

# What kind of knowledge can we use?

## Scoping an adequate program for literacy education

Peter Freebody

In this chapter Peter Freebody highlights the fact that the application of the alphabetic principle in written English is not straightforward. He argues that the alphabetic principle should be considered one of a set of tools in the reading and writing toolkit. With this in mind, he poses key questions that models of literacy learning must address:

- Does the model cover the actual demands that learners face as they learn to read and write? Is it adaptable enough to respond to evidence emerging from a range of research disciplines? Is it comprehensive, covering all components of learning to read and write and not just parts of this process?
- Is the model useful? Does it explain literacy learning and teaching coherently? Can teachers put the model into action across a range of social and cultural settings to meet the needs of diverse student profiles, while accounting for variable and shifting literacy demands?

He responds to these questions by revisiting the well-known Four Resources model (see Cox, Feez & Beveridge, Chapter 1, this volume), which accounts for the range of resources deployed by successful readers and writers. The model can be used to evaluate the comprehensiveness of programs designed to teach reading and writing in English. Each of the resources in the model is a necessary component of a comprehensive literacy program, but none is sufficient on its own. Each of the four resources requires explicit and systematic teaching if students are to become readers and writers who can navigate the complex literacy terrain of the twenty-first century.

The difference between humans and other species is in what kind of knowledge they can use – explanatory instead of rule-of-thumb.

(Deutsch, 2015, p.58)

## PRELUDE

The title of this volume highlights the importance of the alphabetic principle. A prominent reading researcher has indicated that this term refers to:

the relatively straightforward idea that the letters that comprise our printed language stand for the individual sounds that comprise our spoken language . . . In general, whenever and wherever a particular sound occurs in a spoken word, it can be represented by a particular letter.

(Byrne, 1998, p.1)

Teachers have been encouraged to develop an awareness of the alphabetic principle and its use in English, because it ‘enables children to “break the code” and understand that words are composed of letters that represent sounds’ (Cunningham & Zibulsky, 2014, p.80).

Questions about how ‘straightforward’ both the idea of the alphabetic principle might be, and therefore about how learners might come to understand it, raise a prior question about how ‘principled’ – reliable, direct, transparent or, in the language of linguists, how shallow or deep, the relationship between speech and its inscribed form is for any particular language. The depth of an alphabetic orthography indicates the degree to which its written language deviates from ‘shallow’ – simple, consistent one-to-one letter–phoneme correspondences – to ‘deep,’ where these correspondences do not hold well or evidently or, effectively, at all.

It may be true that learners need to understand that ‘words are composed of letters that represent sounds’, but its apparently ‘straightforward’ application to English is demonstrably not true. Listing all the ‘principles’ needed to account for how a fluent reader manages a simple written sentence would, in most cases, be time-consuming, likely calling up a variety of *ad hoc* rules-of-thumb rather than a collection of principles. For example, the inscription: *words are composed of letters that represent sounds* itself has at least, in Standard Australian English, instances of eight letters, none of which represent any sound, two letters (o and e), that represent four sounds each, and two letters (s and h) that represent two sounds each. So this eight-word sentence, containing 44 letters and 12 syllables, sets out to describe a ‘principle’ that its own inscription at best obscures, and at worst contradicts a total of 18 times in slightly less than four seconds of fluent reading. Every teacher and learner of English knows, at least implicitly, that English is at the deeper end of the ‘shallow-to-deep’ continuum; indeed, pedagogically and psychologically . . . if there is a principle at work at all, it is the principle that there is a ‘shallow-to-deep’ continuum.

Because most interesting ideas in literacy education almost instantly become provocations (Snyder, 2008), there is ongoing debate about the usefulness of the alphabetic principle in introducing learners to reading and writing in English, in particular in the early preschool and school years. It has been argued that its successful acquisition is the platform that essentially begets the accumulation of other literacy-related skills and understandings (e.g. Byrne, 1998; Stanovich, 1986, 2000). In contrast, it has been argued that, in view of the possibly thousands of rules and exceptions, it is ‘misleading to refer to the Alphabetic Principle (in the singular)’, a reference that inappropriately ‘conveys an impression of precision and universal validity’ (Uppstad & Tønnessen, 2011, pp.46, 54). Some prefer to describe English orthography as embodying a ‘representational principle’ (Frost, 2005, p.289) that incorporates, along with phonemic and alphabetic knowledge, a set of relationships across morphology and clause

grammar, including shallow-to-deep trade-offs (Seidenberg, 2011), into a set of resources that fluent readers have at their disposal.

Uppstad and Tønnessen have summarised the case against over-reliance on the alphabetic principle this way:

To its potential users, for example teachers or researchers, such an apparently all-encompassing, all-explaining theory will immediately come across as very attractive. Its uncritical adoption may, however, give rise to . . . less effective reading and writing instruction. If instead the Alphabetic Principle were perceived as one of several useful tools, then teachers and researchers would be more likely to make use of other tools as well, which would probably improve the outcome of their work.

*(Uppstad & Tønnessen, 2011, p.43)*

You can read this chapter as one version of how we might map out those ‘other tools’, what we can take to comprise not only an *adequate* toolkit – one that seems to cover most of the actual reading and writing demands that face learners in schools – but also an actionable, useable toolkit – one that seems not so abstract as to allow wildly variable curriculum materials, teaching approaches, and assessment practices, but not so concrete and specific as to prevent faithful, responsive applications across the range of curriculum domains and learners with which teachers work.

This in turn forms part of a better explanation of what is called for in learning and teaching to read and write. The various layers of language and of its social and educational uses need to be interconnected in adequate, usable explanations of literacy education. Modelling those interconnections can show us where our practices should be more focused and constrained, and where more diffused and open-textured.

## MODELLING LITERACY

Educators are now regularly encouraged to pay attention to research – even to be accountable to research findings in their curricular, pedagogical and assessment practices. ‘Research-based’ and ‘evidence-informed’ are terms centre-staged in discussions and decisions about educational practice and policy. Programs and packages for schools and parents come with endorsements claiming best practice on the basis of their ‘scientific’, evidential status. Teaching and learning literacy in the early years is perhaps the most widely researched topic in education, and thus a site of competition for programs and packages.

Research evidence is gathered and interpreted on the basis of, and in pursuit of, explanations. A model that claims to be evidence-informed should provide the means by which evidence can be interpreted. For literacy educators, such a model needs to be empirically adequate and broadly useful. Are our explanations comprehensive enough to account for the work that teachers and students do on and around reading and writing across the school years? And are they designed in ways that can generate better ways of working in a variety of educational conditions without a consequential drop in fidelity to the central ideas?

For a model to be adequate and usable it must also relate to the emerging conditions shaping literacy’s evolution as a set of purposeful, materially based social and psychological practices, and to the demands and opportunities those conditions present to teachers and learners.

Models of how literacy is learned have evolved over the last two generations of researchers and theorists. Concentration of interest has shifted from modelling the textual variables that affect reading – readability – to modelling the psychological processes that operate in effective readers, then to modelling the historical, cultural, institutional, situational contextual features involved in learning to read and write in contemporary societies. As Pearson and Cervetti (2015) argue, all of these dimensions – text, learner

and context – are now seen to be caught up in (and indeed together to constitute) a better set of explanations for researchers and theorists interested in literacy. That is, they assert that both the contents of these dimensions as they are called for in a variety of sites, along with the interplay of these dimensions as they are encountered and practised, day to day, make up the work of literacy educators and their students.

Motivating this chapter are two persistent questions that we ask of a model of literacy learning and teaching. First, is it empirically *adequate*? That is, does this model cover the range of actual demands that face learners in acquiring those literacy skills, knowledge and dispositions that are fit-for-purpose in contemporary societies? Is the model responsive to, but not bound by, the history of research efforts? Is it adaptable by a range of research disciplines, and is it attentive to emerging trends? And do the components, as a set, make a reasonable claim for comprehensiveness, for describing a full program, not just part of a program? Or is it missing something?

As outlined in Chapter 2, models come from, and draw on, traditions of research, and each tradition has its own preferred set of methods and conventions for theorising about the products of those methods, its own notions of what counts as empirically adequate. Over recent decades research on literacy learning has come from an increasing variety of disciplinary perspectives. The earliest, most abiding claims have been made by psychologists (e.g. Chall, 1967; Gibson & Levin, 1975), but since the mid-1980s the field has grown to include, among others, anthropology (e.g. Barton & Papen, 2010; Street, 1984), history (Graff, 1995; Eisenstein, 2012), sociology (Fraatz, 1987; Luke, 1988; Payne, 2009), applied linguistics (Christie & Derewianka, 2008), policy analysis (LoBianco & Wickert, 2001), media studies (Pahl & Rowsell, 2010; Serafini, 2012), and neurology (Pugh & McCardle, 2009). All have applied the tools of their trade to study – what their trades have judged to be – the nature, consequences and educational requirements of literacy. The products of their studies reflect the various workings of their *métiers*. Together they have come to present us with a picture of literacy education as a collection of open-textured, evolving fields of inquiry and practice, with family resemblances amid diverse conceptual and methodological characteristics.

The second persistent question we must ask is, is this model *useful*? Does it have both enough span and shape to provide some useful, generative ways of improving literacy learning? That is, is this model coherent in how it explains literacy education, and general enough to be broadly actionable, and adaptable to the range of learners and to the settings they face, but not so abstract as to be interpretable in unconstrained or extravagant ways? A useful model offers a professional vocabulary for continuous practical, coherent and responsive analysis and improvement in the daily workings of literacy educators, individually and in their collaborations. It provides an actionable view of what does, could and should go on; and it provides a productive vocabulary and logic for debates that sharpen differences of view without constructing patrolled borders.

## THE COMPONENTS OF READING AND WRITING

We can imagine successful, active and adaptable members of a literate society that is characterised by ever-increasing diversity of learners, new forms of online and mobile communication, and new demands on non-specialist citizens to understand complex, global issues. Imagining that society calls for a model that provides a broad, flexible, and ambitious set of literacy components – skills, processes, knowledge and dispositions. The model outlined in the following sections attempts to answer the two questions posed earlier. It makes a claim to empirical adequacy, setting out to provide a set of categories that refer to the particular resources that the technologies of literacy call for in contemporary life. Its reach extends from the specific details by which human speech and other communications are rendered material in inscriptions and signs, through to the social, cultural, moral and ideological demands presented by those texts that are influential and that lay claim to authority. It claims as well to be useful, providing categories that have

clear features of overlap and interaction, but that are nonetheless distinctive enough to allow coherent and reliable interrogations of pedagogical approaches, curriculums and assessment regimes.

The history of research into reading provides us with various components in a range of models of literacy education. For instance, the United States National Reading Panel (NRP, 2000), whose conclusions have been widely used to guide classroom practice and policies, concluded that the experimental evidence supports three kinds of components: alphabetics (phonemic awareness, phonics instruction), fluency (speed and accuracy) and comprehension (vocabulary and text comprehension) (see also Chapter 1).

Some cautions have arisen in considering the NRP's methods and conclusions, the representativeness of the sampling for the studies used, and the range of professional expertise sought and the ways in which the findings were set out to work in policy. A general concern has been that drawing high-level conclusions about the stability and optimal sequencing of components, from across many different studies, runs the risk of leaving educators only with the differences that matter more or less everywhere. The danger then is that these may be precisely the differences that matter least on many individual sites, especially those most dramatically dependent on the cultural and linguistic responsiveness of the teaching (e.g. Paris, 2005; Pearson & Cervetti, 2013; Snow, 2015).

Another way of approaching the question of literacy's components is to start with the anthropologist's question about the demands of everyday life in and out of schools: What is going on here, in these classrooms, families, churches, workplaces, wherever? What materials do learners get to work with, in what kinds of relationships and work configurations, and what do they need in order to become good at this, in the here-and-now of their learning? That is, what are some categories of practice through which we can collect repertoires of practical strategies that are broadly adaptable across the range of civic, work and domestic scenes that call for literate capabilities?

## AN ATTEMPTED SCOPING

One framework for answering these questions is a set of high-level rubrics referred to as the Four Resources model (Freebody, 1992, 2013; Freebody & Freiberg, 2011; Freebody & Luke, 1990, 2003; Luke & Freebody, 1997). This model draws attention to the kinds of resources – ways of seeing, knowing, understanding, thinking, discerning, evaluating, crafting and creating – that successful readers and writers need as they develop, coordinate and productively manage the literacy demands they face. The term 'resources' is used to capture a sense of the dynamic, growing combinations of skills, knowledge, and disposition that characterise the work of an artisan who is fluent and effective in the ordinary, complex, often unnoticed transactions of everyday life.

The model was initially put forward in the late 1980s, a period when groupings of practitioners, teacher educators and researchers had formed around particular ideas about what was important in the teaching of reading and writing, ideas expressed in terms such as skills-based, phonics, comprehension, grammar and usage, and critical literacy – key terms that were, in a sense, 'pre-owned' by one of the competing groupings. The introduction of 'resources', along with the naming of the resources themselves, was an attempt to both acknowledge the contributions of these educational groupings without simply, and inadvertently, allocating the resources among them.

The model comprises four kinds of resources that a reader and a writer needs:

- *code breaker* – accurately, fluently and efficiently decoding and making texts with the particular graphic conventions of the script at hand
- *text participant* – taking active part in the cultural meaning systems that give the text its reference points, significance and coherence; and using readers' and writers' experiences and knowledge to engage, understand, and make communicative texts



- *text user* – managing, adapting and using texts in ways that address practicalities of the various social and cultural settings of which texts form a part, and building a repertoire of understandings about the function–form relationships that comprise the literate culture at hand
- *text analyst* – understanding and making texts in the knowledge that, to be interpretable, a text must position readers; text analysts are disposed to act on that knowledge analytically with regard to a text’s perspective and reliability, but also on the cultural, ethical, moral and/or ideological assumptions upon which a text is built; and other positions, potentially more valid or reparative (Sedgwick, 1997), upon which it might have been built.

The model claims to be a frame for evaluating the comprehensiveness of strategies, curriculums and assessment practices, regimes and programs (see for example Underwood, Yoo & Pearson, 2007). It insists that, whatever the preferred forms of pedagogy and assessment in a particular learning setting, the program overall needs to account explicitly for the development of these four kinds of resources. Each resource is necessary, but no one resource is sufficient; each requires explicit teaching for most youngsters; the relative emphasis on particular resources is occasioned by the practicalities of the setting at hand; and, in fluent practice, these resources become orchestrated and mutually informing (Murphy, 2004; Nation & Snowling, 2004; Paulson et al., 2004). Importantly, the model assumes that effective learning of one resource domain does not, of itself, somehow ‘bring along’ with it the effective learning of one or more of the others.

In their review of 50 years of research and theory on comprehension, Pearson and Cervetti (2015) mapped how the focus of attention has shifted from, in the period prior to the mid-1960s, the visual features of texts to a concern with the psychological, cognitive and affective processes occurring in individual readers in the 1970s and 80s, and then, from the mid-1980s, to a deeper appreciation of the cultural and relational contexts in which literacy events occur. Their view was that the Four Resources model provides an appropriate acknowledgement of this history and is a ‘tool for crafting sensible, research-based curricula’ (p.16).

Pearson and Cervetti also concluded that one message from their review is the clear need to avoid:

a kind of basic skills conspiracy of good intentions. The conspiracy goes like this: First, you have to get the *words right* and the *facts straight* before you can do the *what if’s*, *I wonder what’s*, and the *says who’s* of text understanding. The problem with the basic skills conspiracy is that students on the low end of the performance continuum will end up spending most of their school careers getting the *words right* and the *facts straight* – and they’ll never get to the *what if’s*, *I wonder what’s*, and the *says who’s*.

(Pearson & Cervetti, 2015, p.19)

Below is a brief elaboration of these resources, with a selection of related research. A key organisational goal of the model is to argue that not one of these sets of capabilities is of itself sufficient to equip learners to cope with the kinds of actions that need to be taken with and about the products of reading and writing. Managing and making texts is about managing and making objects that are at the one time material, semantic, pragmatic, moral and ideological. The model outlined briefly here acknowledges those facets in its attempt to claim not just a set of necessary resources, but as a sufficient ‘beginner’s kit’ for taking part in, and ‘taking on’ a literacy-saturated society.

In each of the elaborations in this section, I outline what the title of each resource refers to, and then describe some illustrative research that supports the idea that the resource is important and can be developed in classrooms. The research illustrations are highly selective: some have been chosen to provide a relatively new angle on the resource in question (such as the interaction between visual and linguistic information in multimodal texts as part of *text participant*), others in order to emphasise an angle that I

believe needs more emphasis in research, policy development, or school practice (for instance, under the heading of *text user*, a focus on writing in curriculum-specific ways through the middle years of schooling). Each section ends with a brief summary of the overall educational significance of each category of resource.

## Code breaker

Writing has been described as ‘the sequencing of standardised symbols (characters, signs or sign components) in order to graphically reproduce human speech, thought, and other things in part or whole’ (Fischer, 2001, p.12). This definition focuses us on the graphic, visual nature, and on the standardisation of writing: cultures have coded their speech, thoughts and ‘other things’ into conventions that are not natural aspects of the readily observable world, but that are developed, refined and passed on over generations. These conventions vary widely in their nature and transparency, and in the ways in which they orient to different aspects of speech. A key concept that relates English speech and writing is the phoneme – what a language group (in this case, English speakers) take to be the smallest unit of speech that can be used to make one word (e.g. *pit*) different from another word (e.g. *pits*, *bit* or *pat*). As outlined earlier, English writing does not by any means use a strict phonemic system of one-to-one correspondences, but it is ‘clearly phonemic in its general principle: the symbols represent consonants and vowels that contrast systematically with each other and combine to form regular structures’ (Halliday, 2014, p.19). English uses 26 letters and has, in most dialects, 44 phonemes, so the arithmetic alone tells us that the task of breaking the codes of English writing is not straightforward.

But it is ‘not straightforward’ in a particular way: Byrne (1998) has argued that an initial tendency of youngsters learning literacy is to associate elements of print with whole words – the ‘unbiased acquisition procedure’. Learning to read English, therefore, calls for learners to be overtly oriented toward the phonemic level and thus away from the lexical level. The effects of such re-orientation efforts in programs that teach phonemic awareness to preschool children have been summarised by the NRP (2000) but documented in detail by Byrne and Fielding-Barnsley (1995), who describe a study involving about 100 students in Grades 1 and 2 who had taken part in a phonemic awareness program in their preschool year. Compared to a group who did not take part in that program, these children were significantly better, two and three years later, on sounding out non-words and on reading comprehension tasks. They also found that the children who did not undertake the phonemic awareness program showed significantly higher levels of dependence on attempts to read both regularly and irregularly spelled words ‘by sight’, via the unbiased acquisition procedure.

Failure to master code-breaking resources in a relatively short time may indicate longer-standing difficulties among such students in accessing the specific nature of the written code (see Fielding-Barnsley & Hay, 2012); but it may also reflect the inflexibility of some schooling programs – in their overly standardised expectations of ‘normal’ tempo and sequence in literacy learning, their readiness to pathologise out-of-tempo or out-of-sequence learners, and their general failure to support code-breaker resources systematically after the middle primary years. The observation that failing to become an effective code breaker in the early school years – on demand, at a certain age – is associated with cumulative deficit across a range of school-related achievement (Stanovich, 1986) may arise from either of these explanations – difficulties with the student’s approach or an inflexible school system – or both, case by case.

## Text participant

Effective readers and writers participate in the meaning systems that give ‘texture’ to what they read and write by using what they know about the topic, by connecting elements separated in the text, and filling in its implications, including knowledge, ideas, feelings and so on (Pearson & Duke, 2002). Comprehending and composing texts involve knowing how to see, manage, build or signal what is new

in terms of what seems useful, informative or pleasing in the real or imagined settings at hand. To illustrate this point, the following summarises an influential study of reading comprehension, conventionally understood, in elementary school. This is followed by an example of a participant view elaborated from the growing field of multimodal comprehension.

In a richly detailed study, with its main findings exemplified through the specifics of classroom activities, Taylor, Pearson, Peterson and Rodriguez (2003) documented a school-year's worth of natural variations in teaching among 88 teachers in Grade 1–5 classrooms in nine high-poverty schools in the US. They closely observed the details of teacher–student interactions and used a number of assessments of reading comprehension, fluency and writing over the course of the year.

The researchers found that, across Grades 2–5, students progressed more when their teachers used an approach with *less* direct, routinised instruction in specific comprehension skills, while maintaining a high level of on-task focus and engaging students in active inquiries about texts and in purposeful inquiries about what they were reading. But Taylor and colleagues named as their most consistent finding that teachers who emphasised ‘higher-order thinking’, through discussions around texts or through the tasks they assigned the students in their responses to texts, brought about the strongest progress:

*Effective teachers’ questioning for texts is purposeful, and they assess students’ learning through their answers to challenging questions. They actively involve students in literacy activities, often giving them responsibility for holding their own discussions about text, and they maintain high pupil involvement . . . as well as to help them assume responsibility for their own learning.*

*(Taylor et al., 2003, p.24)*

It is now clear from even a quick glance at school-based materials, including online and digital materials, that texts are no longer simply made up of written language. Image, sound, graphics of different kinds, now all coexist and interact with the written word in the production of elaborated meanings. So ‘participating’ in these texts’ meanings adds layers to the interpretive work of learners, and thus to the work of researchers of literacy education (Kress, 2003). These added layers raise a number of questions: about conventional pedagogy; design in communication and learning; connecting with and educationally capitalising on the digital, online, and mobile literacy world of students; and the curricular organisation of knowledge (Jewitt, 2008; Lankshear & Knobel, 2013).

So there is now an emerging body of theory on the use of digital and multimodal texts. Unsworth and Macken-Horarik (2015; and see Anderson, Chung & Macleroy, 2018), for example, have drawn attention to the developmental landmarks involved in the use of these texts by documenting the responses of students in elementary and secondary schools to the picture books they encountered in school. They show that teachers need to provide explicit support for the increasingly sophisticated work called for as the multimodalities become more complex and specialised as the school years progress. To do that, they suggest, teachers need an analytic frame that can serve as an analogue to the clause- and text-level grammars at work in language and that can provide a view of progress in youngsters’ understanding of picture–language combinations.

The first point of this progression that they found to be prevalent in the youngest elementary school students was that illustrators’ choices in representing the language were seen as either random or not subject to any rational explanation. This they called a ‘tactical orientation’ to capture the sense that students needed to adopt the tactic of simply finding something to say that seemed even vaguely relevant. The midpoint in this progression they labelled a ‘diegetic orientation’, meaning that images were interpreted in terms of the apparent reality of the story’s world. To describe the image–language relationship, students retold the story and explained the choices made by the illustrators in terms of the thoughts or feelings of the characters. The final point on the progression they described as a ‘semiotic



orientation' which included a sense of the explicit crafting of, and language about, the deliberate construction of the multimodal text, and an awareness of the kinds of options the illustrator had available to represent emotion and power relations and to draw out distant or close responses from viewers. As these researchers expressed it, teachers need to work with the learners' shifts:

from more idiosyncratic responses to images, those that attend primarily to the experiential world 'inside' the text (to) those (that) respond to the power of the text itself.

*(Unsworth & Macken-Horarik, 2015, p.75)*

As with language-only grammar and text structures, the interpretation of multimodal texts involving images and other forms of representation calls for a systematic understanding on the part of teachers of what those key choices involve and how they can be described and explained to learners. Critically for this model, participant resources are under continuous pressure as the relations among modalities evolve into more specialised forms with the development of the curriculum areas through the school years.

## Text user

The resources of a text user include knowing about the varying functions that texts serve in the social contexts in which reading and writing occur. Effective users of texts have a repertoire of literacy practices – skills, knowledge and dispositions – that allows them to use and make texts in a range of situations to achieve particular purposes. They not only participate in the meaning-making systems internal to the text, but also apply and, as appropriate, recast those meanings into the practical events in which the text plays a part. Early years students' encounters with the written word show them that writing is not simply about inscribing everyday speech onto paper or a screen, but serves a variety of specific purposes for a range of intended audiences (Baker & Freebody, 1989). From the start the written word is specialised language.

As the discussion above indicates, writing and reading for school involve an introduction to the ways in which specialised bodies of curricular knowledge have come to put literacy to work to their own ends, representing knowledge and their forms and methods of inquiry in specialised ways. In turning to the resources of the 'text user' we focus on the learners' growing repertoire of pragmatic use, across an increasing range of topics and audiences, most dramatically from middle elementary years to early secondary (Muspratt & Freebody, 2013; Shanahan & Shanahan, 2008).

Considering text-user resources leads us to re-think early years education in terms of how, and how well, it prepares students for the transitions, most evident in upper elementary and early secondary. This transition is about the evolution of a learner's resources from the acquisition of generic resources, often involving narrative-based activities, toward the diverse and more specialised forms called for in the middle secondary years. Three points are significant here:

- not all text types (or genres) are equally easy for young students, nor do they necessarily draw upon the same sets of resources
- specialised text types can be effectively taught in the elementary school years in ways that also support the development of code-breaker and participant resources
- a map is available of the kinds of development called for in different genres across the school years and across a range of curriculum areas, and this map deals with text structures and clause-level language patterns (see Christie & Derewianka, 2008).

Best, Floyd and McNamara (2008) found that elementary school students, across a range of comprehension measures, understood more from narrative texts than from comparably constructed expository texts. They also found that for the narrative text the students' decoding scores predicted

their comprehension levels independently of their knowledge of the text's topics; that is, world knowledge did not predict significant variations in comprehension over and above the decoding measure. For the expository text, the reverse occurred: once variations in topic knowledge were accounted for, decoding did not contribute uniquely to the prediction of the students' comprehension.

Different text types can be taught. For instance, Hall, Sabey and McClellan (2005) provided Grade 2 students with specific training in comprehension strategies that were tailored to a compare-contrast text type; they found that the students' comprehension of comparable texts was significantly improved compared to students who were provided with systematic coverage of the topics of the texts, and to those with no specific instruction on topic or text type. Cervetti, Barber, Dorph, Pearson and Goldschmidt (2012) found similar 'dramatic' improvements when they integrated explicit literacy instruction at the level of technical vocabulary and text types into elementary years' science programs (see Brock, Goatley, Raphael, Trost-Shahata & Weber, 2014, for additional examples).

Applied linguists have mapped out the development of text types across a range of subjects and from early childhood to senior high school years. Christie and Derewianka (2008) documented the reading and writing demands on students in History, Science, and English from years K–12. Focusing on the changing text structures and grammatical patterns, they summarised their overall 'roadmap' across the years of schooling using a four-stage model:

- i *early childhood*: simple, commonsense knowledge expressed in largely spoken language forms with simple attitudinal, evaluative expressions
- ii *mid-childhood to early adolescence*: commonsense knowledge becoming elaborated as language resources expand because of the compacting of processes and activities into noun forms (e.g. evaporation, re-armament, rhyme), a process known as 'grammatical metaphor'
- iii *mid-adolescence*: knowledge becoming more 'uncommonsense', grammatical metaphor more prevalent, with expanded attitudinal, evaluative expression
- iv *late adolescence*: 'uncommonsense' knowledge is expressed in non-everyday, highly specialised language, abstraction and generalisation, with judgments and opinions.

Examining school textual materials and students' writing products, Christie and Derewianka (2008) also found that many Australian students failed to progress in their writing from level (ii) to level (iii). This transition generally occurs around the beginning of high school, when students need to use and make texts that are more specialised to content areas.

But the traffic is not all one-way when it comes to the uses of written language in and for school. Dutro and Haberl (2018) studied the effects of writing pedagogies designed to invite primary school students' lives into their writing for school. They asked: how does Latinx students' writing, in its rhetorical patterns and aesthetic sensibilities, point to and engage with their cultural and political contexts? (Latinx is a gender-neutral term referencing Latin American cultural or racial identity.) They conclude that both teachers and researchers need to combine an interest in the personal and the political aspects of students' writing with the 'poetics of children's perspectives':

taking up explicit invitations to bring life experiences to their school writing seemed to require language and form that rebels from containment and revels in imagery, metaphor, and disruption of time and straightforward meaning.

(Dutro & Haberl, 2018, p.186)

This appropriation of school-literacy forms into students' social and cultural understandings has also been shown among Indigenous Australian students (Auld, Djabibba & O'Mara, 2018). Both of these studies show how the assimilation agenda of school literacy could be, at least on occasions, turned

around, and the rhetoric–aesthetic connection is an important element in both sets of findings.

So students' experiences with different forms of text present specific transitional challenges. These challenges can be met with direct attention to the text–user resources that the school years call for, but, at least in the most extensive study available on the language of reading and writing for school, many students are not well served by the assumption that all the resources they need are to do with breaking the code of written English and participating in the meanings of individual texts.

## Text analyst

A text may be deceptive, propagandistic, partial, obfuscatory, biased or just doing its best to be truthful. But no matter how malign or innocent its maker's intentions, a text must choose particular words in particular orders, with some objects, people and actions highlighted at the expense of others, and some 'put closer to' the reader than others. A text must stand somewhere to tell its truth (Freebody, 2016; Stevens, Patel & Bean, 2007). This is not a matter of just checking sources or distinguishing fact from fake or opinion, as in conventional 'critical reading' or 'critical thinking' programs; nor is it about reading with 'suspicion' (versus, say, 'trust'). Rather, the text analyst, as reader or maker, knows that 'doing its best to be truthful' does not mean that a text can be neutral. These resources represent an acknowledgement – not a suspicion – that a text must stand somewhere; that, while some places to stand may be more or less accurate or self-interested than others, a text can stand neither nowhere nor everywhere.

This observation applies to the simplest and most apparently innocent of texts. An extensive program of research on the contents of the first school-reading books in Australia showed how thoroughly the authors' ideological choices about gender and stage of life had organised the contents of the reading materials, and how the apparently 'authentic' characters in these stories reflected very specific forms of social life. For gender bias, Baker and Freebody (1989) reported that the 'girl' characters in their corpus of early reading books appeared significantly more often in company than individually, whereas it was the reverse for the 'boy'; that girl and boy characters were shown, both as subjects and objects of verbs, to be significantly associated with a different set of activities – more nurturant social behaviours for girls, more physically active behaviours for boys; that boy and girl characters were associated with a distinct set of descriptors, adjectivally and adverbially (*big/little*); and that boys were more likely to initiate actions that could be risky or frowned upon by the adults than did girls. In the resolutely domestic/private settings of the stories, gender was a key interpretive category in the organisation of meaning. Similarly, analyses showed how pervasively stage-of-life informed the behaviours and thoughts of characters in these initial school books: the experiences of adult and child characters were differentiated at all points.

Their analyses raise the question of whether or not these books can be said to be 'about children' at all, or whether they are better seen as 'devices through which to propound an adult-preferred version of social order', the student's concurrence in which 'is part of the cultural competence displayed by children to teachers as evidence of "ability"' (Baker & Freebody, 1989, pp.73–74, and see Luke, 1988).

In a related program, Zhang & Freebody (2009) studied the first reading – *yuwen* – books used widely in schools across China. They documented how the texts combined words and images to show that, in learning to read, young students are at the same time transitioning from domestic scenes into the public world of school and toward the larger setting of being Chinese. Young learners, largely through the depiction of 'themselves' in images, were projected into public institutional life, unlike the Australian materials, which were almost entirely embedded in domestic scenes. To learn to read, and to show that they had learned, the young Chinese students needed to orient to these public versions of themselves, so that they could begin participating in their own apprenticeships.

Do some classroom reading practices hinder the construction of students as text analysts? And if so, what are they and what can be done about them? These questions motivated Jones's (2013) four-year critical ethnographic study of young girls and their literacy practices inside and outside school in an urban, high-poverty and predominantly white neighbourhood in the Midwest of the USA. Jones documented discussions, interviews, children's writing samples and descriptions of children's books. She observed that much of the contents of these school texts contained what could, for these girls, be reasonably considered confronting materials. Her conclusions after this effort were sobering:

the pervasiveness of autobiographical connection-making with texts in early reading instruction positions readers to align themselves with the practices and ideological stances of texts rather than to challenge and critique them.

(Jones, 2013, p.197)

This points to the practical problem of the potential disjoint between deep 'participant' engagement in the text as a 'world', and 'stepping back' to analyse the text as a crafted object, especially when the authors and illustrators have tried hard to give the texts the impression of authenticity and personal relevance to young readers.

Essentially, Jones found that to work effectively on participant resources may also make it harder for learners to insert their own views, experiences and practices, or to imagine interrogating texts from other moral, cultural or social vantage points. Notably, researchers have also found that pre-service and beginning teachers display similar resistances to getting beyond domesticated, narrative-based interpretations of ideologically and morally challenging, controversial texts (Castro, 2010).

As educators know, and as Jones rediscovered, the organisational features of schools, even daily pedagogical routines and curriculum goals around them, hardly support the 'ability to think "critically" in the sense of understanding how systems and institutions interrelate to help and harm people' (Gee, 2001, p.2). As school systems strive to develop democratic engagement and a respect for, and interest in, diversity and equity, they are at the same time charged with preparation for work life, nation-building and cultural cohesion. So, as with the phoneme and English script, a 'schooling' in the resources of the analyst is not a straightforward program.

## CONCLUSION

In countries such as Australia, school teachers provide a 12- to 13-year program in multiple-discipline literacy learning. Their goals are broad: cultural, civic, aesthetic, economic, ideological and psychological. Their pedagogies rely on spoken and written language, and their evaluations of their own work and their students' progress are almost entirely dependent on the written word. The strong claim can be made that, whatever else they need, educators in such systems need clear and shared explanations of how literacy is learned and taught, and of the trajectories of literacy learning in each of the curriculum domains – adequate, usable models of the demands facing learners in schools.

The central claims here are these: each of these four categories of resources is necessary in the development of an individual's capacity to participate fully in a literate society, and together this set of resources constitutes a sufficient description of that development. A clear implication of this claim is that each of the disciplines that has productively informed literacy education over recent decades itself has provided only a partial account of the nature and the effects of literacy on individuals and societies, and thus of what literacy-education efforts need to entail. That in turn implies, among many other things, the need for some long-term multi-disciplinary research efforts that can inform initial and ongoing teacher development.

The model outlined here is not aimed, explicitly or otherwise, at advocating for a set of pedagogical strategies; nor are these four resources presented as a developmental sequence in the process of becoming literate. These issues are important, but they are not the business of this model. The model is aimed at providing educators in classrooms, leadership and policy bureaus, and research centres with a set of 'job specs' for adequate literacy education programs, useful both in helping students learn and in helping colleagues debate and plan the contents and alignments of their pedagogies, materials and assessments.

Much has been said for a long time about the significance of appropriate, engaging literacy teaching and learning in the early years. But the expression 'early literacy education' has a double meaning we generally miss: it could as well refer to the historical moment in which we view, with our modernist impatience, the expectations we have of our education institutions. In the West it has been only about the last four generations that have expected compulsory universal education (140 years ago); only about two or three generations that have expected more than elementary literacy capabilities for everyone (about 75 years ago); and only about one generation that has expected literacy capabilities that can cope – practically, critically, creatively and all the rest – with the reading and writing demands of specialised areas of study (about 40 years ago) in multiple modalities delivered via ubiquitous, instantaneous digital platforms (about 15 years ago). Systematic, programmatic research on literacy education, as we now commonly understand that expression, has about an 80-year history. In contrast, it was about 6000 years ago that the systematic inscription of speech first appeared in the eastern Mediterranean basin – they pushed pointed sticks, at different angles, into slabs of wet clay; and by 2000 years ago writing 'described the full range of human activity – from the most exalted (monumental and sacred inscriptions, revered prose and poetry) to the most mundane (personal letters, public signs, graffiti)' (Fischer, 2001, p.164).

So our systematic efforts to understand and explain what does and should happen with learners beginning to access literacy in institutional settings such as schools are well and truly in their early stages, still characterised by debates over primordial issues such as the nature of reading and writing capabilities; the general mechanisms involved in developing literacy among youngsters; the extent and consequences of psychological, cultural, and linguistic diversity among learners; and the varying tempos and courses of literacy development.

A lot has already been learned about the teaching and learning of reading and writing, but one attribute that a long view of literacy education can afford us is evidence-based patience. Patience is an asset often regarded as a luxury by policymakers, governments and the media, all of whom often call for rapid, visible results. But researchers and educational practitioners, and the bodies that support them, need nonetheless to remind themselves of the benefits of patience and collaboration in the increasingly complex conditions that make up these 'early literacy' days.

---

## References

- Anderson, J., Chung, Y-C & Macleroy, V. (2018). Creative and critical approaches to language learning and digital technology: findings from a multilingual digital storytelling project. *Language and Education*, 32, 195–211.
- Auld, G., Djabibba, L. & O'Mara, J. (in press/2019). Translanguaging across time, space, and generations: ndjébbana djérwarra share 42 stories in 20 minutes. In R. Arber, M. Weinmann & J. Blackmore (eds), *Rethinking languages education: Directions, challenges and innovations*. London: Routledge, Taylor and Francis Group.
- Baker, C.D. & Freebody, P. (1989). *Children's first school books: Introductions to the culture of literacy*. Oxford: Basil Blackwell.
- Barton, D. & Papen, U. (2010). *The anthropology of writing: Understanding textually mediated worlds*. London: Continuum.
- Best, R.M., Floyd, R.G. & McNamara, D.S. (2008). Differential competencies contributing to children's comprehension of narrative and expository texts. *Reading Psychology*, 29, 137–164.

- Brock, C.H., Goatley, V.J., Raphael, T.E., Trost-Shahata, E. & Weber, C.M. (2014), *Engaging students in disciplinary literacy, K-6: Reading, writing and talk as tools for the classroom*. NY: Teachers College Press.
- Byrne, B. (1998). *The foundations of literacy: The child's acquisition of the alphabetic principle*. NY: Psychology Press.
- Byrne, B. & Fielding-Barnsley, R. (1995). Evaluation of a program to teach phonemic awareness to young children: A two- and three-year follow-up in a new preschool trial. *Journal of Educational Psychology*, 87, 488–503.
- Castro, A.J. (2010). Themes in the research on preservice teachers' views of cultural diversity: Implications for researching millennial preservice teachers. *Educational Researcher*, 39, 198–210.
- Cervetti, G.N., Barber, J., Dorph, R., Pearson, P.D. & Goldschmidt, P.G. (2012). The impact of an integrated approach to science and literacy in elementary school classrooms. *Journal of Research in Science Teaching*, 49(5), 631–658.
- Chall, J. (1967). *Learning to read: The great debate*. NY: McGraw Hill.
- Christie, F. & Derewianka, B. (2008). *School discourse. Learning to write across the years of schooling*. London: Continuum.
- Cunningham, A.E. & Zibulsky, J. (2014). *Book smart: How to develop and support successful, motivated readers*. New York: Oxford University Press.
- Deutsch, M. (2015). Cooperation, competition and conflict. In Coleman, P. & Deutsch, M., *Morton Deutsch: A pioneer in developing peace psychology* (pp.47–70). Cham, Switzerland: Springer.
- Dutro, E. & Haberl, E. (2018). Blurring material and rhetorical walls: Children writing the borderlands in a second-grade classroom. *Journal of Literacy Research*, 50, 167 – 189.
- Eisenstein, E.L. (2012). *The printing revolution in early modern Europe* (2nd edition). Cambridge, UK: Cambridge University Press.
- Fielding-Barnsley, R. & Hay, I. (2012). Comparative effectiveness of phonological awareness and oral language intervention for children with low emergent literacy skills. *Australian Journal of Language and Literacy*, 35, 271–286.
- Fischer, S.R. (2001). *A history of writing*. London: Reaktion.
- Fraatz, J.M. (1987). *The politics of reading: Power, opportunity, and prospects for change in America's public schools*. NY: Teachers College Press.
- Freebody, P. (1992). A socio-cultural approach: Resourcing four roles as a literacy learner. In A. Watson & A. Badenhop (eds) *Prevention of reading failure*. Sydney: Ashton Scholastic.
- Freebody, P. (2013). Knowledge about language, literacy and literature in the teaching and learning of English. In A. Simpson, S. White (eds) with P. Freebody & B. Comber, *Language, literacy and literature*. Melbourne, Vic.: Oxford University Press.
- Freebody, P. (2016). Critical-literacy education: 'The supremely educational event'. In B. Street & S. May (eds), *Literacies and language education: Encyclopedia of language and education* (pp.1–13) (3rd edition). Cham, Switzerland: Springer.
- Freebody, P. & Freiberg, J. (2011). Teaching and learning critical literacy: Beyond the 'show of wisdom'. In M. Kamil, P.D. Pearson, E.B. Moje, & P. Afflerbach (eds) *International Handbook of Reading Research*. International Reading Association, Mahwah, NY: Routledge.
- Freebody, P. & Luke, A. (1990). 'Literacies' programmes: Debates and demands in cultural context. *Prospect: A Journal of Australian TESOL*, 11, 7–16.
- Freebody, P. & Luke, A. (2003). Literacy as engaging with new forms of life: The 'four roles' model. In G. Bull & M. Anstey (eds) *The literacy lexicon* (pp.51–66) (2nd revised edition). Sydney/New York: Pearson.
- Frost, R. (2005). Orthographic systems and skilled word recognition processes in reading. In M.J. Snowling & C. Hulme (eds) *The science of reading: A handbook* (pp.272–295). Oxford, UK: Blackwell.
- Gee, J.P. (2001). Critical literacy as critical discourse analysis. In J. Harste & P.D. Pearson (eds) *Book of readings on critical perspectives on literacy: Possibilities and practices*. New Orleans: International Reading Association.
- Gibson, E.J. & Levin, H. (1975). *The psychology of reading*. Cambridge, MA: MIT Press.
- Graff, H.J. (1995). *The labyrinths of literacy: Reflections on literacy past and present*. Pittsburgh, PA: University of Pittsburgh Press.
- Hall, K., Sabey, B. & McClellan, M. (2005). Expository text comprehension: Helping primary-grade teachers use expository texts to full advantage. *Reading Psychology: An International Quarterly*, 26, 211–234.
- Halliday, M.A.K. (2014). *Introduction to functional grammar* (4th edition, revised C.M.I.M. Matthiessen). Oxford: Routledge.
- Jewitt, C. (2008). Multimodality and literacy in school classrooms. *Review of Research in Education*, 32, 241–267.



- Jones, S. (2013). Critical literacies in the making: Social class and identities in the early reading classroom. *Journal of Early Childhood Literacy*, 13, 197–224.
- Kress, G. (2003). *Literacy in the new media age*. London: Routledge.
- Lankshear, C. & Knobel, M. (eds) (2013). *A new literacies reader: Educational perspectives*. New Literacies and Digital Epistemologies Series, NY: Peter Lang.
- LoBianco, J. & Wickert, R. (2001). Introduction: Activists and party politics. In J. Lo Bianco & R. Wickert (eds), *Australian policy activism in language and literacy* (pp. 1–10). Melbourne, Vic: Language Australia.
- Luke, A. (1988). *Literacy, textbooks and ideology: Postwar literacy and the mythology of Dick and Jane*. London: Falmer Press.
- Luke, A. & Freebody, P. (1997). The social practices of literacy. In S. Muspratt, A. Luke & P. Freebody (eds), *Constructing critical literacies: Teaching and learning textual practice*. NY: Hampton Press.
- Murphy, J.C. (2004). Urban children and reading mastery: An examination of the Language Vocabulary Acquisition (LVA) approach to teaching reading. *Reading Improvement*, 41, 13–18.
- Muspratt, S. & Freebody, P. (2013). Understanding the disciplines of Science: Analysing the language of Science textbooks. In M.S. Khine (ed.), *Critical analysis of Science textbooks: Evaluating instructional effectiveness*. Dordrecht, The Netherlands: Springer Science.
- Nation, K., & Snowling, M.J. (2004). Beyond phonological skills: Broader language skills contribute to the development of reading. *Journal of Research in Reading*, 27, 342–356.
- NRP (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction. Report of the subgroups*. National Reading Panel, National Institute of Child Health and Human Development. Rockville, MD: USA. Retrieved from: <https://www.nichd.nih.gov/publications/pubs/nrp/documents/report.pdf> (accessed 141118).
- Pahl, K. & Rowsell, J. (2010). *Artifactual literacies: Every object tells a story*. New York: Teachers College Press.
- Paris, S. (2005). Reinterpreting the development of reading skills. *Reading Research Quarterly*, 40, 184–202.
- Paulson, L.H., Kelly, K.L., Jepson, S., van den Pol, R., Ashmore, R., Farrier, M. & Guilfoyle, S. (2004). The effects of an early reading curriculum on language and literacy development of Head Start children. *Journal of Research in Childhood Education*, 18, 169–178.
- Payne, G. (2009). Re-counting 'Illiteracy': Literacy skills in the sociology of social inequality. In J. Soler, F. Fletcher-Campbell, & G. Reid (eds) *Understanding difficulties in literacy development: Issues and concepts*. London: Sage.
- Pearson, P.D. & Cervetti, G.N. (2013). The psychology and pedagogy of reading processes. In W. Reynolds & G. Miller (eds), *Educational psychology, V, VII of Handbook of psychology* (2nd edition). NY: Wiley.
- Pearson, P.D. & Cervetti, G.N. (2015). Fifty years of reading comprehension theory and practice. In P.D. Pearson & E.H. Hiebert (eds), *Research-based practices for teaching Common Core literacy*. NY: Teachers College Press.
- Pearson, P.D. & Duke, N.K. (2002). Comprehension instruction in the primary grades. In C. Collins-Block & M. Pressley (eds), *Comprehension instruction: Research-based best practices*. NY: Guilford Press.
- Pugh, K. & McCardle, P. (eds) (2009). *How children learn to read: Current issues and new directions in the integration of cognition, neurobiology and genetics of reading and dyslexia research and practice*. NY: Psychology Press.
- Sedgwick, E.K. (1997). Paranoid reading and reparative reading; or, 'You're so paranoid, you probably think this introduction is about you'. In E.K. Sedgwick (ed.) *Novel gazing: Queer readings in fiction*. Durham, NC: Duke University Press.
- Seidenberg, M. S. (2011). Reading in different writing systems: One architecture, multiple solutions. In P. McCardle, B. Miller, J.R. Lee & O.J.L. Tzeng (eds), *The extraordinary brain series. Dyslexia across languages: Orthography and the brain-gene-behavior link* (pp.146–168). Baltimore, MD: Paul H Brookes Publishing.
- Serafini, F. (2012). Expanding the four resources model: reading visual and multi-modal texts. *Pedagogies: An International Journal*, 7, 150–164.
- Shanahan, T. & Shanahan, C. (2008). Teaching disciplinary literacy to adolescents: Rethinking content-area literacy. *Harvard Educational Review*, 78, 40–59.
- Snow, C.E. (2015). Rigor and realism: Doing educational science in the real world. *Educational Researcher*, 44, 460–466.
- Snyder, I. (2008). *The literacy wars: Why teaching children to read and write is a battleground in Australia*. Sydney: Allen & Unwin.
- Stanovich, K.E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly*, 21, 360–407.
- Stanovich K.E. (2000). *Progress in understanding reading: Scientific foundations and new frontiers*. New York, NY: Guilford.

- Stevens, L., Patel & Bean, T.W. (2007). *Critical literacy: Context, research, and practice in the K-12 classroom*. London: Sage.
- Street, B.V. (1984). *Literacy in theory and practice*. Cambridge, UK: Cambridge University Press.
- Taylor, B.M., Pearson, P.D., Peterson, D.S. & Rodriguez, M.C. (2003). Reading growth in high-poverty classrooms: The influence of teacher practices that encourage cognitive engagement in literacy learning. *Elementary School Journal*, 104, 3–28.
- Underwood, T., Yoo, M.S. & Pearson, P.D. (2007). Understanding reading comprehension in secondary schools through the lens of the four resources model. In L.S. Rush, A.J. Eakle & A. Berger (eds), *Secondary school literacy: What research reveals about classroom practice*. Urbana, IL: NCTE.
- Unsworth, L. & Macken-Horarik, M. (2015). Interpretive responses to images in picture books by primary and secondary school students: Exploring curriculum expectations of a 'visual grammatics'. *English in Education*, 49, 56–79.
- Uppstad, P. H. & Tønnessen, F.E. (2011). The ABC of reading. Perspectives on the alphabetic principle. *L1-Educational Studies in Language and Literature*, 11, 9–55.
- Zhang, B.B. & Freebody, P. (2009). Image, genre, voice, and the making of the school-literate child: Lessons from literacy teaching in China. In D. Cole (ed) *Multiliteracies and change in contemporary literacies*. London: Routledge.