Literacy in a 'broad and balanced' Primary School Curriculum: The potential of a disciplinary approach in Irish classrooms

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The prominence afforded to literacy in the Irish Primary School Curriculum has received considerable attention in recent years, spurred by PISA rankings, governmental priorities, public commentary and academic debate. At times, this discourse has presented literacy as a separate and distinct entity to the other areas of the curriculum, including the arts, social and scientific education. The current paper proposes a more integrated view of literacy's role in the curriculum. Recent research on the teaching of literacy in the content areas has emphasised the potential of a disciplinary approach, which embraces the key skills, dispositions and forms of knowledge connected with reading, writing, speaking and listening in different disciplines. This paper examines some of the key features of disciplinary literacy, including its underpinning rationale and learning implications. It also highlights the potential for a disciplinary literacy lens in the review of the Primary School Curriculum, as well as associated opportunities and challenges.

Keywords: Primary curriculum; disciplinary literacy; integrated literacy; curriculum reform; integration

Introduction

A struggle for prominence, and in certain cases, existence, has been associated with particular curriculum subjects in recent years. This struggle has included the proposed removal of drama as a discrete subject at primary level (Department of Education and Skills [DES] 2010), and the significant debate around the status of history in the revised junior cycle (Ferriter 2015). At face value, the source of this conflict relates to the deceptively straightforward matter of time allocation. However, these simple figures, given in hours and minutes, capture a very definite, crystallized, picture of the value afforded to each subject area. A visible shift in priority to two areas of learning – literacy and numeracy – has led to fears over the integrity of the primary

curriculum, as set out in 1999. Commentary on curricular priorities is likely to increase in both frequency and fervour as plans to restructure the overall primary curriculum move from initial proposals (National Council for Curriculum and Assessment [NCCA] 2016) to curriculum change and implementation in the coming years.

There is a danger that discourse on this topic would present a dichotomous view of the relationship between literacy and the content or process associated with subjects other than English and mathematics. This paper highlights how recent research on literacy can help to address its meaningful integration throughout the curriculum, through a focus on disciplinary literacy. Disciplinary literacy involves the development of reading, writing, speaking and listening skills specific to a given subject. This perspective would involve children in communicating using graphs and figures in a science report or orally explaining a procedure in mathematics using vocabulary appropriate to the problem-solving process. A fledgling artist may need to articulate the vocabulary to describe shape and form, while a young historian should be enabled to analyse the influence of authorship and viewpoint in a primary source document, such as the 1916 proclamation. We argue that offering learners discipline-specific literacy experiences can serve the needs of the various areas of learning[1] represented in the primary curriculum without diminishing their status. Indeed, we propose that including the literacy skills of a subject within its teaching will serve to bolster associated learning and development overall. While the role of cross-curricular literacy has been given some attention in recent reviews of research (e.g. Kennedy et al. 2012), as we enter a phase of substantial curriculum review the relationship between literacy and subject areas should be foregrounded and fully considered.

[1] Throughout this paper, the terms 'area of learning', 'content area', 'subject' or 'discipline' serve to refer to areas of learning other than language or literacy (English/Gaeilge)

Prior to examining the rationale for a disciplinary approach, the place of literacy in recent educational reform requires analysis.

Rebalancing the balanced curriculum: Literacy in recent policy and reform

A substantial focus has been placed on both policy and practice in Irish schools since the beginning of this decade. While this has involved somewhat different alterations at primary and post-primary level, it has also involved changes in emphasis and practice that span both sectors.

Literacy at Primary Level

The publication of the Primary School Curriculum (Department of Education and Science 1999a), the result of significant and reasonably protracted consultation, represented a reconceptualization of *Curaclam na Bunscoile* (Government of Ireland 1971). It was significant that the various documents constituting the 1999 curriculum endorsed the overall thrust of those they replaced, in that they sought to maintain the *integrated* nature of the 1971 curriculum. The 1999 curriculum further strengthened this integration in signalling its "broad and balanced" nature as a defining feature (p.10). This breadth and variety has been praised (Coolahan 2011, as cited in Ó Breacháin and O'Toole 2013), but it has also been linked with the problem of 'curriculum overload' (Irish National Teachers' Organisation [INTO] 2010; NCCA 2005; 2008; 2010a; 2016). In response to a deterioration in rankings reported by the Programme for International Student Assessment (PISA; 2009), a series of cross-sectoral reforms were initiated. These reforms were encapsulated in, and driven by, the National Literacy and Numeracy Strategy (NLNS; DES 2011), which, in turn, reaffirmed the need to maintain a broad and balanced curriculum. Conversely, the same strategy also called for a reallocation of curricular time to English and mathematics, the delay of unspecified

curricular objectives, and increased standardised testing. This apparent contrast between aim and action has led critics to query the authenticity of commitments to the broad and balanced curriculum agreed by education partners (Ó Breacháin and O'Toole 2013). Kennedy (2013) points out that the draft NLNS (DES 2010) led to "intense public debate" (p. 518) and that subsequent guidelines on prioritising time were "controversial" (p. 521). The general consensus on which the 1999 curriculum is founded is somewhat atypical in international terms (Sugrue 2004). It could be argued that recent changes have abandoned this consensus.

However, this consensus may have come at a cost. In its examination of curriculum overload, the NCCA (2010a) detailed the many distinct committees that were involved in forming the 1999 curriculum. At one point in its development, fourteen separate committees were involved in preparing curriculum areas or subjects, at junior and senior levels. The 'physical face' of the curriculum, presented in twenty-three discrete volumes, has arguably led to poor curricular integration. The manner in which the curriculum was rolled out to schools, in stages, over close to a decade, further compounded a disconnected approach. Thus it is uncertain whether the curriculum was ever realistically balanced, particularly when it came to implementation in classrooms. At quite an early stage in the lifetime of the curriculum, the NCCA Phase One Review (2005) identified that teachers required further support with integration, specifically citing the need to support language development throughout the curriculum. It is unclear to what extent meaningful integration with the curriculum area of Language was embedded in everyday teaching and learning.

The discourse on the topic of curriculum integration has tended to present literacy as a skill or endeavour that is somewhat separate to other areas of the curriculum and teaching. For example, submissions made to the draft NLNS (DES

2010) included claims that its introduction would lead to a "reduced curriculum in which the role of each subject areas is to subserve the acquisition of children's literacy and numeracy skills" (Mary Immaculate College 2011, 4) or that the strategy sought to "reinstate the notion that some subjects are more important than others" (O'Reilly 2011, 2). Similar concerns regarding the interplay between literacy and other curriculum areas were cited in submissions made by a range of individuals and schools, as well as bodies such as the INTO (2011) and the National Parents Council (2011). The final iteration of the strategy has also drawn criticism. Dowling Long (2015) has cautioned that an over-emphasis on literacy and numeracy will lead to a narrowing of the curriculum, and 'teaching to the test', while Ó Breacháin and O'Toole (2013, 402) argue that there is a "real danger" that the spirit of the 1999 curriculum will be undermined by the "current focus on literacy and numeracy to the exclusion of other curricular areas". Based on this brief analysis, it is reasonable to conclude that concerns exist regarding the nature of the relationship between literacy and other subject areas, and that there is, at times, a tendency to view literacy as distinct and discrete area of the curriculum.

Stemming from the period of reflection and reform represented in the NLNS, considerable curricular change is afoot in primary education. The roll-out of the new Primary Language Curriculum is underway for junior infants to second class (NCCA 2015) and development work is ongoing for third to sixth class. Significantly, proposed changes to structure and time in the primary school curriculum (NCCA 2016) may pave the way for entirely different conceptualisations of subject areas and integration, as well as differing time allocations for subjects throughout the primary school. Of note is the proposal that discrete subjects may only appear at a later point in schooling, forming a bridge between upper-primary and lower post-primary school. The role that literacy will play in this transition and restructuring will require careful consideration.

Literacy at Post-primary Level

Having been the focus of considerable scrutiny for at least a decade, the curriculum at post-primary level in Ireland has entered a period of actual, rather than proposed, reform. Junior cycle reform has gone through several iterations since the NCCA's initial proposals (2010b). Generally speaking, the revised junior cycle envisages a greater role for in-class assessment, a reduction in prominence for state examinations and broader, more authentic, learning experiences.

While the issue of teacher assessment has undoubtedly received most attention, there has been much debate around the prominence afforded to some subjects at this level. The initial consultation on the NCCA's proposals for reform reported "little agreement on … [which subjects] should be in the core" (2011, 10). This core, to include English, mathematics, Gaeilge and wellbeing, notably omits subjects like history. This omission has been the source of extensive public commentary, despite the fact that history was never a universally compulsory subject. This discourse has included calls from a diverse range of commentators to make history a mandatory subject (see, for example, Ferriter 2015; O'Halloran 2014). The perceived narrowing of the junior cycle reflects deeper concerns about which subjects are afforded prominence in schools. It is notable that the public debate on which subjects should be mandatory has not focused to anywhere near the same extent on the creative arts. Unlike at primary level, commentary has not focused to quite the same degree on the prominence of literacy in the curriculum.

Nevertheless, government strategy (DES 2011) envisages a far greater role for literacy across the post-primary curriculum. Specifically, the NLNS states that "all teachers should be teachers of literacy and numeracy, and we should avoid the tendency to teach subject content in isolation from the core communication skills that all young

people need to interact with knowledge and life experiences" (DES 2011, 47). Actions include mandatory units on literacy for all pre-service teachers as well as professional development (PD) in literacy for in-service teachers of all subjects. The implementation of school self-evaluation, requiring a specific focus on literacy across subject departments, compounds a cross-curricular approach (DES 2012). However, as noted by MacMahon (2014), the integration of literacy within subjects other than English is a significant culture-shift in Irish post-primary schools.

Debate around the attention afforded to the place of curriculum subjects generally, and literacy, in particular, is visible to varying extents at both primary and post-primary level in Ireland over the past number of years. We now direct our attention to a broader view of the interplay between literacy and the curriculum at *primary* level, including international trends in research and practice.

Literacy and content: Never the twain shall meet?

If a curriculum is to be truly integrated, one might expect that explicit, substantive and meaningful connections would be made between Language and other areas of learning. Understanding how one reads, writes and speaks within a particular subject is central to understanding that subject. Draper et al. (2005) argue that the construction of a 'literacy-content dualism' is detrimental to student learning. Literacy teaching can serve to enhance the teaching of content and content teaching can serve to enhance the teaching of literacy; they should not be separated.

Concerns over the apportioning of time to literacy and other curriculum subjects have been reflected in jurisdictions other than Ireland. These have been reported by the Cambridge Primary Review (2009) in the case of England, Waldow (2004) in the case of Sweden, Schulte (2004) in the case of Germany and by many bodies and authors in the case of the United States (e.g. Council for Basic Education 2004; Jones and Thomas

2006). In almost every country examined, at both primary and post-primary level, time allocation concerns focus on the drift of time *away* from subjects like social studies (e.g. history, geography) and the arts (e.g. music, visual arts) *towards* language, literacy and mathematics.

The extent to which literacy teaching can be integrated with teaching in other subject areas depends on the definition of literacy employed. In the most fundamental sense, literacy involves reading, writing, speaking and listening in order to communicate and fulfil personal objectives; the acquirement of literacy competence is important only insofar as this competence is meaningfully *used* (Carney and Indrisano 2013). Billman and Pearson (2013, 27) argue that literacy is best viewed as a "set of tools" rather than a "set of goals". In the context of a broad curriculum this tool-set should allow learners to access and communicate knowledge in a variety of ways and for a variety of purposes. While foundational literacy skills (for example word identification) are of particular significance at primary school level, it is misguided to separate this development from meaning-focused engagement across the curriculum (Teale, Paciga and Hoffman 2010). As children grow older, the language they encounter becomes more specialised and advanced. For successful communication, the funds of literacy knowledge on which they draw should reflect concomitant advancement (Shanahan and Shanahan 2008). It is important to recognise that a broad conception of literacy encompasses "cognitive, affective, socio-cultural, cultural-historical, creative and aesthetic" dimensions (Kennedy et al. 2012, 10). A rich array of authentic and meaningful encounters with literacy across a broad curriculum may best support each of these dimensions.

Taking a broader view of the term literacy allows us to examine higher-order skills that might be omitted if we were to look solely at competencies relating to skills-

based perspectives. We now examine how disciplinary literacy can play a role within a broad, meaning-focused and purposeful conception of literacy.

What is disciplinary literacy?

Some of the perspectives described thus far tend to view literacy and content as separate entities, where moves to unite the two happen at the expense of the non-literacy subject. However, a growing body of research, particularly at upper primary and post-primary level, points to a reversal of this position. The disciplinary literacy approach requires literacy teaching to serve the needs of a particular discipline, in the promotion of the modes of thinking and communicating that are characteristic of knowledge formation and interaction within that discipline (Moje 2007, 2008; Shanahan and Shanahan 2008; Siebert et al. 2016). Learners are encouraged to read, write and think like artists, literary critics, scientists and historians. Brozo and colleagues assert that "helping students to develop facility with the nuanced processes of description makes it possible for them to engage independently in the discipline they study" (Brozo et al. 2013, 355). Using the tools of literacy can contribute to more precise description in visual art, help to unpack literary devices in literature, add background knowledge to a scientific inquiry, or provide authentic primary and secondary sources in an historical investigation.

Innumerable textbooks and articles have been published to promote the teaching of general reading strategies, yet a discernible shift from generic to specific approaches can be seen in the research literature. The use of generic content reading strategies can be labelled as an ‘outside in’ approach, in which the strategies are determined first and then applied to the reading and writing experiences in a subject (Brozo et al. 2013). In contrast, disciplinary literacy could be considered an ‘inside out’ approach, in that the

specific demands of the subject would determine the necessary literacy skills and approaches that would be needed to support children's learning (Brozo et al. 2013).

Researchers have argued that it is dubious to believe that we can teach children and teenagers to read in a *general* sense, and that the ability to understand and produce more specialized information in the subject area will follow naturally (Shanahan and Shanahan 2008; 2012). Shanahan and Shanahan (2008) also caution against the 'vaccination approach' to reading, which espouses that developing solid foundational skills in reading will be adequate to ensure success in reading throughout one's life. It is argued that an altogether more discipline-specific approach is needed, which embeds literacy within the demands and requirements of a specific field, and uses the conventions of knowledge formation and communication that are particular to that field (Moje 2008). Justification for this argument is provided by studies that examine the reading patterns of experts in different disciplines. Shanahan, Shanahan and Misichia (2011) asked experts in history, mathematics and chemistry to think aloud while reading, and found that notable differences were apparent in their approach to comprehending text. These differences included the way in which they evaluated sources and the significance they attributed to charts and diagrams in-text. We now consider how this more nuanced perspective on literacy can be represented in practice.

What would disciplinary literacy look like in practice?

Vocabulary Development

One of the most salient aspects of disciplinary literacy relates to vocabulary, the development and acquisition of which differs across subjects. Boyd et al. (2012) argue that discussion of vocabulary relevant to a particular topic can provide a springboard for looking at the particular skills and competences associated with the discipline in

question. Shanahan and Shanahan (2012) maintain that due to the highly-contextualized nature of certain vocabulary words, they must be taught in different ways, in different disciplines. Many words used within the disciplines are not familiar to children and may only appear in that specific discipline (Harmon, Hendrick and Wood 2005). Specialized vocabulary in science might include words with Greek and Latin roots. In mathematics, vocabulary can be very context-specific and abstract, including words like *degrees* or *circumference*. Vocabulary in historical primary source documents is often broad and metaphorical (e.g. *Dark ages* and *Middle ages*). Vocabulary development is equally nuanced in the creative arts. A focus on disciplinary vocabulary can facilitate the growth of oral language used to describe *creative processes* in both visual arts and drama (Love, 2009).

Classified as "Tier 3" vocabulary, Beck, McKeown and Kucan (2013) identify that these types of words are representative of unique knowledge and concepts within a discipline. Tier 2 vocabulary may be familiar words that adopt specific meanings within each discipline (e.g. influence, reference, evidence), while Tier 1 words are very familiar, high frequency words (e.g. computer, animal, think). Identification, examination, and discussion of these types of words can help students to better comprehend the material they are learning and can positively contribute to knowledge of the discipline. Both explicit instruction in, and implicit exposure to, Tier 3 words builds disciplinary vocabulary.

Text type and structure

Differences also arise in the types of texts associated with disciplines. Proofs and problems are common in mathematical texts, while a geographical text might focus on the use of maps and charts to capture and communicate information (Johnson et al. 2011). These authors also point out that the grammar and syntax located within these

texts differ; while mathematicians rely on very precise terminology and sentence structures, geographers deploy phraseology that is drawn from multiple relevant fields. While the content and organization of texts in disciplines will vary, a common thread unites many of them; *informational* text is predominant in several disciplines. Proponents of disciplinary literacy emphasise the importance of informational text, arguing that explicit teaching on how to read and write in an informational style is needed (Fang 2008). Within informational text, learners would interact with different text structures for each discipline (Lee and Spratley 2010). Science reports and explanations may reflect text structures such as description, argument sequence, cause and effect, problem solution and steps in a process. Primary and secondary sources in history may be structured as a narrative, sequential, argumentative, or biographical. In the creative arts, 'texts' can come in very different guises (Moxley, 2012). For visual artists, a text could be a painting or print-based description in a book, while for a musician, a text could include both vocal and instrumental scores.

It is recommended that learners should be exposed to a *broad* selection of reading materials, including a "wide variety of text types (e.g. biography, scientific explanation, letter, or speech), modalities (e.g., picture, map, graph/chart or prose – online or on paper), and purposes (e.g. to explain/inform, entertain or argue)", specific to each discipline (Shanahan and Shanahan 2014, 637). Close reading and discussion provides learners with the tools needed for "unpacking the dense and abstract language of disciplinary texts" (Fang and Pace 2013, 107). Specific consideration needs to be given to the authenticity of texts used. In many cases, textbooks are poorly placed to offer the learning experiences that are true to disciplinary ways of thinking and learning.

Text origin, authorship and evaluation

The origin of a text receives varying attention across the disciplines. For example, the role and viewpoint of the author is afforded unequal significance. Shanahan and Shanahan (2012) point out that consideration of the author of a particular text is important in history, where potential biases and perspectives may have a tangible effect on the way a text is interpreted. Conversely, in the sciences, a different consideration of the author is required; author affiliations may be used to preliminarily judge the quality of a piece of work, but the background of the author plays little role in analysing the actual text (Shanahan and Shanahan 2012). Historians draw on both primary and secondary sources to inform their work, while scientists rely more heavily on observation and experimentation. Smagorinsky (2015) highlights that in English, the creative use of language requires particular attention. For example, the knowledge needed to read and interpret a poem is altogether different to that needed to understand instructions for putting together a cabinet, and consequently requires a different stance as a critical reader. Authorship may involve critical consideration of the body of work of a particular author or poet.

Thus the source of knowledge and associated language requires different consideration in different disciplines. If students are to learn about modes of thinking and inquiry within these disciplines, they need to be exposed to the modes of analysis used in each. Critical evaluation of information sources requires disciplinary understanding.

Collaborative and inquiry-based learning to develop disciplinary understanding

Research at both primary (Cervetti and Pearson 2012) and post-primary (Spires, Kerkhoff and Graham 2016) levels attests to the powerful role that collaboration and inquiry can play in supporting disciplinary learning. Meaningful learning in a discipline involves collaborating with others to construct knowledge in authentic contexts

(Billman and Pearson 2013). Significant research has been conducted on how the integration of literacy and content through cycles of collaborative inquiry can increase learning and motivation (e.g. Guthrie et al. 2004; Cervetti and Pearson 2012). These inquiry-based projects typically involve generating a question relevant to the subject, searching for information sources (including texts, photos, videos) to inform learning, synthesising and critically evaluating this information, and presenting the collaboratively constructed knowledge to an audience. The exact nature of this inquiry, specifically the modes of knowledge construction and evaluation involved, varies from discipline to discipline (Spires, Kerkhoff and Graham 2016). Through engagement with inquiry-based approaches, children can co-construct domain knowledge in a manner that is characteristic of the discipline.

When should disciplinary literacy be introduced?

To date, a substantial amount of the research conducted on disciplinary literacy has focused on post-primary school students, with nascent research at primary level (e.g. Britt and Ming 2017; Haland 2017; Seah and Yore 2017). MacMahon (2014) has detailed the potential of disciplinary literacy approach within Ireland's post-primary schools. While some researchers have claimed that the major emphasis on *reading to learn* occurs upon transition to secondary school (Lee and Spratley 2010), most now refute this position and make the case for the teaching of disciplinary literacy skills in a more developmental manner, at an earlier age (Shanahan and Shanahan 2014; Billman and Pearson 2013; Seah and Yore 2017). The latter view accords with broad-based, holistic views of literacy that emphasise meaning-making in a variety of modes and for a variety of purposes across the lifespan.

Disciplinary literacy in the curriculum: Where does it belong?

As the concept of disciplinary literacy straddles the subject most commonly associated with literacy, English (or Gaeilge), and the content subjects themselves, one may query where disciplinary literacy should be placed within the entire spectrum of documents that make up the official curriculum. To consider this fully, we examine an international example.

Disciplinary Literacy in the Common Core Curriculum

Until recently, the curriculum provided in public schools in the United States was at the sole discretion of individual states. Since 2010, many states have developed and adopted state-level standards based on the Common Core State Standards (CCSS) (NGACBP and CCSSO 2010). This has brought about an unprecedented level of uniformity across the US for both curriculum and assessment. Standards are available for English/Language Arts (ELA) and Mathematics, while other subjects like science and history remain the responsibility of state and district level governments. Though the CCSS cover Kindergarten (age five) to grade 12 (age 17), expectations and focus varies between elementary school and middle/high school. Starting in the primary grades, the expectations are set for young children to engage with fiction and non-fiction text in equal parts across the curriculum. This ratio would increase to 70/30 in favour of non-fiction by the time students are completing the post-primary years.

Disciplinary literacy does not appear as a construct until grade 6 (age 11), when literacy is explicitly developed and demonstrated within the context of history/social studies, science, and other technical subjects (NGACBP and CCSSO 2010). In the lower grades, K-5, ELA standards are focused on the foundational areas of reading, writing, speaking and listening. Within the ELA standards, young learners are beginning to develop those skills that would allow them further develop disciplinary literacy in the later grades. From Kindergarten, children are expected to interact with

and produce informational text during the ELA instruction. In the 'craft and structure' strand of the standards, children identify authorship and point of view, while also later comparing and contrasting multiple viewpoints. The development of these abilities would be directly applied in disciplinary literacy for history in the later grades. The same strand supports children in using text features to find and locate information (e.g. menus, icons, sidebars), when interacting with informational text. The 'integration of knowledge and ideas' anchor strand details standards relating to the evidence used by the author to support his/her argument, as well as using many modes of representation to comprehend and communicate knowledge of a topic, as one might in the disciplines of mathematics or science.

The writing expectations, within the ELA standards, allow for significant integration with content subjects, where children "conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic" (grade 5, p. 21) and write opinion pieces and informative/explanatory texts that are grounded in evidence and facts. A specific standard for the 'presentation of knowledge and ideas' expects students to orally report on a topic, or orally present an opinion in a logical fashion. They should also be able to draw on appropriate visuals to support their argument.

Thus, in the US, disciplinary literacy is firmly grounded in curriculum documents relating to literacy, but points towards how it should be linked with other curriculum documents.

Potential for Disciplinary Literacy in the current Irish Primary School Curriculum

As noted by Phase One of the Primary Curriculum Review (NCCA 2005) cross-curricular links between English and other subjects are not clearly exemplified for teachers in the 1999 curriculum (Department of Education and Science 1999b). Given

the emphases in literacy research in the time period in question, the curriculum does not include disciplinary literacy as a construct.

The Primary Language Curriculum (NCCA 2015) focuses on learning in infants to second class, and has been informed by a wide review of research, including good practice in literacy integration across the curriculum (Kennedy et al. 2012). Aspects of disciplinary literacy, while not labelled as such, can be seen in the learning outcomes across the strands of oral language, reading and writing. For example, the learning outcome relating to acquisition and use of vocabulary envisages children being able to to "supply, explain and justify points of information to familiar and unfamiliar audiences using topic-specific language" (p. 51). In the writing strand, children should be able to "elaborate on the meaning of their own writing and discuss the texts of others showing an emerging recognition of the author's intent" (p.53), while in the reading strand, some progression steps refer to a child's ability to "select relevant information from a range of features of non-fictional texts" (p.69). These are but three examples of how supporting features of disciplinary literacy are represented in the first two stages of primary education.

The potential for disciplinary literacy is even greater at the senior end of the primary school. Development work for this level should give the integration of literacy across the curriculum more detailed and explicit attention. This could be done by making explicit reference to the use of discipline-specific skills under learning outcomes like vocabulary and comprehension, while making clear the need for varied text types and structures and the use of literacy skills to access and analyse knowledge in a variety of forms.

Looking across the curriculum, scope exists for the application of disciplinary literacy in a number of subjects. Where present, references to literacy within the 1999

curriculum documents are most likely to be found in the 'skills' and 'elements' sections, which are presented distinct to content. For example, the history curriculum (Department of Education and Science 1999c) places clear emphasis on communication, which is included as a historical skill, requiring children to communicate results and findings in a variety of ways, to distinguish between different sources of evidence, and to develop their ability to organise historical information.

Rather than focus on content from the 1999 curriculum, we now turn our attention to how disciplinary literacy might inform future curriculum review and practice.

The potential of a disciplinary lens at a time of broad curriculum review

Current literacy policy in Ireland calls for greater literacy integration. The NLNS (DES 2011) requires the integration of literacy and numeracy with other subject areas, or indeed a complete re-allocation of time from the former areas to the latter. However, no guidance has been issued on exactly how this might operate in schools. Little or no PD has been provided on the emphases and practices needed for good cross-curricular literacy integration. In light of this fact, it is unsurprising that concerns have been expressed about just how the NLNS (DES 2011) has impacted on the broader curriculum. Scope already exists for literacy teaching to take place within the skills contained in curriculum documents. However, the extent to which these skills are appropriately addressed in classrooms has been queried by the DES Inspectorate (2010). The recommendations, actions and associated timeframes set out by the DES (2011) have required that changes to literacy teaching and learning operate outside the context of a broader and more unified review of the curriculum.

A move towards a disciplinary approach to embedding literacy across the curriculum would hold a number of potential advantages. Firstly, by its very nature,

disciplinary literacy requires intrinsic links between literacy and the different subject areas represented in the curriculum. This literacy is not an "add-on which can be universally applied to any content" (Piercy and Piercy 2011, 72). Commentary on reform of the 1999 curriculum reveals a fear that an increased focus on literacy will lead to a diminution of other subject areas. Grounding literacy within the demands of each subject may help to allay this fear: disciplinary literacy allows for subject specialists and advocates to take ownership of the forms of reading, writing, speaking and listening that are particular to their field. Secondly, steps towards appropriate integration of reading, writing, speaking and listening across all aspects of children's learning will bolster aspirations for integration in the curriculum. Thirdly, a disciplinary approach allows for significant learner development, and includes a focus on important critical thinking and literacy skills. Inquiry-based experiences play an important role in linking literacy with content, and those who learn to read like a discipline-expert show the ability to compare and contrast accounts and points of view, as well as to justify their opinions using evidence (Shanahan and Shanahan 2014). Moje (2007) asserts that linking disciplinary knowledge and literacy empowers young people to read, write and think critically, and to challenge ideas and practices across the different discourses and communities they encounter. In addition, key critical literacy pedagogies closely parallel disciplinary literacy practices, in particular the reading of multiple texts, the reading of supplementary texts (without relying on a textbook alone) and the adoption of a resistant stance in interpreting the author's perspective and intent (Behrman, 2006). Fourthly, the application of literacy in authentic contexts, for authentic purposes has been shown to motivate learners (e.g. Guthrie et al. 2004). Fifthly, an explicit focus on academic language in the disciplines would benefit the growing number of English language learners in our schools (Fang, Schleppegerell and Moore 2014).

The review of the time and structure in the primary school curriculum (NCCA 2016) and the implementation of the Primary Language Curriculum (NCCA 2015) offer an opportunity to ensure that literacy is integrated in a meaningful manner that is not only respectful of, but grounded in, the literacy demands of different subjects. It will be important to ensure that some of the fragmentation associated with the development of the 1999 curriculum (Sugrue 2004) is not repeated. This development should ensure that no area of learning is 'siloed'; genuine connections between literacy and other subjects, where present, should be elucidated and foregrounded. Ó Breacháin and O'Toole (2013, 403) point out that proposed changes associated with the NLNS almost led to drama becoming an "element of literacy". A balanced curriculum would, rather, see literacy becoming an element of drama. This is in keeping with the meaningful and purposeful nature of literacy development; literacy is not an end in itself. This disciplinary focus on literacy may be best teased out by experts in, and representatives of, the disciplines, in tandem with educators and other partners allied with NCCA partnership structures. However, to ensure that literacy is clearly represented across disciplines, a clear and coherent curriculum framework would be needed to guide development work. This framework could consist of the delineation of specific learning outcomes to demonstrate the speaking, listening, reading and writing skills that are characteristic of the particular subject, cross-referenced with learning outcomes from the senior language curriculum. In terms of new time allocations, consideration should be given to more flexible and creative use of 'literacy time'. While it is important to build strong foundational skills in literacy with dedicated time, particularly in the early years (Kennedy et al. 2012), this should not be divorced from authentic and meaningful use of literacy knowledge and skills. In reviewing the senior portion of the primary curriculum, in particular, a case can be made for the flexible allocation of literacy time to complement and bolster

learning in other curriculum areas, rather than viewing literacy as a standalone curriculum block. Rather than having time from content areas re-allocated to literacy, time from literacy would be re-allocated to the content areas. This is not a new suggestion; the 1999 English curriculum (Department of Education and Science 1999c) highlighted the importance of using language to access new knowledge. Nonetheless, a more concrete representation of the literacy connections across the curriculum would greatly support the actual implementation of cross-curricular literacy instruction.

Teaching literacy from a disciplinary perspective would involve a number of challenges for the Irish school context. If disciplinary literacy were to be a more prominent feature in the primary curriculum, the PD needs of teachers would need consideration. Disciplinary literacy exerts demands on teacher pedagogical content knowledge (Carney and Indrisano 2013; Love 2009), and as a consequence, teacher preparation for disciplinary literacy requires the forging of deep and meaningful connections between the discipline and associated literacy practices (Fang 2014). Teachers must understand the difference between the token reading of a textbook and disciplinary reading, or the difference between the inclusion of short answer questions and disciplinary writing. True literacy within the disciplines requires far more effort and thought; it is not a 'tag-on' to the beginning or end of a lesson. Inspectorate reports reveal that textbooks continue to play a major role in teaching and learning in Irish classrooms (DES Inspectorate 2010). Much of the work on comparing perspectives and analysing authorship is predicated on the use of a variety of texts, a purpose which textbooks may not easily fulfil. The prominence afforded to narrative, fictional texts as reading material would also require consideration; for example, data from the 2014 National Assessment of English Reading and Mathematics (Kavanagh et al., 2015) indicate that teachers use informational texts considerably less frequently than narrative

texts. In light of proposed changes to the curriculum as a whole (NCCA 2016), future PD in subject areas will need to consider the role that language and literacy can do to *serve* respective disciplines, as well as the development of pedagogical content knowledge and subject matter knowledge. This must take cognisance of the fact that primary school teachers in Ireland, are, by definition, generalists. Research on PD for disciplinary literacy accords with general findings on teacher PD, in that it is complex and requires the context-specific negotiation of new knowledge and practice, rather than 'magic bullet' solutions (Dobbs, Ippolito and Charner-Laird 2016; Brugar and Roberts 2017). Such PD would need to explore appropriate pedagogies. The inquiry-based frameworks suggested previously hold particular potential for meaningful and realistic disciplinary literacy practice. The complex interaction between language and content has implications for 'teacher talk', particularly at primary level (Seah and Yore 2017). Therefore, explicit exploration of the linguistic demands of the different subjects would enhance teacher knowledge and practice. Attention would also need to be afforded to the exploration of a broad range of texts, in different formats and modalities, for use across the curriculum.

It is important to acknowledge that much of the research on disciplinary literacy has focused on the subject areas of history, geography, science, mathematics and English literature. For that reason, the job of integrating disciplinary literacy with the arts, social personal and health education, physical education and religious education may prove less straightforward. While content-area literacy has a reasonably strong foot-hold within some international curricula, disciplinary literacy is a more recent phenomenon. As a result, its application at primary level is the focus of continuing research. A disciplinary literacy approach requires that the literacy needs and modes of each subject be considered. If these ways of using literacy are entirely

separate, can we expect younger children to master entirely separate sets of literacy skills, relevant to each subject?

In addition, it is important to ensure that first-hand, active, learning experiences are foregrounded across the curriculum; text is neither sufficient nor desirable as the sole means of learning about the knowledge, skills and dispositions associated with a discipline (Billman and Pearson 2013). Text can contribute to learning when used judiciously, but disciplinary literacy should not become synonymous with textbook-based instruction. Authentic and active learning appropriate for each subject is essential, but a supplementary (not substitutive) focus on literacy can complement this learning.

At a time of curriculum review, it may be worthwhile to consider making more explicit the connections between literacy, language and other curriculum subjects. Issues regarding teacher practice and understanding require more careful attention in the context of this integration. However, a disciplinary literacy approach provides one perspective on how this might be achieved in a way that is cognisant of the unique nature of the many subjects represented across the curriculum.

Conclusion

Recent discourse on literacy in Irish schools has been contentious. This is reflective of similar discourse in other countries. We have seen that literacy can be viewed as an integral feature of every discipline, rather than an external threat characterised by time allocation reductions. The integration of literacy is an aspiration of the 1999 curriculum, a requirement of the NLNS (DES 2011), and a topic of extensive research. It is also an endeavour that causes concern for advocates of a broad curriculum, as well as challenges for teacher knowledge and practice.

Future consultation on, and revision of, the Primary School Curriculum must ensure that strong links are forged between literacy and other areas of learning. Advocates and representatives of different subject areas should play a central role in informing the literacy practices that are relevant to their respective subjects, and how they should be conceptualised at primary level. Literacy teaching and learning should serve the discipline, rather than the discipline serving literacy, particularly in upper primary school. Professional development must help teachers to understand how literacy can play an empowering role in inquiring in, and learning about, different subject areas.

Embedding disciplinary literacy within the subject areas of the Irish Primary School Curriculum may provide one way of assuaging fears that policy has led to an excessive focus on literacy. More importantly, a disciplinary literacy focus should help children to think, read, write, speak and listen meaningfully and critically, in order to embrace fully the potential offered by a 'broad and balanced' curriculum.

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