

Writing and writing instruction

An overview of the literature

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This publication summarises available evidence on writing and writing instruction. While the literature on writing instruction is modest compared with reading, and the quality of the research is variable, there are a number of findings and recommendations that can be drawn.

Overall findings and recommendations

- Improve Initial Teacher Education in the writing domain by specifying the content and pedagogical knowledge to be taught, ensuring adequate time is dedicated to delivering units on writing and writing instruction, and building time and quality metrics into accreditation policy and processes to ensure consistency across providers
- Improve access to high quality and systematic professional learning options for school leaders and teachers in the writing domain
- Increase the amount of time students spend writing (composing) and receiving writing instruction (at least one hour per day)
- Ensure writing instruction is a priority across all years of primary and secondary schooling
- Review the instructional quality and opportunities for boys and girls, and seek to close the writing achievement gap
- Use effective instructional techniques consistently and frequently
- Ensure adequate foundational instruction in handwriting and spelling
- Ensure adequate sentence-level writing instruction across the primary and secondary years
- Embed grammar and punctuation instruction in meaningful writing tasks
- Ensure adequate strategy instruction in planning, drafting, evaluating and revising
- Explicitly teach genre macrostructure and microstructure through modelling, guided practice and exemplars, providing subject specific instruction as required
- Ensure adequate attention to informational and persuasive writing, alongside narrative writing
- Ensure students write frequently for a range of meaningful audiences and purposes
- Build knowledge for writing such as rich content knowledge, knowledge of linguistic and rhetorical features, and vocabulary
- Integrate instruction across the curriculum by using writing to support reading and learning
- Consider using validated writing programs, noting that one approach or program alone does not cover all aspects of writing instruction or constitute a curriculum
- Embed frequent formative assessment and provide explicit feedback to move students forward
- Align writing goals, curriculum, instructional methods and assessment practices
- Teach typing skills and provide students with opportunities to compose using digital writing tools
- Create motivating and supporting writing environments where writing is valued, routine and collaborative
- Provide additional scaffolding and instruction for students with learning difficulties and disabilities

Introduction

This literature review aims to provide a high-level overview of what is known about writing and writing instruction. We encourage readers to consider the implications in their own context, be that Initial Teacher Education (ITE), policy development, education management, school leadership or in the classroom. We hope this literature review can serve as a foundational document, from which next steps in writing research and writing instruction in the Australian context can be found and acted on.

It is important to state at the outset that while much is known, there is still so much more to learn about writing development and effective writing instruction. Compared to the literature on reading, the writing literature is modest, and the quality of the research is variable (Slavin et al. 2019). In the writing domain, there is a lack of high-quality and large-scale research in the Australian context. While related domains such as reading have had research attention, rigorous writing research that helps us to understand the relevance and value of existing theories and pedagogies in contemporary Australian classrooms is lacking (Clary and Mueller 2021).

While many of the findings discussed below can be considered the best available evidence, that does not mean these findings represent the highest quality evidence. Often studies (including combined results reported on via meta-analysis) had small sample sizes, and/or groups of students studied were not representative of general classroom instruction. Results should be interpreted cautiously, and without the assumption that approaches are readily transferrable despite positive effects. Given the relatively limited research in the writing domain, we must remain open to and seek out more rigorous findings as they emerge, then adapt curricula and instruction accordingly.

We must carefully consider the applicability of research findings to the Australian context. A significant portion of the writing research is conducted and published in the USA, where process writing is typically the dominant instructional approach and writing research is viewed more through a sociocognitive lens (an integration of social and cognitive elements of writing). This contrasts with the Australian context, where we have had a largely sociolinguistic approach to writing and writing instruction for the past 30-40 years, and genre pedagogy continues to be emphasised, along with elements of process writing.



What is writing?

Writing has been described as “a goal directed and self-sustained cognitive activity requiring the skilful management of:

- the writing environment
- the constraints imposed by the writing topic
- the intentions of the writer(s), and
- the processes, knowledge, and skills involved in composing” (Graham et al. 2013a:4).

It is important to consider the various social purposes, and the forms, structures and linguistic choices that are used by the writer to achieve the outward facing dimensions of writing (Christie and Derewianka 2008; Cope and Kalantzis 1993; Halliday 1994; Hyland 2003), rather than viewing writing predominantly as an individual cognitive activity. While we often refer to writing as a single ability, it is a complex task with many distinguishable elements, processes and stages (Graham et al. 2019). Skilled writing requires proficient handwriting, spelling and typing skills, and the use of traditional and digital writing tools. It also requires complex and varied sentence construction including advanced knowledge of grammar and punctuation. Skilled writers also require deep understanding of audience, purpose and genre, rich content (topic) and vocabulary knowledge, and the ability to plan, draft, evaluate, revise, edit and publish text, from paragraphs to compositions (Graham et al. 2019).

The importance of writing

Writing proficiency is central to student success during the school years, and it influences personal and vocational outcomes post-school (Graham 2006; Graham 2019). Writing allows us to communicate, learn, share, connect, tell stories, create other worlds, express ourselves, explore who we are, document and preserve experiences and histories, inform, influence and persuade. There are 3 other key reasons why writing and writing instruction are important.

Writing about what we learn helps us understand and remember

Writing about content enhances learning across subjects and grades (Graham et al. 2020). When writing instruction prompts students to think deeply and/or make decisions about content, learning is improved. To deepen, extend or strengthen knowledge, a range of writing types can be used. Effective methods are summarising, describing, comparing/contrasting, connecting information within topics and/or texts, explaining, writing stories or

poetry to extend ideas, arguing, note-taking, creating analogies, and developing graphic organisers or mind maps with text. While writing is not the only tool to affect learning, it is an important piece of the puzzle (Huerta and Garza 2019). To promote learning, writing-to-learn instruction typically needs to be frequent and routine (Graham et al. 2020).

Writing about what we read boosts understanding

Across genres, subjects and grades, when students write about material they have read, their comprehension of the material improves (Graham and Hebert 2011). Writing about material students have read facilitates comprehension because it is a tool for permanently and visibly recording, analysing, evaluating, and modifying the content or ideas in the text. Effective writing techniques to boost understanding of material read are extended writing tasks, summaries, note-taking, and generating or responding to questions (Graham and Hebert 2011).

Writing improves reading and reading improves writing

Teaching writing and writing subskills improves reading comprehension, reading fluency and word-level reading. Spelling instruction improves word-level reading and reading comprehension. Instruction in sentence composition improves reading fluency. Teaching multiple writing components or skills improves reading comprehension and increasing how much students write improves their reading comprehension (Graham and Hebert 2011).



Reading instruction improves overall writing performance, writing quality, amount written and spelling. Phonological awareness and phonics instruction positively influence spelling and overall writing performance and reading comprehension instruction improves overall writing performance. Additionally, increasing the amount of time students spend interacting with text (directly or via a model) improves overall writing performance, writing quality and spelling (Graham et al. 2018a).

Theoretical foundations

There have been two dominant conceptualisations of writing development described in the international literature in recent years. Russell's (1997) 'contextual view of writing development' focuses on the writing context, particularly on the writing activity and its actors (roles of student and teacher, materials used, task at hand, collaboration) and the genre, described as the way in which students purposefully interact with writing. Over time, student cohorts develop set ways in which they engage in writing tasks, with writing being a social act within a writing community, consistent with sociocognitive (Langer 1991) and sociocultural theories (Englert et al. 2006). Graham (2018) further explored this contextual model with his 'A writer within community model', which acknowledges the importance of cultural and social considerations in writing.

The second dominant view is Hayes' (2012) 'model of skilled writing development', which in contrast focuses on cognition and motivation. This view is built on the 'cognitive process theory of writing' by Flower and Hayes (1981). Hayes focused more on the individual cognitive and affective processes and skills a writer brings to the task, including motivational resources and

'mental moves' students make. Hayes (2012) posited that writing is complex, involving the execution and coordination of knowledge, processes and skills, and given the competing actions, should any of these actions require too much attention, cognitive overload occurs, impacting writing. This is supported by earlier work (McCutchen 1988) and is consistent with cognitive theories.

Rather than being either/or, it has been argued that incorporating these models allows for the development of supportive, motivating writing environments with codified roles and routines, while also developing handwriting, spelling, typing, sentence construction, and compositional skills to the point that they require limited conscious attention (Graham et al. 2019).

In the Australian context, writing instruction has been positioned quite differently to what is reflected in the North American dominated international literature. For the past 40 years, writing instruction in Australia has been underpinned by systemic functional linguistic (SFL) theories and associated genre theories. Halliday (1985) commenced this shift in Australia with his 'functional model of language in social contexts' which has been extended by others (Christie and Martin 2005; Martin 2009). The premise for this model was that the curriculum includes a range of social purposes for using language, and that attention must be given to building students' abilities in the social practices of recounting, storytelling, explaining, describing, arguing, reviewing, and so on, to achieve their communication and learning goals (Derewianka 2015).

The chronology of theories and trends in writing instruction in Australia have been variously described as:

- 'Nation-building' (1901) with highly organised instruction and prescribed texts
- 'Revolution' (1960s) with challenges to traditional



instruction being popularised leading to a reduction in structured approaches

- ‘Transformation’ (1970s) with ‘Whole Language’, constructivist learning theories, and authentic literature experiences becoming dominant
- ‘Experimentation’ (1980s) with process writing (utilising writer’s workshops) led by Graves (Graves and Murray 1980) and/or systemic functional linguistics (genre pedagogy) led by Halliday (1985) becoming the dominant approaches.

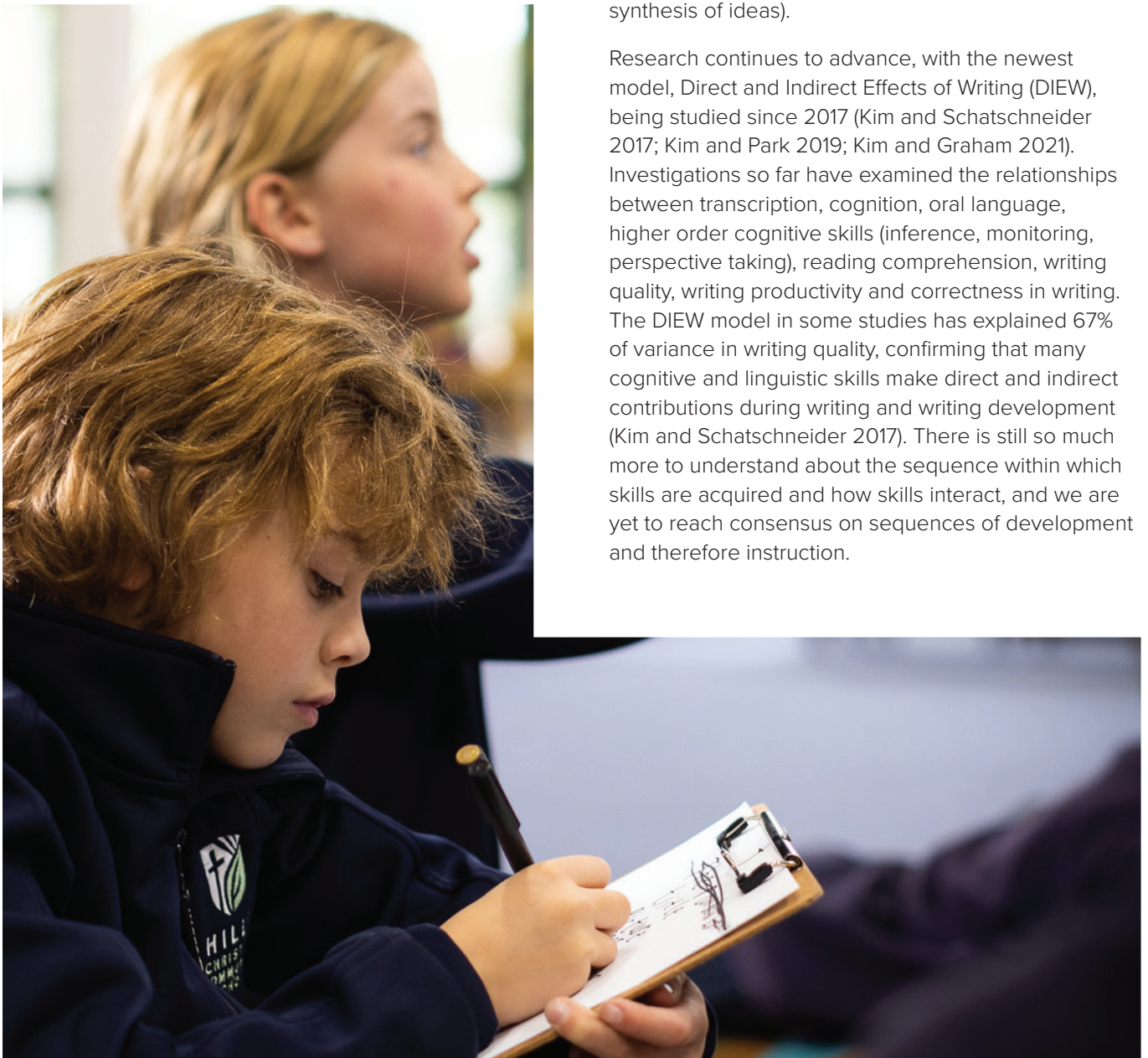
While education systems here and overseas appear to have held primarily to either process or genre pedagogies since, the 1990s brought:

- ‘Progressivism’ (1990s) which focused on evolving these pedagogies, and ‘Balanced Literacy’ came into favour as the new overarching approach, despite a lack of empirical support (Clary and Mueller 2021).

The challenge, of course, is that these evolutions were largely ideological or philosophical rather than empirical, but they have nonetheless resulted in lasting recommendations for teaching and learning.

In terms of the developmental components of writing (that is, the skills involved), there are two models with longstanding empirical support, which are ‘The simple view of writing’ (Berninger et al. 2002; Berninger and Amtmann 2003) and the expanded ‘Not so simple view of writing’ (Berninger and Winn 2006). There are 4 key component groups in ‘The not so simple view of writing’. ‘Transcription’ includes handwriting and spelling. ‘Text generation’ includes words, sentences, and discourse. ‘Executive functions’ include conscious attention, planning, reviewing, revising and strategies for self-regulation. This model is underpinned and constrained by ‘memory’, both long-term memory (relevant knowledge to draw on) and working memory (limited information storage for thinking, retrieval, review and synthesis of ideas).

Research continues to advance, with the newest model, Direct and Indirect Effects of Writing (DIEW), being studied since 2017 (Kim and Schatschneider 2017; Kim and Park 2019; Kim and Graham 2021). Investigations so far have examined the relationships between transcription, cognition, oral language, higher order cognitive skills (inference, monitoring, perspective taking), reading comprehension, writing quality, writing productivity and correctness in writing. The DIEW model in some studies has explained 67% of variance in writing quality, confirming that many cognitive and linguistic skills make direct and indirect contributions during writing and writing development (Kim and Schatschneider 2017). There is still so much more to understand about the sequence within which skills are acquired and how skills interact, and we are yet to reach consensus on sequences of development and therefore instruction.



Pedagogies

There are 3 key approaches to writing instruction, which continue to be used nationally and internationally with variable emphasis. These are the 'product', 'process' and 'genre' pedagogies. Each pedagogy has its benefits and limitations, although no single pedagogy adequately addresses all aspects of the knowledge, skills and strategies required for skilled writing. The most effective instructional methods incorporate elements of product, genre and process pedagogies (Badger and White 2000), with attention provided to what is the most appropriate method given the ability and experience of the students being taught. Many available writing programs incorporate aspects of each pedagogy. Imsa-ard (2020) suggests that a product approach may be more suitable for novices, while genre and process approaches may be more suitable as knowledge and skills increase

Writing as a product

Product writing instruction is a highly structured and scaffolded approach, primarily concerned with building linguistic knowledge and the appropriate use of cohesive devices, syntax and vocabulary (Pincas 1982). It was the dominant approach to writing instruction in Australia, prior to the 1960s and 1970s. During that time, writing instruction was provided in separate components first (for example, grammar lessons,

handwriting lessons, spelling lessons, punctuation lessons, dictation and so on) before being brought together in composition (Derewianka 2015). As the name suggests, product writing is primarily concerned with the quality of the written product. There are 4 stages to this approach:

- familiarisation
- controlled writing
- guided writing
- free writing.

In practice, this means students are first made aware of certain linguistic or text features through exemplars, they practice the linguistic or text features with a high level of support, then they apply these skills to a meaningful writing task independently with minimal guidance (Pincas 1982; Berninger et al. 1996; Badger and White 2000). Research analysing the product writing approach has tended to focus on changes to product length and quality as writing develops (Berninger et al. 1996).

Writing as a process

Process writing emerged in Australia and overseas in the 1960s and 1970s, as an alternative to product writing. As noted above, this was around the same time that 'Whole Language' was becoming prominent in reading instruction (Weaver 1990). The belief was that writing should not be reduced to fragmented



skills, rather than writing should occur as a whole and authentic event (Derewianka 2015). Process writing, which remains the dominant approach in the USA, and popular in some parts of Australia, is concerned with moving students from idea generation all the way through to publication. The emphasis is on the different stages that students go through to produce a composition. These are typically:

- prewriting
- composing/drafting
- revising
- editing
- publishing.

There is little emphasis on linguistic knowledge, grammar and text structures in process writing, compared to product writing (Tribble 1996; Badger and White 2000), and the process is seen to be much the same, regardless of what is being written and for whom. Unlike product writing, which is highly scaffolded, structured and teacher led, the process writing approach tends to be less scaffolded and more student centred, although that need not be the case. Students usually engage in 'writing cycles', often over an extended period, and instruction typically occurs via mini-lessons, conferences and 'teachable moments' (Graham and Sandmel 2011) as opposed to an explicit instruction sequence of explanation, modelling, guided practice and independent practice.

The definition of process writing is contested, but more recently it has become synonymous with 'Writing workshop' or 'Writer's Workshop' models (Calkins 1994; Calkins 2011). A meta-analysis evaluating writing instruction in the primary grades (Graham et al. 2012b) found that process writing improved how well students wrote (ES=0.40) and a process writing focused meta-analysis revealed process writing had a small but statistically significant effect (ES=0.34) on writing quality for students in general education classrooms, indicating it can be effective, but not powerfully so (Graham and Sandmel 2011). However, it should be noted that other writing treatments were not used as controls in these studies and that comparative conclusions should therefore not be made. Process writing did not improve writing quality for at-risk or struggling writers (Graham and Sandmel 2011).

Genre writing

As briefly mentioned above, genre pedagogy emerged as the dominant pedagogy in Australia in the 1980s and it has remained the dominant approach in most parts of Australia, although process pedagogies such as 'Writer's Workshop' are also present. As with product writing, genre writing is concerned with

developing linguistic knowledge, but in this approach specific features are taught within distinct writing contexts. The central aspect to genre writing is 'writing purpose', with the purpose then determining the most appropriate structure and linguistic features. Genre writing instruction involves teaching the context and purpose, structure and grammatical features for each genre or writing form, often with the use of model texts (Badger and White 2000; Derewianka and Jones 2016). Genre pedagogy has 3 distinct stages of instruction: modelling of the genre (sometimes referred to as deconstruction or building the field), joint construction of the genre, then independent construction and control of the genre (Martin and Rose 2005; Derewianka 2015). When the teaching-learning cycle is delivered as intended, instruction should be systematic and explicit (Cope and Kalantzis 2011). There is evidence to suggest that instruction that boosts knowledge of genres results in improved writing quality. In one meta-analysis, explicit instruction in the structures of different genres (informational, narrative and persuasive) yielded an effect size of 0.41, while providing, discussing and emulating model texts for each genre yielded an effect size of 0.40 (Graham et al. 2015a). These findings support the assertions of Myhill et al. (2020), that:

- purposeful grammar instruction should occur within the teaching of writing, rather than being disconnected
- how we write something is of equal importance to what we write
- embedded functional grammar instruction detailing the choices students can make supports them to have better control over their intended message.

Cognitive strategy instruction

There is a fourth approach to writing instruction also worth noting, although it is not usually considered one of the 3 key writing pedagogies. This writing approach is 'cognitive strategy instruction'. Cognitive strategy instruction has been found to be particularly effective in teaching planning, drafting, evaluating and revising techniques across grades and genres, with effect sizes of 1.02 (Graham et al. 2012b) and 0.82 (Graham and Perin 2007a) found in primary and secondary settings respectively, when compared to business-as-usual classroom instruction. Cognitive strategy instruction draws on a range of pedagogies and theories (Olson et al. 2017). While it is somewhat aligned with process writing, it could be considered a significantly more teacher led, scaffolded and structured version. Cognitive strategy instruction typically involves modelling strategy use, genre instruction and scaffolded gradual release to independent application (McKeown and FitzPatrick 2019).

Current challenges and opportunities in writing instruction

Writing is complex and it does not develop naturally, so significant amounts of instruction and practice are essential. Unfortunately, many students in Australia do not develop adequate writing abilities during their primary and secondary education. There has been no improvement in the writing abilities of students in Years 3 and 5, and a moderate decline in the writing abilities of students in Years 7 and 9 over the last 10 years (McGaw et al. 2020). Approximately 30% of Year 7 students and 40% of Year 9 students, score at or below the national minimum benchmark on the National Assessment Program – Literacy and Numeracy (NAPLAN). Students who are Aboriginal or Torres Strait Islander, have a language background other than English, live in regional, rural, or remote areas, and/or experience socioeconomic disadvantage tend to perform worse, with some groups having approximately 60% of students scoring at or below the minimum benchmark (Australian Curriculum Assessment and Reporting Authority [ACARA] 2019). There is also a concerning gap between the outcomes of boys and girls, with one study reporting what is equivalent to a two-year gap between the performance of boys and girls based on Year 9 NAPLAN data (Thomas 2020).

A lot of what we know about common writing instruction practices comes from interview or survey studies conducted with teachers, observational studies that describe the practices, routines and techniques of teachers, and mixed-methods studies that do both. This body of literature includes many studies that document the practices of hundreds and thousands of teachers around the world, including in the Australian context. In addition to this we have hundreds, if not thousands, of instruction and intervention studies. There are two principal findings from the writing research, which seem to be consistent across grades and locations. The first finding is that in some classrooms, some teachers provide outstanding writing instruction. The second finding is that this is uncommon. Unfortunately, writing instruction in most classrooms is inadequate (Graham, 2019), and there are several reasons why this is the case. Fortunately, there are some consistent research findings that detail what can be done better and differently, including in the Australian context (NSW Education Standards Authority [NESA] 2018a; NESA 2018b; Wyatt-Smith et al. 2018).

Pre-service preparation and professional development

According to national and international data, teacher education programs are not preparing pre-service teachers adequately in the writing domain. Teachers rate their preparation to teach writing lower than other key domains such as reading, mathematics, humanities and science (Brindle et al. 2016). When surveyed, teachers across primary and secondary education commonly report:

- inadequate pre-service preparation in writing instruction
- inadequate professional development in the writing domain while working as a teacher (Brindle et al. 2016; Cutler and Graham 2008; Gillespie et al. 2014; Ray et al. 2016).

In one US study, pre-service educators from 50 different universities reported that their degree programs rarely offered stand-alone writing instruction subjects, and that they lacked confidence when it came to teaching writing methods (Myers et al. 2016). Consequently, beliefs, confidence, knowledge and practices in writing instruction vary significantly for individual educators and across different schools. Teachers tend to dedicate more time and attention to writing instruction when they are better prepared to teach writing, feel more capable and confident in their knowledge and expertise, and understand the importance of writing as a communication and learning tool (Brindle et al. 2016; Hsiang and Graham 2016; Troia and Graham 2016).

In the Australian context, there appears to be considerable variation across Initial Teacher Education (ITE) programs with respect to content covered, depth of content, and what students learn about the English writing system and effective practices (NESA 2018b). Pre-service teachers' knowledge about language in one small Australian survey was found to be fragmented and lacking depth, and most reported feeling inadequately prepared to teach (Harper and Rennie 2009).

The recent 'Australian Writing Survey' is a much larger dataset, which was conducted with thousands of educators in NSW. Of the Australian teachers surveyed, 49% reported being underprepared to teach writing (Wyatt-Smith et al. 2018). It was apparent that ITE providers emphasise different pedagogies and theories, resulting in graduates employing a broad range of largely inconsistent approaches in Australian classrooms (NESA 2018b). Many ITE providers provide only surface level coverage of writing components while others overlook components entirely (NESA 2018b). The 2018 report, 'Preparation to Teach Writing:

Report of the Initial Teacher Education Review' recommended:

- the development of minimum specifications for content knowledge and instructional practices
- that the specifications become part of ITE accreditation policy and processes
- that the specifications be developed based on evidence-based practices and best practice approaches in existing programs
- that ITE providers assess students developing capabilities based on these new specifications
- that all ITE providers be given a timeframe within which to transition to the new specifications (NESA 2018a; NESA 2018b).

Amount, frequency and quality of instruction

In the international data, insufficient time is devoted to writing and writing instruction in classrooms when compared to the recommended one hour per day (Applebee and Langer 2009; Brindle et al. 2016; Graham 2019; Graham et al. 2012a). Some teachers reporting spending only 15 minutes per day on writing instruction in the primary years (Brindle et al. 2016). Students do not write frequently enough, and teachers do not spend enough time teaching the skills and strategies required for students to write well. Results from 'The Australian Writing Survey' indicated variation in frequency of writing instruction based on year level, with writing instruction emphasised in Foundation through to Year 2, peaking in Years 3-6, neglected in Years 7-10, before a renewed focus in Years 11-12. If these trends are as common as the survey results suggest, the absence of frequent instruction in the first 4 years of secondary school may contribute to our understanding of the decline in the writing abilities of students in Years 7 and 9, as measured by NAPLAN (Wyatt-Smith et al. 2018).

While many teachers use a range of techniques to teach writing, there is variation in both the practices used, and the frequency of application. Even when practices are evidence-based they are often not implemented with the frequency required to make them effective (Brindle et al. 2016; Graham 2019). The elements of explicit instruction, which are fundamental to any instruction, are also often missing from the teaching of writing (Cutler and Graham 2008; Graham 2019; Gillespie et al. 2014; Ray et al. 2016).

Foundational skills

Instruction in handwriting and spelling in classrooms can be inadequate in terms of the time allocated and/or the instructional methods used. Research findings indicate handwriting instruction is a daily practice for only approximately 35% of teachers, and spelling instruction is a daily practice for approximately 50% of teachers (Cutler and Graham 2008), despite research showing that handwriting and spelling in the primary years contributes to improved writing (Graham et al. 1997). Poor handwriting and spelling can also hinder other writing processes (Santangelo and Graham 2016; Graham et al. 1997), by taking up valuable cognitive space which could be used for other aspects of writing. 'The Australian Writing Survey' revealed that handwriting was not adequately covered during ITE, although primary teachers reported their preparation was better than secondary teachers (Wyatt-Smith et al. 2018).

Handwriting instruction improves handwriting, and positively affects writing quality, length and fluency. Effective handwriting instruction is explicit and frequent, with students from Foundation through to mid-primary benefiting from approximately 15 minutes of daily instruction, practice and feedback in handwriting (Santangelo and Graham 2016).



Spelling instruction improves spelling and improves phonological awareness, word-reading and reading comprehension. This transfers to improved writing. Direct and systematic spelling instruction is the most effective method (Graham and Santangelo 2014). In Graham and Santangelo's (2014) meta-analysis, the average length of spelling lessons was 28 minutes. This was not reported as optimal, but it aligns with the recommendation of 20-30 minutes of daily instruction within most curriculum resources or programs.

Despite it being essential to dedicate time to explicit handwriting and spelling instruction, and underemphasis is common, some studies have shown that it is equally important that their roles are not overstated in the primary years (Cutler and Graham 2008; Dockrell et al. 2016; Rietdijk et al. 2018). Alongside handwriting and spelling, students must also learn how to construct increasingly complex and diverse sentences, and plan, draft, evaluate, revise and compose paragraphs and compositions (Graham 2019).

Sentence-level instruction

Sentence construction is one of the most critical skills to teach students and developing sentence construction skills to a point where they are reasonably effortless can improve writing quality. Typically, this takes time and targeted sentence-level instruction (Graham et al. 2012a). One theory (cognitive load reduction hypothesis) is that developing sentence fluency first frees students up to focus on compositions and ideas, but this theory has not been tested. That is, research has not yet been conducted yet around the degree of mastery that is required at the sentence level to allow students to focus predominantly on higher level writing elements. Additionally, studies have not yet compared a singular focus on sentence-level writing to a combined sentence level and compositional writing focus and/or a composition only approach in early writing instruction. In the meantime, the current expert recommendation is to balance sentence-level writing and compositional writing (Saddler et al. 2018). Results from teacher surveys suggest sentence-level writing instruction is not as frequent as it should be, with only 25% of teachers reporting it as a daily practice in the primary years (Cutler and Graham 2008).

Sentence-level instruction aims to provide “controlled composition exercises” (Saddler 2019:244) that reflect what we expect students to be able to produce in their writing. Even at the single sentence level, students are required to generate an idea, retrieve the words that represent it, and arrange and rearrange the words mentally into a sequence that makes sense syntactically and semantically before or while writing

it (Saddler 2019). Without adequate attention to sentence-level instruction, it is common to see poor punctuation, overly simple and repetitive sentences, poorly constructed and/or run-on sentences, poorly connected sentences and poor overall writing quality.

Often, not enough attention is paid to teaching the definition of a sentence (a complete idea marked by capitalisation and punctuation), sentence functions (declarative, imperative, exclamatory, interrogatory) and sentence forms (simple, compound, complex and compound-complex). Further, not enough attention is given to teaching students how to create increasingly complex, interesting and varied sentences, through sentence combining and expansion tasks. Since the 1960s, research has demonstrated the effectiveness of a range of ‘sentence combining’ techniques in improving syntactic maturity and allowing students to produce a range of compound and complex sentences with ease while composing (Saddler 2019). Sentence-level instruction, particularly sentence combining, is effective and recommended not only in the primary years, but also in the secondary years (Graham and Perin 2007a). Unless we provide this type of instruction across grades, to support the development of increasingly complex and sophisticated sentences, it is likely problems will continue to occur in students’ writing.

Grammar and punctuation

Grammar can be defined in various ways. In this context, grammar is referring to knowledge of:

- words and their functions (parts of speech),
- how word form can change (morphology)
- how to combine words to create sentences that are meaningful and well structured (semantics and syntax).

Grammar and punctuation instruction appear to be more effective and meaningful when taught in the context of sentences and compositions, with research suggesting they should be embedded, rather than isolated tasks (Andrews 2006; Fogel and Ehri 2000; Graham and Perin 2007a; Graham and Perin 2007b). This contrasts with traditional grammar instruction which included isolating and labelling parts of speech, or sentence diagramming. While there is some evidence to support more isolated grammar instruction (Rogers and Graham 2008), overall, literature reviews and meta-analyses have found little or no effect, with one meta-analysis even demonstrating a negative effect (Graham and Perin 2007a). While the research indicates identifying and labelling parts of speech or sentence diagramming may be ineffective on their own, apart from the positive effects of sentence combining detailed above, we

are yet to really understand what effective applied grammar instruction can or should look like (Myhill and Watson 2014). Consistent with other areas of instruction discussed, the frequency of grammar and punctuation instruction in classrooms appears to be variable, with daily practices reported by only 50% of teachers in one study (Cutler and Graham 2008).

Functional grammar

Functional grammar is about teaching students to make intentional choices in the context of the genre, as opposed to the grammar instruction described above, which is more concerned with form or accurate sentence structure. Functional approaches to grammar instruction within the context of writing have been effective in large scale and well-designed studies, with students improving their writing, particularly their metalinguistic knowledge (ability to consciously reflect on and be purposeful with their language use). It should be noted that teacher knowledge was a key factor in determining the effectiveness of the interventions, and higher ability writers tended to benefit more than lower ability writers from such an approach (Myhill et al. 2012; Myhill et al. 2018). In some small-scale Australian studies, noting that some of these studies were focused on students learning English as an additional language rather than the more general student population, findings have suggested explicit instruction in functional grammar can lead to growth in writing ability, but student progress depends on pedagogical practices (for example, Humphrey and McNaught 2016).

Planning, drafting, evaluating and revising

International data suggest that instruction in planning, drafting, evaluating and revising writing is another area where practices in the classroom often vary and where often, not enough attention is provided. In a survey by Cutler and Graham (2008), on average, US teachers reported spending 38 minutes per week on teaching planning, and 33 minutes per week on teaching writing revision in the primary years. Despite process writing being the dominant pedagogy in the US, daily instruction in teaching of the writing process was rare, with instruction occurring daily in only 7-17% of classrooms in one study (Cutler and Graham 2008; Saddler et al. 2014).

While the plan, draft, evaluate and revise cycle is synonymous with process writing, genre pedagogy, if taught properly, should also include aspects of planning, drafting, evaluating and revising. In genre pedagogy, this is often labelled as modelling and joint construction prior to independent construction. It is important to note that genre pedagogy was initially

developed as a very consistent and explicit response to dwindling explicit approaches to writing instruction (Rose 2009). In the Australian context, data are not available on these particular teacher practices, so we cannot draw any conclusions as to the frequency or quality of instruction in planning, drafting, evaluating and revising students receive in Australian classrooms.

Explicit and systematic strategy instruction in planning, drafting, evaluating and revising, with modelling, guided practice and feedback, has a significant positive effect on student writing quality in primary (Graham et al. 2012b; Kim et al. 2021) and secondary (Graham and Perin 2007a), including for students with learning disabilities (Gillespie and Graham 2014). This explicit instruction has also been shown to positively impact writing productivity (ES=0.59) (Kim et al. 2021). Validated cognitive strategy instruction approach examples are Self-Regulated Strategy Development (SRSD), the Pathway Project 'Reader's and Writer's Toolkit', and Cognitive Strategy Instruction (CSI). While evaluations of strategy instruction using these approaches have consistently demonstrated positive effects (Graham et al. 2013b; Graham and Perin 2007a; Olson and Land 2007; Olson et al. 2017; Kim et al. 2021), it should be noted that significant professional development and implementation support has typically been provided to achieve these results, and research has often been conducted with students with additional learning needs or students learning English as an additional language. Another important caveat is that no single approach or program is sufficient on its own, that is, it does not constitute a writing curriculum. For example, while Self-Regulated Strategy Development (SRSD) has the strongest impact of any researched writing approach, it does not address important aspects of writing such as spelling, typing, keyboarding, or word and sentence level grammar.

It is essential that strategy instruction provides students with a rationale for the strategy, a description of where and when to use it, multiple models of strategy application, guiding students in their application of the strategy, then releasing them for independent practice once they can apply it effectively (Graham et al. 2019). Without explicit instruction, strategies appear to be far less effective (Graham et al. 2012b; Graham and Perin 2007a), with one study demonstrating that giving students time to plan without explicit instruction on how to plan has no impact on writing in the primary years, and limited impact in the secondary years (Limpo and Alves 2013).

It is recommended students are taught how to write a range of paragraph types. Most commonly this is done by providing an overall structure for students, such as an opening sentence, detail sentences that link to the

opening sentence, and either a concluding sentence to close or a transition sentence to the next paragraph (Rogers and Graham 2008; Graham et al. 2019). Given the structural and linguistic features of paragraphs differ based on writing purpose, this should be a key consideration when teaching paragraph structures.

Knowledge for writing

Graham et al. (2015a) describe 3 types of knowledge required for skilled writing, and instruction in these areas improves writing quality. These are knowledge of content/topic, genre and vocabulary. To facilitate content/topic knowledge, it is suggested students write about what they learn and read about, and that time is allocated for pre-writing activities such as brainstorming and information gathering. To develop knowledge of genre, it is recommended that students are taught the basic elements of different genres, that exemplars are provided and discussed, and writing is modelled across genres (Graham et al. 2019). It is also recommended that vocabulary is taught to improve writing quality, with specialised vocabulary instruction yielding an effect size of 0.78 (Graham et al. 2015a).

Fitzgerald and Shanahan (2000) propose there are 4 knowledge sources students access during reading and writing. These are:

- general knowledge (the knowledge students have and use to understand during reading and to generate ideas for writing)
- metaknowledge (knowing about the functions and purposes of various texts)
- pragmatic knowledge (knowing about text features, words, syntax and language use in order to comprehend and create meaning)
- procedural knowledge (knowing how to summarise, predict, question, analyse, access information and set goals in order to comprehend

while reading and attend to and regulate while writing).

There is significant overlap in these two conceptualisations of writing knowledge, described by Graham et al. (2015a) and Fitzgerald and Shanahan (2000). The challenges faced are that:

- content knowledge building approaches within and between schools is highly variable
- text structure instruction is effective but rarely done well (Graham et al. 2012a; Graham et al. 2015a; Graham et al. 2018a; Graham and Perin 2007a)
- narrative writing is frequently prioritised while informational and persuasive writing are neglected (Cutler and Graham 2008; Parr and Jesson 2016)
- vocabulary instruction is rarely emphasised in schools (Gersten et al. 2020).

Integrating reading, writing and learning

Getting students to write about content helps them to better understand and remember. Writing about what they have read boosts their comprehension of that material, and writing instruction and reading instruction



positively influence one another. Integrated instruction involves having content organised across the curriculum around topics or themes, with embedded reading and writing skills and strategies (Glynn and Muth 1994).

Curricula that dedicate equal time to reading and writing instruction enhance both reading and writing performance (Graham et al. 2018b; Graham 2020). Despite these benefits, balanced (50:50) integrated instruction which combines reading and writing instruction remains uncommon. Depending on the knowledge, skills or strategies being taught, there is certainly frequent justification for delineating reading and writing instruction, however opportunities for combined instruction should be taken as often as possible, for maximal benefit.

US data on practices in primary (Graham et al. 2003; Cutler and Graham 2008; Gilbert and Graham 2010; Brindle et al. 2016) and secondary (Gillespie et al. 2014; Ray et al. 2016) settings indicate integrated instruction is highly variable in terms of the frequency and practices used. Even when reading and writing instruction are integrated, commonly, writing activities are brief or surface-level only, for example, worksheets, summaries, note taking or sentence completion tasks (Cutler and Graham 2008; Ray et al. 2016). Usually, little time is spent planning, evaluating, revising and composing a range of texts across subjects (Ray et al. 2016). In the Australian context, the research is scant, but data have been collected on integrated instruction since at least the 1990s, with one study revealing writing was only a small proportion of the instructional time allocated to primary science instruction (Unsworth and Lockhart 1994).

To support reading-writing-learning connections across subjects, a range of writing techniques should be used, with summary writing, question answering, note-taking and extended writing shown to be effective (Hebert et al. 2013). These writing techniques should also involve a range of purposes and structures, such as writing based on genre and/or disciplinary text models, summarising texts, analysing or critiquing content or ideas within a text, and synthesising information from a range of texts (Shanahan 2019).

Klein and Boscolo (2016) and Klein et al. (2019) detail 5 genres for writing to learn:

- journal writing/metacognitive writing to support students to build their understanding or reflect on their learning
- text summaries or text syntheses to support students to develop a thorough understanding of one text or multiple texts
- argument writing to support students to think critically

about historical, literary, social or scientific material

- the science writing heuristic to support writing about questions, experiments, observations, claims, evidence and source materials
- multimodal representations such as tables, graphs, pictorial summaries, maps, diagrams, formulas and lists.

While the genres taught in the Australian context can readily be used to support reading-writing-learning connections (Rose and Martin 2012), especially given students read and study mentor or model texts, we are yet to fully realise the value of integrated instruction. Often writing is taught as an isolated event. We are also yet to instill during ITE the importance of developing language, reading and writing abilities across subjects. In 'The Australian Writing Survey', well over 50% of secondary teachers outside of English reported they spent either no time at all or one hour only on explicitly teaching writing in their classrooms (Wyatt-Smith et al. 2018).

Writing curricula and programs

There is not yet agreement among writing experts about what constitutes an exemplar writing curriculum and/or progression model in Australia. While we have the Australian Curriculum (2018) and the recently developed National Literacy Learning Progressions (2018; 2020), writing experts in Australia argue that our national documents lack coherence and precision when it comes to what should be taught and how (Clary and Mueller 2021). This is complicated further by approaches and definitions being altered significantly through almost every state and territory curriculum revision over the years (Knapp 1998). Internationally, there is also still no agreement on complete developmental sequences in writing and writing instruction, although there have been additions or improvements made to some existing curriculum materials in recent years (for example, 2010 Common Core State Standards in the United States, described in Graham et al. 2015a and the National Literacy Learning Progressions in Australia).

Given the advanced knowledge of word-, sentence- and text-level grammar required to teach writing well, as described in current curriculum documents (Jones and Chen 2012; Macken-Horarik et al. 2018), it is unsatisfactory that professional learning initiatives to support teachers, schools, or whole-school systems to develop this knowledge are lacking (Clary and Mueller 2021; Macken-Horarik et al. 2018). One small survey conducted with Australian teachers based on new curriculum descriptors in the Australian Curriculum revealed that many terms (for example, embedded clause) were unfamiliar to most of the primary and

secondary teachers taking part (Jones and Chen 2021), further emphasising the need for professional learning, if the roll out of 2021 curriculum revisions is to be successful.

Another larger survey conducted with Australian teachers in the context of the current (2018) Australian Curriculum also revealed that Australian teachers appear to be lacking a coherent, shared body of knowledge in the writing domain and that there is a gap between reported confidence and actual knowledge. While a high degree of confidence in teaching grammar was reported, along with grammar being rated of high importance, responses revealed that the participants experienced many challenges with both knowledge and practice in the grammar domain. Responses demonstrated that the majority experienced challenge with grammatical subject knowledge (Macken-Horarik et al. 2018). This gap between reported confidence and actual knowledge has been documented many times elsewhere in the literacy literature, in both student teachers and teachers (for example, Sangster et al. 2013; Stark et al. 2016).

A New South Wales report in 2018 recommended the development of a detailed scope and sequence to better support writing instruction across grades. Such a document would explicitly detail the knowledge and skills expected to be taught and achieved at each year level. It was further recommended that such a document be made available to ITE providers, to facilitate alignment between teacher preparation and practice (NESA 2018b).

There are other curriculum challenges too. One challenge is that there are no writing programs available that address all knowledge, skill, process and

strategy components of effective writing instruction. Another challenge is that we do not know the optimal combination or sequence of instruction, therefore must make 'best bets' based on the available evidence. Positively, there are validated programs available that cover some or many of the elements of effective writing instruction and use of these programs typically results in statistically significant improvements in writing quality (Graham et al. 2012b).

Assessment and feedback

As with other learning areas, there are two broad categories of assessment used to assess writing. These are 'assessment for learning' or formative assessment (used to modify instruction and maximise learning as it takes place) and 'assessment of learning' or summative assessment (used to evaluate at the end of a period whether learning took place). When thinking about assessment of writing, the 3 most important questions to ask are:

- What knowledge and skills do my students need to develop?
- What knowledge and skills do they currently have?
- How can I best support them to move from where they are to where they need to go? (Wilson 2019).

National or state curricula and within-school expectations determine the response to the first question, while questions 2 and 3 require much more planning and thought.

Systematic formative assessment practices that include feedback to students as a daily practice have a significant impact on student writing quality. Student writing improves when formative assessment of writing



is routine (Graham et al. 2015b). The overall effect of writing feedback is moderate ($ES=0.61$), while adult feedback (teacher and parent) has a large positive effect ($ES=0.87$) (Graham et al. 2015b). The effects exceed those obtained through other validated techniques such as sentence-combining, teaching process writing, transcription skills, increasing writing amount or use of digital writing tools (Graham et al. 2015). Despite the effectiveness, research indicates formative assessment practices in writing are infrequent (Cutler and Graham 2008; Graham et al. 2011, Graham et al. 2015b).

Drawing accurate inferences about student learning and adjusting instruction accordingly to increase learning is challenging and prone to subjectivity, therefore the principles of effective formative assessment should be observed (Black and Wiliam 2009; Kingston and Nash 2011). These are usually described as:

- clarifying success criteria (for example, using worked examples or rubrics to explain and model structure, purpose, or linguistic features)
- eliciting samples of students' performance (for example, through questioning, pre-test activities, writing to prompts, lesson exit tickets, and/or post-test activities)
- providing feedback to move students forward, usually by varying the focus, frequency, immediacy and manner of the feedback (Wilson 2019).

As part of clarifying the criteria for success, it is essential that shared knowledge including metalanguage is developed between teachers and students, to set clear writing goals and provide consistent and effective feedback.



Research in the Australian context that involved 59 teachers across 6 schools demonstrated a significant relationship between teacher ability to provide quality feedback and student writing achievement on standardised assessments of writing (Parr and Timperley 2010). The quality of teacher feedback was conceptualised as their ability to ascertain where students were relative to desired achievement, the key characteristics of the desired level of achievement, and what specifically was required to close the achievement gap. A key conclusion in this study was that significant content and pedagogical knowledge are required to provide feedback that can be effective, especially deep knowledge of how written language works (Parr and Timperley 2010).

General effective writing assessment practices include:

- allowing students to use the writing modality in which they are most proficient (that is, handwriting or typing)
- minimising the impact of handwriting bias when judging writing quality
- de-identifying writing samples prior to marking
- randomly ordering writing samples before marking
- collecting multiple samples of students' writing
- ensuring marking is reliable through consensus and/or consistency approaches, which aim to reduce subjectivity (Graham et al. 2011).

An assessment methodology referred to as 'comparative judgement' offers a promising way forward with respect to ensuring easier, fairer, faster, more intuitive and more reliable writing assessment, compared to traditional assessment via rubrics (Verhavert et al. 2019; Pollitt 2012). First proposed by Pollitt in the 1990s, "Comparative judgement is a process where judges compare two responses and decide which is better. Following repeated comparisons, the resulting data is statistically modelled, and responses placed on a scale of relative quality." (No More Marking 2020).

A recent meta-analysis (Verhavert et al. 2019) confirmed comparative judgement as a reliable (note, reliability is measured on a scale of 0-1, with 0 indicating significant error, and 1 indicating no error) assessment tool, with some caveats. Ten to 14 comparisons per writing sample are needed to reach a reliability of .70, while 26 to 37 comparisons per writing sample are needed to reach reliability of 0.90 (Verhavert et al. 2019). Reliability of 0.70 is generally accepted as sufficient for low-stakes and formative assessments, while 0.90 is generally accepted as sufficient for high stakes and summative assessments (Jonsson and Svingby 2007; Nunnally 1978). One of the strengths of comparative judgement is its ability

to allow for multiple assessors to achieve a degree of reliability (Verhavert et al. 2019) that is often lacking in traditional assessment methods. Of note, to achieve the desired reliability, a larger number of comparisons per representation (writing sample) were required for novices compared to experts and peers. As such, it is generally recommended to use expert and peer assessors, rather than novices (Verhavert et al. 2019).

Further research has been published since the meta-analysis (Verhavert et al. 2019), including a large-scale assessment of primary student writing in England (Wheaden et al. 2020) using the No More Marking TM software (NMM 2020). Findings demonstrated comparative judgement to be fair and robust. Reliability ranged from 0.85-0.91 across year levels, with a range of 17 to 24 judgements per writing sample. There was also a high degree of consistency between teachers' judgements of their own students' writing and judgements of students' writing from other schools (Wheaden et al. 2020). Overall, comparative judgement is a reliable assessment method which has the potential to augment or replace traditional marking methods.

In Australia, researchers (Heldsinger and Humphry 2010; 2013) have also sought to increase consistency in teacher judgements through comparative judgement methodologies. In one study, teachers judged student writing samples using pairwise comparison to generate a writing scale. Results indicated that teacher judgement using this structured process resulted in a high correlation between standardised test results and students' positions on the judgement-based writing scale (Heldsinger and Humphry 2010). In a similar study, the same researchers used a two-step process of teacher judgement using calibrated exemplars. A small sample of early primary school teachers assessed student performances using this two-step process and results showed consistency in teacher judgement (Heldsinger and Humphry 2013). Collectively, the international data alongside the Australian data, indicates there are reliable methods available to boost assessment practice consistency and reliability within and between schools.

21st century writing tools

Given studies indicate technology use is absent in many classrooms (McCarthy and Ro 2011), typing and composing via word processing technologies have been described as "among the least used evidence-based practices" to improve writing (Brindle et al. 2016:948). Meta-analyses examining effective writing instruction in primary and secondary contexts have found that allowing students to use word processing tools positively impacts writing quality, with effect sizes

of 0.47 and 0.55 respectively (Graham et al. 2012b; Graham and Perin 2007a). Students who use word processing as the primary mode of composing tend to be better at conveying thoughts and ideas than students who use handwriting as their primary mode of composing (ES=0.50) (Graham and Perin 2007b). Additionally, writing electronically on assessments improves the quality of students' writing (ES=0.54) (Graham et al. 2011). Therefore, students should receive instruction in typing and have frequent opportunities to compose using digital tools, alongside handwriting instruction and handwritten composition practice. Australian teachers recently reported little to no focus on teaching keyboarding during their ITE, and that as a consequence, they provide limited instruction in this area when teaching (Wyatt-Smith et al. 2018). It appears that explicit instruction in typing and allocating time to compose via digital tools are yet to become routine in the Australian context.

Collaboration, motivation and routines

Writing and learning to write are effortful and challenging tasks. As described by Boscoli and Gelati (2019:64), "Learning to write implies exercise, attention, and careful revision. The management, often scarcely attractive for students, is a necessary element of writing instruction." Given the inherent difficulty, along with the fact that writing instruction is often suboptimal, it is no wonder educators lament their students' low enthusiasm and motivation for writing. Writing motivation is a complex combination of:

- ability and perceived competence
- the value placed on or interest in the learning activity
- beliefs about writing and writing utility generally
- writing habits and routines (Boscolo and Gelati 2008; Brophy 2008; Bruning et al. 2016; Graham et al. 2019).

Consequently, time and attention must be dedicated to developing ability and self-efficacy, teaching the value and numerous purposes of writing, and creating a supportive writing environment where students compose routinely. Schools must hold in mind that motivation as a sum of its parts is both internal to the student, and situated within the classroom, so intrinsic and extrinsic factors must be considered equally (Boscoli and Gelati 2019).

Consistent with Russel's (1997) 'contextual view of writing development' and Graham's (2018) 'a writer within community' model, which were discussed in the context of theoretical foundations, time must be devoted to conceptualising the writing community components (purpose, members, tools, actions, products, physical and social setting, history). While

these constructs can seem abstract, there are several concrete actions that can be taken to ensure adequate attention to the writing environment. These include dedicating sufficient time to daily writing and writing instruction, ensuring the classroom environment is positive and supportive, providing adequate resources like text models, planning templates, genre structures, and digital tools, and allowing students to collaborate for planning, writing and feedback. Peer assistance while writing has a significant impact on student writing quality in primary (ES=0.89) (Graham et al. 2012b) and secondary (ES=0.75) (Graham and Perin 2007a) grades, while self-evaluation (ES=0.62) and peer review (ES=0.58) also positively affect writing quality (Graham et al. 2015b).

Students with learning difficulties and disabilities

Students with learning difficulties and disabilities often struggle with learning to write. A recent meta-analysis compared the writing characteristics of students with and without learning disabilities (Graham et al. 2017). Students with learning disabilities scored lower than their peers on a range of measures, including writing quality (ES=-1.06), organisation (ES=-1.04), vocabulary (ES=-0.89), sentence fluency (ES=-0.81), conventions of spelling, grammar and handwriting (ES=-1.14), genre elements (ES=-0.82), output (ES=-0.87), and motivation (ES=-0.42) (Graham et al. 2017). Students with learning difficulties and disabilities also tend to focus on writing as a singular task of content generation, recording all they know about a topic or genre, without factoring in audience, purpose, clarity or coherence (Graham 1990; Gersten and Baker 2001; Gillespie and Graham 2014).

In a recent meta-analysis (Gillespie and Graham 2014) of writing interventions for students with learning disabilities, interventions that positively impacted writing quality were strategy instruction (ES=1.09), dictation to scribe or technology to circumvent handwriting and spelling difficulties (ES=0.55), goal setting (ES=0.57), and process writing (ES=0.43). It should be noted, that while dictation is effective, it does not negate the need for explicit and systematic handwriting and spelling instruction for students with learning disabilities (Gillespie-Rouse 2019). Building sentence-level skills (for example, through instruction in sentence components and composition, sentence types and sentence combining) is also an effective intervention for students with learning difficulties and disabilities (McMaster et al. 2018).

While process writing had an overall positive effect in this meta-analysis (Gillespie and Graham 2014), this finding contrasts with Graham and Sanmel's (2011) process writing focused meta-analysis, which revealed process writing was not effective for students with learning difficulties or disabilities. Gillespie and Graham (2014:469) provided the caveat that process writing instruction was only effective for students with learning difficulties or disabilities when explicit instruction, modelling and guided practice were provided, concluding, "Teachers interested in implementing this approach should be prepared for the time and effort involved in setting up and running an effective process writing classroom". Overall instruction for students with learning difficulties and disabilities is only effective when sufficient time is allocated, and the instruction is explicit, systematic and scaffolded (Gillespie and Graham 2014).



Summary of findings and recommendations

While much is known, there is still so much more to learn about writing development and effective writing instruction, particularly in the Australian context. Compared to the reading literature, the writing literature is modest, and the quality of the research varies from study to study (Slavin et al. 2019).

There are 3 central issues in writing instruction affecting student abilities and outcomes. Insufficient time is dedicated to writing instruction, students do not write frequently enough, and the absence of a shared, coherent body of linguistic and pedagogical

knowledge among teachers means that effective teaching techniques are applied inconsistently and infrequently. A balance needs to be struck between time spent teaching writing skills, learning writing strategies, building metalinguistic understanding and composing (Cutler and Graham 2008). Evidence-based instructional practices should be used consistently and frequently. Writing should be used to facilitate reading and learning as much as possible, and frequent formative assessment and targeted feedback to move students forward should be a daily occurrence. Approaches are likely to be most effective when there is alignment between writing goals, curriculum, instructional methods and assessment practices (Graham 2019).

Overall findings and recommendations

- Improve Initial Teacher Education in the writing domain by specifying the content and pedagogical knowledge to be taught, ensuring adequate time is dedicated to delivering units on writing and writing instruction, and building time and quality metrics into accreditation policy and processes to ensure consistency across providers
- Improve access to high quality and systematic professional learning options for school leaders and teachers in the writing domain
- Increase the amount of time students spend writing (composing) and receiving writing instruction (at least one hour per day)
- Ensure writing instruction is a priority across all years of primary and secondary schooling
- Review the instructional quality and opportunities for boys and girls, and seek to close the writing achievement gap
- Use effective instructional techniques consistently and frequently
- Ensure adequate foundational instruction in handwriting and spelling
- Ensure adequate sentence-level writing instruction across the primary and secondary years
- Embed grammar and punctuation instruction in meaningful writing tasks
- Ensure adequate strategy instruction in planning, drafting, evaluating and revising
- Explicitly teach genre macrostructure and microstructure through modelling, guided practice and exemplars, providing subject specific instruction as required
- Ensure adequate attention to informational and persuasive writing, alongside narrative writing
- Ensure students write frequently for a range of meaningful audiences and purposes
- Build knowledge for writing such as rich content knowledge, knowledge of linguistic and rhetorical features, and vocabulary
- Integrate instruction across the curriculum by using writing to support reading and learning
- Consider using validated writing programs, noting that one approach or program alone does not cover all aspects of writing instruction or constitute a curriculum
- Embed frequent formative assessment and provide explicit feedback to move students forward
- Align writing goals, curriculum, instructional methods and assessment practices
- Teach typing skills and provide students with opportunities to compose using digital writing tools
- Create motivating and supporting writing environments where writing is valued, routine and collaborative
- Provide additional scaffolding and instruction for students with learning difficulties and disabilities

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