for both roles; time release for would-be Instructional Specialists to complete the documentation for their HALT application; extra funding for teacher registration authorities to certify teachers as HALTs; and extra funding to pay for release time for beginning teachers to work with Instructional Specialists.

Source: Grattan analysis.

95. The cost of the expert teacher career path in this report is 30 per cent higher than in Goss and Sonnemann (2019, p. 24). Most of this increase comes from tripling the number of Master Teachers to give every school access to Master Teachers across all key subjects. The rest comes from investing more in identifying, selecting and on-boarding candidates, including investing in HALT certification.
96. Grattan analysis of the National School Reform Agreement (Department of Education, Skills, and Employment 2019). Estimates are quoted in real 2020 dollar terms, adjusted for inflation of 2.5 per cent. Government school funding is projected to be $60 billion in 2032 (nominal funding of $80 billion).

Figure 6.2: The expert teacher career path would cost only a small portion of projected funding for government schools

Estimated cost of the expert teacher career path as a percentage of total recurrent funding, government schools

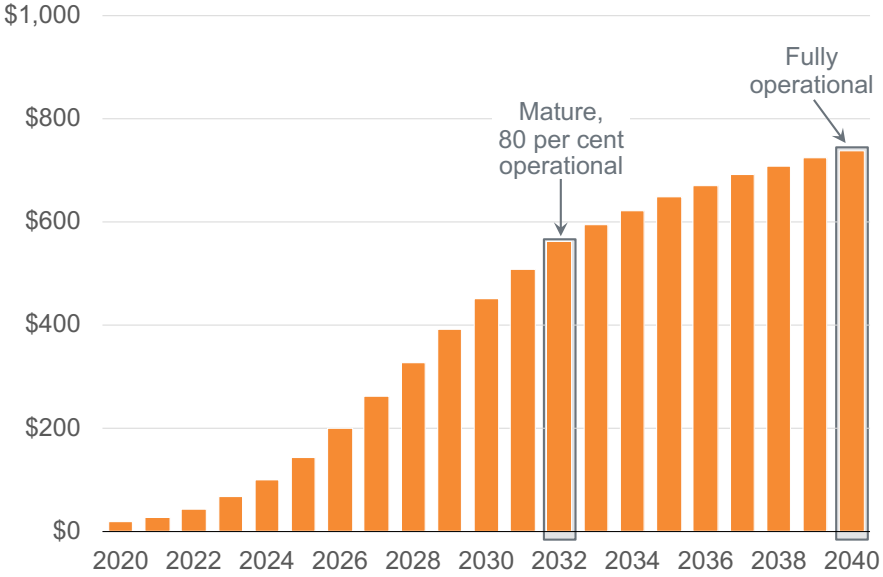


Notes: Total recurrent funding includes funding from both the Commonwealth and state/territory governments, but not privately sourced funding.

Source: Grattan analysis.

Figure 6.3: The cost per student of the expert teacher career path would remain modest even once the program reached maturity

Estimated cost per student per year, government schools, 2020$



Notes: Cost per student incorporates both the underlying growth of the model and the fact that wages grow faster than inflation. In other words, the cost per student would continue to grow even after the model was fully operational.

Source: Grattan analysis.

Our model has five major cost components. In 2032, the split would be:

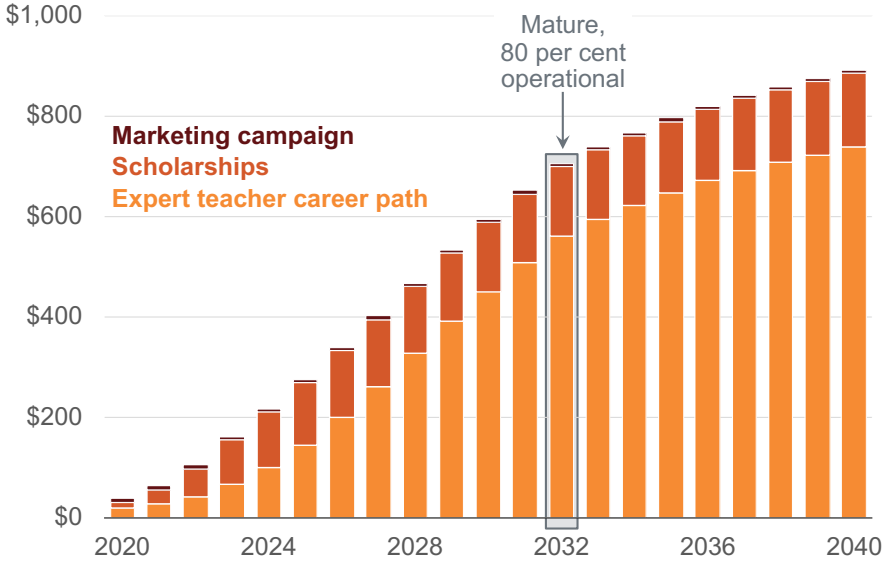
- Salary boost for Instructional Specialists: 31 per cent;
- Back-filling Instructional Specialists: 32 per cent;
- Master Teacher salaries: 26 per cent;
- Selection and training costs (including support for HALT certification): 7 per cent; and
- Release time for beginning teachers: 4 per cent.

The expert teacher career path should be part of a broader reform

As Grattan Institute's 2019 report *Attracting high achievers to teaching* showed, the expert teacher career path should be part of a broader package of initiatives that would double the number of young high achievers choosing teaching as a career.[97]

The expert teacher career path would account for about three-quarters of the cost of the broader package proposed in *Attracting high achievers*.[98] Figure 6.4 shows how the cost of the broader reform package would grow, using this report's updated costings of the expert teacher career path. The cost of the full package would reach about $700 per student per year in 2032, and then grow slowly, driven partly by the expert teacher career path becoming fully operational and partly because funding indexation is higher than inflation.

Figure 6.4: The expert teacher career path should be the largest part of a broader package of reforms to attract high achievers to teaching
Projected cost to implement Grattan's comprehensive package to attract high achievers to teaching, government schools, 2020$ per student



Notes: Costs of the expert teacher career path are the same as in Figure 6.1. The scholarship program (worth $10,000 per student each year they are studying teaching) is assumed to ramp up over four years, starting with 2,500 scholarships in 2020 and reaching 10,000 new scholarships each year in 2023. The marketing campaign ($20 million per year) is assumed to be fully operational from 2020. The real costs of the scholarships and marketing campaign grow at the difference between indexation of school funding (assumed to be 3.3 per cent per year) and inflation (assumed to be 2.5 per cent per year).

Sources: Goss and Sonnemann (2019), Grattan analysis.

97. See Chapter 3 of Goss and Sonnemann (2019). The package included scholarships, the expert teacher career path, and a marketing campaign.
98. We estimated in Goss and Sonnemann (ibid, p. 24) that the expert teacher career path would cost about $480 per student per year if fully implemented today; this has increased by about 30 per cent in this report. The estimated costs of scholarships and the marketing campaign have not changed.

6.2 Paying for the expert teacher career path

Following the 'Gonski 2.0' reforms in 2017, real funding for government schools will grow by about $1,000 per student by 2032, although this varies substantially between states.[99] As Figure 6.5 shows, the expert teacher career path would eventually use roughly about two-thirds of this extra funding. Our broader package to attract high achievers would eventually use about 80 per cent of the extra funding.[100]

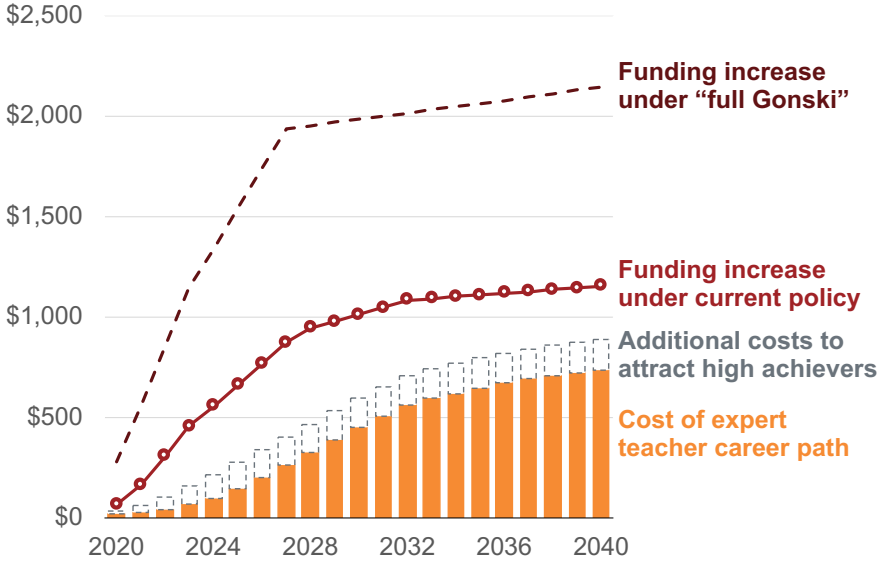
This analysis shows that government schools in most jurisdictions could pay for the expert teacher career path *from within* projected funding growth. But doing so would leave little for other priorities such as mental health,[101] disability funding, or lifting principal pay.

By contrast, government schools could afford the expert teacher career path and more if they got 'full Gonski' funding.[102] Our model costs just 40 per cent of the extra money that government schools would receive if they got 100 per cent of what the funding formula says they actually need.[103]

Non-government schools have received generous funding increases over the past decade,[104] and are on track to receive 'full Gonski' funding by 2023. They should fund our expert teacher career path model out of existing resources.

Figure 6.5: The expert teacher career path would cost roughly half of the anticipated growth in funding for government schools

Projected average funding increases versus cost of expert teacher path and other costs to attract high achievers, government schools, 2020$, per student



Notes: The additional costs to attract high achievers to teaching cover 10,000 scholarships per year and a $20 million marketing campaign. The estimate of the funding increase under current policy does not take account of the clauses in the National School Reform Agreement that let states allocate up to 4 percentage points of their School Resourcing Standard contribution to depreciation and other indirect costs. The estimate of the funding increase under 'full Gonski' assumes that all government schools reach 100 per cent of the School Resourcing Standard by 2027.

Sources: Department of Education, Skills, and Employment (2019), Grattan analysis.

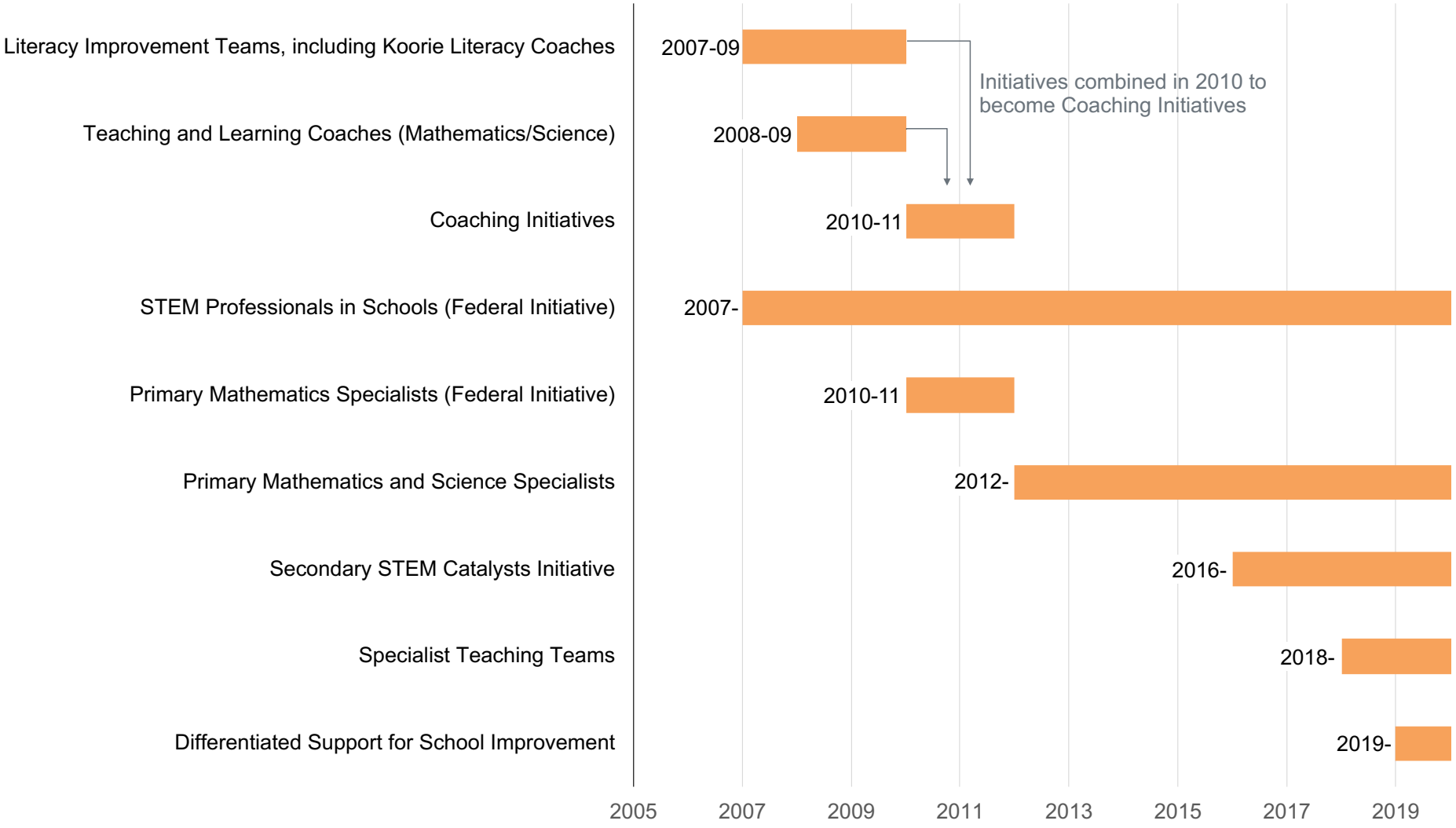
99. Grattan analysis of the 2019 National School Reform Agreement (Department of Education, Skills, and Employment 2019). Per student funding of government schools in Western Australia and the ACT will drop. In every other state, the average government school will get at least $650 extra per student per year, enough to pay for our proposal.
100. These figures would be lower if existing instructional leadership programs were rolled into the expert teacher career path.
101. Productivity Commission (2019, Chapter 17).
102. As Appendix H explains, Government schools are not on track to be fully funded.
103. Again this varies by jurisdiction. But only the ACT would have a drop in per student funding from moving to 100 per cent of the School Resourcing Standard.
104. See Goss and Sonnemann (2019, pp. 36–37) for details.

Appendix A: Summary of the evidence on professional learning

Study	Sample size	Methods	Type and focus of professional learning	Improve student outcomes?	Impact on student outcomes
Kennedy (2019)	29 studies, 22 with common study designs	Systematic review – experimental studies	Professional development, minimum duration 1 year, minimum of 20 teachers Various activities, e.g. workshops, seminars, coaching, PLCs Mix of generic teaching practices, content knowledge, strategies to engage students	Yes	0.10 (20 studies, all maths/language professional development) 0.27 (4 studies, topic-specific professional development)
Kraft et al (2018)	60 studies, 31 using student outcome measures More than 8,700 teachers	Meta-analysis – causal studies including 56 randomised controlled trials (RCTs) and 4 quasi experimental designs (QEDs)	Coaching, often combined with group training, instructional content, or video libraries Most programs are focused on literacy Most programs are for kindergarten to elementary teachers	Yes	0.16 (all studies) 0.28 (<100 teachers) 0.10 (100+ teachers) 0.18 (RCTs only)
Backes and Hansen (2018)	44 schools, 15,000 students	Quasi experimental evaluation – regression modelling to measure differences in achievement of treatment and control students	Model 1: Multi-classroom leader model Model 2: Increasing student load of effective teachers	Yes, in maths only. Model 2 had no impact	11% of a standard deviation higher in maths for Model 1 No significant effect on reading
Kennedy (2016)	28 studies, 2,945 teachers	Systematic review of experimental studies – studies controlled for teacher motivation (not randomised)	Professional development, minimum duration 1 year Various activities, e.g. workshops, seminars, coaching, PLCs Mix of content, behaviour management, enlisting participation, exposing student thinking. Mix of kindergarten to Year 12	Yes	0.10 0.16 (voluntary) 0.03 (mandated)
Garet et al (2016)	3 studies	Randomised controlled trials	Summer institute; school-year meetings; in-school coaching Content knowledge or PCK	No	No significant effects overall

Study	Sample size	Methods	Type and focus of professional learning	Improve student outcomes?	Impact on student outcomes
Gersten et al (2014)	5 studies, 922 teachers, 15,355 students	Systematic review – causal studies meeting What Works Clearinghouse (WWC) standards	Various activities, e.g. intensive courses followed by workshops, lesson study groups, facilitated workshops Maths-focused	Mixed results	No pooled effect size (ES) 2 effective studies had ES ranges of: 0.71-0.84 (RCT) 0.09-0.20 (QED)
Scher and O'Reilly (2009)	9 studies (maths) 11 studies (science)	Meta-analysis – causal studies including 1 RCT and remaining QEDs with a control group	Professional development. Various activities, e.g. workshops, coaching, summer program, classroom support. Many supplement workshops with coaching Maths/science-focused Mix of kindergarten to Year 12	Yes	0.41 (maths) 0.28 (science)
Blank and Alas (2009)	74 studies, 16 with positive effects, 12 significant	Systematic review – causal studies Review of the features of effective programs	Professional development. Various activities, e.g. summer institute, in-service activity internship, coaching, mentoring, study groups Maths/science content knowledge Mix of kindergarten to Year 12	Mixed results: Yes for 16 of 74 studies	No ES for 74 studies 12 significant studies: 0.2 (pre design) 0.13 (post design) RCTs only: 0.27 (pre design)
Yoon et al (2007)	9 studies, 190 primary teachers	Meta-analysis – causal studies meeting What Works Clearinghouse (WWC) standards, including 5 RCTs	Professional development. Workshops or summer institutes, all but one with follow-up sessions Mix of maths, science, reading, English/language, arts Mix of kindergarten to Year 5	Yes	0.54, ranging from -0.53 to 2.39 RCTs only: 0.51, ranging from 0 to 1.11
Timperley et al (2007)	97 core studies, plus 10 supplementary	Meta-analysis – RCTs and QEDs with significant effects, compared against supplementary studies with either strong method or results	Professional development. Various activities, e.g. observations, materials, discussions with expert, analysis of current practice Mix of content, pedagogy, students, conceptual tools Mix of kindergarten to Year 12	Yes	0.60 (mean) 0.24 (median) -1.01 (min) to 5.31 (max)

Appendix B: Coaching initiatives in Victorian government schools, 2005-19



Source: Grattan analysis of publicly available documents.

Appendix C: Overview of the Grattan survey on instructional leadership

Grattan Institute conducted an online survey on instructional leadership between August and October 2019 targeted at teachers, principals, and instructional leaders.

It included a brief introduction, specific questions that depended on the respondent's job, and demographic questions.

A total of 1395 people began the survey, and 713 completed it. Responses from partial completions are included in our analysis. The 713 completed responses included 397 from self-identified instructional leaders, 259 from self-identified teachers, and 57 from self-identified principals. Given the small sample size for principals, we have reported principal responses in the main report only where results are consistent and strong.

All school types were well represented. Of the people who completed the final section on demographics, 43 per cent said they worked in a primary school, 16 per cent in a combined school, 34 per cent in a secondary school, and 7 per cent in another type of institution. Of those who completed the survey, 67 per cent said they worked in a government school, 16 per cent in Catholic schools, and 21 per cent in independent schools.[105]

About three-quarters of respondents identified as female and about one-quarter identified as male. Nine identified as other.

Responses came from across the country:

- 28% from NSW (which has 31% of all teachers);
- 31% from Victoria (26% of teachers);
- 13% from Queensland (21% of teachers);
- 11% from Western Australia (11% of teachers);
- 10% from South Australia (7% of teachers);
- 3% from Tasmania (2% of teachers);
- 3% from the ACT (2% of teachers); and
- 2% from the Northern Territory (1% of teachers).

We advertised on Facebook to encourage people to participate, but we offered no financial inducement. The Facebook ads appeared during the following periods:

- 8-12 August
- 7-17 September
- 3-9 October
- 15-19 October

Chapter 1 of the Technical Supplement gives the full results of the survey.[106]

105. These figures do not add up to 100 because the categories were not mutually exclusive; some teachers may have worked in more than one sector.

106. Goss (2020).

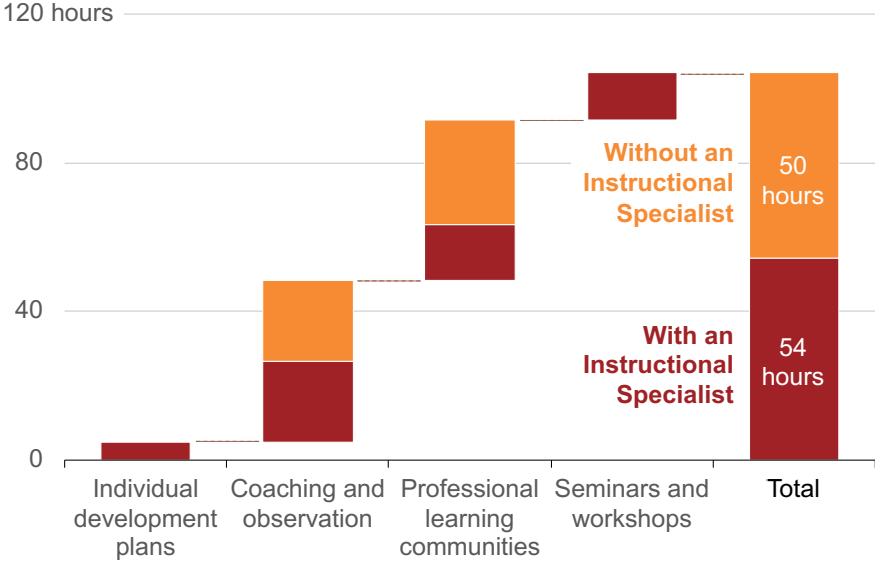
Appendix D: Instructional Specialists would give teachers extensive support

Our time allocations for Instructional Specialists assume teachers would get 104 hours of broader professional learning activities each year, or about 2.5 hours per week. This would include intensive time in coaching, observation and professional learning communities, as well as seminars and workshops. It is based on professional learning in high-performing systems and has been described in a past Grattan report, *Making time for great teaching*.[107]

In our model, we assume teachers would get support from an Instructional Specialist for more than half of their professional learning time, as seen in Figure D.1. This would equate to about 54 hours per year, or more than one hour per week, with an Instructional Specialist.

Figure D.1: Teachers would work with an Instructional Specialist for about 54 hours each year under our model

Hours per year spent by teachers on professional learning (illustrative)



Notes: These time splits should be taken as illustrative rather than fixed, but are based on the analysis in Grattan's previous report Making time for great teaching. *PLC's (Professional Learning Communities) includes supporting teachers' lesson planning groups as well as research groups.*

Sources: Jensen et al (2014), Grattan analysis.

107. Jensen et al (2014).

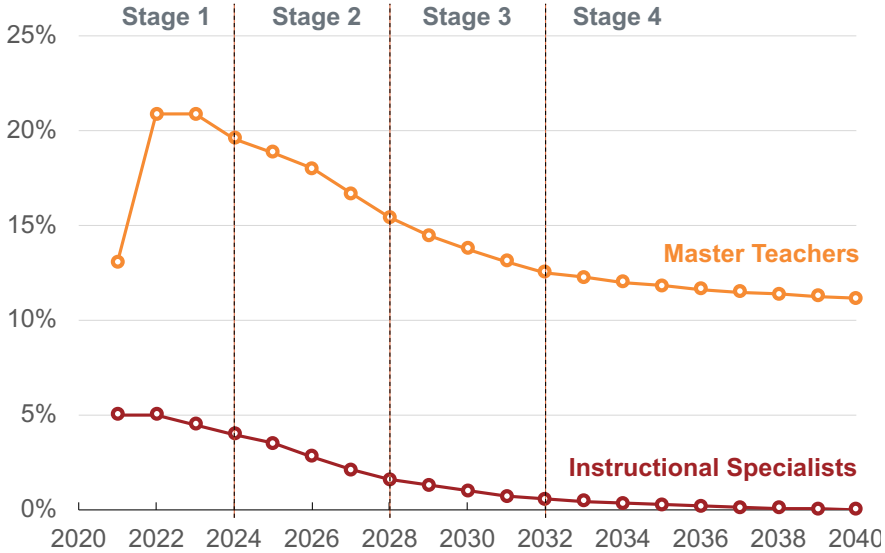
Appendix E: Expert teachers must have time to grow the next generation

Figure E.1 shows the time (as proportion of a full-time job) that Master Teachers and Instructional Specialists would need to spend on growing the next generation – identifying promising candidates and then encouraging and supporting them as they prepare to apply. We estimate that supporting one teacher to apply for an Instructional Specialist role would require a 0.1 FTE time allocation over the course of a year – roughly half a day per week.

In our model, Master Teachers would always be expected to dedicate at least 10 per cent of their time to growing future Master Teachers and Instructional Leaders. During Stage 1 and at the start of Stage 2, this would peak at about 22 per cent of the Master Teacher's time. In other words, nearly a quarter of their job would be to grow the next generation of Instructional Specialists and Master Teachers.[108] As the model matured, the focus would progressively shift from finding candidates for newly created roles to replenishing the ranks of Instructional Specialists and Master Teachers as the people in those roles retired or changed jobs.

Instructional Specialists would have a lighter load. In Stage 1, growing the next generation would take up about 5 per cent of their time.[109] This load would drop over time as the number of Master Teachers increased.

Figure E.1: Until the model is mature, a lot of Master Teacher and Instructional Specialist time would be needed to grow the next cohort
Estimated proportion of experienced Master Teacher and Instructional Specialist time required to grow the next cohort



Notes: Experienced Master Teachers would directly support one teacher per year to apply to be an Instructional Specialist; oversee the support of other potential Instructional Specialists; and directly support potential Master Teachers. Experienced Instructional Specialists would support one teacher to apply to be an Instructional Specialist every two years in Stage 1, one every three years in Stage 2, and one every nine years in Stage 3. Identifying and supporting one applicant is assumed to require 0.1 FTE, while overseeing a support process being run by someone else is assumed to require one-fifth that amount of time.

Source: Grattan analysis.

108. This would include overseeing Instructional Specialists who were supporting potential candidates to apply for an IS role.
109. Based on supporting one teacher to apply to be an Instructional Specialist every two years.

Appendix F: Teachers would have good opportunity to take on the new roles

Expanding the number of Instructional Specialist and Master Teacher roles too rapidly would create bountiful opportunities for current teachers, but lock future teachers out until the early cohorts retired or changed jobs.

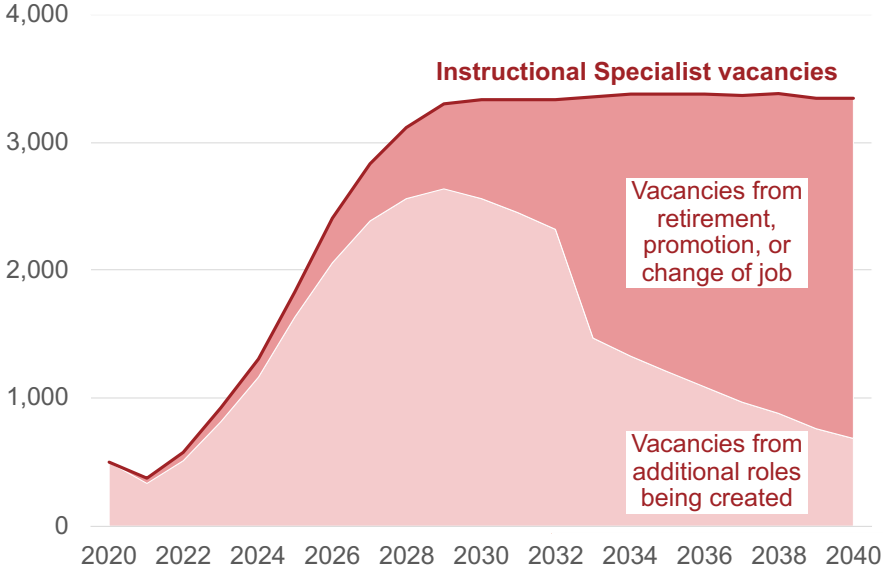
This 'feast then famine' scenario would be counter-productive. As we noted in our 2019 report *Attracting high achievers to teaching*, the expert teacher career path would be very attractive to young high achievers as they decide whether to choose teaching. But this drawcard depends on young high achievers knowing the opportunity would still be there once they're ready to apply.

Our model avoids this problem by slowing down the creation of extra roles as the model moves towards saturation.[110] The projected number of vacancies would stabilise from about 2030 on (see Figure F.1). From then, about 3,300 Instructional Specialist roles would be available each year – roughly 1 per cent of the workforce. There would also be 370 Master Teacher vacancies per year.

This happens because the shrinking number of new roles would be counter-balanced by a growing number of vacancies due to retirement, promotion, or change of job. What it means is that future teachers would have the same opportunity to become an Instructional Specialist or Master Teacher as current teachers.

Figure F.1: The model is designed to create a steady stream of opportunities to become an Instructional Specialist

Estimated vacancies per year, all schools



Notes: 'Instructional Specialists' refers to the number of people with an Instructional Specialist job, not their FTE time release. Implementation is anticipated to start in 2020 with 500 roles. In subsequent years, vacancies would arise when an additional role had been created or an existing role needed to be filled because of retirement, promotion, or change of job. Instructional Specialists are assumed to stay in the role for 10 years on average, unless they are promoted to Master Teacher first.

Source: Grattan analysis.

110. Some schools or systems will inevitably be late adopters. Scale-up is likely to follow an 'S-curve' trajectory that is common in adoption processes. See, for example, Newsum (2019).

Appendix G: Risk analysis and proposed mitigation strategies

This appendix provides a detailed risk analysis for our model.

There are five major categories of risk involved in building an expert teacher career path at the scale we propose:

- Poor design;
- Poor implementation in schools;
- Poor implementation at a regional level;
- Failure to scale up to a system-wide level; or
- Failure to lift student outcomes enough to justify the investment.

Each category has multiple specific risks. Every specific risk is assigned a likelihood rating (see Table G.1) that estimates how likely it is to occur before mitigation. It is also assigned an impact rating (see Table G.2) that estimates how severely the risk would affect the success of the model if it were to eventuate.[111]

Table G.3 describes each risk, outlines its potential impact, and proposes a mitigation strategy.

Table G.1: Explanation of likelihood ratings pre-mitigation

Likelihood rating pre-mitigation	Explanation
Very low	Unlikely (estimated at less than 5% chance)
Low	Possible but not likely (5%-to-20%)
Medium	Quite likely (20%-to-50%)
High	More likely than not (50%-to-80%)
Very high	Expected (80% or more)

Table G.2: Explanation of impact ratings

Impact rating	Explanation
Very low	The model needs routine adjustment
Low	The model is less effective than it could be
Medium	The model must change to make it work better
High	The model will probably fail without major changes
Very high	The model won't work without a full redesign

111. The impact rating of 'very low' is included for completeness. Risks with a very low impact rating are not shown in Table G.3 because the model is expected to adapt during scale-up.

Table G.3: Detailed risk analysis

Risk	Likelihood rating pre-mitigation	Impact	Impact rating	Proposed mitigation strategy
Model risks				
Role design: Instructional Specialist dosage is too low, leading to each role being allocated too little time, OR fewer roles in each school	Medium	Instructional Specialists have too little time to do the job properly, leading to poor performance or burnout, OR fewer roles means their work is more general and less subject-specific	Medium	Monitor the feasibility and effectiveness of the role during implementation and increase time release if required
Role design: Master Teacher dosage is too low, leading to them being expected to support too many schools	Medium	Support from Master Teachers is poor quality, or some schools miss out on support, or Master Teachers burn out	Medium	Monitor the feasibility and effectiveness of the role during implementation and increase the proportion of Master Teachers if required
Role design: Too much time is allocated to Instructional Specialists and Master Teachers	Medium	Student learning suffers because too many of the best teachers are out of the classroom; the model costs too much	Low	Reduce the time allocation to Instructional Specialists and the proportion of Master Teachers as the model expands
Role design: Our description of how Instructional Specialists and Master Teachers should use their time is wrong	Medium	Instructional Specialists and Master Teachers will choose to use their time differently	Low	Evaluate the role during implementation and adapt the expectations as required
Role design: Subject specialisation has less impact than generalist advice	Medium	Model will fail to deliver expected benefits	High	Run a pilot in Stage 1 and continue to evaluate the effectiveness of the roles during subsequent stages
People: Model makes unrealistic assumptions about the availability of the skillset required for Instructional Specialists or Master Teachers	Medium	The model will mature much more slowly than anticipated because there are not enough teachers with the right skillset, OR people who are appointed lack the expertise to improve teaching practice	Medium	Give early cohorts of Master Teachers and Instructional Specialists extra time to identify and train the next generation of expert teachers Evaluate the expected skillset during implementation, and adapt as required

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Table G.3 – *continued from previous page*

Risk	Likelihood rating pre-mitigation	Impact	Impact rating	Proposed mitigation strategy
Support: The model has underestimated the amount of initial training and ongoing support Instructional Specialists and Master Teachers need	Low	Instructional Specialists and Master Teachers will be less effective than they could be, and the model will fail to build a track record of success and impact	Medium	Invest more in training and support in Stage 1 to learn what is needed Monitor the impact of the support model during implementation, and adapt as required
Constraints: Constraints on Instructional Specialists and Master Teachers are too weak to ensure advice is consistent and uses the evidence base (where it exists)	Medium	Too much 'choose your own adventure' and not enough use of evidence leads to poor-quality performance and loss of trust in the model	High	Choose initial cohorts very carefully Invest more in the ratio of Master Teachers during Phases 1 and 2 Build a 'peer review' culture for Master Teachers
School-level implementation risks				
Many schools choose the Instructional Specialists from the teachers they already know rather than the best candidates	Medium	Role becomes seen as 'who you know' rather than 'what you know', leading to loss of faith in the model	High	Make external certification (ideally HALT status) a pre-requisite to apply for the role Put a Master Teacher on every selection panel
Many of the Stage 1 Instructional Specialists lack the skills, emotional intelligence, or professional authority to lead adult learning	Medium	Instructional Specialists will not be effective at improving practice	Medium	Invest more in training and support for Stage 1 Instructional Specialists on how to coach adults Support schools to re-run the process if no-one has the right skillset and emotional intelligence
Principals in early-adopter schools struggle to find a way for Instructional Specialists to work alongside existing instructional leaders (especially faculty heads and heads of subjects in secondary schools)	High	Cultural clash makes the Instructional Specialist role ineffective in practice and unattractive to future applicants, leading to loss of faith in the model	High	Choose schools carefully during Stage 1 (including only those that want to adopt the model), and give the principals of those schools extra support Give Stage 1 schools extra support from Master Teachers and regional networks Use successful early examples to illustrate what effective models look like
Many teachers reject the guidance of Instructional Specialists	Medium	Instructional Specialists will be less effective at improving practice than they could be	Medium	Instructional Specialists should focus their initial efforts on teachers who are open to change

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Table G.3 – *continued from previous page*

Risk	Likelihood rating pre-mitigation	Impact	Impact rating	Proposed mitigation strategy
Schools train and support Instructional Specialists who then leave for other schools	Medium	Schools become reluctant to invest in Instructional Specialists, making the model ineffective and slowing implementation down	Low	The Instructional Specialist title (and its extra salary) is linked to the position in the school, not the person; if an Instructional Specialist moves to a new school, they do not take the role or the pay with them
Regional-level implementation risks				
Regions choose Master Teachers who reflect a particular teaching ideology rather than a broad view of the evidence base	Medium	The model will reinforce existing ways of working rather than evidence-based practice, leading to little change and a loss of faith in the model	Very high	Include independent experts in the selection panels for the first cohorts of Master Teachers Better not to appoint anyone than appoint a Master Teacher who will propagate practice based on ideology rather than evidence
Many of the Stage 1 Master Teachers lack the skills, emotional intelligence, or professional authority to lead adult learning	Low	Master Teacher guidance will have little impact, leading to a loss of faith in the model	High	In Stage 1, only choose Master Teachers who have demonstrated their ability to improve teaching practice across schools
Master Teachers lose credibility by not being a regular classroom teacher	Medium	Master Teachers have less impact than anticipated	Medium	Ensure that Master Teachers spend enough time leading classrooms (e.g., demonstration lessons) that they keep their teaching skills sharp
Regional leaders use Master Teachers too much for broad school improvement efforts and generalist support	High	Master Teachers have limited impact in their specialist subject, leading to a loss of faith in the model	High	Choose early implementation sites carefully, and invest more on expert and system support to regions and Master Teachers Learn from how Singapore uses Master Teachers, then use successful early examples in Australia to refine guidance and training for regional leaders
Regions adopt a 'one-size-fits-all' model and don't give schools enough flexibility to adapt the Instructional Specialists roles to their particular needs	Medium	The roles have less impact than they should, especially for smaller and disadvantaged schools	Medium	Allow schools flexibility in how they use the Instructional Specialist roles, but insist that all roles have enough time release, and use Master Teachers to ensure quality remains high

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Table G.3 – *continued from previous page*

Risk	Likelihood rating pre-mitigation	Impact	Impact rating	Proposed mitigation strategy
System-level risks				
Not enough schools want to adopt the model in the early stages of implementation	Low	Implementation will be slower than planned	Low	Pro-actively identify potential Stage 1 schools Highlight early examples of success
The model works at the level of a pilot program but falls down as it is implemented more widely	High	Model shows early promise but fails to deliver as it matures	High	Education systems should explicitly invest in implementation and, if needed, take more than the 12 years to reach maturity Give early cohorts extra time and support to identify the next generation of expert teachers Use pilot program to identify the requirements for successful implementation at a school level Keep focus on quality, especially in Stages 2 and 3 which have the fastest growth in the number of roles
There are not enough HALTs to meet demand for Instructional Specialists and Master Teachers	Very high	Implementation will be slower than planned, OR HALT certification is dropped as a pre-requisite, increasing the risk that the people appointed to the roles lack the teaching expertise to do the job well	Medium	Make HALT certification more efficient, for example by giving teacher registration authorities extra resources to review HALT applications Give Master Teachers and Instructional Specialists extra time in Stages 1 and 2 to help would-be Instructional Specialists with HALT certification
Education systems or education unions set targets and push for quantity over quality	Medium	The people appointed to the jobs lack the skillset or support they need, leading to an ineffective and expensive failure	High	Give priority to quality over quantity Retain external certification (ideally HALT status) as a pre-requisite to apply for the roles
Education systems fail to align similar programs with the expert teacher career path	High	Duplication of activities causes confusion and extra cost	Medium	Education systems should consider which existing instructional leadership programs to integrate into the expert teacher career path, ensuring that any teachers who are moved across meet the same high standards that a new Instructional Specialist or Master Teacher would have to

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Table G.3 – *continued from previous page*

Risk	Likelihood rating pre-mitigation	Impact	Impact rating	Proposed mitigation strategy
Education unions argue any HALT-certified teacher should get paid as an Instructional Specialist or Master Teacher, i.e., that pay is linked to the person, not the position	Medium	Costs blow out	High	Education systems should not put the new roles into industrial agreements unless the unions accept that the roles are linked to a particular school or region, i.e., pay is linked to the position, not the person
The expert teacher career path fails to become embedded in the education system	Medium	Future politicians drop the model in favour of their pet ideas or to cut costs, continuing the cycle of 'chopping and changing'	High	The teaching profession must get behind the idea of the expert teacher career path to ensure continuity In time, the roles should be in industrial agreements
Risks relating to impact and return-on-investment				
The model has little impact on teaching practice	Very low	Investment is wasted	Very high	Monitor teaching practice in Stage 1 schools Identify the ways successful Instructional Specialists and Master Teachers improve teaching practice Phase in the model over more than 12 years, to give it time to adapt and improve
The model improves teaching practice but has little impact on student outcomes	Low	Investment is wasted	Very high	Do a formal evaluation of Stage 1 schools, including one or more randomised controlled trials Identify the ways successful Instructional Specialists and Master Teachers improve student outcomes, and adapt the model accordingly
The learning losses from taking top teachers out of the classroom outweighs the benefits of helping other teachers be more effective	Medium	Investment is not worthwhile	High	Analyse whether re-designing the model could lead to net learning gains
Student outcomes improve but not enough to justify the costs of the model	Medium	Investment is not worthwhile	High	Analyse whether re-designing the model could make the financial return worthwhile
Costs are much higher than anticipated, e.g., because of flow-on impacts to principal and deputy principal salaries	Medium	Returns on investment are lower than anticipated	Low	High-level cost-benefit analysis suggests that the model will pay for itself many times over if it is implemented successfully

Appendix H: Government schools are not on track to be fully funded

The National School Reform Agreement locks in effective funding increases for government schools in most states and territories.[112]

By 2023, the Commonwealth will fund all government schools at 20 per cent of the School Resourcing Standard (SRS). This is an increase for all jurisdictions except the Northern Territory. Meanwhile, states will gradually move toward funding government schools at 75 per cent of SRS, an increase in most jurisdictions but no change or a decrease in others.[113]

This means that government schools will notionally reach only 95 per cent of their 'full Gonski' funding, even while non-government schools are moving towards 100 per cent.

There are further problems in the Agreement.[114] The biggest is that depreciation is counted as a contribution towards recurrent funding. Yet depreciation is really part of the capital budget, not the operating budget. In effect, government schools seem likely to receive closer to 91 per cent of their Gonski targets.[115]

Despite these problems, the National School Reform Agreement reflects a genuine increase in effective funding for government schools. It is about time: over the decade to 2017, Australian government schools got on average just 1 per cent more funding that they could use to teach students – a miserly $15.50 per student per year.[116]

By contrast, non-government schools had an effective funding increase (i.e. above costs) of $1,430 per student per year over the same period.[117]

In *Attracting high achievers*, we argued that state governments should fund the broader reform package by re-allocating funding from existing activities and increasing funding to cover any remaining gap.[118] This recommendation holds.

112. Department of Education, Skills, and Employment (2019).
113. Western Australia and the ACT currently fund their government schools above the SRS, so they can decrease funding as a percentage of SRS. Funding for South Australian government schools will stay at 75 per cent of SRS.
114. Goss (2019a).
115. State governments are able to count depreciation and other costs, such as transport, towards up to 4 per cent of SRS for government schools. This clause does not apply for non-government schools.
116. Goss (2019b).
117. See Goss and Sonnemann (2019, pp. 36–37), Figure 4.5. This analysis takes account of student enrolments and wages. Goss (2019c) gives a full explanation.
118. Goss and Sonnemann (2019, pp. 36–37).

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