Using Evidence in Primary Teaching Resources

Discussion Paper, September 2023

EVIDENCE FOR LEARNING

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CHAPTERS

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INTRODUCTION

This Discussion paper explores some research undertaken in partnership between not-for-profits Cool.org (also known as Cool Australia) and Evidence for Learning (E4L) around using evidence within primary teaching resources.

The objective was to conduct a small investigation to understand teachers' preferences around viewing and using evidence-informed tips within primary teaching resources. By including evidence-informed tips in resources designed by Cool.org, we aimed to build educator understanding and encourage using evidence and evidence-informed approaches to support learning so that all children, regardless of background, make the best possible progress. This partnership builds on a collaboration that embedded research evidence curated by E4L into Bluey Education Resources developed by Cool.org - this is explored in Chapter 3.

The partners conducted a teacher survey, focus groups, and data analysis to create a new pilot resource, Unlikely Animal Friends. This resource addressed several areas of feedback in terms of design and format. Further feedback was gathered to validate these changes and to scale these across future resources developed by Cool.org.

Evidence for Learning's mission is to help busy educators – especially educational leaders – increase learning for children and young people, by improving the quality, availability and use of evidence in education.

Cool's mission is to enable educators to be the best they can be so that young people grow up happy, healthy, informed and empowered with the skills to help tackle our greatest challenges, creating a better world for all.

RECOMMENDATIONS

Based on the data and information gathered, the following four recommendations represent insights gained about using evidence in primary teaching resources. The references to evidence were described as 'teacher tips'.

1 Recognise the value teachers place on evidence-based teacher tips in supporting the quality of their teaching.

2 Evidence should be clearly marked, succinct and supported by a trusted source.

3 Additional information on evidence should be separated from the flow of the lesson.

4 The type of evidence matters - the use of relevant evidence for key teacher audiences requires further investigation.

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1. Recognise the value teachers place on evidence-based teacher tips in supporting the quality of their teaching.

The investigation into the use of evidence in primary teaching resources has clearly highlighted the discernment and considerations of teachers when using resources. Teachers prioritised learning resources that referenced evidence and also indicated a level of understanding of the type of evidence being used.

While it is well-known that many teachers are time-poor due to the demands of their profession, it does not mean that teachers ignore the educational value, evidence base or rigour of a resource. Previous investigations into download data patterns and market-testing by Cool.org have indicated that despite sequences of learning being created around different packages of resources, teachers continue to 'cherry-pick' and select specific elements of materials they need for their students. This reflects an expectation that teachers meet the Australian Professional Standards for Teachers as set out by AITSL around "Professional knowledge" (such as 'Know the content and how to teach it') and "Professional practice" (such as 'Plan for and implement effective teaching and learning'). Data gathered for this paper further supports the capability of teachers to carefully curate and select what they need and when for the students they are teaching.
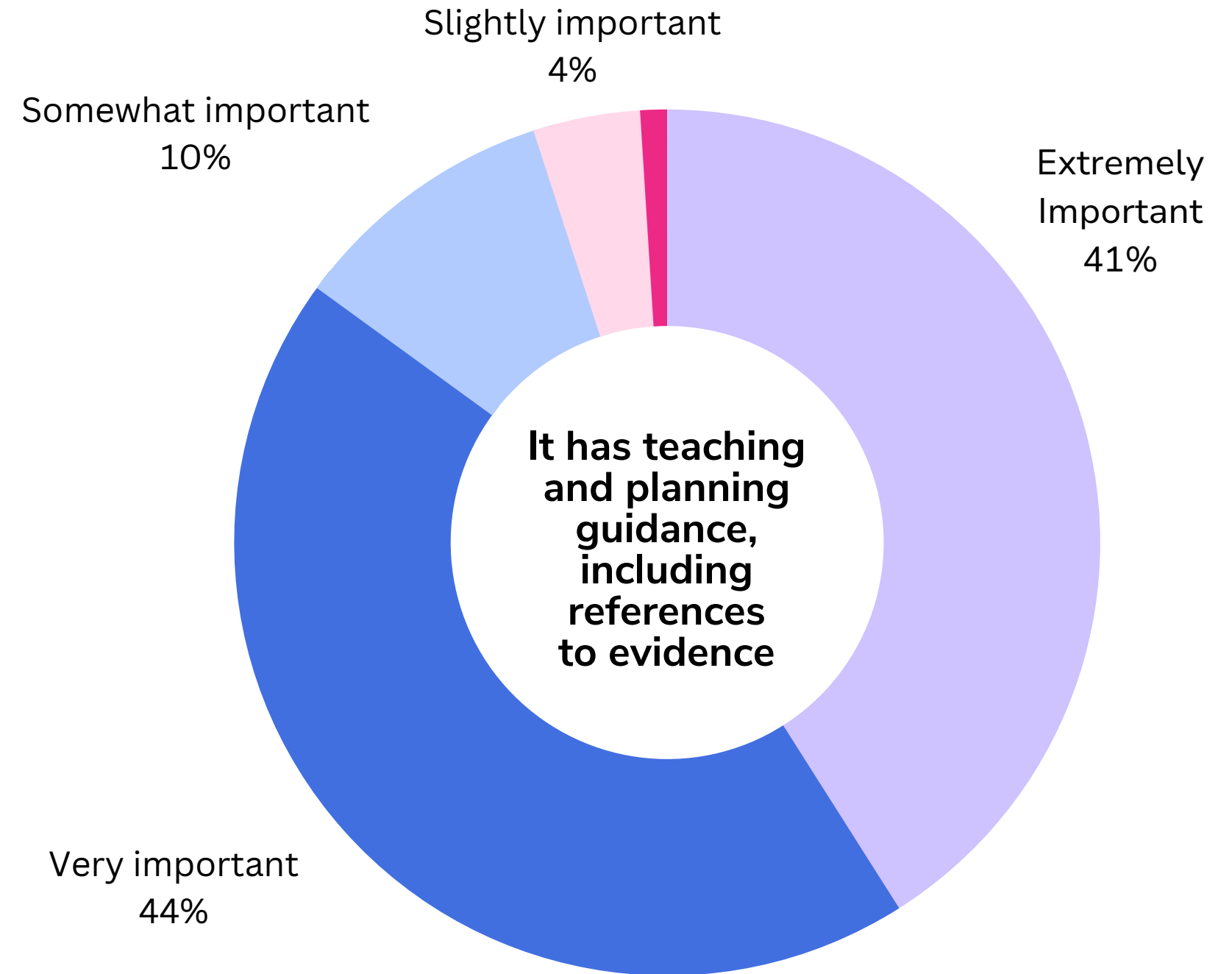
93% of teachers referred to the teacher tips

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1. Continued...

To best support quality teaching, less is more. While detailed information is well-intentioned when explaining and introducing key pedagogies or evidence-informed approaches, most teachers simply do not have the time to navigate all of this at once.

The use of simply designed teacher tips was strongly endorsed by teachers through our investigation, with sections offering additional detail if required.

(Right): Survey response on factors influencing selection of teaching resources (n=96)

Slightly important
4%

Somewhat important
10%

Extremely
Important
41%

It has teaching
and planning
guidance,
including
references
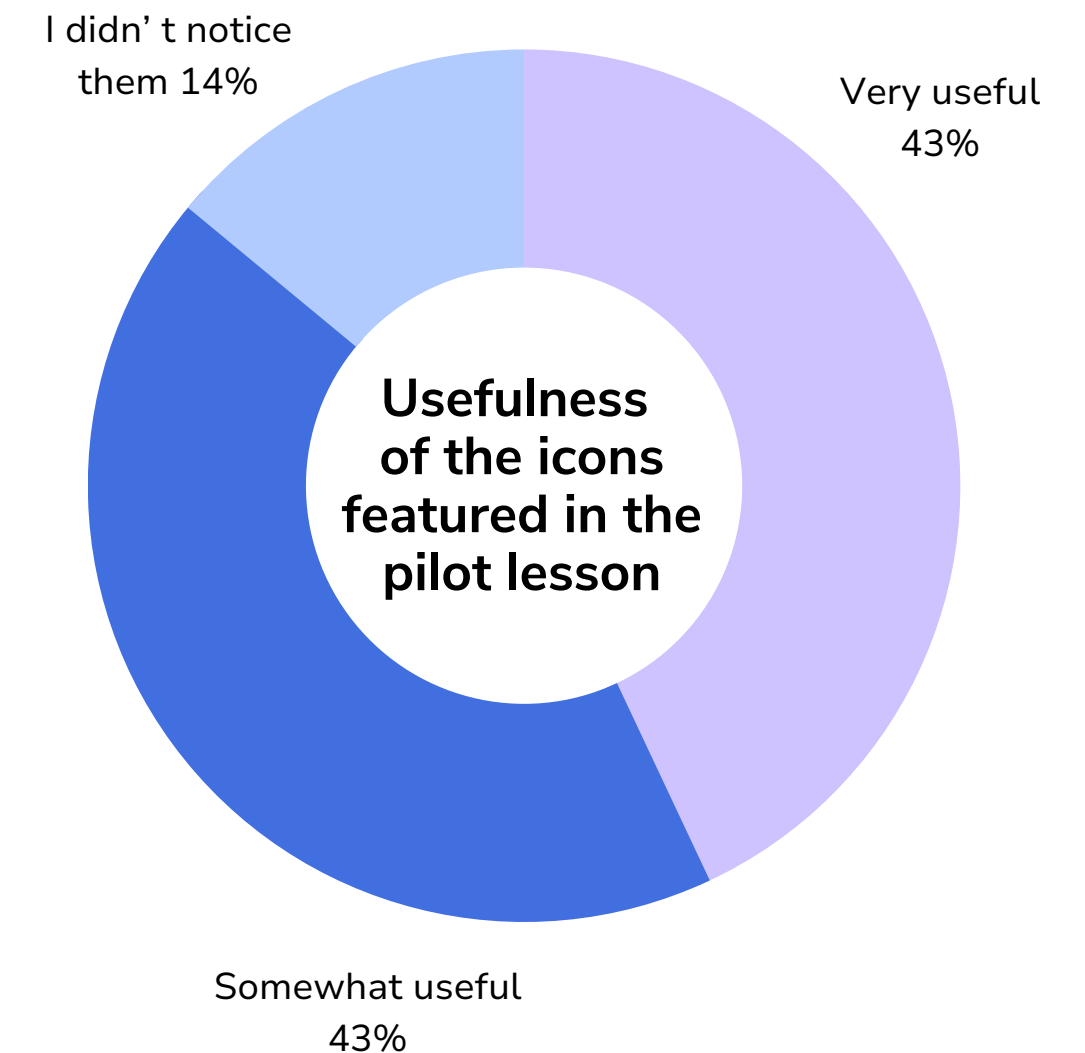to evidence

Very important
44%

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2. Evidence should be clearly marked, succinct and supported by a trusted source.

It is well understood that teachers often lack adequate time to prepare high-quality learning materials for their students. While it does not change the value teachers place on resources that are supported by evidence, the time to navigate this material needs to be carefully considered by the learning designer. Teachers provided clear feedback that learning processes and pedagogies supported by evidence must be clearly identified and explanations kept to a minimum. This appeared especially true of teachers who had recently joined the profession. To support this, a set of icons was developed to signpost and distinguish evidence types with a lesson resource.

Teachers also reinforced the importance of the source of evidence-informed approaches. Knowing that the evidence for a particular process or pedagogy came from a recognised organisation or institution instils a level of trust on the part of the teacher. This translates into two types of responses: One: Teachers are not as concerned about following further information or links to verify the validity of the evidence being used because they trust the source. Two: Teachers follow the links to further information because they want to improve their professional knowledge and understanding of the evidence being referred to.

It is hoped that the pairing of two trusted organisations such as Cool.org and E4L, will provide a strong level of assurance for teachers in effective learning design and the supporting evidence for teaching of key content.
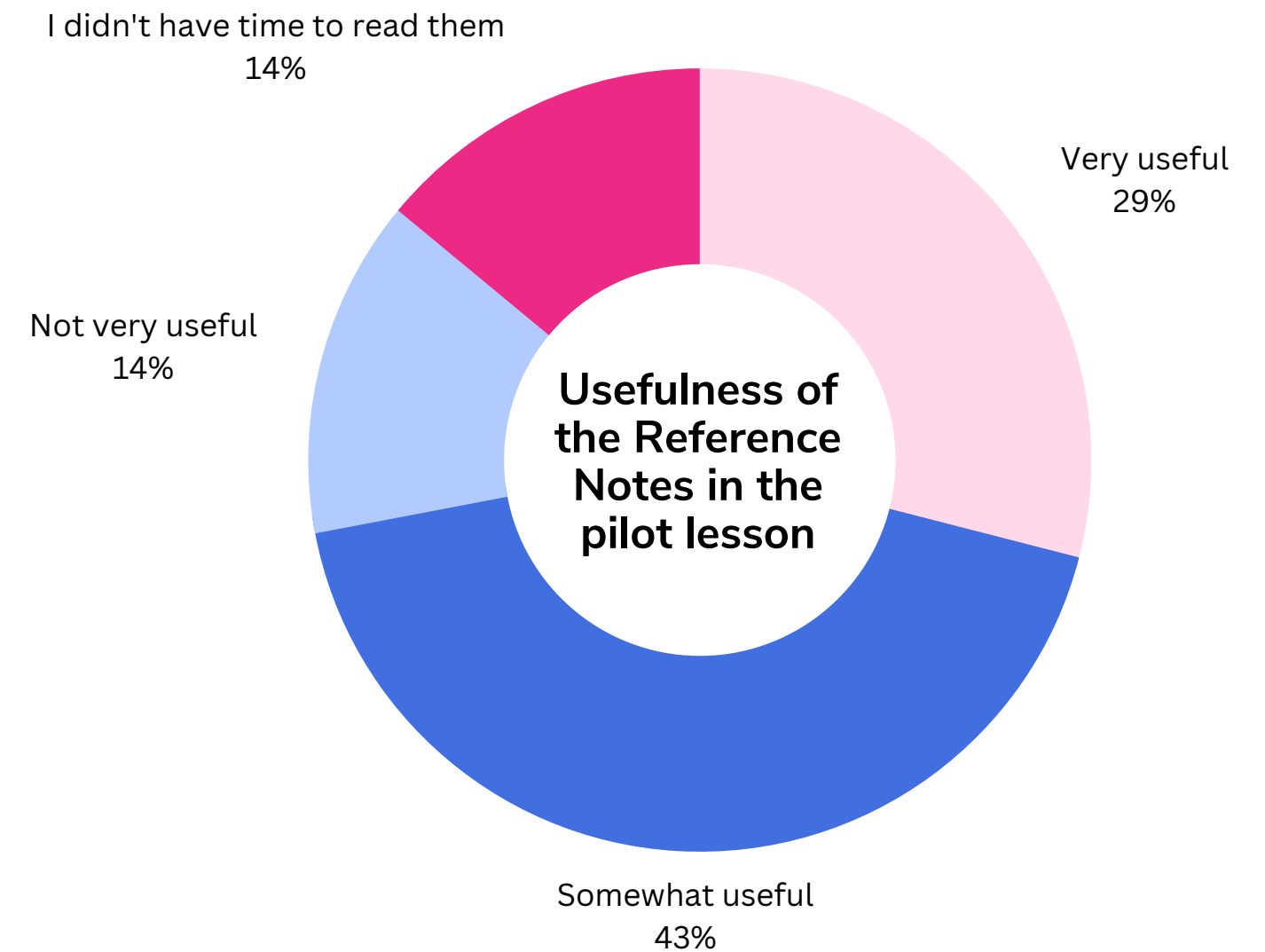
I didn't notice them 14%

Very useful 43%

Usefulness of the icons featured in the pilot lesson

Somewhat useful 43%

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3. Additional information on evidence should be separated from the flow of the lesson.

Like other factors informing recommendations in this paper, the information accompanying evidence was requested to be kept clear and simple by teachers. The basis for this was largely attributable to ensuring that evidence-informed references did not clutter the resource or take away time in reviewing the flow of the lesson.

Feedback did not suggest that teachers thought the information on the evidence was not important, more that these details could be captured somewhere else in the resource. This was optioned to be either at the end of the lesson or within a separate document. For example, Cool.org has created a standard template for summary information for its resources called 'Teacher Content Information'. Such approaches allow teachers to dig deeper if required and ensure that the teaching sequence remains as instructional as possible.

The use of Reference Notes for the new pilot resource was praised in feedback by teachers, although there were still comments about the amount of time needed to browse all additional materials.

I didn't have time to read them
14%

Very useful
29%

Not very useful
14%

Usefulness of the Reference Notes in the pilot lesson

Somewhat useful
43%

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4. The type of evidence matters - the use of relevant evidence for key teacher audiences requires further investigation.

Evidence-informed teaching approaches are not all the same. Besides evidence that supports particular teaching processes or pedagogies, there are also types of evidence that denote the way it can be used by the teacher. Through discussions with teachers, these were separated into evidence that describes an Action, Reflection, Resource, or Information. Teachers were also interested in evidence being denoted for 'differentiation'. This is one area that would require further investigation since differentiation often exists within evidence-informed approaches (for example, effective feedback), as distinct from the evidence on the value of differentiation itself.

While the categorisation of evidence is part of this current trial, there is a need for more investigation into the ways teachers recognise and use evidence in their teaching and learning. This study focused on primary school teachers, especially those working with Foundation to Year 2 students. It is unclear how secondary school teachers might react to the categorisation of evidence, as well as other types of evidence that they might prefer, given the subject specialisation that often occurs in secondary schools. Where particular evidence is being used to reference processes or pedagogies, it would be helpful to consider the type of teachers using the intended resource and how their preferences might impact what is considered useful overall.

ACTION   REFLECTION   INFORMATION

4. Continued...

While it is clear that evidence needs to be practical for it to be applied within a lesson plan, another factor highlighted by this work is the level of experience and expertise of the teacher.

Teachers ranged in experience from a couple of years to more than 20 years of experience as a classroom teacher. Assumptions would suggest that teachers with more experience require less guidance on evidence, but also conversely challenging where clear evidence might conflict with ingrained pedagogical beliefs of a teacher with decades of experience. This suggests that investigation is needed to test these assumptions further.


My personal interest in evidence

Slightly influential
2%

Somewhat influential
19%

Extremely influential
42%

Very influential
36%

Factors influencing motivation towards learning about evidence-informed teaching practices (n=97)

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THE POWER OF BLUEY RESOURCES

In 2021, Cool.org created 70 Bluey Education Resources, with 55 of them integrating E4L's evidence-informed approaches directly into the lesson plans. These resources focused on teaching and learning areas such as oral language, play-based learning, social-emotional learning, and working with parents. Many of these resources were supported by references to evidence on the pedagogies used.

These Bluey Education Resources were downloaded 76,667 times, with Cool.org also receiving numerous anecdotal feedback from parents, early learning educators and teachers about the value of these materials. The resources reached over 4,200 Australian schools and 670 early learning centres. In July 2023, the Bluey Education Resources were taken down at the request of the BBC, license holders of the material.
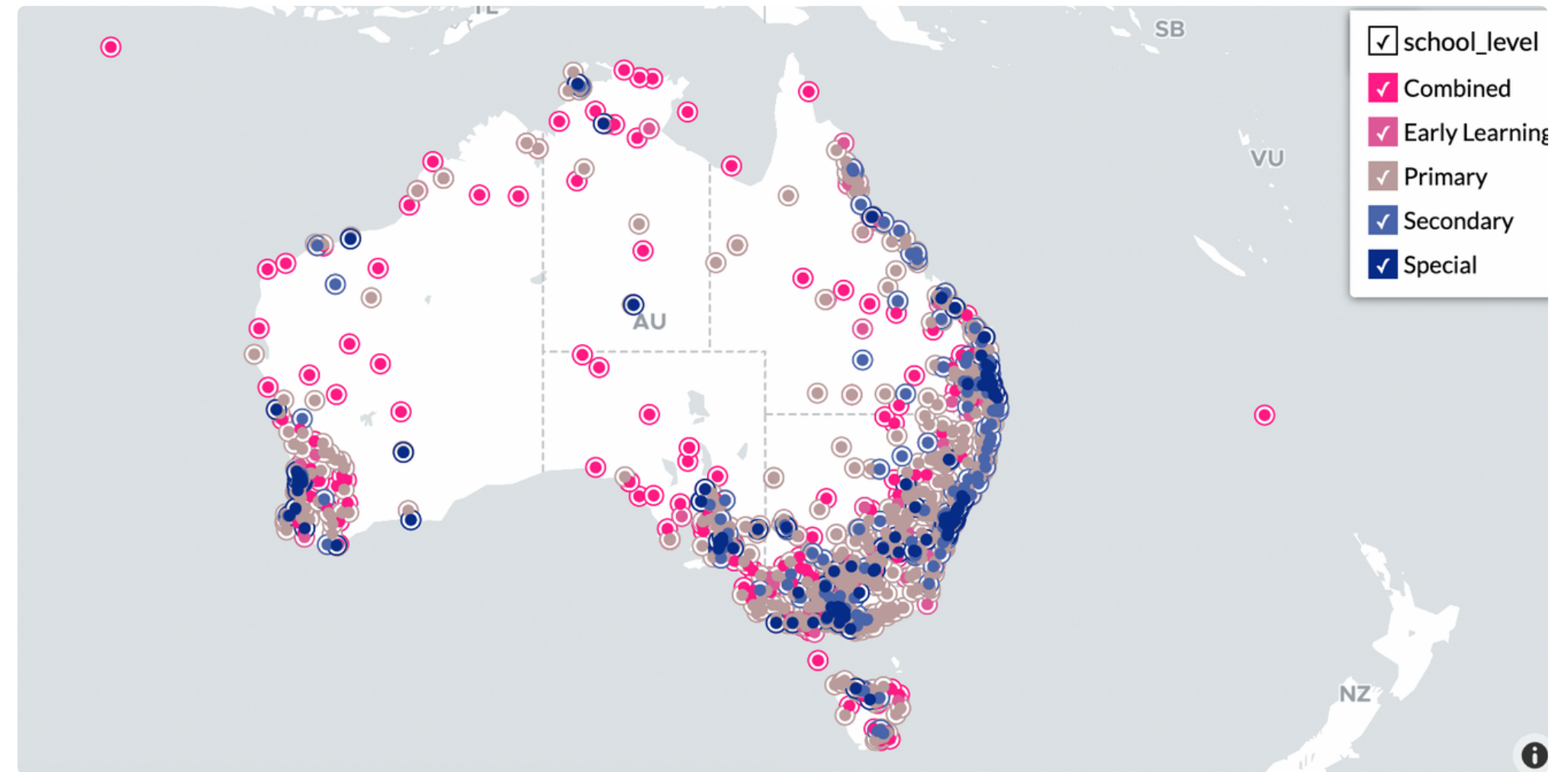
Data of download locations of Bluey Education Resources

Continued...

The traffic generated by these resources revealed an interesting pattern in using evidence. Within the top 10 Bluey Education Resource lessons, there were 15 references to the research from E4L, with a majority focused on evidence on oral language development. This created flow-on traffic to E4L's own website, spurring the curiosity to learn more about what was driving this behaviour. Furthermore, of these top resources, half of them were about the theme of 'kindness' (including respect and inclusivity).

These patterns and findings were also supported by responses from surveys and focus groups, emphasising the high value of explicitly linking evidence within teaching and learning resources. It also reinforced the importance of an education resource organisation like Cool.org working with a partner who specialises in evidence-based research in education, such as E4L. This kind of partnership creates shared benefits and highlights the role of ensuring that teacher instruction is supported by evidence from practice and research.
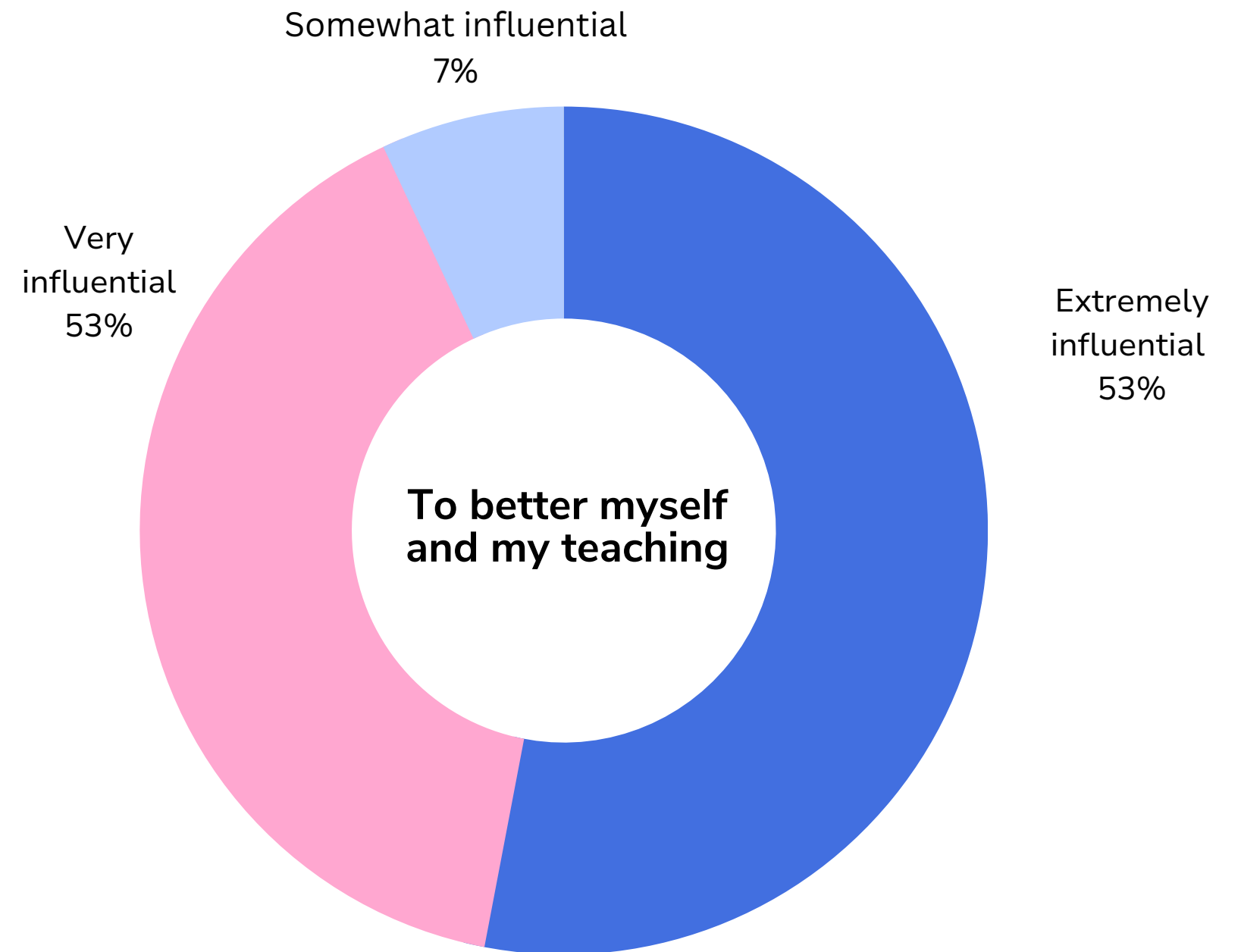

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WHAT EDUCATORS ASKED FOR

Over 100 educators provided feedback on using evidence in primary teaching resources through surveys and focus groups. Most of these (93%) had experience teaching children from Foundation - Year 2. The same amount of educators said their motivation for using evidence-informed teaching practices was to better themselves and their teaching.

The use of teacher tips needed to be simple, clearly marked and relevant to the lesson. Educators found the teacher tips useful for several key reasons:

- They prompted educators to think, reflect, and grow their knowledge
- They reminded, refreshed, and confirmed what educators already knew
- Knowing it was evidence-based helped educators feel confident about their approach

Somewhat influential
7%

Very influential
53%

Extremely influential
53%

To better myself and my teaching

Factors influencing motivation towards learning about evidence-informed teaching practices (n=96)

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Continued...

Clearly marked use of evidence was deemed very important to educators as part of the teaching and planning guidance, which should include references to evidence. Several other priorities were also considered to be extremely important to educators:

- It looks engaging for students
- It has links to the curriculum
- It has links to real-world concepts or examples

While about half of the educators who provided feedback explored hyperlinks to learn more about the evidence base, the other half did not. For these educators, this was down to a lack of time, but also because they found the teacher tip was enough. These factors were also considered in the design of the new resource. Further supported through targeted focus groups, teachers sought clearer ways to navigate and distinguish between types of evidence in a lesson resource. As a result, the teacher tips were combined with icons and other design elements.

Example of learning task from new pilot lesson

Listening	Trying new things	Teamwork	Helping others	Staying calm
Sharing	Being positive	Sporty	Being a good sport	Patient
Problem solving	Being polite	Inventor	Telling stories	Telling jokes
Cheering people up	Being independent	Being creative	Being a leader	Being brave
Including others	Handy/Fixer	Being tidy	Following instructions	Speaking confidently

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A NEW RESOURCE: UNLIKELY ANIMAL FRIENDS

While oral language was identified as an important area for educators to find and follow the evidence around, the overwhelming request from teachers was for more evidence-informed resources on social-emotional learning. This was one factor leading to the development of the new resource, Unlikely Animal Friends - Working Together with Different Perspectives.

This resource was designed to align with Year 1 and 2 curricula on social-emotional learning (SEL):
* Health and Physical Education
* Personal and Social Capability

This new lesson was also supported by a range of five additional custom resources:
* Six Children and a Zoo Animal slides - designed as a familiar story based on an old fable.
* Unlikely Animal Friends images - designed to support the teacher with examples of different species of animals together.
* Unlikely Animal Friends worksheet - for an individual learning activity
* Skills, Hobbies and Celebrations printables - for a classroom group activity
* Appreciating Everyone worksheet - for an individual reflection activity

Story 'Six Children and a Zoo Animal' created for the new pilot lesson.

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Guided by teacher feedback and preferences, this lesson also featured distinct teacher tips with icons to clearly explain the evidence being used. Further information on the context and source of this evidence was documented in Reference Notes.

Feedback gathered on this new resource from teachers indicated that the modifications and additions to the lesson and the evidence were considered clear and effective. This included comments that it "seems a clearly explained and fun lesson with a goal about teamwork and respecting others" and that "titles linked with visuals so well, that a professional can know it will be engaging for the entire target cohort." However, there is clearly still a balance to be struck between too little and too much information and the ongoing issue of how much time a teacher might have to navigate the materials surrounding an education resource.

Example of evidence icons and their use from the pilot lesson

Evidence-informed teacher tips feature in this lesson. Look out for the following icons:

✔ ACTION ⚡ REFLECTION 📎 RESOURCE ☆ INFORMATION

INFORMATION: When planning and delivering SEL, it's important to balance teacher-led activities with active forms of role-play, discussion and small group work so students can practise applying their skills.

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REFLECTIONS ON THE FUTURE OF EVIDENCE-INFORMED RESOURCES

The challenge with many education resources has been that the evidence supporting their creation and delivery has often been hidden or assumed to be valid. The evidence behind such resources needs to be much more transparent and adhere to a set of quality standards to better equip teachers to understand and use rigorous evidence to inform their decision-making.

Ongoing research into teaching and learning practices and pedagogies is constantly evolving and consolidating. In our work, we have found teachers and schools to be highly adaptable and flexible to new methodologies and contextual changes that support the needs of their students and the latest work into effective teaching and learning. The shift to meet the constraints of the COVID pandemic over 2020-2021 is one strong example of this adaptability. In this investigation, and in Cool's work over the last 15 years, we see that teachers are consummate 'cherry-pickers', using their knowledge of students and pedagogical practices to select what they need. The notion of teachers as 'cherry-pickers' puts an onus on creators of learning resources to ensure that the content they are proposing is sound in its foundation of evidence. Evidence-informed decisions are about "integrating professional expertise with the best external evidence from research to improve the quality of practice" (Sharples, Jonathan. 2013. Evidence for the Frontline. London: Alliance for Useful Evidence).

"The lessons are well thought out, relevant and engaging."

"They are a great resource, relevant, easy to implement and practical."

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The data and feedback from teachers around this work also possibly challenge the assumption that teachers routinely and unquestioningly follow set 'sequences of learning' when using teaching resources and materials. Given the breadth of experience amongst teachers, multiplied by the diversity of learners in any given class, ensuring teachers have the appropriate level of choice and flexibility in selecting quality resources and even components of resources, supports teachers in targeting teaching and learning in effective ways. If these can be backed by clear indicators of evidence-informed practices, it empowers the decision-making expected of teachers in relation to creating impactful learning for students. The partners in this project are committed to improving this further.

One final area that expands on the diversity of learning needs is the emphasis on differentiation that many teachers picked up on through this project. It is a common practice for teachers to adapt ways of learning about topics, including extension and support tactics. We need more evidence on the most impactful adaptions that teachers can make to respond to the diversity of learning needs in their classrooms. Perhaps artificial intelligence will provide the kind of responsive approaches teachers need, saving them precious time and ensuring learners everywhere make the best possible learning progress.

"Educators should be equipped to appreciate the strengths and limitations of different kinds of evidence, see using it as integral to their professional identity and know how to use evidence to make impactful decisions related to student outcomes."

Social Ventures Australia and Evidence for Learning, Submission to the Review to Inform a Better and Fairer Education System, August 2023.

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Explore more resources at -

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September 2023