Bulletin

In the spotlight
Writing and handwriting: Research,
best practice and intervention

LDA Bulletin | Contents

From the President

Elaine McLeish

I am honoured to be writing this in my new role as President of LDA. It is an unexpected honour and I am grateful for the support and encouragement of my esteemed colleagues for their nomination. I could not have accepted the nomination without the knowledge that we now have a strong, cohesive Council with a broad range of expertise and a shared commitment to LDA. I will be relying on their knowledge and skills to guide us in the year ahead and I am particularly grateful to Dr Robyn Wheldall, our outgoing President, for remaining on the Executive as one of our Vice Presidents.

The Annual General Meeting held in October was the first occasion when members could gather in person for an LDA event since the beginning of the pandemic. We were also pleased to welcome members online as well for our first 'hybrid' AGM. This marked the commencement of a fabulous few days for LDA. It was wonderful to have Professor Linnea Ehri with us to receive the *Australian Journal of Learning Difficulties* Eminent Researcher Award. Congratulations again to Professor Ehri and all of the LDA and AJLD Award recipients – Dr Nathaniel Swain, Emina McLean, Haley Tancredi, Jocelyn Seamer, Signy Wegener and Mim Davidson.

The day after the AGM and Awards Celebration, over 400 people gathered at the Capitol Theatre in Melbourne to experience "A Day with Linnea and Friends". There was a real buzz in the air at this event and it was clear that participants were relishing the opportunity to hear from wonderful speakers, network and visit the many trade stalls at the venue. What a privilege to hear from Linnea Ehri herself, outlining the decades of her research on beginning readers that have led to her theories of reading

development, including Ehri's Phases of Reading and Orthographic Mapping. Ehri's theories help us to understand the journey from novice to skilled reader, an understanding which helps us to promote progress through the phases using instructional emphasis for typically developing and struggling readers.

In Sydney, two days after the Melbourne gathering, the second Linnea and Friends event was held with over 200 people in attendance. It was clear from the responses of both audiences that the participants appreciated all the presentations across the two events. Our thanks to the Award recipients for their presentations in Melbourne, as well as Dr Jennifer Buckingham, and to Professor Anne Castles and her team from Macquarie University Centre for Reading who presented in Sydney. A standing ovation for Linnea Ehri in the beautiful Capitol Theatre in Melbourne was very moving. Professor Ehri was deeply touched by the interest in her work and was very pleased to meet some of the many fans she has here in Australia. In some correspondence from Linnea since her return to the US, she expressed that her recent LDA trip to Australia has been one of the highlights of her career. We are very happy that this is so.

One of the 'upsides' (if there are such things) of the pandemic has been the increased accessibility we have to professional learning via online platforms. We are all much more familiar with the technology and, as such, can access a broader range of events and speakers from across the world. This is particularly good for people who live away from the major cities where these events are often held. Having said this, there is nothing quite like a live event and this was certainly demonstrated by the recent LDA events.

Similarly, it was wonderful for the LDA Council to meet in person prior to the AGM for the first time in more than two years. We have become very familiar with the format of the online meeting but getting together as a Council in the same room was certainly appreciated. LDA hopes to continue to host both live and online events for our members and the wider educational community to have the best of both worlds. LDA remains

committed to our mission of disseminating the research that sits behind effective instruction for all students, particularly those with learning difficulties.

At the time of writing this, only a month since the AGM and the commencement of the 2022/23 Council, we have now selected an Education Manager from a very strong field of applicants and will soon be advertising for a General Manager. Both these positions are part-time. We are also ready to fill the four casual vacancies in Council, having received several high-calibre expressions of interest following our Linnea Ehri events. Another task has been an annual performance review of our invaluable Administration Officer, Bec Rangas and one result of this is a change of her title to Business Administrator to better reflect the broad range of duties she undertakes to keep LDA functioning efficiently. To provide much needed assistance for our publications, we are extremely grateful that Kim Knight has accepted a position as Assistant Editor of the *AJLD* and Copy Editor of the *Bulletin*.

Farewell to some long-standing members of Council

At the Annual General Meeting (AGM) in October, our outgoing President, Dr Robyn Wheldall, acknowledged the service of four members of the 2021/22 Council who had retired during the year or at the end of the Council term. These four people have served LDA with distinction for many years, so we reproduce Robyn's words of appreciation here for the benefit of those who were not at the AGM.

Ann Ryan

Ann has been on Council since 2017 but has been a very long-term member of LDA, including being an LDA Consultant. She has been actively engaged across

most areas of LDA, most recently being its Treasurer, since September 2021 until August 2022. Ann was Convenor of the Consultant Committee from 2018 to 2020. It was under Ann's leadership that work was commenced on opening up Consultant membership to allied health professionals, starting with speech pathologists. Ann also established the Distance Network for Consultants residing outside Victoria and she initiated many improvements for Consultant Members of LDA. In addition to her work in the Consultants area and most recently being Treasurer, Ann has served LDA as Secretary, Vice President and the Editor of the e-news. Underpinning all of Ann's efforts for LDA, was her genuine commitment to our mission and her passion to improve the lives of children with learning difficulties. We thank Ann for the enormous amount of work that she has done for LDA in her various roles in the association. We wish her all the very best in her retirement from LDA.

Dr Roslyn Neilson

Ros has devoted so much energy to her role as Secretary of LDA in the current Council year with a heavy workload as we inducted a largely new Council. Ros's experience and wisdom have been essential across the many areas of LDA's operation over the course of the 2021-22 Council year. She has also been heavily involved in the details of the visit from Linnea Ehri and the accompanying professional learning events and we are most appreciative of this contribution. As well as being an exemplary Secretary, Ros has also been the Editor of our popular *Bulletin* since 2020. We have so appreciated Ros's skill as an editor drawing together high-quality translations of the latest research for the benefit of our members. Prior to becoming the Editor of the *Bulletin*, Ros was a regular contributor and a co-editor until 2020. We are very grateful that Ros will stay on as a mentor to the new *Bulletin* team as they 'learn the ropes'. In addition, Ros was a Council Member from 2014 to 2015, and from 2019 to the present. Ros was a most worthy recipient of the Mona Tobias Award in 2016. We wish Ros all the very best in her retirement from LDA.

Emeritus Professor Kevin Wheldall AM

Kevin retired from Council in May this year because of declining health. As many of you will know, Kevin was diagnosed with Multiple Myeloma in 2009 (with a pessimistic prognosis) and has displayed extraordinary tenacity in the face of ongoing cancer treatment. In addition to being a Council Member in 2021-22, Kevin also returned as joint Editor of LDA's journal the *Australian Journal of Learning Difficulties* (AJLD) along with Dr Alison Madelaine. He now retires formally from that role. Kevin had previously been Editor of the AJLD from 2005 until 2015.

Kevin became a member of LDA in 2000 and in 2004 he joined Council. He served as a President of LDA in 2006-2007 (and was Vice President in 2005) and took on the role of Executive Editor of LDA Publications from 2006. He was responsible for the AJLD becoming a Taylor and Francis journal and for the establishment of the AJLD awards. Kevin was also the joint Editor of the Bulletin from 2005 for many years and again over the period 2012 to 2014, with Dr Alison Madelaine. In 2009 he was awarded the Mona Tobias Award and received a Special LDA 50th Anniversary Award in 2015 in recognition of his outstanding contribution to LDA publications over the period 2005 to 2014. I would like to pay special tribute to Kevin's commitment to LDA over a sustained period of time, including when he has faced enormous challenges to his health. We wish him well in his retirement from LDA.

Dr Marion (Molly) de Lemos AM

Molly is retiring from LDA after years and years of dedicated service to the association commencing in 2004 when she became a member of Council. In recent years (and until very recently) Molly has been a Vice President, as well as Convenor of the Publications Committee and the Awards Committee. Molly is also a former President of LDA (2013-14) and was a member of Council from 2004 to 2015, serving as Secretary of LDA from 2004 to 2012. After a short break, Molly returned to LDA Council in 2019.

In 2012, Molly was the recipient of the Mona Tobias Award in recognition of her long-standing advocacy of effective appropriate support for students with learning difficulties and effective evidence-based instruction for all students. In recognition of her service, Molly is a Life Member of LDA.

Molly's unstinting service to LDA is nothing short of remarkable and we pay special tribute to her today. She is the repository of much of the organisational knowledge of the association and is frequently referred to on matters of procedure and policy. There are many memorable LDA events that Molly was responsible for — stand out occasions that were planned and executed with great finesse. Her keen eye for detail and forensic analysis of data and issues has been of enormous benefit to LDA for over nearly two decades. We were sorry that Molly was unable to join us at the AGM as she is currently overseas. We have arranged a farewell lunch for Molly in December when she returns from her travels. We are not quite sure what we will do without Molly, but we are confident to know that she remains keenly interested in LDA and will be available for advice and counsel as we move forward as an association.

So as you can see we are not resting on our laurels or wasting any time in getting down to business as we work towards keeping our association strong and vibrant and focused on our mission. We thank you for your support and for joining us in that mission.

Elaine McLeish
President, LDA

Elaine McLeish is enjoying retirement from a long teaching career in primary and special education and as an LDA Consultant. She has a strong history of active contributions to LDA, serving as the LDA Referral Officer and Administration Officer for the Consultants Committee for many years. More recently she has contributed as Convenor of the Consultants Committee, Vice-President, and Acting Treasurer. She is a Life Member of LDA.

Elaine is also actively involved with her six grandchildren, the youngest being 7 months old, and divides her time between suburban Northcote and the wild coast of Cape Paterson in Victoria.

Council news

Melanie Henry, Secretary

There have been quite a few changes to the LDA Council following the Annual General Meeting in October. We were delighted to see so many of our members attend this year, both virtually and in person at the Treacy Centre (Parkville, Melbourne), not only to vote on the motions, but also to celebrate the awards and presentation by Professor Emerita Linnea Ehri.

So, some changes to Council …

We would like to thank Dr Robyn Wheldall for her leadership of LDA Council over the last 12 months. In her time as President, Robyn has led some significant changes to ensure the ongoing good governance of LDA. Robyn will be taking a step back but will continue to serve on Council as a Vice-President.

Dr Marion 'Molly' de Lemos has also stepped down from Council after many years, most recently as one of the Vice-Presidents of LDA. Molly is a life member of LDA and has held various roles on Council, including as President. She holds a great deal of knowledge on both the running of Council and the history of the organisation. We thank her for her years of dedication to LDA.

Dr Ros Neilson has also finished up as both Secretary of Council and Editor of the *Bulletin*. Ros first served on Council in 2014-15 and has volunteered on the publications committee since then, most recently taking on the role of editing the Bulletin. Ros has made such a contribution to LDA that it has required two people to replace her!

We're also sad to lose Kristin Anthian this year, but Kristin has been on Council before and, who knows, may come back again. Kristin's role on Council this past year has been invaluable, supporting the Professional Development Committee and stepping in seamlessly to support the Science of Writing PDs in 2021.

We felt the loss, too, when Dr Kate de Bruin resigned from Council before the AGM. Kate worked very hard for LDA during her time with us, contributing her expertise, skills and contacts as she made important contributions to the 2022 Professional Learning events and to the Bulletin.

We would like to welcome Elaine McLeish to the role of President of the LDA Council. Elaine is a Life Member, and many Consultant Members would know Elaine from her role as Consultant Convenor.

Geoff Ongley, who has supported LDA in various capacities through *Training 24/7* and technical support of the website, has been nominated unopposed to the second Vice-President role and will act as convenor of the IT and Systems Committee.

We also welcome Iain Rothwell to the role of Treasurer. Iain filled a casual vacancy and was elected unopposed to this role. Iain brings significant business experience to the role and is already making a significant contribution to the smooth running of Council as convenor of the Finance and Governance Committee.

As mentioned above, it required two people to fill the roles left by Ros. Julie Scali joins Council and has agreed to take on the role of *Bulletin* Editor, jumping straight in with this very publication. Kim Knight will be assisting as copy editor.

Dr Alison Madelaine will serve as Convenor of the Publications Committee, and will also continue as Editor of *AJLD*, assisted by Kim Knight as Assistant Editor. Kim is replacing Nicola Bell, who has done sterling work as Assistant *AJLD* Editor for several years. Eleanor McMillan will convene the Awards Committee and Jacinta Conway will continue to convene the PD Committee. Felicity Brown will also continue on Council and will support Elaine with the Consultants Committee.

And I am also pleased to introduce myself as the new Secretary of Council.

Melanie Henry

Melanie Henry is a PhD researcher in La Trobe University's Science of Language and Reading (SOLAR) lab. Until recently she was the instructional leader at The Pavilion School, a specialist setting for at-risk and disengaged adolescents returning to education. Her research interests centre around evidence-based literacy interventions for secondary students, instructional practices, school decision-making and change in schools.

Consultant notes

Elaine McLeish
Consultant Committee
Convenor

Following the fabulous success of our Linnea Ehri events in Melbourne and Sydney, we have experienced a most gratifying upsurge in enquiries about becoming an LDA Consultant Member. The volunteers at our LDA information tables at both venues were kept very busy answering questions about the criteria for our various membership categories and about the respective benefits. Fortunately, we had produced new, updated brochures in time for these events thanks to the skills of our Administration Officer, Bec Rangas.

The Consultant Committee has now accepted two new applicants for Consultant Membership since these events, and we are anticipating more applications. We are always delighted to welcome new Consultants because we are aware that many of our current Consultants are reaching a time in their life when they plan to cut back on their work commitments and will eventually decide to not renew their membership. We need to ensure more highly qualified and experienced LD specialists are coming on board to meet the requests for assistance on our Online Referral Service. We are optimistic that when we employ an Education Manager and develop a full calendar of PD events, this will increase the profile of LDA and continue to attract new members.

One of the important benefits of Consultant Membership is the collegial contact and support available through our local networks. For Consultants working in private practice, these Networks provide important opportunities for sharing information and discussing issues with like-minded professionals. They also provide informal mentoring for new Consultants who are starting up private practices. Our

Networks were established many years ago and were initially based in Melbourne because at that time we had very few Consultants outside of Victoria and our telephone referral service was only available in that state.

Today we have more Consultants from other states and, to cater to these, our colleague Ann Ryan established a Distance Network in 2017. This is now one of our largest and most vibrant Networks and comprises Consultants from outside Victoria, regional Victoria, and some from Melbourne who do not have access to a local group.

We also have five Networks in suburban Melbourne and one based in Geelong. Meetings are once a term and online during Covid lockdowns. Some are continuing to meet online, and others have returned to in-person meetings. The Networks have all evolved to meet the needs of their members. Some have a more formal structure and often include presentations by members, while others are less formal and focus on sharing information about professional development and issues related to individual students.

To give an idea of the diverse range of topics covered, here is a sample from meetings this year:

- Assistive technology options for secondary students
- Difficulties associated with diagnosing dysgraphia
- The benefits and challenges of working with students, long term
- Sharing examples of reports and teaching strategies
- A presentation on "Classroom Management: Hearing Loss Equipment and Audiograms"
- The effects of lockdowns on students
- Professional practices and review of "LDA Consultant Guidelines"
- Dyscalculia/maths difficulties – feedback on Steve Chinn's online course
- Demonstration of how to use the Maths-U-See resources
- Communicating with parents and schools

If you are an LD Specialist Teacher or a Speech Language Pathologist interested in applying for Consultant Membership, we are always available to provide advice and support about how to join us at:
consultant.convenor@ldaustralia.org

Are you interested in becoming a Consultant Member of LDA?

Consultant Membership is a special category of LDA membership, currently open to Specialist Teachers and Speech Pathologists with training in the learning difficulties area and experience in teaching and consulting with students with learning difficulties.

In addition to standard membership benefits, Consultant Membership provides:

- Recognition of your expertise in the LD field
- Inclusion in a Consultant Network Group
- Eligibility for inclusion in the LDA Online Referral Service

For more information about becoming a Consultant Member, please contact our Consultant Convenor at *consultant.convenor@ldaustralia.org* or phone Elaine McLeish on 0406 388 325.

We would love to hear from you!

In this issue of the Bulletin…

Julie Scali, Editor, LDA Bulletin

To wrap-up 2022, I am delighted to share with you our *Writing and Handwriting* issue. The theme of this *Bulletin* focuses on the essential components of high-quality writing instruction with a particular emphasis on handwriting and syntax. It delves into the types of writing difficulties students can experience, and offers recommendations and interventions.

Earlier this year, The Australian Education Research Organisation (AERO) published 'Writing and writing instruction: An overview of the literature'. This comprehensive literature review outlines theoretical foundations, pedagogies, current challenges and opportunities for high quality writing instruction. Emina McLean, the author of the review, has summarised the key findings and recommendations for evidence-based writing instruction in the classroom for our keynote article.

The focus on writing, in this issue, is of particular importance in Australia at the moment as there has been significant research highlighting a steady decline in Australian students' writing standards for many years. In a recent report, the Australian Education Research Organisation (AERO, 2022) outlined the findings of their large-scale, longitudinal 'Literacy and numeracy' project which analysed 10 million NAPLAN writing samples from 2011 to 2021, of students from Years 3-9.

What was particularly interesting about this study were findings related to student progress and achievement in sentence structure. Out of a potential score of 6, only 13% of students achieved a score of 5/6 and only 2% of students scored 6/6 in Year 9. When sentences are the building blocks of all writing, these statistics are concerning. In this issue, Jenny Baker offers a comprehensive and practical approach to teaching sentence structure through explicit instruction and high quality worked examples.

Following on from Jenny's work, Peta Collins discusses current perspectives on disorders in written expression and handwriting. This should satisfy the numerous requests from LDA members and PD attendees for professional learning on Specific Learning Disorder in written expression, also referred to as Dysgraphia. Peta unpacks the confusion around diagnosis, terminology and presenting features of Dysgraphia and handwriting motor disorders. Peta also makes recommendations on possible interventions and possible accommodations based on specific difficulties presented.

The other key aspect of this issue is highlighting the importance of effective handwriting instruction, a teaching area often overlooked yet critical for the transcription aspect of the writing process. In this *Bulletin* issue, Karen Ray et al. have generously shared a handwriting policy from the University of Newcastle. It outlines the potential gains of handwriting fluency, a handwriting fluency acquisition model, and shares promising research on the Write Start-K intervention program.

Of equal interest in the handwriting space, Kathryn Mathwin and colleagues have summarised their research on a handwriting program that was trialled with a small group of students struggling with handwriting. This study focuses on the link between developing orthographic knowledge of alphabetic letters to improve capacity to write alphabet symbols. This study has promising results and interestingly, both this piece and the work of Ray et al., as previously mentioned, recommends moving away from traditional handwriting intervention approaches—of students copying or tracing letters—to remediate handwriting difficulties.

This issue also includes a book review specifically for secondary teachers, on *Essay Writing for Adolescents with Language and Learning Difficulties*. Written by Kim Knight and reviewed by Jacinta Conway, the book provides practical guidance and recommendations for teachers in how to analyse texts and essential essay structures. An excellent read for teachers and learning support specialists in the secondary context.

Finally, in this issue, we celebrate the recent, wonderful professional development events with our special guest, Professor Linnea Ehri. Linnea's work in reading research and advocacy of evidence-based practice in literacy is phenomenal. It was a privilege to hear about her decades of research on orthographic mapping, in person. Take a moment to enjoy a recap of those special days and the wonderful feedback from our attendees.

This issue of the *Bulletin* is my first as Editor. I just want to say thank you to Kim Knight, my wonderful Copy Editor, and Ros Neilson, retiring Editor, for her unwavering support and guidance. Thank you also to all our authors for their fantastic contributions to this issue.

I would also like to wish you all a very happy and joyous holiday season. Happy reading!

Julie Scali
Editor, LDA Bulletin

Reference

Australian Education Research Organisation (AERO) Ltd. (2022), *Writing development: What does a decade of NAPLAN data reveal?* *edresearch.edu.au*

Julie Scali is the Director of Literacy Impact, specializing in structured literacy and Response to Intervention. A former deputy principal in Australia, she now works with principals, school leaders and teachers with consultancy, professional learning and online modules to embed schoolwide evidence-based literacy approaches.

Writing and writing instruction

Emina McLean

During the school years, writing proficiency is central to student success, 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 what we learn about helps us understand and remember, writing about what we've read boosts understanding, and writing improves reading and vice versa.

Theories and models

In recent years, two conceptualisations of writing development have dominated international literature. 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 on 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 socio-cognitive (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's (2012) 'model of skilled writing development' which, in contrast, focuses on cognition and motivation. This view builds on the 'cognitive process theory of writing' by Flower & 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.

Writing allows us to communicate, learn, share, connect, tell stories, create other worlds…

Rather than choosing, it has been argued that incorporating these models allows for the development of supportive, motivating writing environments—with codified roles and routines—where students can develop 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 & 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).

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 & Amtmann, 2003) and the expanded 'Not so simple view of writing' (Berninger & Winn, 2006). There are four key component groups in 'The not 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 & Schatschneider, 2017; Kim & Park, 2019; Kim & 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 & Schatschneider, 2017). There is still 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, reach a consensus on instruction.

Pedagogies

There are three key approaches to writing instruction, which continue to be used nationally and internationally with variable emphasis. These are the 'product', 'process' and 'genre' pedagogies (see Box 1 below). 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 & White, 2000), choosing the most appropriate method based on 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 might be more suitable for novices, while genre and process approaches might be more suitable as knowledge and skills increase.

- In Australia, a 'product' approach to writing instruction predominated the mid-twentieth century. Students learn grammatical concepts such as cohesive devices, punctuation, syntax, spelling (e.g., Pincas, 1982), and bring that knowledge to their texts as they develop independence in writing.
- 'Process writing' tends to be associated with the 'Writer's Workshop' model of the Whole Language movement (e.g., Calkins, 1994; Calkins 2011). The focus is on creating meaningful texts. Explicit instruction, about spelling, syntax etc., is incidental during revision, with the student guided by teacher feedback on their writing.
- The 'genre' approach is explicit instruction that highlights the context and purpose of a text, with emphasis on overall structural features of text types (e.g., Derewianka & Jones, 2006).

Box 1. Brief explanations of three pedagogical approaches to writing instruction.

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 & Baker, 2001; Gillespie & Graham, 2014).

In the Australian context, writing instruction has been positioned quite differently to what is reflected in the North American dominated international literature.

In a recent meta-analysis of writing interventions for students with learning disabilities (Gillespie & Graham, 2014), interventions that improved 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 & Graham, 2014), this finding contrasts with Graham & Sandmel's (2011) process

writing-focused meta-analysis, which revealed process writing was not effective for students with learning difficulties or disabilities. Gillespie & Graham 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" (2014, p. 469). 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 & Graham, 2014).

Overall findings and recommendations

- Improve Initial Teacher Education in writing: Specify content and pedagogical knowledge to teach, ensure dedicated time to deliver units on writing and writing instruction, build time and quality metrics into accreditation policy and processes for consistency across providers.
- High quality and systematic professional learning for school leaders and teachers in the writing domain.
- Students spend at least one hour per day writing (composing) and receiving writing instruction.
- Ensure writing instruction is a priority across 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 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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Emina's background is in speech pathology, education, child and adolescent psychiatry and public health. She is Head of English and Literacy at Docklands Primary School, and she trains student teachers and speech pathologists at a range of universities.

Emina also works as a consultant, coach and professional learning provider in schools and systems across Australia.

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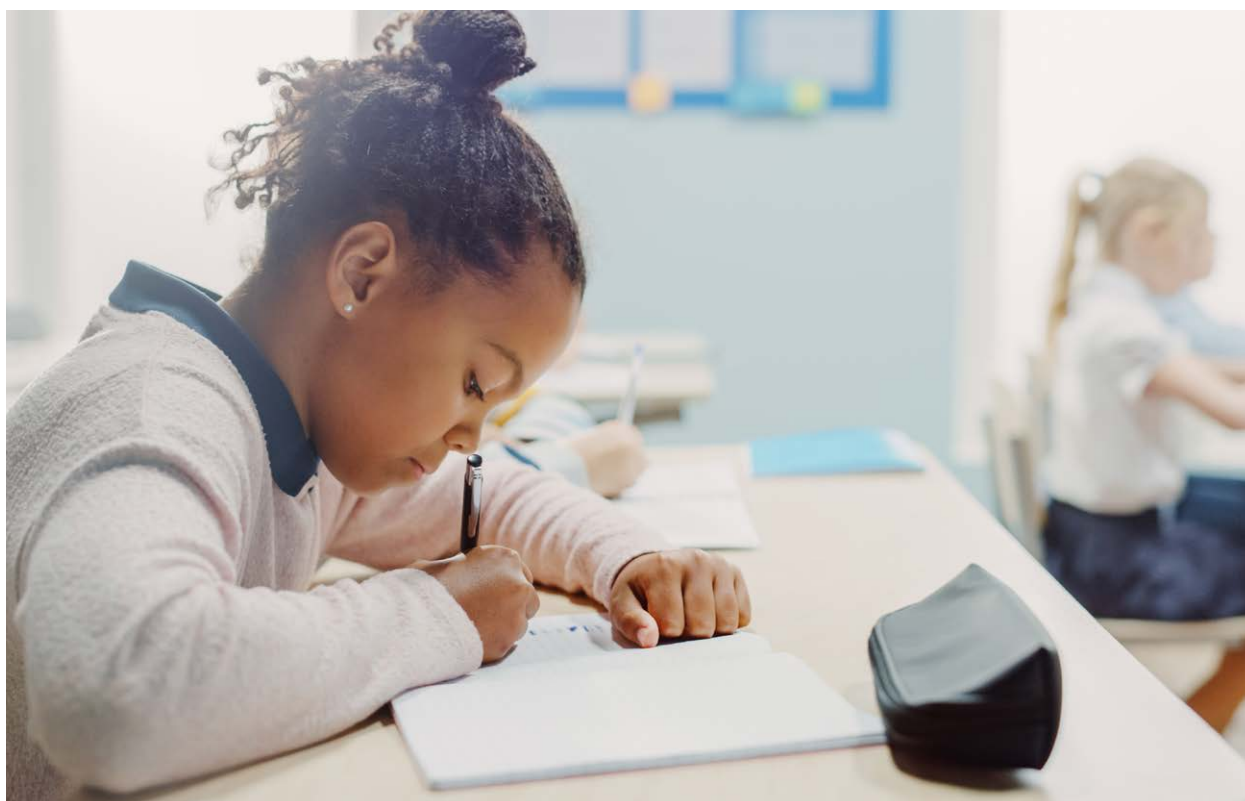
Teaching Sentence Construction in Written Narratives: One Frame at a Time

Jenny Baker

This article will describe a process of explicit teaching of grammar and sentence construction that has been trialled across the middle and upper primary school years at Mosman Park Primary School in Western Australia for the past 18 months: the 'Writing Club'.

Sentences, equations, and explicit teaching

What would we do if we were required to teach a group of students how to solve this mathematical equation: 3x = 14 - 5?

When we are thinking about maths, it is easy to see how useful it is to adopt the "Gradual Release of Responsibility Model — I do, we do, you do" (Pearson & Gallagher, 1983).

We would write a model equation on the board and show the whole class how we would solve it — adopting a step-by-step progression.

$$3x = 14 - 5$$
$$3x = 9$$
$$x = 9/3$$
$$x = 3$$

Along the way, we would explain the principles we employed to arrive at the correct solution and provide the reasons why one process might be superior to another. Then we would all work on another similar equation together and finally, we would have the students solve their own equation, with the worked example available for guidance. We would finish the lesson with a reflection on the process, so that students have the opportunity to "bed down" the formula that resulted in the successful solution.

If this model of explicit Tier One instruction works effectively for teaching mathematical equations, this raises the question: Why do we NOT employ this process when teaching students how to write sentences? Would it be useful to think of sentences as types of equations containing specific elements that must be employed and ordered to create meaning?

Hochman and Wexler (2017) remind us that students are not being taught HOW to write sentences because the underlying assumption is that they will pick up the skills needed for writing simply from reading. I will argue, however, that, just as with mathematics equations, sentences must be taught explicitly from a worked example, with specific attention to the process as well as the product.

Teaching grammar in context

We teach grammar to improve writing. If you cannot justify teaching a particular concept in terms of improving a student's writing, don't teach it (Van Cleave, 2014).

Myhill (2021) argues that grammar can usefully be considered as a tool to design and expand sentences. Peterson and Spencer (2016) advocate that the narrative genre demands higher level 'academic' language, and it therefore seems fitting that narrative be nominated as a suitable context for developing linguistic complexity at the sentence level within written text.

Just as with mathematics equations, sentences must be taught explicitly from a worked example, with specific attention to the process as well as the product.

If we adopt the mathematical "worked example" approach to writing, students will have the opportunity to learn about language devices at the sentence level, and they can learn the role that language devices play within a sentence. This would allow them to make informed choices about what language devices they include, where they are inserted and ultimately, how they will fulfil the authorial intention (Myhill & Watson, 2014).

The Mosman Park 'Writing Club': Overview of the process

The approach underlying the 'Writing Club' program is that, in order to teach students about sentence structure for written expression, it is necessary to teach them about language devices or syntax or grammar or parts of speech. It is not enough, however, to simply teach them about these elements; we need to teach them about the jobs that parts of speech have or the roles they play or the functions they undertake to establish meaning and effect within the sentence, and ultimately across the whole text. The general approach is that when a language device is isolated from its context within the sentence, to explicitly teach it, it must be re-contextualized as soon as possible. The device must always be taught in relation to the role that it is performing in the sentence.

The 'Writing Club' has been designed in the following way: Each term, classes from Years 3, 4, 5 and 6 embark on a scripted narrative. The same story is used across all years, as this allows for sharing of resources across classes and promotes internal peer-support between teachers with varying levels of experience. The length of the script is modified to suit the grade level. The students are provided with a series of 12 to 18 pictures that represent an action-adventure story (e.g., a ferris wheel catches on fire; a girl is swept along a raging river; a family is marooned on a deserted island; a boy gets locked inside a department store for the night).

The first lesson is always an overview of the 'Narrative Hill' (see author for further details) — a visual schema representing the classical narrative elements of orientation, complication, events, and resolution. The first lesson also includes a reading of the entire story with accompanying images on the Smart Board. The class is encouraged to discuss their experiences related to the characters, setting and problem of the particular script.

A tightly controlled script accompanies each set of pictures. The sentences in the scripts are written with the analogy of mathematical equations in mind, with deliberate placement of language devices where they are most effective.

- If a frame showcases suspense and danger and dynamic action, then the script will reflect that, and the sentence will be "injected" with specific verbs + high imagery + suspenseful adverbs of time: "*Without warning*, an *enormous* wave *devoured* the *tiny helpless* yacht."

- Alternatively, if the frame showcases emotion, then the script would include adjectives + adverbs of manner + cognitive verbs + reasons: "The family was *absolutely petrified because* they *knew* the waters surrounding the island were filled with *man-eating* sharks."

The language devices are deliberately selected to "map onto" the actions, emotions and descriptions inherent in each frame of the story. Each device is "injected" into the scripts several times, so that over the entire term students would have exposure to and explicit teaching of not all, but most of the devices.

A detailed PowerPoint reveals to the class how the sentences are unpacked

and analysed. Students are required to code the language devices and discuss the roles they play in the sentence. It is at this point that teachers are encouraged to "divorce" the language device from the sentence in order to explicitly teach it, just like one might "divorce" the concept of improper fractions from the mathematical equation (9/3) used in the opening paragraph. If a language device needs to be examined and explained and reinforced, then it needs to have a separate tutorial devoted to it. Students are encouraged to experiment with the devices and volunteer their own versions. They verbally rehearse their sentences with their partners and then write them in their "Writing Club" books.

Understanding the function (rather than the just the form) of grammar has been the most significant factor in facilitating their understanding of the language system.

Every lesson, two story frames are revealed and the model sentences are examined and analysed. The language devices within them are discussed with regards to the roles they play in the sentence and ultimately how they contribute to a particular part of the story. Any explicit teaching of particular language devices is conducted, and the "theory" part of the writing process is reinforced with handouts, checklists or diagrams. Students have lists of cognitive verbs, adverbs of manner, prepositional phrases and onomatopoeic words glued into the back of their 'Writing Club Books'. They have adjectival categories (shape, size, colour, age, etc.) to prompt them into selecting a variety of concepts, and synonyms for connectors (because, since, as, as a result of, etc.). There is a hierarchical model to illustrate word 'upgrades' and 'descriptions', and examples to illustrate the effect of choosing highly specific vocabulary. Students are taught that:

- Every verb gives you the opportunity to 'upgrade' it.
- Every noun gives you the opportunity to 'describe' it.

All students from Year 3 to 6 are taught via a whole class approach using the same story and the same associated script for an hour every week of the term. Teachers are trained in the 30 language devices (see Table 1 below) used to write the scripts, and teachers observe the devices being taught to the classes as the program is being delivered by the author.

Teachers take on the responsibility of unpacking subsequent stories in the following terms, with occasional coaching or reflection sessions.

Function Before Form

It is imperative that language devices are grouped according to the job they perform within the sentence - in keeping with the premise that Halliday (1978) proposed: grammar is "a system of meaning potential". There is a fundamental shift away from a focus on the form of grammar towards

Language functions in narrative genres	Formal grammatical features
Dynamic action	'Upgraded' verbs (ran -> sprinted) Adverbs of manner (-ly words such as quickly)
Reflection and planning	Mental verbs • Cognitive (he decided to) • Emotional (he hated) • Sensory (he heard)
Orientation	Adverbs of time (later that night) Adverbs of place (in the corner of the room)
Specificity	Proper nouns (Perth Zoo) ''Upgraded' nouns (way –> direction) Appositives (Mrs Turner, the principal of Port City Primary School) Adverbs of degree (entirely covered) Adverbs of frequency (never finished)
Imagery	Adjectives • Pre-modifying (the tiny black kitten) • Post-modifying (the kitten with long whiskers) • Part of a subject + verb + adjective construction (the kitten is cute) Similes (the mast broke like a toothpick) Metaphor (the Dockers were warriors) Idioms (he couldn't believe his eyes) Personification through the choice of adjective (the angry waves) Personification through the choice of verb (the waves dominated the shore) Onomatopoeia (the engine whirred)
Connectivity	For establishing: • Reason (because, since, as …) • Consequence (so, therefore, and as a result …) • Adversity (but, however, although …) • Time (before, after, during, until, as soon as, whenever …) • Condition (if, on the condition that…) • Addition (and, and in addition …)
Emphasis	Repetition (he ran on and on and on) Rule of threes (up the street, around the corner and over the hill) Alliteration (the sneaky seagull…) Rhetorical question (How will he get out now?)
Cohesion	Repetition (he ran on and on and on) Rule of threes (up the street, around the corner and over the hill) Alliteration (the sneaky seagull…) Rhetorical question (How will he get out now?)

Table 1. Language devices, grouped by function, used in the 'Writing Club' program.

an understanding of the function it performs within a sentence and ultimately a text. Aspects of language that may never have been taught together before, are now "bunking in" with one another – simply because they all DO the same thing.

Table 1 lists eight functions of language, as typically used in narrative genres, with the language devices that are associated with each function.

These 30 + language devices comprise the basic elements of all sentences. It is not an exhaustive list, but probably covers at least 90 percent of all sentence elements and as such, once students can successfully understand how these work in isolation as well as in combination with one another, it is possible to employ them in sentence level writing.

Examples: Sentence construction in action in the 'Writing Club'

Figure 1 shows the first frame of the story 'Stranded' about a family whose yacht capsized leaving them stranded on a deserted island.

Figure 1. Frame#1 from the narrative 'Stranded'

The model sentence that is presented with Frame#1 is: *"Several*

Figure 2. Power Point Slide Revealing the Language Devices in Sentence 1 of Frame#1

Figure 3. Power Point Slide Revealing the Language Devices in Sentence 2 of Frame#1

months ago, a family from Fremantle sailed their yacht across the Indian Ocean for a grand adventure. The sea was crystal clear, and the sun shone brightly like a diamond."

The language devices associated with Frame#1 are shown in Table 2 below.

Story content	Language Device
Several months ago,	Adverb of time Adjective (several)
A family from Fremantle sailed their yacht	Post-modifying phrase (from Fremantle) Proper noun (Fremantle) Upgraded verb (sailed)
across the Indian Ocean	Adverb of place Proper nouns (Indian Ocean)
for a grand adventure.	Connective of reason (for) Upgraded adjective (grand) Upgraded noun (adventure)
The sea was crystal clear,	String of upgraded adjectives (crystal clear) Alliteration (c… c)
and the sun shone brightly like a diamond.	Connection of addition (and) Adverb of manner (brightly) Simile (like a diamond)

Table 2. Language devices within the model sentences from Frame#1

There are a lot of language devices to teach in this frame – too many for one lesson, so we select a few to teach in depth and leave others to teach explicitly in an upcoming frame.

For Frame#1, these language devices are targeted:

- Adverbs of time
- Proper nouns
- Alliteration
- Adverbs of manner
- Similes

For the remaining devices (that are not targeted in Lesson 1), the students copy them directly from the script on the white board.

A PowerPoint presentation is used to show students the composition of the sentences (see Figures 2 and 3):

The targeted devices are identified and labelled in the sentence. Their role is explained, and alternate examples are solicited from the group; these act as individual innovations of language devices.

- Adverbs of time: Late last year / In 2020 / Last summer

- Proper nouns: Perth / Sydney / Pacific Ocean / Southern Ocean
- Alliteration: bright blue / sparkling silver / glittery gold
- Adverbs of manner: brilliantly / radiantly / sparklingly
- Similes: like a disco ball / like a torch / like a glow stick

Once the students have decided upon their version of the language devices, they rehearse their sentences aloud to one another and when they feel satisfied with their version, they write each sentence, with the brief that they must always be reviewing to make sure they have a sentence that sounds right and creates the "vibe" that they intended to achieve.

These are some examples of innovations to the original individual sentences that were written by the class:

Several months ago, a family from Fremantle sailed their yacht across the Indian Ocean for a grand adventure.

- Last Summer, the Frank Family from Fremantle sailed around the world in their fifty-metre yacht because they wanted to have a holiday like no other.
- Ten years ago, Jason and Lisa Smith and their kids sailed from Rottnest to Africa in their luxury yacht because they were sick of living in Australia.

The sea was crystal clear, and the sun shone brightly like a diamond.

- *The ocean was a bright blue colour and the sun sparkled wildly like a disco ball.*
- *The little white waves splashed lightly against the hull and the sun was as bright as a torch.*

It is valuable to see how two different students from the one Year 6 class have reworked the sentences from the whole of Frame#1:

- *Three months ago, an excited family set off on an adventure. They were going to sail around Australia. They boarded their very expensive yacht off a port in Broome. The sky was as blue as a sapphire. The sun beamed down on them like it was wishing them a wonderful trip. It was the perfect time to go sailing, with the light breeze blowing the clouds away like dandelion seeds flying in the wind. The soft rolling waves lapped against the bright yellow sand. What a glorious day.*
- *Nearly two years ago a group of four were determined to adventure through the dangerous seven*

seas. The sparkling ocean was like shimmering stars in the midnight sky. The sea danced as the waves gently crashed against the small yacht. The day was going perfectly, the sun smiled down on them and the beaming rays of sunshine were like a blooming field of thriving sunflowers.

Upon completion of their sentence/s, students are asked to check for punctuation and to highlight their "hero" (favourite / most effective) words. If they want to read their sentence/s to the class, this is encouraged but, in addition, they are asked to explain why they nominated particular words within the sentence as their "hero" words. This serves to bring their awareness to a metalinguistic level. They are asked to identify any parts of the sentence they are not happy with, and the class assists to "repair" those parts. The words are written on the board, and suggestions from others are encouraged.

Myhill (2021) describes this reflective discussion as, "dialogic metatalk". It focuses on open-ended thinking about language choices and possibilities. The teacher can create connections between what meaning (or "vibe") students wanted to create in their sentence and how their choice of language devices worked towards that outcome. She explains that "Generating dialogic metatalk appears to be a critical element of learning transfer, moving young writers from a dependence on what teachers suggest are effective choices in writing to a deeper understanding of their own and greater authorial independence."

Improving Teacher Knowledge

The Writing Club program had its origins in a conversation with a Year 6 teacher about how best to teach grammar. One of the main goals of this project was to empower teachers with knowledge and experience around teaching grammar.

There has been a huge shift in teacher knowledge around language devices. Within the school, there are now several key teachers who lead the project by preparing the PowerPoints that unpack each sentence; they present exemplary lessons for coaching purposes and support less experienced individuals. Understanding the function (rather than the just the form) of grammar has been the most significant factor in facilitating their understanding of the language system.

They are now completely conversant with the 30 language devices and can bring them to life within each lesson. Of course, the other positive outcome of this approach is that students are also using the correct terminology. They are able to identify different language devices in the sentences and critique their roles; they can debate their effectiveness and offer alternatives – all with conscious control over their decision-making.

Evaluation of the 'Writing Club'

We are embarking on a more structured evaluation of the program, collecting pre and post test data. The trends that have emerged include:

- Students in the mid-range made most improvement in sentence production
- Students in the low-range needed more instruction and practice
- Students in the high range declared that they learned a lot about what they were already doing
- Students developed a "shared language" about sentence construction
- Students generally liked working together on the one story as a whole class

Preliminary analyses of the pre- and post- intervention data have taken into account the following measures: narrative macrostructure, overall word count, use of adjectives, lexical verbs, adverbs of time and place, and complex sentence constructions. Results have been encouraging – for example, the Year 4 class mid 2021 data revealed that between 30 percent and 70 percent of students showed improvement in all these measures.

Summary and Conclusion

The teaching of sentences in an explicit but also context-determined fashion was born out of necessity at Mosman Park Primary School in 2021. Students were mastering the basic macrostructure elements of different genres, but the lament of teachers across all grades was that students' sentence structure was weak and not reflective of their advanced oral language ability; students could talk better than they could write when the opposite relationship should be emerging around the middle years of primary school.

A system was devised where the teaching of sentence construction was targeted in a controlled environment.

At this stage we are extending the Writing Club program into the exploration of other genres.

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Jenny Baker is a Speech Pathologist who has been working in the area of written expression for over 30 years. She is Co-Director of Fremantle Speech Pathology Services, a private practice in Perth.

Current perspectives on disorders in written expression and handwriting

Peta Collins

Learning difficulties in written expression is an area in which there is an increasing amount of research evidence – evidence relating to the causes of written expression disorders, and the functional impact on individuals who experience them. There remains, nevertheless, a great deal of confusion in relation to diagnosis, terminology and presenting features. This article presents a brief overview of some current perspectives on both Specific Learning Disorders in written expression and handwriting motor disorders, and the term 'dysgraphia'.

Consider the following three writing samples.

The first student is in middle primary school and was asked to write one or two sentences on whether they would prefer a dog or a cat and why.

The second student is in lower high school. This is the second paragraph of an essay in which they were required to state their favourite game and provide three reasons for their choice.

The third student is in upper high school and was asked to write about their life, including topics such as their hobbies, family and where they live.

These students all display characteristics of the disorder of writing ability commonly known as dysgraphia, yet the pattern of difficulties seems to vary significantly. Simply saying the student has dysgraphia will not be enough to support their educational needs. So, how do we investigate, understand and respond to writing difficulties?

Currently, most psychologists in Australia who diagnose neurodevelopmental disorders use the *Diagnostic and Statistical Manual of Mental Disorders*, fifth edition (DSM-5, or the more recent text revision, DSM-5-TR). The DSM is regularly revised and updated as our understanding of psychological conditions evolves, and the fifth edition includes significant changes to the way in which learning disabilities are conceptualised, classified, and diagnosed. The DSM-5 refers to one overarching condition—specific learning disorder—which is a neurobiological disorder characterised by "persistent difficulties learning keystone academic skills … with onset during the years of formal schooling (i.e., the developmental period)" (American Psychiatric Association, 2022). The keystone academic skills are separated into three
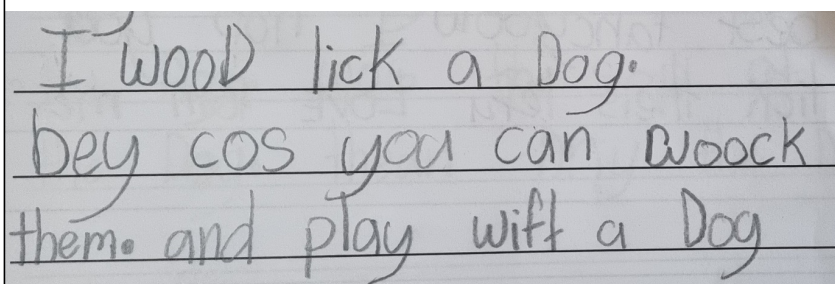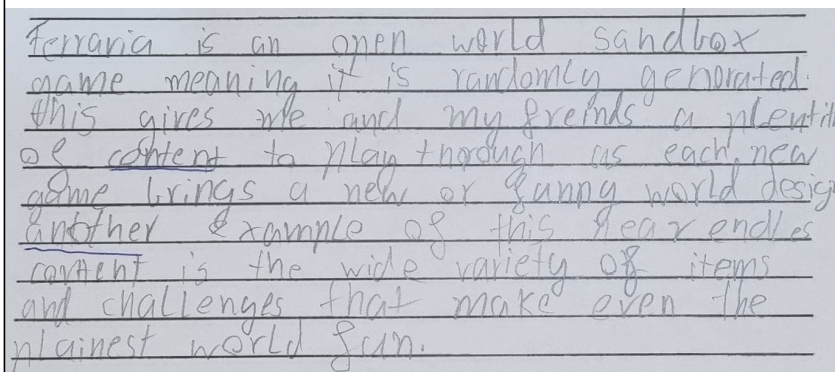
Figure 1. Middle primary school student writing

Figure 3. Middle high school student writing

domains: reading, written expression, and mathematics— academic skills which are are foundational to other learning. Diagnosis is made when four criteria are met:

a. Difficulties learning and using academic skills that have persisted for at least 6 months, despite the provision of interventions that target those difficulties;

b. The affected academic skills are substantially and quantifiably below those expected for the individual's chronological age, based on the results of standardised measures of academic attainment, and significantly interfere with academic or occupational functioning and/or activities of daily living;

c. The learning difficulties begin during the school-age years, although they may not become notable until academic demands exceed the individual's limited capacity; and

d. The learning difficulties are not better accounted for by another factor.

The identifying features of specific learning disorder with impairment in written expression are:

1. Difficulties with spelling (e.g., may add, omit, or substitute vowels or consonants)

2. Difficulties with written expression (e.g., makes multiple grammatical or punctuation errors within sentences; employs poor paragraph organisation; written expression of ideas lacks clarity)

Let's return to our writing samples. The first and second students both demonstrate difficulties with spelling. Their spelling attempts are phonetically plausible, but they do not apply alternative spelling patterns or English spelling conventions appropriately (e.g., 'wood' for *would*, 'bey cos' for *because*; 'freinds' for *friends*, 'endles' for *endless*). There are also punctuation errors. In the first sample, full stops and capital letters appear at random within what is grammatically a single sentence. The other sample is one long, run-on sentence with a full stop at the end of the paragraph. Both samples address the topic, but the message lacks clarity, and a reader would not be able to confidently identify the question from the students' answers.

Both students display the identifying features of a specific learning disorder with impairment in written expression. Following psycho-educational assessment, the students met all four diagnostic criteria and were diagnosed with the disorder.

So, is this dysgraphia? And what about the student with poor handwriting?

The words dyslexia (difficulty with words), dysgraphia (difficulty with writing) and dyscalculia (difficulty with calculation) were all coined in the early to mid-20th century to describe learning difficulties that were developmental in nature, rather than being the result of a sudden onset event (such as injury, illness or other). Dyslexia and dyscalculia quickly became associated with very clearly defined conditions. Dysgraphia, on the other hand, has been used to refer to a range of writing difficulties, whether related to spelling, composition, handwriting, or a combination thereof (Chung et al., 2020; Deuel, 1995). This lack of consensus means that it is not clear what is meant when an individual is described as having dysgraphia, and hence neither the DSM-IV nor the DSM-5 use the term 'dysgraphia' in relation to specific learning disorder. (In contrast, both refer to dyslexia and the DSM-5 also refers to dyscalculia.)

The DSM-IV did include 'excessively poor handwriting' as one of the characteristics of Disorder of Written Expression. However, the DSM-5 does not consider does not consider handwriting at all in their diagnostic criteria for specific learning disorder; moreover, the DSM-5 explicitly states that 'motor disorders' are one of the conditions that, under criterion D, could better account for the academic learning difficulties experienced by an individual (American Psychiatric Association, 2022).

This seems to be true for our third student, whose handwriting legibility is poor. This sample had a readability score of 82%, and the student's writing output in terms of words written per minute was much lower than expected for their age. This student presents with characteristics of motor dysgraphia. The clinical consensus regarding motor dysgraphia is still developing, but it is generally understood to be investigated and treated by occupational therapists. Crucially, it is more than 'messy handwriting'; motor dysgraphia is considered when the individual experiences excessive pain while handwriting, has excessively slow handwriting, or has illegible handwriting, and these impairments are chronic and have a negative functional impact on the student's academic performance (Developmental Occupational Therapy (WA) Inc., 2019). The student's ability to express their knowledge, ideas and understanding through writing is significantly limited by their handwriting. However, a student with motor dysgraphia would not present with the broader range of motor difficulties characteristic of Developmental Coordination Disorder (DCD), which is a condition listed in the DSM-5.

Evidence-informed, high-quality instruction in written expression targets *transcription* skills (letter formation, handwriting fluency, spelling, punctuation and spacing) and *composition* skills (topic knowledge, vocabulary, sentence formulation, grammar and syntax, text organisation, genre and audience awareness) (see Berninger et al., 2002). All students benefit from explicit, systematic and cumulative instruction in transcription and composition skills, underpinned by a knowledge-rich curriculum. Those students who have trouble learning and using written expression, in spite of high-quality instruction, are those who will require remediation that is targeted precisely at the areas of greatest need. Students with spelling difficulties may require targeted remediation in synthetic phonics, or the morphology and etymology of English words. Those experiencing difficulties with sentence formulation, text organisation, and grammar require remediation that targets their knowledge
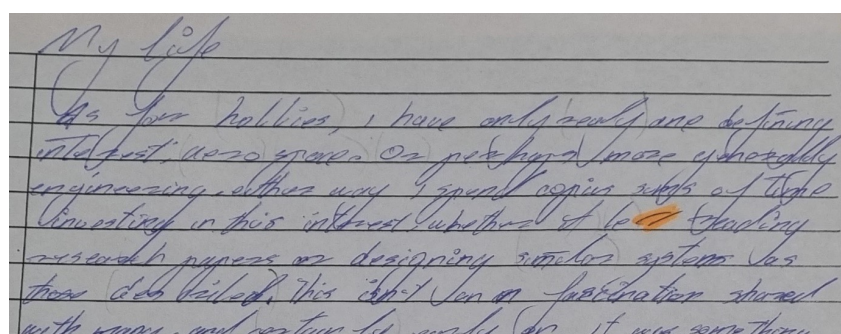

Figure 3. Upper high school student writing

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of English syntax, punctuation and the way information is organised across different written genres and text types. And, of course, students experiencing problems with pain, speed or legibility in handwriting require intervention from an occupational therapist. Similarly, students will require accommodations in the classroom that meet their needs.

Those who struggle with spelling might benefit from use of assistive technology, such as spell checkers, whereas a student who has difficulty organising their ideas may respond well to writing templates and frames. Students with handwriting difficulties may require access to assistive technology, allowing them to type their work, or photograph notes on the board rather than copying. They might also benefit from environmental modifications, such as using a particular style of pen, having a tilted desk surface, or using a different chair. *An overview of these recommendations is presented in Table 1 below.*

For further information and advice for students with writing difficulties and disorders, across all three tiers of intervention, see the AUSPELD (2021) publication *Understanding Learning Difficulties: A practical guide*.

Ensuring students develop fluent, mature written expression is a challenging task, given the complex nature of writing. It is a task that is more taxing still for those experiencing learning difficulties affecting the myriad subskills required to write clearly. The more we know about the underlying nature of a student's writing difficulties, the better equipped we are to support them to achieve writing success. Making the distinction between a specific learning disorder with impairment in written expression and a mechanical handwriting difficulty, known as motor dysgraphia, goes some way towards understanding and addressing individual students' needs.

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Peta is an educational and developmental psychologist at DSF Clinical Services, where she supervises clinical staff, and regularly consults with families and teachers about learning difficulties and disorders. Peta also delivers professional learning in a range of other topics and programs, including LETRS and Talk for Writing, and regularly works with schools and individual teachers to support the implementation of high-quality literacy instruction. Peta has a teaching qualification and uses a range of evidence-based programs in individual and small-group tuition with students of all ages who are experiencing literacy learning difficulties.

Presenting difficulties	Possible intervention	Possible accommodations (adjustments)
Poor spelling accuracy	• Synthetic phonics program • Systematic instruction in English morphology and etymology (word origins)	• Allow the use of spell-checking devices or software
Difficulty organising and expressing ideas and knowledge in writing	• Develop knowledge of English syntax (grammar) and punctuation • Explicit instruction in organising information appropriate to different genres and text types	• Allow the use of writing templates or organisational frameworks
Excessively slow or illegible handwriting, or significant pain when handwriting	• Intervention from an occupational therapist	• For students who can type faster than they can handwrite, offer the option to type written work • Allow a smartphone or tablet device to photograph notes written on the board • Allow the student to use different equipment, such as a preferred pen, tilted desk, or a different chair

Table 1. Recommended interventions for a range of writing difficulties

Learning to Read the *Write* Way: A policy brief

Karen Ray, **Kerry Dally** and **Alison Lane**, The University of Newcastle

Notes:

The term 'kindergarten' used in this article refers to the first year of formal schooling in NSW.

The citing and formatting of references in this article follows the style accepted by the University of Newcastle.

The challenge

Children who struggle with literacy from the outset of their schooling are at risk of long-term difficulties in education, with potentially pervasive effects across their lifetime. In 2020, a new report "Nurturing Wonder and Igniting Passion" was published by the NSW Education Standards Authority,[1] after a major NSW education review which commenced in 2018, in response to community and professional concerns about curriculum overcrowding and a loss of focus on foundation skills. Crucially, the report recognises Kindergarten as a critical time for building strong foundation skills for literacy, including reading and writing.

Handwriting has been identified as a core kindergarten foundation skill requiring renewed focus because of its central role in creating written texts.[2] Recently, it has been reported that handwriting fluency, which entails the ability to write legible letters from memory, may also impact the equally foundational and vital phonic knowledge that contributes to reading.[3] However, children entering kindergarten may be at a new level of disadvantage for acquiring handwriting skills, impacted by a profile of increasing developmental risk, particularly children in areas of socio-economic disdavantge.[4] Decreases in manual play stemming from increasingly early use of digital devices may contribute to developmental risk factors for handwriting acquisition.[5, 6] There is a paucity of evidence for curriculum-based ways to support kindergarten students to develop handwriting skills, and wide variation in instructional practices.[7, 8] The NSW Government has committed to a new K-2 curriculum by 2022[9] based on the recommendations of the "Nurturing Wonder and Igniting Passion" report, which include a renewed focus on foundation skills in the early years and the need for capacity building for teachers to ensure they can implement the new curriculum. In this context, it is timely and essential to consider effective methods for supporting the foundation skill of handwriting. Focussing on effective instruction and intervention for handwriting may be a means to address pervasive developmental risk, support curriculum implementation through teacher capacity building, and facilitate transfer effects of fluent handwriting to literacy.

Problems

Risk for difficulty with handwriting is increasing and writing readiness is reducing

Kindergarten is a critical time for handwriting development, which requires the integration of cognitive and motor processes. However, a decline in handwriting-related motor skills in

"digital natives" has recently been reported.[5] Other reports speculate that increasing use of digital technologies is the cause of teacher observations of declining student ability to concentrate and focus on learning, suggesting a possible pervasive impact of early childhood experiences on learning across all foundation skills, including handwriting.[6] These problems may be compounded in areas of high socio-economic risk, with a widening gap in developmental vulnerabilities reported between children in advantaged and disadvantaged areas.[4] The confluence of these factors may explain the concerning numbers of kindergarten children who have low abilities in handwriting fluency at the end of their first year of school. For example, an Australian study found that nearly a quarter of kindergarten children (42 out of n=177) were only able to write five or fewer alphabet letters in a minute.[8]

High expectations for output without a solid base

According to the Australian curriculum, by the end of the school year, kindergarten students should be able to correctly form known upper and lower case letters, use familiar words and phrases in writing and demonstrate letter and sound knowledge.[10] However, as observed in the recent NSW Education review, time spent on foundation skill

development may be compromised by overall curriculum pressure.[1] Further, explicit skills for handwriting, such as accurate letter formation, have historically been de-emphasised in favour of process writing and whole language approaches.[11-13] This shift in pedagogy may have compounded the impact of curriculum pressure.

Handwriting instruction may be a lost art

Teachers report varying levels of undergraduate training and preparedness in handwriting instruction[14-16] and there is a wide variation in both time spent on specific instruction, and instruction methods used by teachers.[8, 17, 18] Further, evidence for effective curriculum-based handwriting intervention or early intervention programs is clustered in the pre-school years, or from Year 1 on, crucially lacking in the kindergarten year.[7] Within this context, it appears that handwriting may indeed be "a forgotten language skill". [13, p34]

Impacts on handwriting acquisition

The three proposed factors impacting handwriting acquisition, handwriting readiness, curriculum pressure and insufficient knowledge on effective instruction, may converge and lead to poor handwriting acquisition (Figure 1). This is of major concern as lack of development of handwriting fluency may contribute to an insufficient solid base for literacy tasks.

Addressing the current problems requires an approach that acknowledges the complexities of the issues for teachers and students, including:

- Many students in kindergarten are impacted by developmental risk factors that may impede the acquisition of vital foundations for learning, including handwriting.

- Children with increased developmental risk factors may not necessarily respond to standard teaching of handwriting, contributing to general concern about literacy development and progress.

- Wide variation exists in time and focus spent on kindergarten writing, suggesting a lack of clarity on the nature of effective instruction.

- There is a need for evidence on handwriting fluency acquisition and effective instructional and intervention methods to support both typically developing children, and children with increased developmental risk factors.

"…kindergarten presents a window of opportunity for preventing future reading and writing difficulties through early intervention" [19, p.29]

Potential gains – handwriting fluency impacts on literacy

Handwriting develops gradually, combining emerging knowledge of letter names, sounds and forms with developing fine and visuomotor skills. This skill is a recognised basis for writing texts.[2] Handwriting fluency refers to the ability to form upper and lowercase letters automatically from memory and is implicit in many typical school tasks.

There are also downstream impacts of handwriting fluency on writing quantity, writing quality, and reading.

Handwriting fluency releases working memory from mechanical task demands during writing composition

Being able to recall the image of a letter and reproduce it in writing enables legible handwriting, and with practice, leads to *automaticity*, or fluency in the act of writing a letter or word. When children are able to form letters correctly and quickly, vital memory resources are directed away from mechanical handwriting processes and are available for spelling, generating ideas and using writing structures.[20-23] Strong evidence exists for impacts of handwriting fluency in kindergarten on writing composition, specifically:

- Number of recognisable words, sentences or ideas.[3, 23-28]

- Writing quality such as use of structure for text and complexity of word choice.[19, 25-27, 29]

- Spelling from dictation.[19, 23, 26-31]

Handwriting enhances grapheme– phoneme correspondences (GPC)

Understanding the alphabetic principle, the relationship between letter names, sounds and forms, is crucial in reading acquisition.[32] Handwriting interventions that focus on development of fluency have reported downstream benefits for early reading skills known to support the acquisition of the alphabetic principle.[3, 33] These effects are explained by the role of handwriting in creating strong grapheme-phoneme correspondences. Specifically, handwriting aids visual letter recognition and categorization.[34, 35] Further, sufficient repetition of letter writing contributes to the creation of stable mental images of letters.[34, 36]

Impacts of handwriting fluency on reading, include:

- Letter name and sound knowledge.[3, 29, 31, 33, 37, 38]

- Text reading.[30]

- Real word reading.[3, 8, 19, 23, 26, 27, 29, 31]

- Nonsense word reading.[19, 27, 29, 38]

The impact of perceptual motor skills on literacy

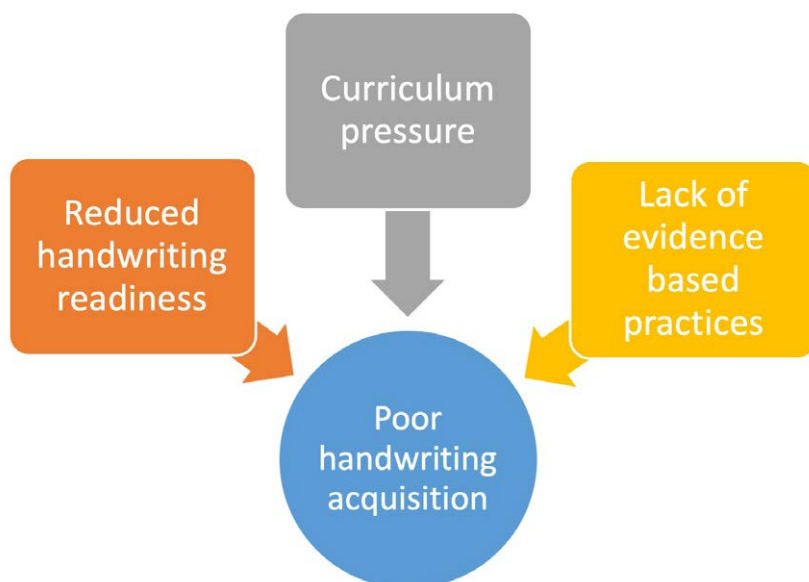Perceptual motor skills such as fine and visual motor skills have traditionally

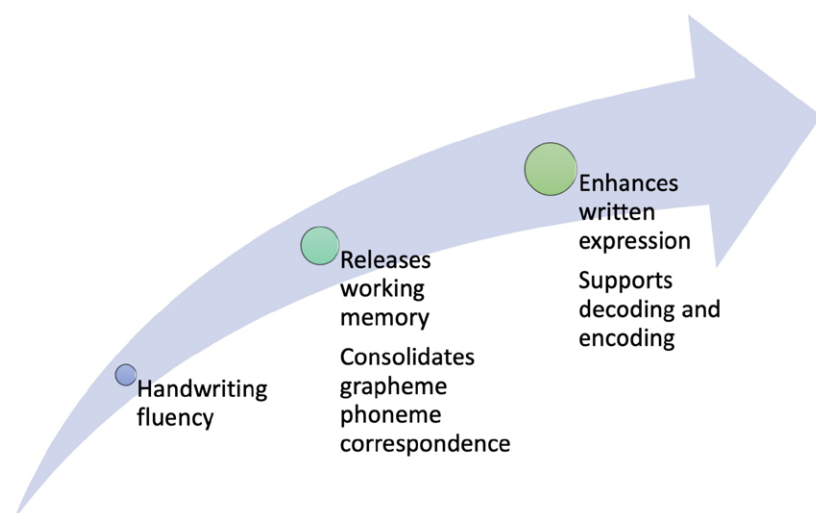Fig. 1: Factors impacting on handwriting acquisition

Fig. 2: The downstream impacts of handwriting fluency on literacy

been associated with handwriting abilities[39] and are associated with improved spelling[40], letter knowledge[40], letter naming fluency[37, 38] and nonsense word reading.[38] The development of these skills provides a crucial underpinning to handwriting fluency.

The 4*Rs* – A handwriting fluency acquisition model

Relationships between literacy, perceptual motor skills and handwriting fluency, which entail key cognitive skills such as memory, are evident. Handwriting intervention approaches for kindergarten that include both perceptual motor and cognitive factors impact literacy.[24, 25, 40] The 4Rs model (*Recall, Retrieve, Reproduce, Repeat*)[41] for handwriting fluency acquisition incorporates both cognitive and perceptual motor processes for beginning writers. Fluent handwriting requires: *Recall* of the orthographic code or mental representation for a letter or word[42, 43], *Retrieval* of the system of movements, or motor plan, associated with the recalled letter form[44-46], efficient letter *Reproduction* using adequate perceptual motor abilities such as fine and visual motor skills[44, 47, 48] and sufficient *Repetition*.[49] These four factors are suggested as the key elements needed to work together to create handwriting fluency. Importantly, this model integrates the evidence for impacts of memory, motor plans and perceptual motor skills in emerging handwriting. The 4*Rs* model is proposed as a practice model to enable evidence-based classroom instruction. The 4*Rs* model is also a basis for revising and updating handwriting intervention approaches.

Write Start-K: A test case

The authors of this brief, through the University of Newcastle, partnered with teachers at two New South Wales regional schools to test the effectiveness of Write Start-K. The schools were identified as being from lower socio-economic areas. Write Start-K is a whole-class, co-taught kindergarten handwriting intervention, revised using the 4*Rs* model, and adapted from Write Start, a Year 1 intervention program (Figure 3).[50-52] Co-teaching was used as a key strategy in this intervention approach to address the potential impacts of developmental risk on handwriting fluency acquisition, by embedding occupational therapy services into the

handwriting instructional sessions. The co-teaching team consisted of the class teacher, an occupational therapist and a trained assistant. Key benefits of co-teaching include the blend of skills that each partner brings to the intervention approach, information exchange, and capacity building that results from working in collaboration.[52] Occupational therapy focusses on use of meaningful, age-appropriate activities to support participation in tasks, in this case, handwriting fluency acquisition.

The intervention consists of two 45-minute weekly sessions for eight weeks, introducing and/or revising letter formation for small groups of letters. Whole-class instruction is followed by small group, station-based activities. Session one stations emphasise foundation fine motor, visual motor and cognitive skills during letter writing activities that activate *Recall, Retrieval, Reproduction* and *Repetition* of letter formation. Session two includes craft and writing activity stations, adapting a writing workshop approach used for Year 1. Write Start-K is informed by extensive evidence for:

- Multisensory instruction and practice to facilitate handwriting fluency (for example, mnemonics, air writing, use of a range of mediums for writing).[24, 25]
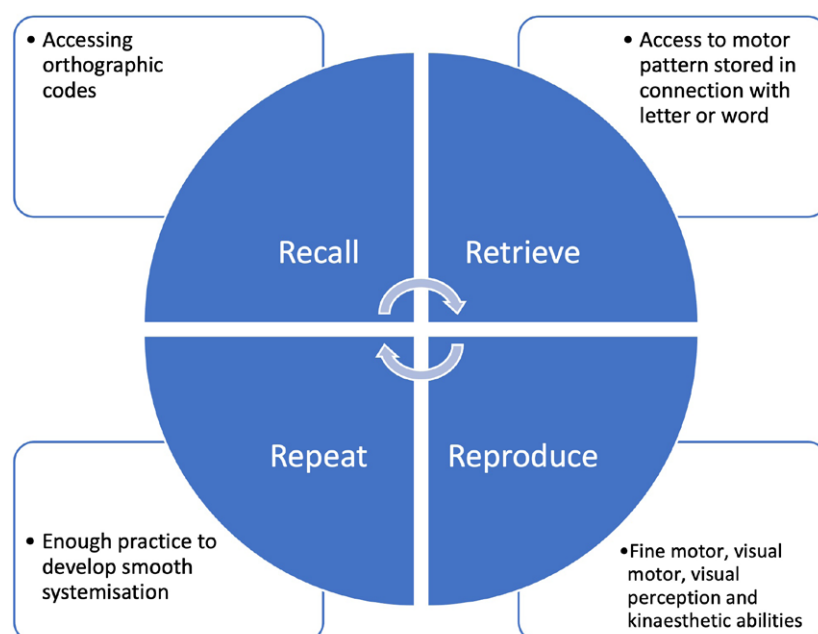- Embedding letter name, sound and form relationships through sensory motor processes in handwriting.[53]

Fig. 3: The 4*Rs* model

- Interaction of both cognitive and perceptual motor processes in handwriting fluency.[42-44, 46, 47, 49, 54]
- Enhancing mental representations of letters and letter recognition by handwriting.[34, 35, 55, 56]
- Role of novel, varied and graded tasks, direct and dynamic and explicit feedback to support skill development.[51]
- Sufficient amount of intervention to ensure an effect.[7, 49]

In our study, we administered Write Start-K to two kindergarten classes (n=38) and compared outcomes with kindergarten students (n= 39) in another school who received usual handwriting instruction. Both the intervention and control classes continued with similar literacy instruction. We measured the differences between groups in amount of change in handwriting fluency and literacy. We found:

Handwriting fluency gains: The intervention group made greater gains in handwriting fluency and letter sound correspondence. The intervention group made greater gains in writing recognisable letters from memory using correct letter formation and with less reliance on visual, verbal or demonstration prompts. Both of these skills were influential in the gains seen in writing composition and reading.

Writing composition gains: The intervention group made greater gains in the number of words they could write in a story. This significant growth can be explained by increased handwriting fluency, which released working memory, and allowed more attention to be given to generating ideas, spelling and writing. [57]

Reading gains: After the 8-week program, the gains in key reading skills of letter name knowledge and word reading fluency were significantly greater for the intervention group than the control. This effect is a downstream impact of handwriting fluency on reading, and supports the evidence for the broader impacts of handwriting fluency on literacy in kindergarten.

Implications

Our study tested a whole-class, co-taught intervention for kindergarten, which was revised and updated using the *4Rs* model of handwriting fluency acquisition. Our results, indicate that Write Start-K shows promise as a method to impact handwriting fluency acquisition in kindergarten classrooms, and may be particularly relevant in schools where socio-economic disadvantage is high. Further, Write Start-K is a promising approach to facilitating capacity building in teachers through skills exchange. More broadly, the 4Rs model is a potential framework to:

- Integrate handwriting instruction with reading and writing outcomes.
- Devise activities that promote letter name, sound and form relationships through handwriting.
- Strengthen the relationships between letter names, sounds and forms to support writing, spelling and reading.
- Underpin teacher practice guidelines to support curriculum goals and outcomes for kindergarten.

Key policy options

On the basis of the existing literature and new data from the study described in this brief, we recommend a range of policy options for a broad range of stakeholders including education standards authorities, government departments, professional bodies and tertiary institutions. Specific policy options are detailed for each.

Policy options for **education standards authorities** at a state and national level include:

- Ensure evidence informed practices are included in teacher practice guidelines for handwriting instruction, specifically:
  1. Outline factors that contribute to handwriting fluency acquisition, including memory of letters and associated correct formation patterns, skills that impact letter writing such as hand and eye-hand skills, and the need for sufficient repetition to develop these skills and embed letter form relationships.
  2. Differentiate between handwriting legibility and fluency by explaining the role of memory in handwriting fluency, in contrast to copying or tracing tasks.
  3. Report evidence for relationships between handwriting fluency and literacy, both reading and writing.
  4. Emphasise evidence from frameworks that integrate knowledge of both cognitive and motor processes that underpin handwriting fluency acquisition such as the *4Rs*.
- Seek out and approve professional development opportunities for teachers that provide evidence-based instructional methods for handwriting fluency acquisition.
- Identify effective handwriting instruction as an important inclusion in priority professional development areas.

Policy options for **departments of education** responsible for funding and resourcing of schools include:

- Address potential for large proportions of children in lower socioeconomic schools to be impacted by issues of developmental risk, with potential for flow-on difficulties with handwriting acquisition through:
  1. Upscaling access for schools in high areas of need to co-teaching partnerships, such as with occupational therapy, to support handwriting fluency acquisition in kindergarten.
  2. Increase access to professional development for teachers to upskill and capacity build in the area of handwriting fluency acquisition, such as through identification of and training in
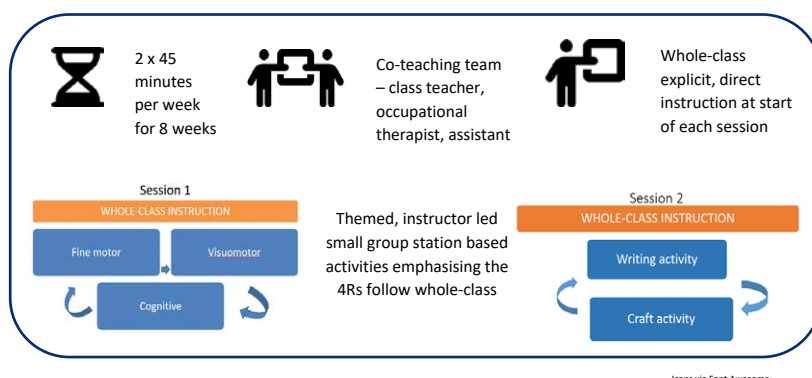

Fig. 4: Write Start-K eight week intervention program. Icons via Font Awesome. Excluded from the CC BY-NC-ND licence

courses that target handwriting fluency acquisition.

3. Consider research partnerships with tertiary institutions to build the knowledge base for effective handwriting fluency intervention approaches that can be delivered to whole classes in areas of need.

Policy options for **tertiary institutions** include:

- Increase inter-disciplinary training at undergraduate level to upskill teachers in mechanisms for promoting handwriting fluency.
- Embed instruction on handwriting fluency acquisition into undergraduate teaching programs.
- Increase inter-disciplinary practice experiences as part of educational training, such as collaboration between student occupational therapists and student teachers.
- Collaborate with education departments in researching handwriting instruction, intervention and benefits of different methodologies for both.

Policy options for **professional organisations** include:

- Generate a practice guideline for occupational therapists for working in schools collaboratively with teachers to support handwriting fluency acquisition.
- Ensure accessible resources on effective handwriting fluency acquisition instruction and intervention, relevant to professional disciplines.

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Authors' affiliations

Karen Ray, Lecturer of Occupational Therapy, School of Health Sciences, College of Health, Medicine and Wellbeing, The University of Newcastle, Callaghan, New South Wales

Kerry Dally, Senior Lecturer, School of Education, College of Human and Social Futures, The University of New Castle, Callaghan, New South Wales

Alison E Lane, Honorary Professor, School of Health Sciences, College of Health, Medicine and Wellbeing, The University of Newcastle; Deputy Director, Olga Tennison Autism Research Centre, La Trobe University, Melbourne, Victoria

Contact information

Karen Ray, School of Health Sciences, College of Health, Medicine and Wellbeing, The University of Newcastle, University Drive, Callaghan NSW 2308 Australia

Phone +61 (02) 4985 4262

Email: karen.ray@newcastle.edu.au

Karen Ray
Karen Ray is an occupational therapist and has worked in clinical, educational and policy implementation roles in child and adult mental health over the last thirty years. For the past ten years she has worked with schools, both as part of learning support teams and in conducting research focussing on interventions that maximise student participation, educational engagement and well-being. Karen's Doctorate investigated the effectiveness of a whole-class handwriting intervention on both handwriting fluency and literacy for Kindergarten students. Karen is a lecturer in occupational therapy at the University of Newcastle.

Kerry Dally
Kerry Dally is a Senior Lecturer in the School of Education at the University of Newcastle in NSW Australia: email Kerry.Dally@newcastle.edu.au. Dr Dally worked as a classroom and outreach teacher for 20 years in special and inclusive primary and early childhood settings. Her research interests include learning difficulties, inclusive education, values pedagogy, and student wellbeing. She has published research on the role of phonological processing and alphabet knowledge in reading acquisition and book chapters on supporting literacy competence.

Alison Lane
Professor Alison E. Lane is an occupational therapist and Deputy Director, Olga Tennison Autism Research Centre, La Trobe University, Australia; email a.lane@latrobe.edu.au. Professor Lane has over 25 years of experience in paediatric clinical practice and health service management. Her research interests include paediatric occupational therapy, early child development, autism and neurodevelopmental disability.

Developing orthographic knowledge to help challenged early learners master writing alphabet letters

Kathryn Mathwin

This is a summary of a research article published in *Reading and Writing: An Interdisciplinary Journal*, which is about the outcome of trialling a novel handwriting program on ten children in Year 1 or Year 2 who were struggling with handwriting. The results highlighted how these challenged writers were able to accurately form all twenty-six-lowercase alphabet letters from memory, in an average of nine hours of intervention.

Learning to write the alphabet letters is an important initial building block for children to become proficient in the writing process (Berninger et al., 2006). Children need to know how to correctly form all twenty-six alphabet letters to write words and sentences and produce text which is readable and conveys their thoughts and knowledge (Puranik et al., 2014). The research study discussed here trained children in alphabet letter and sentence writing. This summary addresses the change in the children's alphabet letter writing following a short intervention program.

Recommended Classroom Handwriting Instruction

In Australia and internationally, the current recommended methods for teachers to instruct letter-formations is to provide verbal instruction, visual demonstration, opportunities to practice, and teach self-evaluation skills (New South Wales Handwriting Guidelines, 2011; Santangelo and Graham, 2016; Western Australian Handwriting Guidelines, 2017). These methods help most children learn how to accurately form alphabet letters (Karlsdottir and Stefansson, 2002). However, there remain some children who write letters which are reversed, of incorrect size, poorly positioned on the page or unrecognisable, which makes their writing difficult to read, or even illegible (Graham et al., 2006). For these children, understanding all the rules and patterns of the alphabet symbols and remembering how to write them correctly can seem confusing and perplexing (Ritchey, 2008).

Handwriting Program used in this Study

The handwriting program trialled in the study was called Think-to-Write. Think-to-Write was viewed as distinct from most current handwriting instruction in that it aimed to develop both alphabet knowledge and orthographic knowledge of alphabet letters (these terms will be defined further below). To establish alphabet and orthographic knowledge of alphabet letters, Think-to-Write asked children to always write from memory. This meant the children did not use tracing, copying, faded prompts or visual cues (starting dots and directional arrows) when learning and practicing letter-writing. The children also had no images of the alphabet letters to see, such as alphabet-desk strips or alphabet-wall charts. The assumption underlying the program was that copying is not dependent on memory requirements (Graham et al., 2006) and hence, the act of copying may not be effective in assisting children to establish alphabet and orthographic knowledge (of alphabet symbols) necessary for mastering correct alphabet letter writing.

Alphabet Knowledge

Alphabet knowledge is important for learning to write the alphabet letters because children need to know the name or sound (Molfese et al., 2006) and its matching visual symbol to write the letter (Puranik et al., 2014). Development of alphabet knowledge can be difficult for some children because the alphabet is abstract. The symbols drawn do not represent real life objects such as those in drawings (Bialystok, 2000). Instead, alphabet letters represent the smallest unit of language: phonemes. For some children this can be confusing (Puranik et al., 2014). As well, there are no logical connections between the names or sounds of the letters, or between the sounds and the letter-shapes, and sometimes letters might sound nearly the same (V/B) or look the same (d/b) (Ritchey, 2008). Think-to-Write aimed to make the abstract features of the alphabet have meaning, so children could correlate or accurately link together the letter-sound/name, letter-shape, and letter-formation.

Orthographic Knowledge for Alphabet Letters (OK-AL)

'Orthography' defines the rules and regulations of correctly translating language into written form (Apel et al., 2018). Orthographic knowledge is mostly related to words for the purpose of reading and spelling. It is described to have two stages: The sub-lexical stage which includes the rule-based patterns regarding which letters can or cannot be combined within words (understanding the parts). The second stage is lexical orthographic knowledge and involves the storage and retrieval of mental representations of words and parts of words which are often referred to as a mental graphemic representation (MGR) (Apel et al., 2018). MGR's are important for fluent reading and writing as words can be easily recognised and produced with little cognitive effort.

The Think-to-Write program extended the use of the term 'orthographic knowledge,' and applied it to correctly converting the sounds of language into visual symbols (alphabet letters). Orthographic knowledge of alphabet letters was considered to also have two stages. The first stage (similar to the sub-lexical stage for words) involved understanding the parts of alphabet letters: that is, awareness of the individual strokes such as horizontal, vertical, or diagonal lines, and half-circle shapes. This stage involved children learning the rules of writing each stroke (starting position on the line, directionality, and finishing point), and how the strokes are sequenced and connected together to write each alphabet letter. The second stage (similar to the lexical stage) required children to practice retrieving and creating a mental representation of the alphabet letter (MGR) in their mind's eye (Weintraub et al., 2002). Orthographic knowledge of alphabet letters was viewed to include understanding, recognising, and recalling the conventional rules of what constitutes an error, and identifying when the orthographic rules of correct letter-representation were broken (Ouellette and Sénéchal, 2008). The Think-to-Write program theorised once children had fully established orthographic knowledge for alphabet letters, they could execute the actions to correctly write each alphabet letter from memory.

The Think-to-Write Research Project

The study compared the progress of the children's handwriting skills from a baseline when they had classroom instruction alone, to the period when they participated in the Think-to-Write handwriting program, through to a follow up six weeks after the intervention was concluded. The participating children were in Year 1 or Year 2 (first two years of formal schooling) and had been identified by their class teachers as having handwriting difficulties. The children received an individual forty-five-minute session, twice a week over a ten-week period. Writing samples were collected from the children across all phases of the study. At each data collecting point, the children were asked to write the alphabet from memory in lowercase letters and a self-created sentence. Writing samples from four of the children who participated in the study can be viewed in Figure 1, which demonstrate the change in children's writing.

To establish alphabet and orthographic knowledge of alphabet letters, Think-to-Write asked children to always write from memory.

The Think-to-Write program used memory strategies to help children independently remember the alphabet and orthographic information (of alphabet letters). These strategies included: stories which simultaneously taught the letter-sound, letter-shape, and letter-formation; colour and linking strategies to help remember the rules of the strokes, stroke-sequence, stroke-connection, and letter-
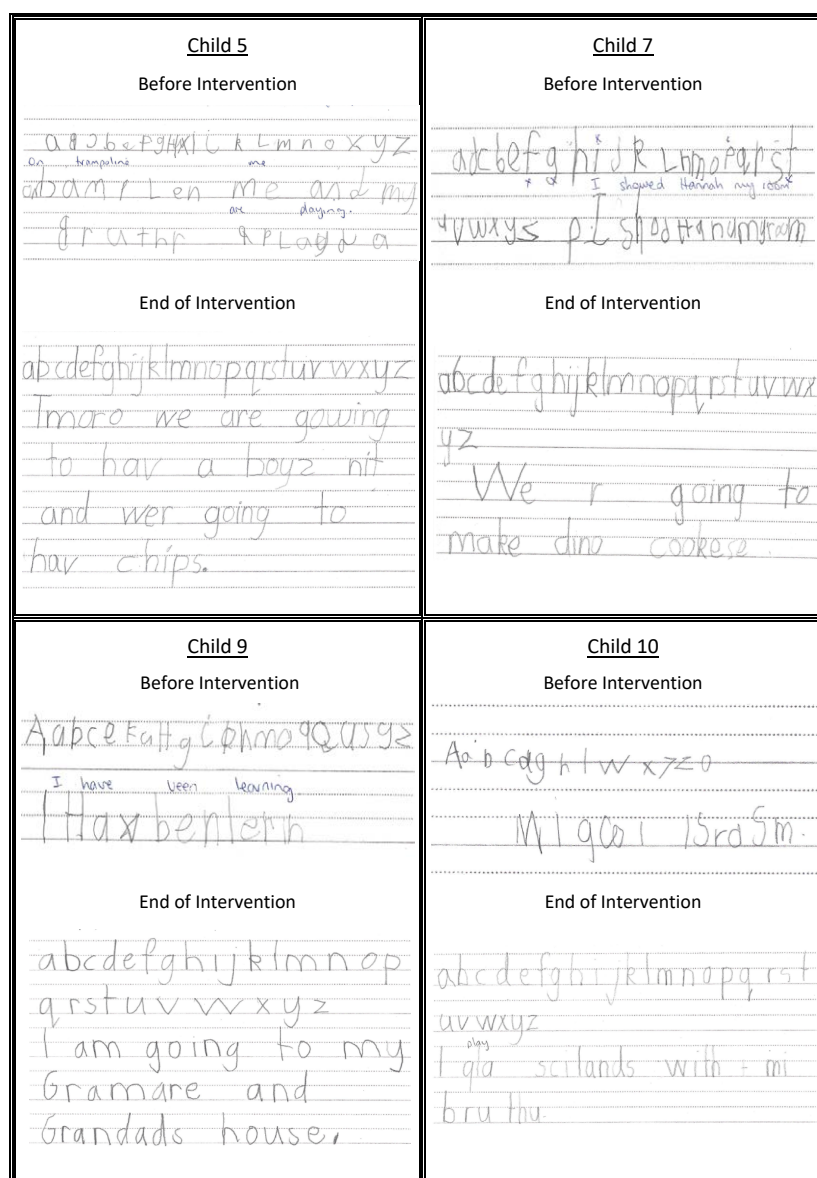

Figure 1. Examples of Children's Before and After Writing Samples

placement; and visualisation activities to practice the retrieval and imagery of each alphabet letter. The memory strategies ensured the alphabet and orthographic information (of alphabet letters) was successfully lodged in the children's memories, and that children had retrieval cues to help find the information when needed. The children were trained to identify troublesome letters often written with errors (e.g., reversing or writing a capital letter instead of a lower-case), and how to slow down or stop, prior to writing the letter, and use the retrieval cues to search their memories to find the correct letter-writing information (Chapparo and Ranka, 2014). This process was thought to develop successful and accurate retrieval routes (Berninger et al., 1997). Other thinking strategies, to ensure improvement in their writing occurred, were: learning how to question and make judgements of their writing to identify if the orthographic rules were followed or not; and making the best choice when correcting errors.

Results

For interested readers, detailed description of the background, methodology, data analysis and results can be found by accessing the published article (Mathwin et al., 2022). Overall, the study found children who were the quickest to master writing the twenty-six lowercase letters from memory, took four hours of intervention, and the slowest took twelve hours. On average, across the ten children in the study, the Think-to-Write intervention took nine hours of intervention to help children master independence in correctly writing all the lowercase letters.

Future Research

The Think-to-Write handwriting program has been trialled in whole Year 1 classrooms with positive results. Further study is required to test the outcomes using formalised reseach methods and to determine if the results can be replicated using different teachers and/or occupational therapists. Trialling Think-to-Write in children's foundation year (the year before formal schooling begins), when children are learning letter-formations has also been recommended.

Applications to Practice

- Children with handwriting difficulties can be identified by errors in their ability to recall the visual-symbol, translate sound/name-to-letter, and their tendency to write letters that are unrecognisable, reversed, the incorrect case, incorrectly formed and/or spatially placed. It could be these children have undeveloped alphabet knowledge and inadequate, and inaccurate orthographic knowledge of alphabet letters stored in memory.

- Suggested Ideas to help children struggling with handwriting -
  – Teach children the alphabet song so they can recall all the letters of the alphabet.
  – Ask children to write the alphabet in lowercase (or uppercase) letters from memory, as this will help identify which letters children are still confused about, and what letters may require more teaching or practice.   Use activities to practice matching the names/sounds of letters and with their visual representation. This can help determine if children are confused with correctly correlating letter sounds or letter names with the alphabet letter – for example, thinking a 'C - Ceee' is a 's' as in sun; or a 'Geee' is a 'j'.
  – Teach the orthographic rules of how the strokes need to be connected, so children's letters cannot be confused with other letters. For example, an 'a' is closed at the top so it cannot be confused with an 'u'; the vertical line must be tall enough so that an 'h' is not confused with an 'n'.
  – Ensure any previously taught letters can be recalled and correctly written from memory before introducing new letters, so children's memories don't become confused and overwhelmed.
  – Hide all alphabet desk strips and alphabet wall charts, so children are required to find the information related to correct letter-writing from memory.
  – Write an alphabet letter on the board that may or may not follow the rules of correct letter-writing. Ask the children to decide if the letter is written correctly and, if not, to identify and name the error.
  – Ask children to evaluate their own writing and identify letters written correctly or those that do not follow the rules and have an error. Each time the children write the alphabet from memory and/or written text, they could aim to improve on their score.
  – Highlight all aspects of correct letter-writing as being important so children can learn to correctly form all twenty-six alphabet letters. Further handwriting practice can then allow the children to become fluent or automatic at writing them correctly.

For further information please refer to the published article Mathwin, K. P., Chapparo, C., & Hinitt, J. (2022). Children with handwriting difficulties: Developing orthographic knowledge of alphabet-letters to improve capacity to write alphabet symbols. Reading and Writing: An Interdisciplinary Journal 35, 919–942. https://doi.org/10.1007/s11145-021-10207-9

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Kathryn is an occupational therapist who has specialised in working with children who have handwriting difficulties. She is also conducting her PhD through The University of Sydney which has two phases. Phase 1 examined the effectiveness of a novel handwriting called Think-to-Write. Phase 2 is comparing the cognitive strategy use of children who are able writers to children with writing challenges.

Book Review:
Essay writing for adolescents with language and learning difficulties

Reviewed by **Jacinta Conway**

Knight, K. (2022). Essay writing for adolescents with language and learning difficulties. Routledge.

Over the years I have taught many different students of varying ages. For many years, I taught upper primary students, then many early years of literacy interventions. Sandwiched between this, have been a few years of teaching adolescents. Many of the students that I have worked with in the younger years have now become adolescents and I have found that I either move the students along, or I learn to also work with them on their essay writing – and I have come to agree with Knight that "the most gruelling task required of English students [is] English essay writing." This book, *Essay writing for adolescents with language and learning difficulties: Practical Strategies for English Teachers*, came at the perfect timing for me supporting a student in Year 10 to write essays.

Knight states the book is written not as a programme, but rather to suggest ways that teachers, speech pathologists and other professionals can apply the scaffolds, schemas and strategies outlined to support older students to plan and write essays.

The introduction of this book defines key terms, as well as characteristics of adolescents with language and learning difficulties, pointing out the key need for structure in teaching and learning

at this level. Memory and thinking processes are also explored, with research evidence offered to support approaches for teaching older students to comprehend and write essays.

Chapter 1, 'A Way to Analyse Texts', tackles the challenge of finding ways help students to go beyond just providing a simple retell of the plot, and supporting them to evaluate and explore the text with more depth. This chapter provides graphic organisers that scaffold the learner (and teacher) to understand the differences between text types, genres and themes, and to keep drilling down to the crucial question: "What is the text saying about the theme?" This process provides an explicit way to find answers to the elusive 'Find the main idea' question so often posed in comprehension exercises. Worked examples are provided, as well as a range of strategies which can be used to break down key concepts.

Chapter 2, 'Essential Essay Structures', introduces the standard essay schema of 'Introduction, Body Paragraphs, Conclusion'. I like that Knight asserts that providing an essay format will not be enough for students with learning difficulties. She suggests that it is most productive to start with the body paragraphs when supporting students to write their essays; the introduction and conclusions can be better tackled when the student is confident about what to write in the body of the essay. A range of overall paragraph schemas with catchy acronyms is discussed, including the common TEEL and PEEL structure, and Knight's preferred term, ACCESS (Argue, Clarify, Confirm, Extract, Scrutinise and Synthesise.) Going into very useful practical detail, Knight suggests ways to break down each paragraph and provide the scaffolding of additional statements, which are then flipped into further probing questions for each segment of
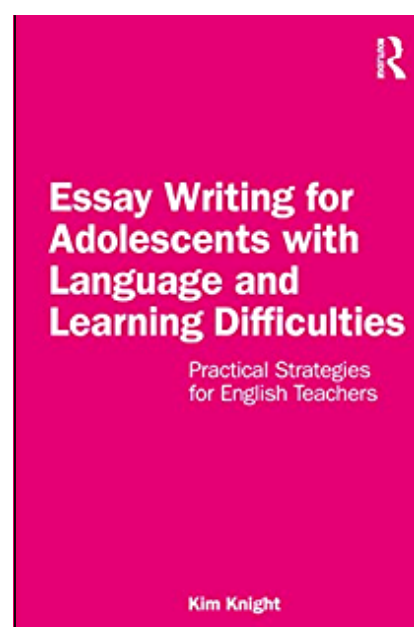
the body paragraph, beginning with the crucial: 'What is the text saying about the theme?' Once again, several worked examples are provided. It is evident that these strategies have been emerged from extensive clinical experience.

As a learning support teacher having watched many students complete NAPLAN writing assessments, it can be painful to watch students 'think' they have so much that they can write about a topic, and then after a few minutes, they are done with literally only a few sentences on their page. Chapter 3, 'Essay Topic Breakdown and Planning, provides strategies for breaking down a topic and understanding what the essay question asks the student to do. Worked examples are provided for identifying and using schemas for four kinds of essay questions: 'One Way', 'Agree/ Disagree', 'Divide and Conquer', and 'Incorporate'.

The final chapter, 'Writing an English Essay', looks at putting it all together. Knight returns to the 'Introduction' and 'Conclusion' sections of essay

structures, offering intriguing and easy-to-remember acronyms: PREP (Paraphrase, Respond, Explain and Points) for Introductions, and PS (Polish and Summarise) for Conclusions. Knight also gives some great tips on exam strategies, including how to use the 'Blank Page' provided in booklets.

Although the book is essentially about essay structure, Knight has at several points introduced useful, succinct sections on sentence-level grammatical concepts. These sections can clearly be adapted by teachers for use in a range of essay writing contexts.

Ultimately, nothing is left to chance in this book - all the essay barriers faced by students (and teachers) have been addressed. The extensive worked examples provide the opportunity for teacher workshops to be planned, during which the strategies can be rehearsed before teachers take them into the classroom. Even though Knight states that the book is not purposed for general classroom instruction, like any good instruction, I have noticed that anything that works for students with learning difficulties also works for all other students. The strategies enable your instruction to be more purposeful and more precise. Best of all though, is that the strategies enable meaningful oral discussions with students, that lead to greater depth of learning.

This book has its place in any secondary English teacher's toolkit, as well as for speech-language pathologists and consultants. Even better, it can even have its place in the classroom for Tier 1 instruction as well as in any learning support setting.

Jacinta Conway is a specialist teacher who works with students with additional needs. She has a particular interest in Specific Learning Difficulties (Dyslexia, Dysgraphia and Dyscalculia). She has taught in schools for more than 20 years, and is now the Director of Impact Tuition, where she tutors students and coaches teachers to implement evidence-based learning strategies.

Would you like to contribute to the Bulletin?

The LDA Bulletin is a publication of Learning Difficulties Australia that aims to provide information and support to educators in a range of professions as they implement effective evidence-based teaching.

As a practice-based journal, articles in the LDA Bulletin generally focus on topics related to the development of literacy and numeracy in both mainstream student populations and especially students with learning difficulties.

Contributions are welcome from researchers, literacy and mathematics specialists, classroom teachers, speech-language pathologists, school psychologists, and other professionals in the field of education. Articles focusing on effective approaches to teaching and effective intervention are particularly welcome.

Contributions to the LDA Bulletin typically include:

	Content	Approx. Length *
Feature articles	Topics likely to be of interest to LDA members that summarise research on a significant aspect of literacy or numeracy learning.	2000 - 3000 words
Reports from the chalk face	Summaries of the implementation of specific evidence-based school practices.	2000 – 3000 words
Debates and discussions	Overviews and evaluations of relevant controversies in the field of education.	2000 words
Reviews of resources	Critical evaluations of assessment tools and available teaching resources	1000 – 2000 words
Book reviews	Critical reviews of published books in the field of education.	1000 words
Journal article reviews	Critical reviews of relevant peer-reviewed research.	1000 words

* All length guidelines are flexible, depending on the content of what is covered.

Submissions to the LDA Bulletin are peer-reviewed within the Bulletin Editorial Team, and any requests for changes are returned to the author/s for consideration. Referencing should be presented in *APA (7th edition) format*.

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Please contact Julie Scali, LDA Bulletin Editor, with any queries, suggestions for topics, or proposed submissions: *bulletin.editor@ldaustralia.org*

"A Day with Linnea Ehri and Friends" in Review

In October, we held our first in-person professional development sessions in almost two years! The atmosphere was electric and it was wonderful to see so many of our members in attendance.

We were incredibly lucky to have Professor Linnea Ehri as the keynote speaker at both Melbourne and Sydney events. Linnea presented a fascinating keynote on her research about "Learning to Read and Write Words" with a focus on orthographic mapping. Professor Ehri presented both the historical perspectives, as well as the scientific research, and with fifty years of expertise and only ninety minutes to present, the audience was left with many anecdotes, as well as research to both motivate and inspire teachers and professionals to apply the orthographic mapping strategies into their practice.

Linnea's presentation included her theory of how children learned to read, the hypotheses to test her theory and elaborations on the studies conducted. One could not provide historical context without mentioning Ken Goodman's "Three Cueing Theory". During the subsequent panel discussion, the question was asked as to what would the teaching and learning landscape of Australia look like today had our education system followed the path of Linnea Ehri's Four Phases of Reading and Spelling Development instead.

Melbourne

Our Melbourne event was held in spectacular style at RMIT's "The Capitol". This venue provided an atmosphere for the event like no other. All speakers were well received, and alongside Linnea, included Dr Jennifer Buckingham, Jocelyn Seamer, Emina McLean and Dr Nathaniel Swain. Their "theory to practise" presentations were insightful, engaging, informative and practical. Feedback from the surveys identified that people felt they took much away from the event to implement in their classrooms and private practices.

Sydney

The Sydney event, held at the Sydney Masonic Centre, hosted representatives from the Macquarie University Centre for Reading, including Professor Anne Castles, Dr Danielle Colenbrander, Lyndall Murray and Signy Wegener. This event focused on cutting-edge research in the field of teaching and learning reading. Presenters delved into the research and how this may impact the teaching of reading moving forward. It was fascinating to hear about the new technologies and innovative ideas that are impacting both research and teaching.

Special thanks to our trader friends

The day with Linnea and Friends included our other 'kindred spirits' - the trade stalls. Both events featured a variety of trade stalls from businesses and organisations who provide services and products aligned with LDA's core values and mission, including:

- Auspeld
- Code Read
- Decodable Readers Australia
- Get Reading Right
- Jolly Education & Training
- Lioncrest
- Little Learners Love Literacy
- Macquarie University
- McGraw Hill
- MultiLit
- Oxford University Press
- RipRap Books
- Tools 4 Reading
- Silvereye
- SPELD Victoria
- SPELD NSW

Attendees and trade stall holders alike enjoyed the opportunity to meet in person after such a long break due to COVID, with much engagement throughout the day.

Both events highlighted LDA's strength as a provider of high quality and relevant Professional Development (PD) in the field of promoting evidence-based education.

Overall, the events were hugely successful for LDA and were enjoyed by over 600 people across the two events. We have received responses to the survey of attendees from just over half of those who attended, and this feedback is providing useful data on how we can continue to improve our PD offerings for the future. The response has been overwhelmingly positive, and we'd like to congratulate and thank all those involved in the organisation and running of the events, with a special mention to our wonderful speakers (many of whom donated their time to speak at the events); and MCs, Alison Clarke and Jacinta Conway. In addition to this, a very special thank you to the Professional Development Committee, convened by Jacinta Conway, and the council members Eleanor McMillan, Julie Scali, Roslyn, Neilson and Kristin Anthian. Behind the scenes, a very special thanks also goes to Bec Rangas, who coordinated the events on the day.

Please enjoy some photos and a few comments we received in the survey responses. We hope it gives those of you who were unable to attend a sense of how well things went on the day. To those of you who attended and have completed the feedback survey, thank you so much, we appreciate your input. For those attendees who haven't yet filled in the survey and received your attendance certificate, there's still time to do so.

Feedback from the participant responses:

"This was a fabulous event. I can't wait for the next one. "

"It was a privilege to hear Linnea speak and to hear what has been happening in the field of reading research. I feel completely energised by the experience."

"Wonderful content. Excellent speakers. A passionate group of educators!"

"Loved the conference. The speakers were all amazing. What a wealth of knowledge and passion!"

"The positivity in the theatre was palpable. What a fabulous day! "

"What an absolute privilege to listen to Linnea Ehri and to meet her in person. Listening to her talk about her research, that has truly stood the test of time, was a highlight of my career."

"An incredible line up of speakers. Motivating, knowledgeable and inspiring. I travelled from interstate for this conference and was thrilled with every part. I felt privileged to attend and hear these experts speak so passionately and practically."

LDA Professional Development Committee, and Bec Rangas.