

# Research Report

## **Social constructivist approaches to language learning in multilingual early and elementary years classrooms**

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February 12<sup>th</sup>

2015





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# Executive Summary

## Research focus

The following report has been commissioned by the International Baccalaureate Organisation to investigate literature related to professional learning practices in language education. It comprises of a systematic review to highlight critical aspects and successful modelling of professional learning (PL) programs in elementary and early years settings. In this report, elementary and early years education is defined as classroom teaching and learning with students between the approximate ages of 5 to 12.

The overarching research question for this report is:

*What current research on teacher professional learning provides evidence of successful implementation of social-semiotically informed social- interactionist approaches to language learning in multi-, bi-, and monolingual contexts in elementary and early years classrooms?*

While we review literature from a range of theoretical perspectives, we focus on pedagogic practices and professional learning that are informed by socio-cultural orientations to literacy, and especially those underpinned and informed by the social-semiotic theories of systemic functional linguistics (SFL). The overall aim of this report is to identify, select, and synthesise the available literature relating to best practices in implementing social constructivist approaches in teacher professional learning. These findings then inform design principles for professional learning for IB's diverse language learning contexts.

## Methodology

The qualitative methodology for the literature review involves a five-step process of framing questions for a review based on the research brief; identifying relevant work through a search of key words in the research questions; identifying prominent themes through critical appraisal;

synthesising data to generate concept maps forming the basis of a structural outline for the review; conducting a refined key word search to expand the body of literature to be examined.

The research report is organised into a total of 11 sections, with each focusing on specific research sub-questions, as outlined in Table 1 below.

<b>Report section</b>	<b>Research sub-question/s</b>
1. Introduction	
2. Methodology	
3. The global context of language teaching and learning	What is impacting on English language learning curriculum (the ways we are teaching and sequencing; preparing teachers) in early childhood and elementary schools?
4. Socially-oriented theories of language and language learning	
5. A framework for analysing pedagogic approaches	How does a social-semiotically informed perspective compare to other social-cultural approaches to language teaching and learning?
6. IBO'S language teaching and learning contexts	What trends and pressures are particularly relevant to English language education in IB programmes and how is IB responding to the identified challenges?
7. Language practices and theoretical influences in IBO's curriculum	How do socio-cultural theories, including social-semiotic research, inform IBO's current curricula documents about language teaching and learning?
8. Critical aspects in the design and implementation of teacher professional learning (i.e., evidence of 'what works')	What does current literature identify as critical to successful professional learning with teachers?
8.4 Social-semiotic theory in educational contexts	How do teachers use semiotically informed social interactionist perspectives on language learning within standards based curricula?

8.5 Social-semiotic theory in elementary teachers' professional learning	How have perspectives on language and language learning that are informed by social-semiotic theory been used in the professional development of elementary school teachers?
9. Summary of findings	
10. Design principles for professional learning modules for PYP teachers	
11. Complete reference list	

Table 1: The report structure and research sub-questions

## Section Overview

An overview of select report sections is outlined below.

**Section 3** reviews the global context of language teaching and learning in early childhood and elementary schools. **Section 4** discusses influential constructs and prominent debates related to social-oriented theories of language and language learning. In particular we argue how, unlike other socio-culturally oriented theories, SFL offers a distinctive theorisation of language and context with which to examine social activity. We present the contrasting interpretations of nature of social interaction in light of Vygotsky's theory of development. This variation is particularly evident in debates about the visibility of knowledge. In terms of language and literacy learning, the issue of visibility implicates the role of the teacher in classroom interactions.

**Section 5** introduces a framework for analysing pedagogic approaches. This framework has enabled a comprehensive review of dominant orientations to English language and literacy teaching and learning, which are relevant to teacher professional learning about language as they involve underlying beliefs and assumptions about the ideal focus of language development and classroom pedagogic practices. These include *learned practice*, *coding and skills practice*, *individual practice*, *situated practice*, and *expert-guided practice*.

**Section 6** addresses trends and pressures that are particularly relevant to IB teaching and learning contexts. In particular, it discusses the global mobility of English language learners and how this trend contributes to both local and global pressures related to implementing IBO language policies.

**Section 7** reports specifically on the Language practices and theoretical influences in IBO's curriculum. The analysis of curriculum documents has focused on how socio-cultural theories inform language teaching and learning. There are several findings that are relevant to professional learning. These relate to three main areas as summarised below.

***The theoretical underpinning of the curriculum.*** There appears to be no evidence of an overarching theoretical framework to identify and connect different language concepts. This means that language outcomes are presented as lists of language constructs. While these constructs gradually increase in their demands and complexity, there is no clear relationship between each construct. As de Silva Joyce and Feez (2016, p. 112) warn, researchers and practitioners can therefore be left with 'unstable inventories of items that are extremely challenging to relate and unify'. Further, without a language framework it is difficult for teachers and students:

*to reflect on language itself, so that teachers are guided in language planning and student assessment by an explicit model of language and can make explicit to students who are unfamiliar with the language of school how to use the registers associated with power and educational success (Gibbons, 1999, p. 24).*

As collaborative planning between teachers is expected in the Primary Years Program, there is a strong argument for ongoing professional learning that includes a focus on teachers extending their own and their community's existing knowledge about a theoretically robust model of language. Such

knowledge can then be shared with monolingual and multilingual students for the benefit of their language development.

***Pedagogic models for literacy practices.*** It is currently difficult to identify how specific teaching practices (beyond changes to the configuration of learner groups) are expected to change as the teacher role and/or learning goals shift. For example, is classroom activity to negotiate meaning seen to involve or preclude explicit instruction? Apart from striving for a balance of activity types, what activities best meet particular learning goals? Given that reflection in both teaching and learning practices is a core feature of the IB curriculum, there is the potential to identify and critique the value of specific models of instruction (i.e., sequences of classroom activity around language learning) in relation to particular literacy learning goals.

***Planning and implementing the assessment of language.*** Currently, in IBO documents there appears to be no emphasis placed on developing and using a shared metalanguage with which teacher and students can identify and talk about specific language choices. In light of the fact that ongoing feedback across units of work is valued, there is the potential for the IB curriculum to consider how a common metalanguage can assist with reflecting upon and assessing language use.

**Section 8** provides a review of critical aspects in the design and implementation of teacher professional learning (i.e., evidence of ‘what works’). Research has highlighted the importance of teachers’ existing beliefs and knowledge in cognitive processing and reflection, the importance of teacher ownership in professional learning design, and the value of relationships within professional learning communities. However, socially-oriented perspectives on learning also emphasise that further social-interaction with expert mentors is crucial to extending what teachers already know.

Studies related specifically to PL informed by social-semiotic theory have provided strong evidence that extending teachers’ knowledge about language supports students’ language and literacy learning and provides essential

resources for broader inquiry. In particular, a systemic view of language can support teachers to recognise, connect, and explain language patterns in texts targeted for composition as well as in texts students read and critique. In terms of pedagogical practice, the review has found that teacher-guided analysis of exemplar texts, composed for authentic learning purposes, provides a valuable context to support students' critical inquiry of 'how texts work'. A crucial resource for guided, collaborative, and independent inquiry of meanings in text was found to be a shared metalanguage – a language for talking about language. A metalanguage informed by systemic functional linguistics was found to support students' confidence in composing valued curriculum texts and their understandings about language use across curriculum contexts. These findings highlight areas of pedagogic content knowledge (PCK) that are related to language teaching and learning and essential for the successful integration of deep language knowledge in specific teaching and learning contexts.

**Section 9** provides a synthesis and summary of the research findings, and the report concludes in **Section 10** with design principles for professional learning modules for PYP teachers.

## List of abbreviations

IB	International Baccalaureate
IBO	International Baccalaureate Organisation
KAL	knowledge about language
PL	professional learning
PCK	pedagogic content knowledge
PYP	Primary Years Programme
SFL	systemic functional linguistics
TLC	teaching and learning cycle

# 1. Introduction

This report presents a systematic review of existing literature on successful models of professional learning (PL) programs. It focuses on studies based on a social interactionist perspective of language learning in multilingual, bilingual, and monolingual IB contexts. The scope of this inquiry includes elementary and early years settings, focussing on classrooms with 5 to 12 years olds. While the theoretical scope of the systematic review will include a range of language models, empirical analysis of effective classroom practice will focus on pedagogies underpinned and informed by systemic functional linguistics (SFL). The use of SFL theory in professional learning and teaching practices is investigated in terms of the extent to which it may be flexible and robust enough for IB's diverse and complex language learning contexts. The overarching research question for this report is

- i. ***What current research on teacher professional learning provides evidence of successful implementation of social-semiotically informed social-interactionist approaches to language learning in multi-, bi-, and monolingual contexts in elementary and early years classrooms?***

This question is examined with additional sub-questions, as outlined below:

- ii. *What is impacting on English language learning curriculum (the ways we are teaching and sequencing; preparing teachers) in early childhood and elementary schools?*
- iii. *How does a social-semiotically informed perspective compare to other social-cultural approaches to language teaching and learning?*
- iv. *What trends and pressures are particularly relevant to English language education in IB programmes and how is IB responding?*

- v. *How do socio-cultural theories, including social-semiotic research, inform IBO's current curricula documents about language teaching and learning?*
- vi. *What does current literature identify as critical to successful professional learning with teachers?*
- vii. *How do teachers use semiotically informed social interactionist perspectives on language learning within standards based curricula?*
- viii. *How have perspectives on language and language learning that are informed by social-semiotic theory been used in the professional development of elementary school teachers?*

The research questions are examined through qualitative research methods, as outlined in Section 2. The report is then organised into seven further sections. After discussion of the research methodology, we provide a brief overview of the global context of language teaching and learning in which this project is situated (see Section 3). This is followed by a review of current research related to the informing role of socio-cultural and social-semiotic theories in professional learning design and pedagogic practice (see Section 4). In Section 5, we introduce a theoretical framework with which to position prominent approaches to language and literacy teaching. We then consider IB contexts of teaching and learning, including global and local impacts as well as analysing the theoretical influences on the IBO curriculum (see Sections 6 and 7). In Section 8, we investigate crucial aspects of professional learning design, including the examination of professional learning studies with elementary teachers that have draw on social-semiotic theories of Systemic Functional Linguistics and related pedagogies. Section 9 provides a synthesis of the research findings. The review culminates in design principles for professional learning modules for PYP teachers (Section 10).

## 2. Method of investigation

This section discusses the qualitative research method drawn on to conduct the literature review. The review aims to identify, select, synthesise the available literature relating to best practices in implementing social constructivist approaches in teacher professional learning. It was conducted following an explicit strategy and selection criteria in a five-step process:

- i. framing questions for a review based on the research brief;
- ii. identifying relevant work through a search of key words (in the research questions);
- iii. identifying prominent themes through critical appraisal;
- iv. synthesising data to generate concept maps a structural outline for the review;
- v. conducting a refined key word search to fill out the body of literature to examine.

Informed by the main research question (see Section 1), an initial list of keywords was generated from the following categories: professional learning and development; social interactionist approaches to language learning; scaffolding; systemic functional linguistics; early and elementary literacy and language education; and the International Baccalaureate Primary Years Program. Social interactionist approaches to language learning and systemic functional linguistics were two informing theories featured prominently in initial searches and therefore identified as central in answering the question. These were combined as inclusion phrases with other keywords in subsequent databases searches. The database searches were conducted using the combinations of keywords and theory phrases.

A foundational bibliography of over 300 references was collated and stored in an Endnote library. The references were further categorised into four key areas of the literature: theoretical frameworks; interpreting theory for instruction; teachers' professional learning; and knowledge about language in teaching and learning. An annotated bibliography including paper abstracts was generated from the Endnote library for each group. The abstracts were

analysed to identify prominent themes. Concept maps were then developed to show the relationships between the themes. These formed the basis of the overview of the systematic review. A refined literature search was further conducted for each identified area before a comprehensive literature review was undertaken. The ensuing sections report on the results of this comprehensive review.

### 3. The global context of language teaching and learning

As an important part of investigating professional learning research, this report considers the current global context of language teaching and learning. For programmes like IB, it asks:

*What is having an impact on English language learning curriculum (the ways we are teaching and sequencing; preparing teachers) in early childhood and elementary schools?*

A foundational understanding in early childhood and elementary research literature is that contemporary education is 'saturated by and dependent on oral and written language' (Freebody, 2013, p. 4). Verbal language and print literacy continue to dominate discussions of teaching and learning in early childhood and elementary settings; however, this discussion is increasingly informed by social-semiotic perspectives which recognise the crucial role of multimodal affordances such as image, sound, and gesture in enabling multi-literacies and digital literacies (Kress & van Leeuwen, 2006; Unsworth & Thomas, 2014). This broader view of meaning-making means that the investigation of teaching and learning practices now commonly include investigation of a range of semiotic resources that learners develop and of the varied media through which texts are created.

The renewed interest in exploring language and other semiotic resources and their place in elementary education has been driven by a number of factors. This section provides an overview of a range of socio-political pressures on language and literacy education and policy initiatives that are relevant to teacher professional learning practices.

#### 3.1 The pressures on language and literacy education

The focus on language in 21<sup>st</sup> century literacy and broader educational research has a number of motivations. These include increasing pressure on

schools to prepare learners to participate in a knowledge economy (Heckman, 2005); increasing competition and standardisation of assessment of literacy (Gebhard, Willett, Jimenez, & Piedra, 2010); teachers' increased accountability for the language learning needs of diverse learner groups; and the challenges of emerging curricula and standards which expand expectations of language and literacy in the early and elementary years beyond 'basic skills' (Bunch, 2013; Murnane, Sawhill, & Snow, 2012).

### **3.1.1 Knowledge economy**

A key factor in the changing definitions of language and literacy over the past fifty years has been the changing nature of work and the realisation that for contemporary economies to succeed, far more sophisticated literacy capabilities are needed by a greater proportion of the population. There is now an established trend towards knowledge itself as 'the primary ingredient in what we make, do, buy and sell' (Stewart, 1997, p. 12). Knowledge is also seen as the facilitator of innovation and productivity, and this has profound, if often unacknowledged, consequences for literacy (Brandt, 2009). Brandt (2009) argues that in the knowledge economy, it is texts, and particularly written texts, which are 'the chief commercial product of an organisation' (p. 119) and that commercially 'high stakes' texts are more often socially rather than individually constructed.

Despite its centrality to present and future economic success, definitions of literacy focus on predetermined 'functionality' and literacy programs promote productivity and efficiency have failed to appreciate the importance of the multiple social contexts in which literacy is used and learned. According to Freebody (2007), being literate in contemporary societies includes

*knowing how to use textual materials to represent individual or collective interests faithfully and cogently (a 'social' function); it means knowing when and how to mobilise the interests and actions of others (a 'sociological' function), as well as when and how to understand the role of textual communications in strengthening, or, as necessary,*

*interrupting the processes by which individual and collective interests are joined (a 'socialisation'/'socialising' function).*

While concerns with the role of literacy for employment seem to have little relationship to teaching and learning in the elementary years, there is wide acknowledgement of the significant consequences of knowledge economies for learners in earlier grades. Amongst the lessons from human capital research identified by Nobel Prize economist Heckman (2005; Heckman & Masterov, 2007) is an understanding of literacy as 'skills that beget skills' and directly enrich knowledge development. Like other learning and socialisation skills, Heckman argues that literacy is most effectively developed in the early years but that strong continuing support is needed to maintain those gains. Heckman's conception of literacy has been critiqued for under representing the breadth of economically and socially valued literacy practices and the social contexts in which literacies may be developed (Rios-Aquilar, 2010). Nevertheless, his argument for investing in sustainable literacy interventions from an early age for a high economic and social return is widely supported.

### **3.1.2 Competition and testing**

A related pressure on the work of elementary teachers involves international trends towards economic competition and performance with a consequent increase in standardized assessments of literacy. Programs of standardized testing such as Australia's *National Assessment Program: Literacy and Numeracy (NAPLAN)*, *The Partnership for Assessment of Readiness for College and Careers (PARCC)* and *Smarter Balanced Assessment* in the US, and the UK's *National Curriculum Assessments* (widely known as SATs) purport to measure growth against standards from newly developed national curricula and standards for goals such as social justice. However, the ways in which data from these tests are used foreground the performance of individual schools in terms of competitive market places (Buchanan, Holmes, Preston, & Shaw, 2012).

Increased standardized testing of literacy has significant consequences for teachers, particularly teachers of diverse learners in monolingual, bilingual,

and multilingual classrooms. Although evidence from both national and international assessment measures indicate that many bilingual and multilingual students bring academic and social advantages that come with additional language competence and are well positioned to achieve in schooling (Cummins, 1986, 1996, 2001; Thomson, De Bortoli, & Buckley, 2013), broad categorisations of these student groups risk eliding the significance of social and economic factors which impact on students' achievement (Creagh, 2013). For example, bilingual and multilingual learners who are learning English as an additional language (EAL/D) may not be distinguished in reports of student performance. In many countries, English language learners who are from low socio-economic status backgrounds (low SES) are over represented in the lowest performance bands of literacy tests (Reardon, 2011). The option to 'teach to the test' has been found to considerably narrow the curriculum (Reid, 2010) and reduce the multi-faceted and socially constructed concept of literacy to a set of measurable skills; a further option taken by many schools, to exclude from testing lower performing students, risks further marginalising the very students who most need to be identified for targeted support (Heilig & Darling-Hammond, 2008).

### ***3.1.3 Diversity***

Also closely related to the pressures of standardised testing discussed above are those related to the increased diversity of mainstream classrooms in the elementary years. International policy changes in recent years have seen a shift away from bilingual education (Gebhard et al., 2010), and increasing numbers of English language learners are now found in what have become known as the 'new mainstream' classes. It is estimated, for example, that over 10% of students in schools in the US are classified as English learners (Valdés & Castellón, 2011) and this figure does not account for the large number of learners who are still in the process of learning the academic language of content-area instruction (Bunch, 2013; Olson, Land, Anselmi, & AuBuchon, 2010). Although these learners may interact fluently and meaningfully with their peers and teachers in general class discussion, they often have few opportunities outside school to use the academic language

valued in assessing their discipline knowledge (Gordon, 2005; Schleppegrell, 2013). This growing new mainstream has added pressure on teachers to be accountable for the achievement of all students, including learners with English as an additional language or dialect (EAL/D) (Gebhard et al., 2010).

### **3.2 Policy initiatives and curricula**

In light of increased cultural and linguistic diversity in the classroom, policy initiatives in recent years have focused on accountability and changes to curricula. As Soler and Openshaw (2007) report, increasing national and international media attention and political focus on accountability and standards in English education have provided much impetus for policy reviews and curriculum innovations. Many of these policy initiatives have sought to define what counts as valued literacy experiences in the classroom (Short, 2014). In Australia, for example, the national Literacy Inquiry launched in 2004 had a specific agenda to review evidence-based approaches to the teaching of literacy, and particularly those that are effective in assisting students with reading difficulties. The findings were reported in the *Teaching Reading* (Department of Education, Science and Training, 2005). The recent development of a national Australian Curriculum: English represents the government's 'renewed national effort to improve the educational achievements of all students' (Freebody, Maton, & Martin, 2008, p. 1).

As in Australia, the government's focus on accountability and standards agendas has given rise to much literacy policy debate and policy development in the international jurisdictions. In the United States, the national literacy policy *No Child Left Behind* (2002) was a response to criticisms of lagging literacy standards and a widening achievement gap for students from diverse backgrounds (Calfee, 2014; Luke, Weir, & Woods, 2008). In England, the National Literacy Strategies 1997–2011 (Department for Education, 1999, 2011) represent federal attempts to 'drive improvements in standards' through delivery of professional learning materials and teaching and learning frameworks (Department for Education, 2011, p. 2). Whilst some of these curriculum initiatives offered 'simplistic solutions' to the perceived literacy

crisis, they shared a common concern regarding how best to promote a high quality language and literacy classroom that addresses the needs of all learners. Professional learning is viewed as a vital component of educational policies to improve quality of teaching and learning.

A key change to language policies has involved an increasing emphasis on the explicit teaching of knowledge about language in the subject English and a view of language as a resource for more visible practices of literacy instruction in all disciplines (Bohrnstedt & O'Day, 2008; Darling-Hammond, 2006). In Australia, the Australian Curriculum: English (AC:E) elevates knowledge about language as one of the core pillars of the curriculum together with the other two complementary strands of literacy and an informed appreciation of literature (ACARA, 2009). In England, the National Curriculum for English (NC:E) re-introduced grammar in 1988 and, while subsequent revisions (Department for Education, 1995, 1999) all included some reference to grammar, the latest version (Department for Education, 2014) is the most explicit, specifying what grammatical terminology must be mastered in each year of the primary curriculum. Similarly in the context of the United States, a language strand was included in the new Common Core State Standards Initiative (CCSSI) for English Language Arts and Literacy (Common Core State Standards Initiative, 2012), which reflects a renewed emphasis on the importance of grammar instruction.

Fundamental to all of the curricula and standards is close attention to the relationship of language to its context. Although each document organises language content differently, both the AC:E and the CCSS recognise that choices of language depend on the overall purpose for which language is used in a culture; achieving these purposes with language results in recognisable patterns, staged as genres or text types. Clusters of culturally recognisable patterns include persuasion, information, and imaginative or narrative. The theorisation of genre and the relationship of language and context are further discussed in Section 4.

Further influences on language choices recognised in contemporary curricula and standards relate to the more immediate context in which language is used

(i.e., register). A crucial factor in this variation is the content area or field of study. No longer is language content seen as restricted to the discipline of English or English Language Arts, but rather as crucial to creating meanings in all disciplines. As language choices vary in each discipline not only in terms of their content but also in ‘the ways this content is produced, communicated, evaluated, and renovated’ (Fang & Coatam, 2013, p. 628), the ‘one size fits all’ approach of content area or language across the curriculum is no longer sufficient for contemporary teaching and learning contexts.

For learners in the early and elementary years, developing ‘basic’ language knowledge such as ‘the conventions of standard English’ (National Governors Association Center for Best Practices, 2010, p. 51) needs to occur concurrently with developing knowledge of rhetorical features across word, sentence, and text as well as of how these features pattern to achieve particular discipline goals. The expectation that the resources of language need to be made explicit has significant consequences for teachers as well as learners. At elementary level, teachers are expected to develop knowledge of the way language patterns vary in different areas of learning and to be able to make these patterns visible to students through their classroom talk, assessment, and feedback on students’ language use. This extension to the pedagogic content knowledge (PCK) expected of teachers will be further discussed in Section 8.3.

For policy initiatives such as the AC:E in Australia, the NC:E in England, and the CCSSI in the United States to be successful, there is a real need for research into what professional learning is required in order for teachers to enact these policy mandates effectively in their classroom practice. In the ensuing review, we draw on scholarship from a social-semiotic approach to language teaching and learning to consider a language framework and specific pedagogic practices that have responded to these global concerns and issues.

### **3.3 Summary**

In summary, impacts on the language learning curriculum in the early years include recognition of the importance of language and literacy for knowledge building and reconceptualisations of language learning in the early years as more than acquiring ‘basic skills’. Contemporary educational research, policy and curricula recognise language as a set of crucial resources for making meaning and curriculum content learning as dependent upon learning the language which construes that content. Expectations on all teachers to be accountable for and responsive to the language learning needs of their increasingly diverse groups of students has crucial implications for supporting teachers’ knowledge of language, including a metalanguage for enacting pedagogic practice in early childhood and elementary schools.

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## **4. Socially-oriented theories of language and language learning**

In this section, we review relevant socially-oriented theories of language and language learning. In particular, we focus on the social-semiotic theories of Systemic Functional Linguistics and the socio-cultural theorising of Vygotsky, which have both greatly influenced contemporary pedagogic approaches to language teaching and learning. We also review current debates related to interpreting theory.

### **4.1 A social-semiotic perspective on language and context**

Social-semiotic theories of language are relevant to the process of language teaching and learning because they offer a systematic account of how people use language and other semiotic resources to make meaning. While some socio-cultural theoretical traditions, such as research in the area of activity theory (e.g., Engeström, 2005; Engeström, Miettinen, & Punamäki, 1999; Lantolf & Appel, 1994; Leont'ev, 1978) are concerned with the complex structure and social factors that influence social activity, traditions such as Systemic Functional Linguistics (Halliday, 1975; Halliday & Hasan, 1976, 1985; Halliday & Matthiessen, 2004; J.R Martin, 1992; J.R Martin & Rose, 2007; J.R Martin & White, 2005) focus on the complexity of language and how specific patterns of language use relate to context.

From an SFL perspective, human learning is a process of making meaning and learning about the meaning potential of language (Halliday, 1993). Although there are many dimensions to SFL theory, it essentially provides tools with which to investigate our meaning-making resources. Two core components of its theoretical architecture involve different kinds of meanings, systematically grouped as metafunctions, and their more abstract to concrete organisation as strata.

### 4.1.1 Metafunctions as meaning organisers

SFL proposes that social interaction involves choices about three simultaneous strands of meaning, called metafunctions (Halliday & Matthiessen, 2004). They are ideational, interpersonal, and textual meanings. Ideational meanings construe different kinds of social activity, and their relationships can be further delineated as experiential and logical metafunctions; interpersonal meanings enact social relationships; and textual meanings involve resources to organise language into coherent text (J.R Martin & Rose, 2008). The three metafunctions of language provide simultaneous perspectives on meaning-making activity. Crucially, a metafunctional perspective allows language to be viewed in terms of the role it plays in enacting the particular contexts. Relevant contextual variations include: the field or subject matter – the WHAT; the tenor, including roles and relationships of interactants – the WHO; and the channel or mode of communication – the HOW. Table 2 represents the relationship between these aspects of context and the systems of language which realise them.

<b>Contextual Variable</b>	<b>Metafunctions – systems of language choices</b>
Field	Ideational <ul style="list-style-type: none"><li>• Experiential</li><li>• Logical</li></ul>
Tenor	Interpersonal
Mode	Textual

Table 2. Dimensions of context and the language systems through which they are encoded

### **4.1.2 Strata or layering of meaning**

The relationship between context and language can also be understood in terms of strata. SFL conceptualises social activity with more to less abstract layers of meaning. The most abstract perspective is that of genre (J.R Martin, 1992). This layer of social activity involves 'recurrent configurations of meanings' which have a certain degree of predictability within cultures (J.R Martin & Rose, 2008, p. 6). Different genres achieve different social purposes, and the semiotic choices that encode them provide insight into how language practices develop and change over time. Genres are related to and distinguished from each other by specific configurations of the contextual variables of *field*, *tenor*, and *mode*, as introduced above. These three dimensions are collectively known as *register*. They refer to the general 'functional domains' of any immediate social situation (Halliday, 1978; Halliday & Hasan, 1985; Halliday & Matthiessen, 1997). The remaining three less abstract layers all theorise texts in their context of use. The level of discourse semantics (see J.R Martin, 1992; J.R Martin & Rose, 2007) encompasses meanings that unfold and accumulate across texts, above the level of clause. The next lowest level is lexicogrammar (Halliday & Matthiessen, 2004). This level encompasses the language functions and forms within clauses. Finally, the expression level involves phonological and graphological resources that involve sounding and scribing patterns of meaning. Each of these 'text in context' layers is represented by tangent circles in Figure 1, below the more abstract layers of register and genre. The overall aim of SFL's modelling of language and context is to theorise cultural activity, including language teaching and learning, as semiotic activity.

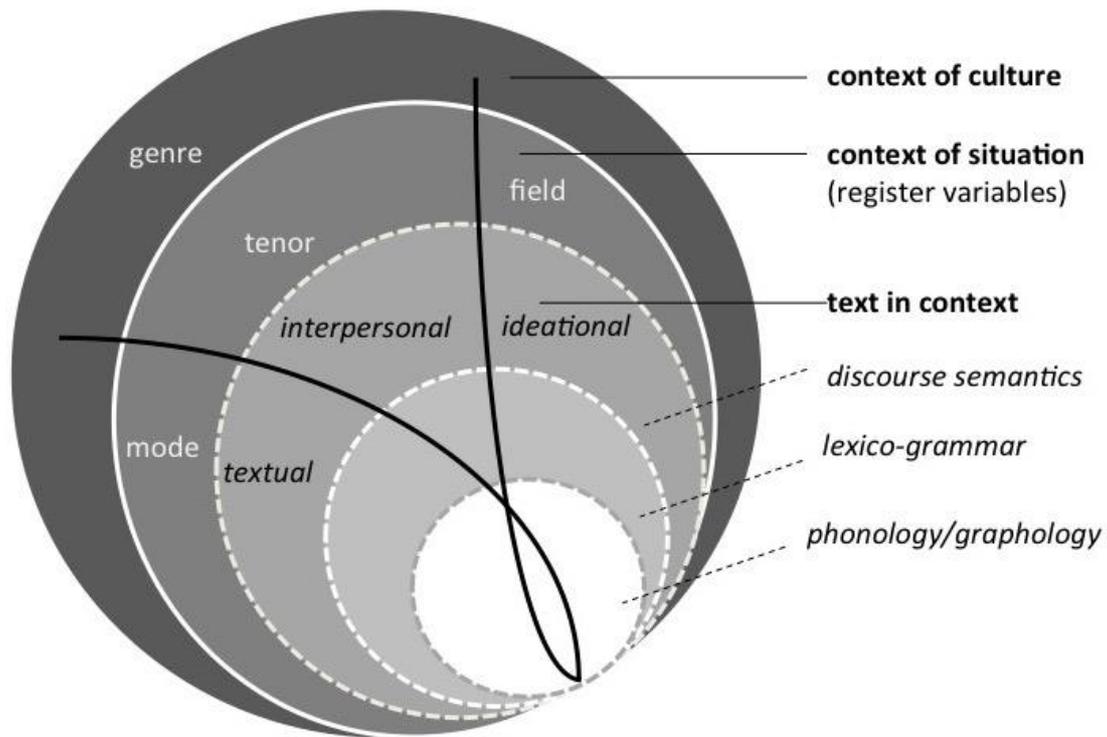


Figure 1: Modelling language in context (adapted from Martin & White, 2005)

In this modelling, social activity is encoded by semiotic choices and, conversely, specific patterns of meaning in unfolding texts construe identifiable kinds of social activity (J.R. Martin, 2009; J.R. Martin, 2013). This 'bi-directional relationship' (Hood, 2011) is not theorised in other socio-culturally oriented theories and is certainly not a feature of approaches to language learning and development that focus on cognition. Much research on second language acquisition, for instance, sees language as one factor or a 'linguistic component' (Manchon, 2015) of social contexts. In other words, language resources (and other semiotic resources) are embedded as one aspect or dimension of a social context, without specific theorisation of how language choices relate to the practical situations in which we use language (See J.R. Martin, 2014 for further theorisation of these differences). SFL's distinctive theorisation of language and context has informed specific pedagogic approaches to language and literacy teaching, as reviewed in Section 5.1 and analysed in relation to professional learning with elementary teachers in Section 8.5.

## 4.2 Theories of language development and learning

Influential theories of language development reflect the broad 'social turn' (Block, 2003) within the humanities and social sciences. At a general level, the 'social turn' acknowledges and investigates how social factors relate to educational processes. It challenges the 'austere asociality' (Atkinson, 2003, p. 4) of paradigms that predominantly focus on individual learners and their internal mental processing. In fields of education, this general orientation toward the importance of social factors is commonly categorised as a 'social constructivist' paradigm (Nystrand, 2006).

In terms of processes of change and development, a social constructivist paradigm sees language as 'central and necessary to learning' (Lemke, 2001, p. 296). The source of meaning is not seen to just involve texts, their constituent structures, and individual cognitive processing. Rather, people construct meaning as they interact with each other over time, in such contexts as their homes, formal learning institutions, workplaces, and wider communities.

Although this broad orientation to processes of language development is widely represented in language learning literature, the connection between theories of learning and empirical evidence about educational change related to the professional learning of teachers is sparse. As Timperely and colleagues (2007, p. 228) observe, 'empirical articles are typically theory-free; theoretical articles are typically evidence-free'. This trend toward implied rather than specified theories of learning seems to assume that the extensive body of empirical evidence in studies of childrens' learning (where theory, practices, and resulting change are specified) is relevant to adult professional learning contexts. In this report, we explicate how the development theories of Vygotsky have significantly influenced educational practices, including the teaching and learning of language, although readings of his work are subject to varied and selected interpretation (Cazden, 1996).

### **4.2.1 Divergent readings of Vygotsky's theory of development**

The human development theories of Russian psychologist Lev Vygotsky and his followers are widely regarded as amongst the most influential in socio-cultural<sup>1</sup> studies of language learning (Wertsch, et al, 1995). Vygotsky proposes that individual consciousness is first developed from the outside (i.e., during interaction with others) through what he calls the 'inter-psychological plane'. Over time, cognitive development is then established inside the individual on the 'intra-psychological' plane (Vygotsky, 1981). The learning space where such development occurs is described as the *Zone of Proximal Development* (ZPD) (Vygotsky, 1978, p. 86). In the ZPD, more advanced others, such as parents, older siblings, tutors, and teachers interact with learners. While Vygotsky argues that social interaction needs to be in advance of a learner's current development, the nature of interaction in this developmental process has been interpreted differently.

For some teacher educators, '*social* simply came to mean *interactive*' (Inghilleri, 2002, p. 474 our emphasis). In this reading, teachers organise and provide interactive space ( i.e., the social conditions and environment) in which 'personal growth' can occur; however, the individual child remains 'the sole creator and innovator of his or her own meaning' (Inghilleri, 2002, p. 471–5). When taken to the extreme, any teaching with characteristics of explicit instruction is seen as potentially destructive (e.g. Britton, 1987) or at least seen as counter to the type of adult support observed by Vygotsky (Mason & Sinha, 2002).

Contrasting interpretations specify that social interaction needs to involve collaboration where more expert others jointly construct new meanings with learners (French, 2012; Gray, 1998; Gray & Cazden, 1992; J.R Martin, 1999, 2006; Rose & Martin, 2012). In this reading, the teacher intervenes to introduce and guide students' engagement with new knowledge through

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<sup>1</sup> See critique of this term and discussion of alternatives, such as 'cultural-historical', in Cole (1990); Wertsch, Del Rio, and Alvarez (1995); Zinchenko (1995).

simplifying, clarifying, and connect concepts, and by providing a ‘framework’ for students to successfully accomplish tasks (Langer & Applebee, 1986).

An additional factor contributing to divergent readings of Vygotsky relates to theorising the specific role and conceptualisation of language in learning. The importance of language is particularly evident in Vygotsky’s concept of *semiotic mediation*. As Hasan (2005, p. 73) discusses, this concept refers to the use of sign systems that act as abstract tools in changing and transforming mental activity. These tools may be physical items and objects or symbolic systems, such as language. Learning is thus seen to be mediated by social interaction and through sign systems (French, 2012). Tools of mediation are given particular importance in terms of their role in providing ‘the link or bridge’ between social activity and individual (Cole & Wertsch, 1996, 2004; Wertsch et al., 1995).

However, Vygotsky does not theorise the nature of language further, nor its relationship to context (Hasan, 2005). He also does not specify how semiotic mediation through language systems connects to instructional practices (Tharp & Gallimore, 1988). These absences, combined with different interpretations of ‘social interaction’, mean that researchers and educators may relate Vygostky’s theories to a wide range of pedagogic practices. (For further detailed discussion of these divergent theoretical reading see Cazden, 1996; Daniels, 2007; Inghilleri, 2002).

#### **4.2.2 The principle of scaffolding**

The divergent readings of what social interaction in learning involves are particularly evident when linked to popularised teaching principles such as ‘scaffolding’. The term *scaffolding* was originally introduced by Wood, Bruner, and Ross (1976). It is a metaphor that describes instructional support where learners ‘carry out new tasks while learning strategies and patterns that will eventually make it possible to carry out similar tasks without external support’ (Applebee & Langer, 1983, p. 169). As Bruner (1986) describes,

*In general, what the tutor did was what the child could not do. For the rest, she made things such that the child could do with her what he plainly could not do without her. And as the tutoring proceeded, the child took over her parts of the task that he was not able to do at first, but with mastery became consciously able to do under his own control. And she gladly handed these over' (p. 76, original emphasis).*

The principle of gradual 'hand over' was first linked to Vygostky's Zone of Proximal development during Cazden's trip to the Soviet Union in 1978 (Stone, 1998 in Daniels, 2007; Cazden, 2009 in personal correspondence). The relationship between these two constructs is outlined in Figure 2. This Figure draws attention to the compatibility of these two constructs with regards to the diminishing nature of teacher support in relation to a learner's progress.

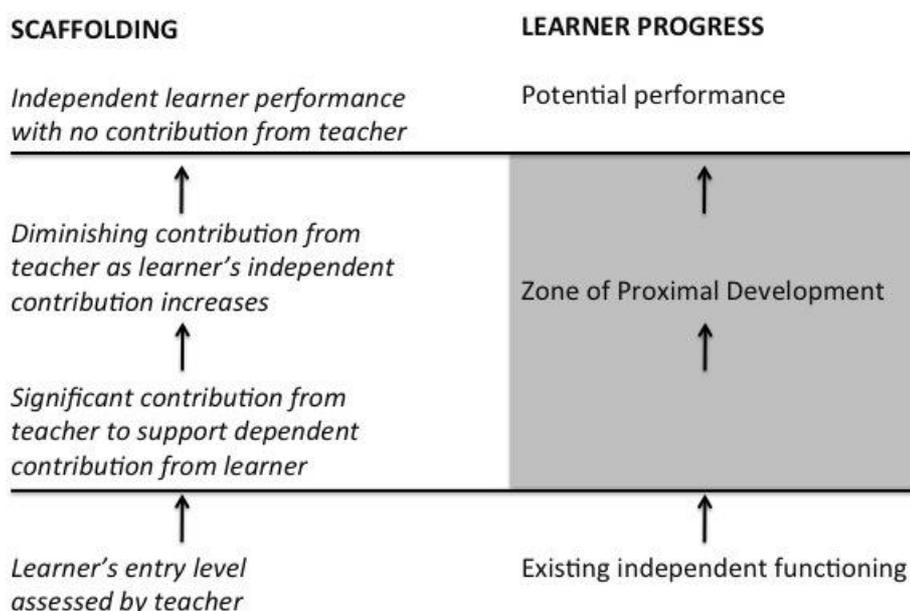


Figure 2. The complementary concepts of the Zone of Proximal Development and scaffolding (adapted from Feez, 1998, p. 27).

A feature of both scaffolding and the ZPD is that they can be related to a wide range of educational practices. They are not necessarily bound to specific types of classroom activities or discipline areas nor a specific group of learners. For instance, activities such as fill-the-gap worksheets, small group discussions between students, and teacher-led collaborative writing may all be referred to as 'scaffolding'. The broad use of theoretical terms like the ZPD and scaffolding means that curricular documents, such as those of IBO, can refer to theory without specifying what ideal practices actually look like in the classroom, including the role of the teacher in particular language and literacy activities. For language teachers, this means that principles and general approaches that underpin or are endorsed in language policies may be evident, but not the practical methods to guide their enactment (see discussion in Fee, Liu, Duggan, Arias, & Wiley, 2014).

### **4.3 Debates related to the visibility of knowledge in learning**

In terms of interpreting theory to inform classroom instruction, a particular contentious area of debate concerns how new knowledge is made visible to students (Bernstein, 1975; Hattie, 2009). In relation to language and literacy, the concept of 'visibility' concerns the extent to which knowledge about language is seen as a distinct curriculum domain and whether it should thus be made explicit in teaching and assessment in practices. This debate centres around the role of the teacher in 'ideal' classroom interaction with students. In particular, the issue of visibility implicates when and how teachers should share their expertise about language. As Walshe (1981, p. 11) discusses, teacher roles have been considered in terms of the extent to which teachers should be more like 'a sage on the stage' or 'a guide on the side'. In the former role, teachers use explicit methods of instruction, such as text modelling to identify and teach language; while in the later role, more emphasis is placed on teachers providing learners with environments and opportunities for learners to explore and 'discover his or her own process' at his or her own pace (Walshe, 1981).

Researchers have long argued that the choice of teacher role and methods of instruction should vary in relation to specific pedagogic goals (R. Alexander, 2008; Hammond, 1990; Martin, 1999) rather than be seen as constant and inflexible. However, the importance of explicit teaching is of particular concern to those working with bilingual and multilingual learners (Cummins, 2001; Gibbons, 2006, 2009; Hammond, 2006). Researchers have found that English language learners typically face challenges as they begin to engage with patterns of language which are removed from those they may have learned quite rapidly in conversational contexts (Cummins, Brown, & Sayers, 2007; Gibbons, 2009). Unless these 'academic' language patterns are made visible, through explicit contextualised instruction in schools, language learners, like other non-mainstream students, will have inequitable access to 'the language of power'.

## **4.4 Summary**

In this section, we have outlined influential constructs and prominent debates related to social-oriented theories of language and language learning. In particular, we have highlighted how, unlike other socio-culturally oriented theories, SFL offers a distinctive theorisation of language and context. Essentially, from an SFL perspective, all forms of social activity are viewed as semiotic activity where the context of a situation and the context of cultural activity are theorised as abstract layers of meaning. SFL also systematises the kinds of meanings that are available and selected in the texts that people create. In other words, SFL provides a theory of language with which to examine social activity. This contribution is of particular significance because other influential socio-cultural theories, such as those of Vygotsky and his followers, acknowledge the central role of language in learning but do not theorise the nature of language itself. Discussion has also highlighted how the nature of social interaction in Vygotsky's theory of development is subject to contrasting interpretations. When theory is referenced in relation to classroom practices, this variation is particularly evident in debates about the visibility of knowledge. In terms of language and literacy learning, the issue of visibility implicate the role of the teacher in classroom interactions. In the next section,

we further examine specific pedagogic approaches to teaching and learning language and literacy. They are relevant to understanding the content of teachers' professional learning as well as the underlying principles behind educational practices that may be advocated.

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## 5. A framework for analysing pedagogic approaches

In this section, we review the literature pertaining to current pedagogical approaches to language and literacy learning. In our analysis, we make the underlying assumption that the process of ‘adult professional learning is fundamentally similar to that of student learning’ (Timperley et al., 2007, p. 8). That is, although the contexts, participants, and their learning needs may vary greatly, overlapping generalisations can be made about the nature of the learning process. Additionally, we can identify similar clusters of assumptions, informing theories, values and practices to distinguish different approaches to teaching and learning literacy (e.g. Fang, 2012; Lea & Street, 2010; Martin, 1999).

However, it is very difficult to draw clear boundaries around pedagogic approaches, and typically, teaching practices are informed by understandings and strategies from across traditions. One reason for this is that, increasingly, pedagogies which centralise dimensions such as technology and multiliteracy practices or which foreground critical perspectives, have themselves been presented as discrete approaches with distinctive philosophical principles (e.g., Cope & Kalantzis, 2000; Unsworth, 2001). A further reason is that approaches which were previously clearly distinguished philosophically and polarised in debates such as ‘reading wars’ (Coles, 2003; Ewing, 2006) and ‘literacy wars’ (Snyder, 2008) have themselves evolved in response to global pressures, continuing research, and differing interpretations of influential theories. In the framework, we propose to analyse and position pedagogic approaches. The blurring of boundaries is represented by dotted lines (see Figure 3).

Enacting socio-culturally informed language policies in the classroom and providing professional learning experiences for doing so depends upon

making visible understandings of language and learning that inform global policies. It is necessary at this stage to relate the theories we have reviewed above to contemporary influential approaches to language learning. To support our analysis, we propose in this section a framework to position current pedagogic practice according to relevant theoretically informed dimensions. In doing so, we follow researchers such as R. Alexander (2001, 2008) and Maton (2013) who argue against false dichotomies such as lists of 'either/or' options, and we draw on topological representations (e.g., J.R. Martin, 2006; Rose & Martin, 2012) that locate approaches along lines of 'more to less', i.e. positioning, which considers the extent or degree of alignment rather than fixed classification.

In the proposed framework, two distinctions will be used to broadly situate approaches to literacy into four loosely bounded quadrants (see Figure 3). The first dimension involves the focus of language development, i.e. how the process of change occurs in learning. This dimension is represented by the vertical axis and accounts for the extent to which learning occurs as an individual, cognitive process, or as a social process where specific contexts and social interaction are seen as central to language learning. The second dimension involves the focus of classroom pedagogic practices, i.e. how new knowledge is best learnt. This is represented by the horizontal axis to consider the extent to which the 'workings' of language are understood through discovery and exploration and the extent to which methods of explicit instruction are seen as critical to making knowledge about language visible.

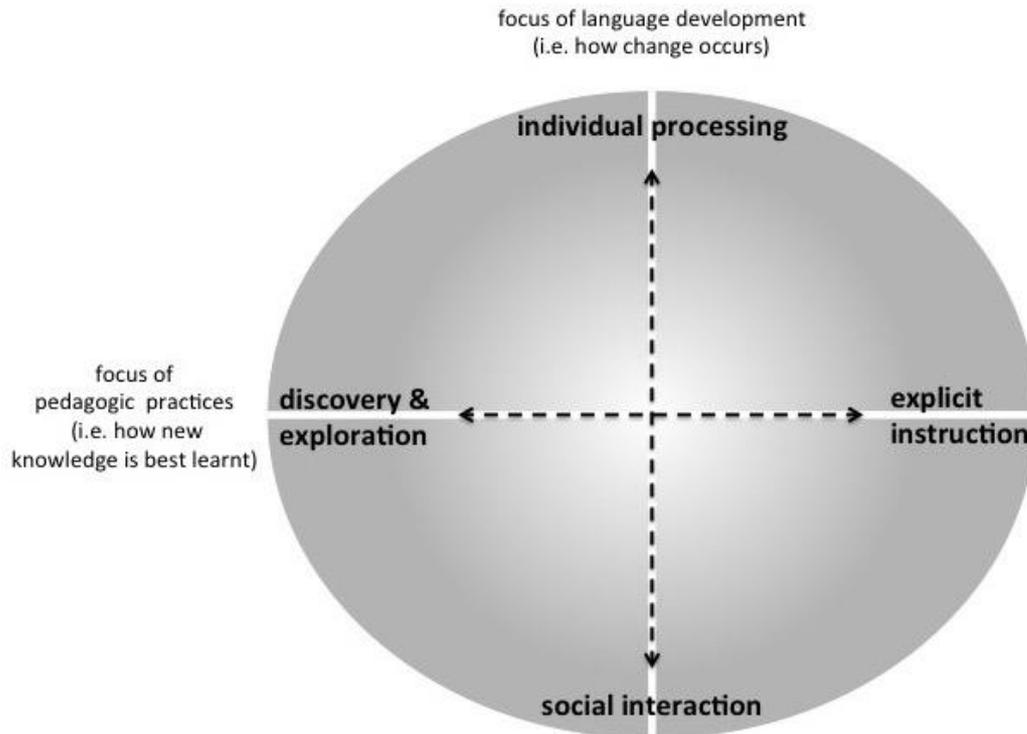


Figure 3: A framework for positioning approaches to language and literacy teaching and learning (adapted from J.R Martin, 1999; J.R Martin, 2006 after Bernstein, 1990)

In this report, the framework above supports a critical review of a range of language teaching and learning approaches that are prominent in the current international literature. As the scope of this study centres on professional learning practices that are informed by socio-cultural and social-semiotic theories, analysis will pay more attention to approaches that place importance on social interaction, i.e. approaches that align with the lower two quadrants. Specifically, our review investigates the research question:

*How does a social-semiotically informed perspective compare to other social-cultural approaches to language teaching and learning?*

To explore this question, we use the two intersecting dimensions of the framework to introduce influential orientations to literacy. By ‘orientation’, we mean a combination of beliefs and values about the process of learning and what constitutes ‘effective’ teaching. Within these orientations, we review

pedagogic approaches to language teaching and learning, i.e. specific classroom methods of instruction.

## **5.1 Prominent orientations to language and literacy teaching and learning**

There are a number of prominent orientations to English language and literacy teaching and learning in international literature with variation in how these practices are compared and labelled. This section uses the introduced framework to briefly outline distinctive pedagogic practices. We mostly draw on the labelling of de Silva Joyce and Feez (2015) to position practices around English language teaching and learning as *learned, coding and skills, individual, situated, and expert guided*. These practices are positioned in the framework in Figure 4. Although practices that privilege social interaction in language development (i.e., lower quadrants) are the focus of this review, others will also be briefly analysed because curriculum documents, such as those of IBO, often feature a number of orientations to language and literacy teaching (see Section 7) as well as number of pedagogic approaches within these orientations.

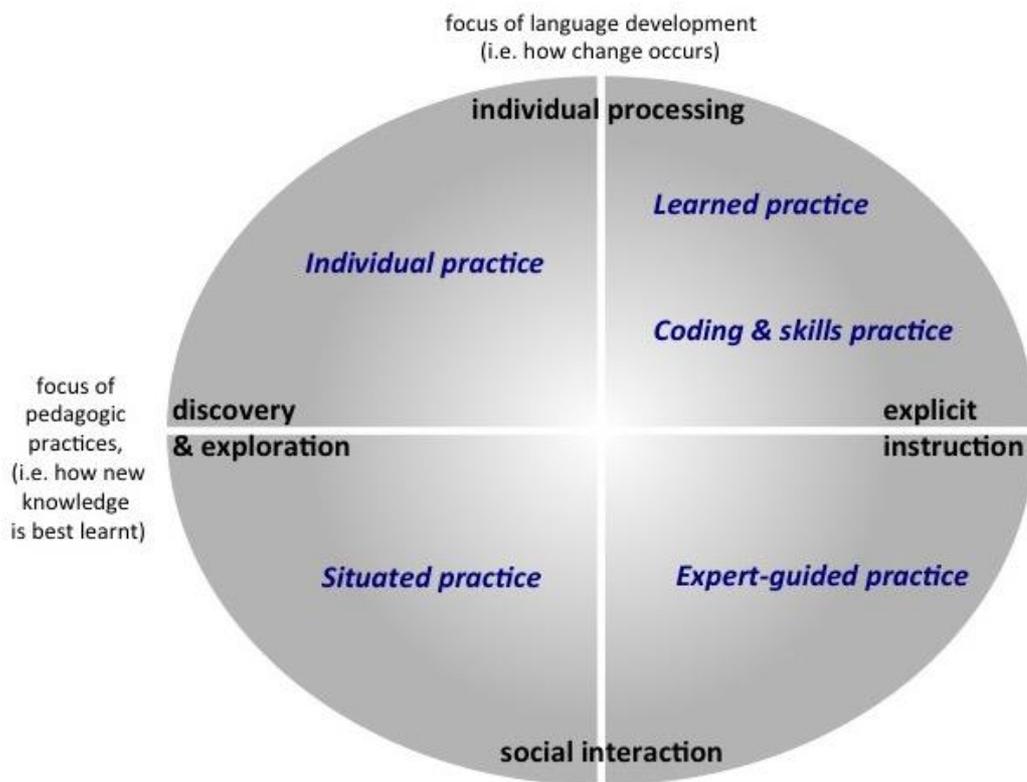


Figure 4: Prominent orientations to English language and literacy teaching and learning

### **5.1.1 Language and literacy teaching and learning as ‘learned practice’**

A view of language and literacy as a *learned practice* was dominant before the mid-1960s. In this orientation, teaching and learning involves ‘the inculcation of received knowledge’ (Atkinson, 2003, p. 8). That is, students are expected to emulate the language patterns of model texts where the language use of esteemed orators and expert writers is set as the idealized standard (Crystal, 2003, p. 192). As Crystal (2003) reflects, this orientation is informed by the classical studies tradition where text analysis is often ‘derived from the study of Latin grammars’ (often referred to as parsing or clause analysis). The constituent features of clauses in Latin and their categorization are directly applied to ‘standard’ English clauses. The choice of texts for both teaching English as a first or additional language is usually restricted to a canon of

classical works from literary, religious, or academic sources (Atkinson, 2003; Crystal, 2003; Warschauer, 2002).

The explicit teaching of correct structures is emphasised because they are regarded as being the key to ‘stable, singular and universal meaning’ (Nystrand, Green, & Weimelt, 1993, p. 276). Writers and readers don’t interact with texts to create multiple subjective interpretations of texts. Instead, objective meaning is seen to lie in the structural features of texts. The reading and analysis of a sequence of texts and repetitive drills to master their constituent structures is seen as an effective method for individual learners to gradually eradicate and avoid errors in their own writing (Nystrand et al., 1993).

This orientation can thus be broadly positioned in the upper right quadrant as privileging individual processing and explicit teaching. It is readily critiqued from a number of perspectives, including the assumptions that are made about the ‘asocial’ nature of language learning (Atkinson, 2003), the choice of ‘ideal’ model texts, and the extent to which grammar translation is an adequate teaching and learning method with which to develop knowledge about the English language.

### ***5.1.2 Language and literacy teaching and learning as a ‘coding and skills practice’***

The view of language and literacy as a *coding and skills practice* also privileges processes of learning within individuals and explicit teaching about language. This orientation is associated with ‘traditional’ pre-20<sup>th</sup> century industrial models of schooling and also with the compartmentalisation of language learning into discrete skills, as particularly dominant in the 1960’s. A central characteristic of this orientation is that modes of language learning (speaking, listening, reading, writing) are not seen as integrated processes. Rather, the reception and production of language can be organised into a hierarchy of structures and skills that students can learn and memorise through a predetermined sequence of drills and engagement with modified texts, such as basal readers (de Silva Joyce & Feez, 2015). When students

have mastered enough skills, they were considered accomplished readers and writers.

A 'coding and skills' orientation is influenced by research in a number of fields, including descriptive linguistics (e.g. Bloomfield, 1914/1933), behavioural psychology (e.g. Skinner, 1974), and cognitive linguistics (e.g. Chomsky, 1968/2006). One particularly influential pedagogic approach that draws on such research is a phonics-based approach. This approach is particularly dominant in the early years of schooling and is concerned with sound–symbol relationships, word analysis, and decoding (Bond & Dykstra, 1967; Kantrowitz & Hammill, 1990). Students 'crack the code' by mastering the letters of the alphabet and the 40+ sounds that those letters represent. Much of the instructional time is devoted to having students 'sound out' words, with letters and sounds a prerequisite to reading words.

A primary criticism of a 'coding and skills' orientation is a privileging of rules and conventions. This is seen to be at the expense of engaging with meanings in continuous text where language choices and text organisation are related to a text's rhetorical purpose (Christie, 2010; Gibbons, 2006; Raimes, 1991). Additionally, students were rarely invited to draw on personal experiences, express opinions, or to select topics for writing.

Nevertheless, contemporary approaches to skills-based approaches have been influenced by large scale reports (Department of Education, Science and Training, 2005; National Institute of Child Health and Human Development, 2000), which reviewed research on instruction in such areas as phonemic awareness, phonics, fluency, vocabulary, and text comprehension. Although criticised widely for their limited definition of reading and the limited scope of research reviewed in these reports, these studies have been celebrated as 'evidence-based' and have greatly informed literacy policy and legislation in English speaking countries, including the *No Child Left Behind Act* (NCLB) in the US. Language and Literacy researchers (e.g. Cambourne, 2008; Eisner, 2005; Ewing, 2006) have voiced concerns that such policies have not advanced literacy education. Instead, such policies have tended to present the teaching of reading in a simplified manner and thereby reduced

the notion of what literacy is. This reductive view is concerning when literacy has become increasingly complex in the digital age of the twenty-first century.

### ***5.1.3 Language and literacy teaching and learning as an 'individual practice'***

A third orientation with a focus on the internal processing of learners sees language and literacy learning as an *individual practice*. Influenced by theories and research in the fields of cognitive psychology and psycholinguistics, this view places considerable importance on the role of learners' prior beliefs and experiences, as well as their problem solving strategies in the process of language learning. However, unlike the 'learned practice' or 'coding and skills' orientation, methods of instruction place far less importance on the explicit teaching of knowledge about language. While the four language cueing systems (graphophonemic, semantic, syntactic, and pragmatic) are used to make sense of unfamiliar text, these cues are not supported with articulated knowledge of these systems. This orientation can thus be positioned in the upper left quadrant of the framework.

Instead of explicit teaching about language, classroom instruction with an 'individual' orientation often emphasises immersion in 'all kinds of texts' (Rosen, 2011). Here an underlying belief tends to be that language is 'more learned than taught' (Walshe, 1981, p. 9) and that children best learn to read and write if they are surrounded with books and given 'fun things to do with books' (Rosen, 2011). From this perspective, classroom learning involves students discovering and exploring language through 'their own questions and observations on the language they use and naturally meet' (Dixon, 1967, p. 78). The emphasis on natural language is evident in the use of more authentic continuous texts rather than the language fragments that are often used in a 'coding and skills' orientation. The role of the teacher is to draw on students' knowledge and interests and to facilitate language knowledge 'at point of need'.

An orientation towards *individual practice* was particularly prevalent from the late 1970s through to the mid 1990s. Pedagogic approaches within this

orientation include 'student-centred' models, such as 'process writing' (Graves, 1985) and 'whole language' (Goodman, 1996). These pedagogic approaches have been critiqued for not allowing a complementary perspective on the individual and social (Christie, 1993). However, more recent representations that view language and literacy learning as 'individual practice', such as 'authentic' approaches (Kalantzis & Cope, 2012), now acknowledge the importance of social interaction in language and learning. They typically provide opportunities for students to work collaboratively in groups to construct texts using their own 'everyday' language and emphasising learner identity and creativity. (See the Section 4 for discussion of divergent readings of Vygotsky in relation to the nature of social interaction in learning.) As with whole language approaches, however, knowledge about language and its relationship to the purpose or registers of texts is not made visible. Instead, more attention is directed toward developing the 'personal voice' of students.

This lack of visibility is of particular concern to educators who seek to reduce the educational inequities that exist between groups of students from diverse linguistic and socio-cultural backgrounds (Delpit, 1986; Freebody et al., 2008; Gibbons, 2009; Kalantzis & Cope, 2012). As Clark (2013) argues, supporting students' written language development through everyday language use fails to recognise that certain patterns of language are privileged by society and culture and that schools have a responsibility to make these patterns visible to students. Similarly, researchers also contest that equitable learning outcomes are difficult to achieve when knowledge about language (KAL), including of grammar, is eschewed from programs, curricular and language education programs. With minimal KAL and little metalanguage for talking about texts with students, it is difficult for teachers to provide students with instruction and feedback that articulates *how* students can improve their work (Christie, 2012).

#### ***5.1.4 Language and literacy teaching and learning as 'situated practice'***

An orientation toward teaching and learning as a *situated practice* shares with *individual practice* a concern with learners' identities and agency in everyday language contexts. However, 'situated' practices are less concerned with individuals' cognitive process and are more concerned with the process of language socialisation, i.e. the communities through which we interactively learn and through which are apprenticed into particular ways of making meaning.

Influenced by the fields of humanist philosophy, sociolinguistics, anthropology, and the sociology of education, a 'situated' orientation recognises that the learner's socio-cultural background, including social interaction in communities, has an important influence on their literacy practices. The 'funds of knowledge' of culturally and linguistically diverse communities can be a significant resource for school learning. 'Situated' literacies also acknowledge and make space for students' existing funds of knowledge and cultural capital in assessment of learning. For example, students may create digital movies as responses to literature in preference to writing extended texts. Such pedagogic choices tend to privilege learners' initiative and exploration of language over explicit instruction. A 'situated' orientation can therefore be broadly positioned in the lower left quadrant of the framework.

As with an 'individual' orientation, 'situated' practices have been critiqued as potentially limiting the access of some groups of students to the ways of using language that continue to be valued in 'high stakes' assessments of curriculum learning (Freebody et al., 2008; J.R Martin, 2013; Maton, 2013). Without explicit guidance and practice in creating valued written texts, marginalised groups of students may face additional challenges in meeting the expectations of schooling.

Nevertheless, the concern of 'situated' literacies with empowering students who are marginalised in mainstream education foregrounds a critical literacy perspective (Comber, 2012). A focus on critical analysis in classroom practices typically uses reading and deconstruction to consider issues related to agency and power dynamics. In both reading and writing, the teacher plays a facilitating role to guide students towards insights about texts with attention

to context rather than overt instruction of compositional features. However, many critical literacy educators both in Australia and internationally draw on understandings of text from rhetorical theories and from social-semiotic theories of systemic functional linguistics (SFL) to invigorate critical literacies (Morgan & Ramanathan, 2005, p. 158), i.e. they share knowledge about language with students to investigate the positioning and stances within texts.

### ***5.1.5 Language and literacy teaching and learning as ‘expert-guided practice’***

In response to concerns about equity and visibility an ‘expert-guided’ orientation to language and literacy practices emerged in the late 1980’s and early 1990’s. This orientation privileges both social interaction in learning and explicit teaching about language. It can thus be positioned in the lower right quadrant of the framework. Like a ‘situated’ orientation, learning is seen ‘as a form of participation’ where the teacher takes a guiding role (Achugar, 2015, p. 1). However, in an ‘expert-guided’ orientation, social interaction amongst learners is not regarded as sufficient for language development: the interaction with language experts is seen as crucial to extending students’ existing knowledge, including learning how whole texts and their constituent features achieve different social functions. This orientation is influenced by theories and research in social and educational psychology, sociolinguistics, the sociology of education and social-semiotics (See discussion in Martin, 1999; Martin, 2009).

An orientation to language and literacy learning as *expert-guided practice* is often associated with a pedagogic approach known as ‘direct instruction’. In recent years, direct instruction, with its origins in the 1970s, has regained prominence in the research literature with a growing body of research findings pointing to the significant positive impact of this approach on student learning (e.g. Adams & Engemann, 1996; Carnine, Silbert, Kame'enui, & Tarver, 2009; Engemann & Bruner, 1969; Hattie, 2009, 2012; Rosenshine, 2008; Rosenshine & Stevens, 1986; Slocum, 2004). Because early methods of explicit or ‘direct’ teaching applied techniques derived from behavioural

psychology, including scripted lesson plans and repetitive drills, this approach is understood by many educators to refer to didactic teacher-centred approaches that take no account of student needs or interests. The term 'direct instruction', however, is also used to refer to instructional patterns where teacher take a leading role in guiding students' language learning. Referred to as 'visible teaching' by Hattie (2009), these practices involve a number of principles that are related to successful teaching and learning outcomes. These principles are described by Rosenshine and Stephens (1986) as a 'pattern' of critical planning, delivery, and assessment. Hattie recasts these principles as seven instructional steps, briefly outlined below.

#### **5.1.5.1 The seven-step direct instruction pattern**

As a *first* step, the teacher clarifies and states explicitly the learning intentions of the proposed teaching sequence, i.e. what each student should be able to do or understand as a result of the teaching. In their adaptation of this first instructional step for language and literacy pedagogy, de Silva Joyce and Feez (2012, p. 65–66) incorporate the teacher's analysis of student language learning needs, including an analysis of what students already know and can do, and what they should know and be able to do with language by the end of the teaching sequence. The *second* step requires the teacher to state explicitly the success criteria and to inform students of the expected performance standard at the conclusion of each element of the teaching sequence, whether a lesson or activity. As a *third* step, the teacher engages the students in the learning activity so that they come to share the teacher's commitment to their achievement of the target learning intentions, success criteria, and expected standards. The *fourth* step involves implementing an explicit, planned procedure to present the knowledge students need for success, to monitor student progress, and to check for understanding. In the *fifth* step, students have multiple opportunities to practise new knowledge, with the teacher providing guidance, support, and feedback as needed. In the *sixth* step, what has been taught and practised is reviewed and consolidated so the students are left with a 'coherent picture' and a reinforcement of the major points. As the *seventh*, and final, step, the students undertake

independent work to display their ‘mastery’ of what has been taught, perhaps in different contexts.

In addition to evidence of improved student learning outcomes, patterns of direct instruction have the powerful advantage of supporting collaboration. Their explicit nature means that both knowledge and methods for sharing knowledge with students can be discussed and debated with others, enabling teachers to collaborate in both program planning and evaluation (Hattie, 2012). This pedagogic approach is thus of particular interest to teacher professional learning where collaboration has been identified as to crucial success (see Section 8).

#### **5.1.5.2 Text-based approaches**

The principles of direct instruction are evident in text-based approaches to language and literacy learning. The distinctive feature of text-based approaches is that they are oriented towards expanding the repertoire of semiotic choices available to marginalised groups, thus opening up access to discourses of power. A key criterion of choosing texts is that they should be challenging for students and made accessible through supportive teaching and learning sequences (Rose, 2005).

In Australia, the most influential text-based approach is called ‘genre-based’ pedagogy. It includes explicit teaching of the structure and linguistic features of a range of text types or genres, with instruction oriented towards achieving broader social, including curricula, goals. (See Section 8.4 for an overview of the stages of instruction.) Early work by text-based educational linguists identified a number of key ‘factual’ genres for accessing learning across the curriculum (Callaghan & Rothery, 1988). These included narratives, recounts, reports, explanations, expositions, and discussions. This work has expanded to include genre families and ‘macro-genres’ (J.R Martin & Rose, 2008). Teachers have also drawn on descriptions of a range of multimodal texts in print and digital media to support students to expand their multiliteracies repertoires (Callow, 2013; Painter, Martin, & Unsworth, 2013; Unsworth & Thomas, 2014). In recent years, a particular text-based approach, known as

Reading to Learn (R2L), has been developed to foreground support for students to read challenging, age-appropriate texts (Rose, 2005; Rose & Martin, 2012).

Text-based approaches do not always foregrounded the often complex and problematic relationship between texts and their contexts and as a result have been critiqued as reductive by critical literacy educators. Kamler (1994) for example, drew attention to such practices through evidence of a teacher's use as a model of a procedural text which instructed readers how to turn 'Girls into Concrete'. In some cases, attempts to make the linguistic patterns of texts accessible to teachers have led to oversimplified models of genre structures that do not leave open the possibility of innovation in response to particular contextual opportunities and constraints. Although text-based educators do acknowledge the need to make more visible the reflective elements of genre pedagogy (Hasan, 1996), a fundamental principle of text-based approaches is that critiquing and transforming discourses of power depends firstly on making their language patterns visible (Macken-Horarik, 1996).

Text-based approaches have impacted English language and literacy policy at national or state level in a number of countries, including Australia (Feez, 1998; Rose & Martin, 2012); Indonesia (Emilia, 2010); and Great Britain (U. Clark, 2014; MacMahon, 2014; Walsh, 2006). They are also increasingly prominent in monolingual, multilingual, and foreign language policy, research and practice in the US (Achugar & Schleppegrell, 2005; Achugar, Schleppegrell, & Oteíza, 2007; Brisk, 2012; de Oliveira, 2008; Gebhard & Harman, 2011); Europe (TeL4ELE, 2013); China and Hong Kong (Polias & Forey, forthcoming); South Africa (Kerfoot & Van Heerden, forthcoming); Canada (Mohan, Leung, & Davison, 2001); and within South America (Oteíza, 2003). This geographical reach and the breadth of pedagogies developed attest to the evolving design of SFL-informed models in response to particular contextual constraints and opportunities. The flexibility and depth of the informing theories is thus particularly relevant to the diverse teaching and learning in IBO's global programmes (See discussion and analyses in Sections 6 and 7).

## 5.2 Summary

Section 5 of this report has introduced a framework with which to review dominant orientations to English language and literacy teaching and learning. These orientations are relevant to teacher professional learning about language as they involve underlying beliefs and assumptions about the ideal focus of language development and classroom pedagogic practices. The dominant orientations of *learned practice*, *coding and skills practice*, *individual practice*, *situated practice* and *expert-guided practice* are summarised in Figure 5 below.

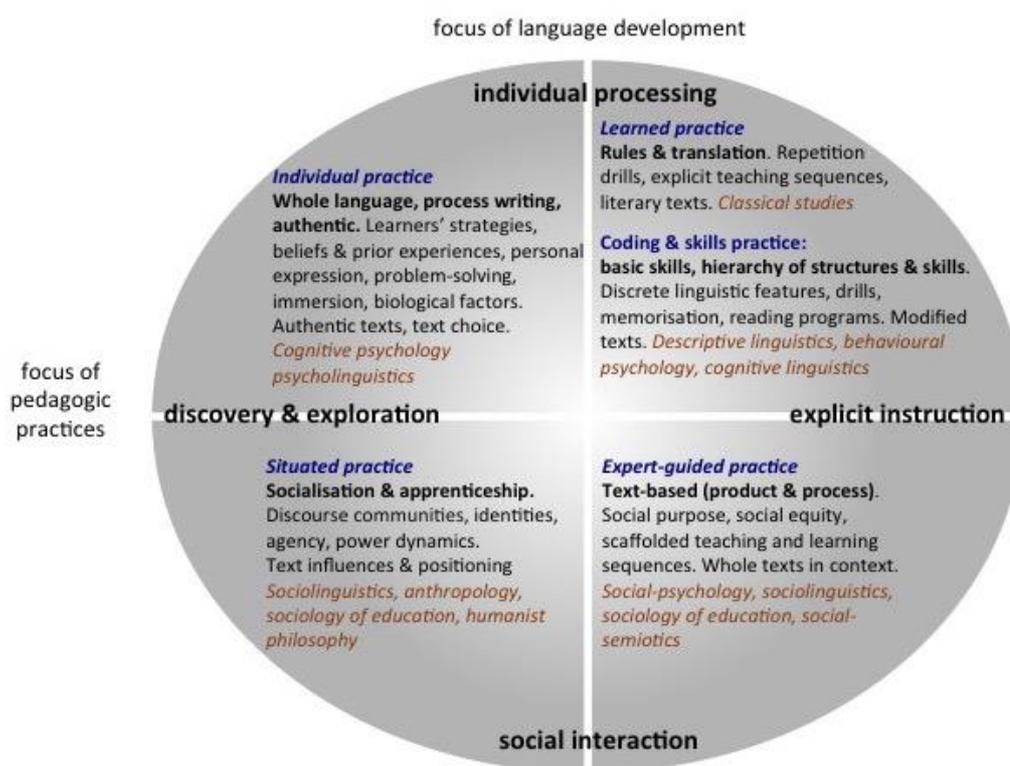


Figure 5: Summary of orientations to language and literacy learning

While a range of orientations have been reviewed, the primary purpose of Section 4 has been to identify how social-semiotically informed perspectives compare to other social-cultural approaches to language teaching and learning. Analyses and discussion have shown how perspectives that draw on

social-semiotic theories of language and language development privilege both social interaction and methods of explicit instruction in teaching and learning language. In particular, teaching students new knowledge about language through expert-student interaction is seen as crucial to language development.

The social-semiotic theory of SFL is different from broader socio-cultural theorisation in that it offers an in-depth theorisation of the nature of language in relation to situations of use. While other socio-cultural theories are concerned with the complex configuration and dimensions of social activity, SFL contributes to identifying and understanding how people use specific semiotic resources for particular social purposes. The pedagogic practices that draw on SFL theories aim to build knowledge about language with students in order to demystify valued patterns of language use (J.R. Martin, 2009). Researchers and educators who work within this orientation to language and literacy are motivated by the goal of more equitable student learning outcomes.

While each of the orientations that have been foregrounded in literacy policy and practice at different times in the mid 1990s, it has been increasingly common to find programs informed by all four perspectives. While this may seem to be an effective compromise, it has meant different things to different people with the result that teachers are often presented with a smorgasbord of under-specified and under-theorised practices. The following two sections consider IBO's language teaching and learning contexts and analyse evidence of language and literacy orientations in IB's curricula documents.

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## 6. IBO'S language teaching and learning contexts

In terms of teaching and learning contexts, so far this report has discussed broad global issues that impact English language education. This section now turns to language teaching and learning in IB contexts. It investigates the question of

*What trends and pressures are particularly relevant to English language education in IB programmes and how is IB responding?*

While Section 7 examines IBO curricula documents more closely, here we briefly examine trends related to international education, global and local pressures of hosting IB programmes, and policies about multilingualism.

### 6.1 The rise of international education

Sites of international education are involved in processes of globalisation through their role in the development of knowledge economies (Coulby & Zambeta, 2005). Although international schools originally served 'globally mobile expatriates' (Hayden, 2011, p. 211) and are still attractive for the 'continuity' that their education services provide (Kenway & Fahey, 2014), in recent years their significant and ongoing expansion has been related to broader demands. Researchers report, for instance, that international education is becoming increasingly attractive for parents who see programmes, such as those offered by the International Baccalaureate Organisation, as providing a competitive edge in a globalised market (Bates, 2011; Hayden, 2011; Lowe, 2000). Similarly, schools that have adopted such programmes are motivated by a range of factors, including the desire to gain a better market position (Hara, 2014).

These increased demands are producing startling growth statistics. The number of IB programmes that have been adopted by schools increased 400% between 1999 and 2010 (Lee, Hallinger, & Walker, 2012). With growth doubling every five years, the number of schools with IB programmes is

expected to reach approximately 10,000 by 2020 (Bunnell, 2011). This growth is accompanied by a number of global and local pressures as outlined below.

## **6.2 Global and local pressures in schools with IB programmes**

Schools that host IB programmes must manage a range of pressures from within their local context and from their global affiliation to an international education provider. As Lee and colleagues (2012) report, programme hosts face complex demands in relation to complying to both their host country's laws, policies, and curriculum standards, as well as the educational goals and processes across IB's three-tiered framework. At a local level, high rates of staff turn over, student mobility, the cultural diversity of staff and students, and managing parents' expectations of the curriculum are amongst the challenging features of leadership in international schools (Blandford & Shaw, 2001; Lee et al., 2012). All of these challenges have, to varying degrees, implications for the coherence and continuity of language education. In this report, the challenges related to high staff turn over are of particular concern to professional learning that aims to build knowledge about language in communities of teachers. The design of professional learning in IB contexts, therefore, needs to consider research about the importance of distributed leadership where professional learning experiences are structured towards long-term and sustainable knowledge building in communities of teachers (see Section 8.4).

A further local issue with global ramifications relates to social equality and access to international programmes. While sites of international education have broad appeal as a 'transnational space of education', they have been strongly critiqued for their role in perpetuating 'pre-existing relations of social privilege' in local contexts, rather than changing them (Waters & Brooks, 2011, p. 158). International schools have, for instance, been charged with catering to 'affluent host country nationals' (Hayden, 2011, p. 220) who constitute a 'local elite' (Resnik, 2008). These assessments draw attention to *who* has access to IB programmes within the countries in which programmes

are located. Recent reviews (e.g., Kenway & Fahey, 2014), context-specific studies (e.g., Smerdon, Lee, Eden, & Rodriguez De Gil, 2011), and longitudinal analyses of student participation (e.g., May & Perna, 2011) have highlighted how the language/s of instruction contribute to restricting who can undertake and successfully complete an IB programme. Thus, while IBO has a '*strategic goal*' to '*broaden access to its programmes*' (PYP1, 2009, see Table 3 for reference; PYP5, 2009) schools' language policies influence their decisions about language and teaching in a multilingual context (<http://ibo.org/globalassets/publications/ib-research/languagepolicyfullreport.pdf>). This report will review professional learning studies (see Section 8.5) where explicit teaching and learning about language is seen as critical to giving linguistically and culturally diverse students access to powerful discourses.

### **6.3 The multilingual 'norm'**

In response to the global realities of transnational education and the linguistic diversity of local contexts, IBO has embraced multilingualism as 'the norm' in its classrooms (G1 2012 see below for reference). Many definitions are brought to the term *multilingualism* depending on the disciplinary perspectives through which multilingualism is studied (Cenoz, 2013). The construct of multilingualism may also be differentiated from or subsume bilingualism. A 'well-known' general definition is given by the European Commission (2007) where multilingualism is defined as "*the ability of societies, institutions, groups and individuals to engage, on a regular basis, with more than one language in their day-to-day lives*" (Cenoz, 2013, p. 5). In the context of school learning, IBO's focus on multilingualism acknowledges the range of languages that students individually and collectively bring to the classroom, and these are seen as a resource rather than a hindrance to learning in the language of instruction (Singh & Qi, 2013).

IBO's stance towards multilingual teaching and learning aligns with a prevalent view of multilingualism as desirable and advantageous for economic and academic success (Fee et al., 2014). As is evident in the Language

Scope and Sequence document, multilingualism is associated particularly with ‘international-mindedness’:

*In PYP schools all students have the opportunity to learn more than one language from at least the age of 7. Every learner benefits from having access to different languages, and, through that access, to different cultures and perspectives. Acquisition of more than one language enriches personal development and helps facilitate international-mindedness (p. 1).*

This quality or attitude of ‘international-mindedness’ is further characterized as involving ‘global engagement’, ‘multilingualism’, and ‘intercultural understanding’ (PYP2, 2013, see Table 3 for reference). Thus, as Singh and Qi (2013) argue, the learning of more than one language in IB programmes is seen as central to (but not the only means of) connecting education with developing students’ awareness and knowledge of other cultures. While this report does not specifically investigate international-mindedness, it has reviewed literature (see Section 8.5) where language and literacy practices aim to build students’ critical awareness of language and thereby support students to develop a deeper understanding of how language functions in society.

## **6.4 Classroom multilingual practices**

In relation to ‘enacting’ the value of multilingualism, IBO does not appear to make specifications about how one or more languages should be used in the classroom. There appears to be, for instance, no specifications concerning ‘best multilingual practices’. Socio-linguistic constructs such as ‘code-switching’ (Blom & Gumperz, 1972), ‘code-mixing’ (King, 2006; Sridhar & Sridhar, 1980), and, more recently, ‘translanguaging’ (Creese & Blackledge, 2010; García & Wei, 2013; C. Williams, 2002) are not discussed in terms of the timing and extent to which they should or shouldn’t be used in language teaching. Instead, IBO provides practical procedures for how schools can create their own language policies (G22, 2008, see Table 3 for reference). In other words, schools create policies that are suited to their local contexts and

that still incorporate the broad values associated with multilingualism in teaching and learning.

The IBO language guidelines are an example of how a *'global commodity'* is subject to *'localised interpretations'* (Doherty, 2012). As much research has highlighted, the local interpretation and implementation of language policies is often fraught with sensitive and contested political issues concerning the use of dominant and minority languages (Cenoz, 2013, 2015). These socio-political factors may pose further challenges for schools as they seek to enact IB's value of multilingualism in concrete classroom practices. In their investigation of IBO's language policies in host institutions, Fee and colleagues (2014) note that some teachers feel unsure about how to manage the language/s of instruction while validating students' mother tongues. They also note that a school's approach to language policy 'often reflected the ways in which they understood "language" within their particular context' (Fee, et al., 2014, p. 2). These observations invite further consideration of how language is conceptualised in the IB curriculum (see the analysis in following sections) and how 'international-mindedness' manifests as actual language teaching and learning practices. It may be that it is not the use or not of mother tongue that is at issue but that the registers students bring to the classroom may not allow them to access powerful literacies for learning. As Llinares (2015) observes, students for whom English is an additional language need control of linguistics resources in both their L1 and L2 in order to participate in the genres and registers of schooling.

In terms of classroom activity, a multilingual focus arguably includes exploring 'the interaction among languages' (Cenoz & Gorter, 2011, p. 360). In the field of applied linguistics, a growing body of research is exploring 'cross-linguistic' transfer in language teaching and learning. One notable finding in socio-cognitive research is that students can apply a general writing strategy, which has been taught in one language, to similar texts in other languages (Cenoz & Gorter, 2011; Soltero-González, Escamilla, & Hopewell, 2012). Researchers suggest that effective language teaching in multilingual contexts could involve practising and reinforcing the same strategy in other languages, without

having to re-introduce it again (Cenoz & Gorter, 2011, 2013). This socio-cognitive research, however, does not take into account the particular genre and register configurations of the target language in its consideration of 'similar texts'. Thus, transferring strategies may be limited or even problematic without explicit attention to the patterns of discourse that construct target texts.

The findings about 'cross-linguistic transfer' raise an organisational issue of how to coordinate teaching and learning so that understandings can be supported and developed across the curriculum. For instance, Cenoz and Gorter (2013, p. 587) argue that there is a need for 'creating integrated syllabi for language teachers so that there is coordination between the teachers of English and other languages'. For example, they could all work with the same type of text or grammatical structure, etc. However, such a proposal is not just a matter of organisation and curriculum design. Rather, it involves the central issue of what understandings are relevant to learning multiple languages.

From a social-semiotic point of view, the concept of 'cross-linguistic' knowledge implicates a theoretical question about understandings of text and context relationships. If language teaching and learning aims to create understandings that are relevant to more than one language and more than one curriculum area, then a framework that can systematically account for language variation is needed. Research in the tradition of Systemic Functional Linguistics has long explored texts and language features that are distinctive and/or shared across disciplines (e.g., Christie, 2005, 2012; Christie & Derewianka, 2008; Christie & Martin, 2007; Derewianka, 2015). A focus on the social function of language has also extended to research in languages other than English (e.g., Caffarel-Cayron, 2006; Quiroz-Olivares, 2011; Teruya, 2007). While such research has not had a purely multilingual focus, many SFL researchers are interested in how functional knowledge about language inform the development of deep knowledge about language with teachers and students. Literature concerned with the professional learning of elementary school teachers and the language development of their students is reviewed in Section 8.5.

## 6.5 Summary

This section has considered trends and pressures that are particularly relevant to IB teaching and learning contexts. In particular, it has discussed the global mobility of English language learners and how this trend contributes to both local and global pressures related implementing IBO language policies. Additionally, the concept of multilingualism has been discussed in relation to the culturally and linguistically diverse students who study in IB programmes. An initial survey of IB language policies has found that multilingualism is connected to specific attitudes and attributes of IB students. However, enacting the values that are associated with multilingualism in classroom practices is far less defined. Research from different theoretical perspectives has begun to point to the type of writing strategies, teacher-to-teacher collaboration, and understandings of texts in context that may support some of the pedagogic goals of multilingual teaching and learning contexts. The following section now examines IB curricula documents more closely.

## 6.6 References

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## 7. Language practices and theoretical influences in IBO's curriculum

While the previous section discussed IBO's general stance towards multilingualism, this section investigates how IBO curricula documents relate to language teaching and learning practices in PYP programmes. It addresses the research question of

*How do socio-cultural theories, including social-semiotic research, inform IBO's current curricula documents about language teaching and learning?*

The curricula documents including General and PYP framework are reviewed in this section are listed below in Table 3. Relevant Diploma Programme (DP) documents have also been reviewed as they contribute to understanding the conceptualisation of language teaching and learning.

<b>IBO curricula documents related to language teaching and learning</b>		
<b>Structural code</b>	<b>IB Document name</b>	<b>Year</b>
<b>General</b>		
G1, 2012	Language and learning in IB programmes	2012
G2, 2008	Guidelines for developing a school language policy (not in this section)	2008
<b>Primary Years Programme</b>		
PYP1, 2009	Language scope and sequence	2009
PYP2, 2013	History of the Primary Years Programme (not in this section)	2013
PYP3, 2009	Making the PYP happen: A curriculum framework for international primary education	2009
PYP4, 2010	The Primary Years Programme as a model of transdisciplinary learning	2010
PYP5, 2007	Making the PYP happen: Pedagogical leadership in a PYP school	2007

<b>Diploma Programme</b>		
DP1, 2013	Thinking skills in <i>Approaches to teaching and learning in the Diploma Programme</i>	2013
DP2, 2013	Reflection tool in <i>Approaches to teaching and learning in the Diploma Programme</i>	2013
DP3, 2013	Pedagogical leadership in <i>Approaches to teaching and learning in the Diploma Programme</i>	2013

Table 3: Selected IBO curricula documents related to language teaching and learning

The analysis begins by considering the theories about language development that appear to influence the language curriculum. Like the framework of Section 5, a distinction is made between language development theories that privilege social interaction and theories that privilege individual cognition. Analysis then focuses on the conceptualisation of language and how this relates to student learning outcomes. This is followed by an examination of specific teaching and learning practices. Again, the theoretical framework of Section 5 is used to consider the extent to which student discovery and exploration is privileged over pedagogic practices that place a greater degree of importance on explicit instruction in language teaching and learning. Finally, assessment practices are reviewed in relation to the development of teachers' and students' knowledge about language.

The forthcoming overview of IBO PYP framework is important to positioning current IB teaching and learning practices in relation to broader literature. The analyses forms a point of reference for professional learning that aligns with IBO's current values, as well as suggestions about areas that can be targeted in professional learning.

## **7.1 IB's theoretical influences related to language development**

Theories and research that privilege both social interaction and individual cognition are evident in descriptions and statements about the nature of

language development. In terms of the role of social interaction in learning, social-semiotic theories are prominent. In particular, there are direct references to Halliday's conceptualisation of language development, i.e. the simultaneous learning of language and learning through language (G1 2012). Social-semiotic influences are also visible in learning outcomes that emphasise student understanding of different target audiences and contexts, as well as the purpose and function of texts (PYP1, 2009). Additionally broader socio-cultural influences are evident in references to Vygotsky's general development theory, including the concept of the Zone of Proximal Development (G1 2012) where importance is placed on social interaction and the symbolic role of language (see previous discussion in Section 4).

Theories that place importance on individual cognition in language development are also evident. In particular, there is frequent reference to the importance of students' prior knowledge, as well as the process of learning involving changes to mental models and perceptions. Here theorists such as Piaget, Dewey, Bruner, Gardner, Krashen, and Cummins are referenced (PYP3, 2009; PYP4, 2010; G1 2012). The 'individual' dimension of language development is also visible in learning outcomes that describe 'conveying', rather than constructing meaning (PYP1, 2009) and also in the discussion about the broader value and relevance of metacognition in learning (G1 2012; DP1, 2013). Overall, language development is theorised as both social and mental activity. These dual theoretical orientations have implications for the 'what' and 'how' of language teaching and assessment.

### ***7.1.1 The what: IB's written curriculum and the principles that underpin knowledge about language***

Language is seen as relevant to learning in all subject areas and related to all of the core concepts in IB's concept driven framework (PYP3, 2009). The core concepts that are specified, such as *form, function, causation, change, connection, perspective, responsibility, and reflection* represent broad dimensions of reality (or 'powerful ideas') that can be explored in classroom teaching and learning (PYP3, 2009). The concepts are represented in the

form of key questions for teachers and students and thereby align with IB's strong endorsement of inquiry-based teaching and learning approaches (PYP3, 2009; PYP1, 2009).

As phenomena that are not bound to a discipline, field, or connected to other theoretical constructs, these concepts have the advantage of being relevant to wide-ranging subject matter and teaching and learning practices. The adaptability of concepts is important to IB's pedagogic focus on transdisciplinary themes that aim to 'transcend the confines of subject areas' (PYP4, 2010, p. 15). The flexible application of concepts is also essential to IB diverse teaching and learning contexts. However, the nature of language and language-related constructs is not clearly defined, and this poses challenges for implementing language policies as the forthcoming analysis discusses.

In terms of conceptualising the phenomena of language itself, the core concepts are explicitly related to a 'language perspective' (e.g., in PYP3, 2009, pp. 75–76). However, analysis of the documents does not reveal an overall theory of language use that defines the concepts or relates the concepts to each other. The concept of 'form', for example, is loosely related to mode (in particular, spoken, written, and visual modes), and it is also related to the components of a text, such as 'parts of a book'. There appears to be no clear theorisation of how different dimensions of language, such as 'form', may relate to each other, nor how language forms relate to other concepts such as 'function', 'causation', or 'perspective'. In this sense, the concepts are connected more as important abstract ideas that are relevant to a range of fields, and less as language concepts in a theorisation of language itself. Therefore, it appears that although the IB curriculum is clearly (though not exclusively) aligned to Halliday's social-semiotic orientation to language development, there is little evidence of a theoretical framework to conceptualise and connect patterns of meaning in texts and relate clusters of language choices to the social situations in which they are constructed. Put simply, there is alignment in terms of SFL's theory of language development, but little evidence of SFL's theory of language. IBO's current language framework could be elaborated to include theories like SFL's

conceptualisation of register where language choices are systematised. Such theory may support teachers to identify and connect the language features they want their students to develop.

Further analyses of IB's central language policy document, *Language and learning in IB programmes* (G1 2012), reveals an explicit framework for conceptualising the complex role of language in learning. Again, Halliday's three simultaneous dimensions of *learning language*, *learning through language*, and *learning about language* are referenced in relation to language development. Additionally, a number of facets or 'domains' of language learning are connected to language development, including *discrete skills*, *basic interpersonal communicative skills*, *literacy and the art of language*, *cognitive academic language proficiency*, *literary analysis*, and *critical literacy* (see G1 2012, pp. 21–27). In relation to the theoretical framework of Section 5 these domains appear to represent a full spectrum of teaching and learning practices. That is, they occupy all four quadrants of the framework as discussed in Section 5. However, as in other documents, there is no explicit theoretical framework outlined for the nature of language itself.

The absence of a theoretical framework for conceptualising language use has implications for *which* patterns of language use are identified in language learning outcomes and *how* they are described. IB's current *Language scope and sequence* (PYP1, 2009) document frequently identifies text patterns at a genre level (e.g., *story*, *report*) and at register level (e.g., the social functions of *persuading* and *informing*). Additionally, the grammatical forms and rhetorical choices at the level of sentence and word choices are prominent (e.g., *simple sentence structures*, *grammar constructs*, *simile*, *alliteration*, *idiom*, etc.). However, terms that describe patterns of language use across sentences (e.g., *logical sequence*, *supporting details*) are fewer. This disparity may be an indication that individual instances in texts are given more attention than the flow of meanings across texts.

The absence of a language framework also contributes to variation with regards to the terminology that is used to describe similar language constructs. For example, linguistic and literary features are not distinguished

in the terminology used to describe 'story parts' or 'elements'. These include *beginning, middle, end* (PYP1, 2009, p. 21) as well as *setting, plot, characters, and theme* (p. 17, 22). As the theoretical origins overlap or differences in such terms are not elaborated or exemplified, such terminology may be open to broad interpretation.

### ***7.1.2 The how: IB's taught curriculum and the principles that underpin best teaching and learning practices***

IB firmly advocates an 'inquiry-based' pedagogic approach to teaching and learning in the primary years. This approach emphasises students' unique and active involvement in learning where prior knowledge is a 'starting point' for development (PYP1, 2009, p. 2). The teacher's role in the learning process is most frequently described with terms such as *guide, coach, and facilitator* (PYP4, 2010; PYP3, 2009). The classroom activity of teachers is described as providing 'opportunities' for student learning (PYP1, 2009) and as important in the management of the learning space, such as organising configurations of student activity (PYP4, 2010). Such descriptions reflect an 'individual' orientation to language literacy practices (as discussed in Section 4), where individual cognition and student exploration and discovery tend to be privileged in classroom activity.

Pedagogic models where teachers explicitly teach language seem to be treated with caution. When mentioned, explicit teaching is related to a limited range of subject matter and teaching practices. For instance, *The PYP as a model of transdisciplinary learning* document (PYP4, 2010, p.17) mentions methods of explicit teaching in relation to students learning of 'procedural knowledge' and in classroom activities where teachers 'share student work'.

While an 'individual' orientation appears to be dominant, there is also an emphasis on learning through collaboration. The importance of collaborative classroom activity is elaborated through the identification and discussion of configurations of participants in the classroom, for example, student activity in small groups, pair work, and whole class discussions (PYP4, 2010; DP2, 2013). This concern with the organisation and structuring of participants in

learning is shared in a 'situated' orientation to literacy practices, as reviewed in Section 4. The centrality of interactive collaboration may also be implicit in the discussion of pedagogical leadership where teacher activity is described as supporting the skill development of students from initial steps of 'noticing' toward 'self regulation' (DP3, 2013)

In terms of specific classroom activities, curriculum documents introduce a 'common pedagogy for language learning' (G1, 2012, p. 28–31). This model consists of 'four dimensions of teaching': *activating prior understanding and building background knowledge, scaffolding learning, extending language, and affirming identity*. These dimensions encompass a range of complementary orientations to language and literacy drawing on the notions of scaffolding and social learning.

While the common pedagogic model aims to provide broad guidance for schools to construct their individual language policies (Fee, et al., 2014), there appears to be minimal elaboration related to sequencing and enacting of literacy support in the classroom. For example, although the value of classroom activity which involves collaboration and the 'negotiating new meanings' (PYP1, 2009, p. 2) is overtly stated, there is no further specification of literacy practices to achieve these principles. Instead, there is greater emphasis on *how* teachers should generally align their decision-making to student-centred inquiry. More specific methods to enact and sequence literacy support within the inquiry-based learning framework, as well as creating a balance between individual, group and teacher-led learning experiences, seem to be the prerogative of teachers.

### ***7.1.3 The how do we know: IB's assessed curriculum and principles that underpin the assessment of students' use and development of language***

A number of assessment strategies and assessment tools are specified in the PYP framework (see PYP3, 2009, p. 48–49). Teachers are encouraged to use 'a range' (PYP, 5, 2007, p. 16) of the listed strategies and tools. The key

underlying principle is the use of assessment as a form of feedback (PYP3, 2009, p. 13). The informing function of assessment is one that is shared between students, as well as the teacher and students. This dual responsibility and role of assessment is evident in documents, such as the Reflection Tool, where teachers consider a range of approaches, including *individual feedback* to students, *peer feedback*, *evidence-based feedback*, and *opportunities for students to reflect on the assessment of their work*.

Another aspect of assessment that is particularly relevant to language learning is the expectation that teachers help students to understand the criteria for assessment (DP2, 2013). A central issue related to this expectation is how assessment criteria make visible and inform students of the patterns of meaning that are valued in different kinds of assessment tasks. Put another way, if a prominent learning outcome across IB's development phases is related to students' awareness of a text's function, context, and audience (*Language scope and sequence*), then teachers and students need a shared metalanguage to talk about and reflect upon the features of texts. While the PYP framework articulates the value of thinking skills and metacognition in learning (PYP3, 2009) as yet, these aspects of student development do not appear to be explicitly related to linguistic awareness. In particular, there is currently no mention of the potential role of classroom talk and reflection about language (i.e., metalanguage) in feedback and assessment practices.

## **7.2 Summary of IBO curriculum documents**

The analysis of curriculum documents has focused on how socio-cultural theories inform IB's current curricula documents about language teaching and learning. There are several findings that are relevant to professional learning. First, there appears to be no evidence of an overarching theoretical framework to identify and connect different language concepts. This means that language outcomes are presented as lists of language constructs. While these constructs gradually increase in their demands and complexity as learners progress, there is no clear relationship between each construct. As de Silva Joyce and Feez (2015, p. 112) warn, researchers and practitioners

can therefore be left with 'unstable inventories of items that are extremely challenging to relate and unify'.

Without a language framework to identify, exemplify, and connect patterns of meaning, teachers may draw on their individual, rather than collective, knowledge about language. While varied interpretations of language constructs may be desired and seen as inclusive, large-scale analyses of educational change have shown that a 'common vocabulary' is essential to collaboration within and across school communities (Kania & Kramer, 2011). As collaborative planning between teachers is expected (PYP3, 2009), there is a strong argument for ongoing professional learning that includes a focus on teachers extending their own and their community's existing knowledge about language. Such knowledge can then be shared with monolingual and multilingual students for the benefit of their language development, as the studies reviewed in Section 8.5 discuss.

The second finding relates to pedagogic models for literacy practices. It is currently difficult to identify how specific teaching practices (beyond changes to the configuration of learner groups) are expected to change as the teacher role and/or learning goals shift. For example, is classroom activity to negotiate meaning seen to involve or preclude explicit instruction? Apart from striving for a balance of activity types, what activities best meet particular learning goals? Given that reflection in both teaching and learning practices is a core feature of the PYP framework, there is the potential to identify and critique the value of specific models of instruction (i.e., sequences of classroom activity around language learning) in relation to particular literacy learning goals.

The third finding relates to planning and implementing the assessment of language. Currently, there is no emphasis placed on developing and using a shared metalanguage with which teacher and students can identify and talk about specific language choices. In light of the fact that ongoing feedback across units of work is valued, there is the potential for the IB curriculum to consider how a common metalanguage can assist with reflecting upon and assessing language use. As educators and researchers who work with SFL theory have long argued, a theoretical framework for language, with

accompanying metalanguage, is essential to collaborative and equitable teaching and learning practices, especially in classrooms with multilingual students for whom language of instruction may not be a first language (Dare & Polias, 2001; Gibbons, 2006; Hammond, 2008; Llinares, 2015; Schleppegrell, 2013). In the words of Gibbons (1999), without a language framework it is difficult for

*teachers and students to reflect on language itself, so that teachers are guided in language planning and student assessment by an explicit model of language and can make explicit to students who are unfamiliar with the language of school how to use the registers associated with power and educational success' (1999, p. 24).*

A further contribution of this review is to identify and discuss research that illuminates the affordances of professional learning with a language framework. In particular, Section 8.5 considers how teachers develop and use a shared language framework in order to connect the different dimensions or systems of language use. In light of the IBO language curriculum, such a framework clearly needs to be robust and flexible enough for IBO's wide-ranging teaching and learning contexts, their inclusive approach to teaching methodologies, and compatible with the existing values and beliefs that are related to inquiry-based approaches to teaching and learning.

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## 8. Critical aspects in the design and implementation of teacher professional learning (i.e., evidence of ‘what works’)

The educational literature has consistently pointed out that a key determinant of students’ learning outcomes is the quality of teachers and, further, that engaging teachers in ongoing professional learning (hereafter PL) is the most effective way to enhance teacher quality (Bailey, Curtis, & Nunan, 2001; Battey & Franke, 2008; Devos, 2010). Professional standards that measure and regulate the quality of teachers in international jurisdictions have been defined and redefined as a result of policy changes and shifts in expectations. The recent Australian government initiative—*Smarter Schools – Improving Teacher Quality National Partnership Agreement* (Department of Education, Employment and Workplace Relations, 2010)—is an example of the federal attempt to define, measure, and improve teacher quality through the establishment of professional standards. If professional standards are to be applied successfully, however, there needs to be an effective model of professional learning that meets the standards associated with teacher quality (Darling-Hammond, 2000; Ministerial Council on Education, 2003; NSW DET, 2003).

Whilst effective PL resides in a process of continued intellectual, experiential, and attitudinal growth of teachers (Darling-Hammond, 2003), it is not yet known what model works best. Additionally, aspects of success are difficult to isolate, as the PL of teachers involves many interrelated dimensions (Stoll, 2009). Nevertheless, this section considers reoccurring aspects of teacher PL that researchers have deemed critical to its success. It addresses the research question:

*What does current literature identify as critical to successful professional learning with teachers?*

This review of PL models will be conducted using the dimensions of the framework established for reviewing pedagogical models in Section 5 While

little influential research focuses solely on language teaching and learning, the design and content of professional learning experiences may be evaluated in terms of the extent to which they build teachers understandings and argue for individual or social interaction, and the extent to which they privilege pedagogies that emphasise learners' discovery and exploration or explicit instruction informed by deep pedagogical content knowledge.

We first discuss dominant trends in teacher professional learning related to language learning before analysing research with a focus on participants in teacher professional learning. This is followed by complementary research that focuses on teacher knowledge. The findings from the review of this literature will be drawn together in Section 9 where recommendations are proposed for professional learning in PYP that draws on the social-semiotic theories of SFL.

## **8.1 Trends in professional learning practices**

Dominant trends in teacher professional learning about language have, to a large extent, mirrored those of English language education more generally. These can be summarised as

- a) the turn to whole language and language instruction 'at point of need'. This resulted in knowledge about language and explicit language pedagogies being elided from teachers' pre-service and professional learning. Learning and the learner became the focus rather than learning THIS and the learner faced with THIS (Freebody, et al., 2008).
- b) a knowledge about language not recognized as a tool of critical literacy and critical language awareness. Growing concern with the socio-cultural and multilingual contexts of students' learning shifted the emphasis to teachers' knowledge of their learner groups and a critical orientation toward discourses of power, but did not attend to WHAT marginalized groups of students were faced with, or how to build pathways toward access and challenge of powerful discourses.

c) a powerful push ‘back to basics’. This has resulted from evidence that whole language approaches did not support the literacies of many students, particularly those from marginalized socio-economic and linguistic groups. It has also resulted from the pressure for teachers for a measuring regime—and to work with narrowly defined ‘evidence-based’ models and packages.

d) a concern to build teachers PCK particularly in relation to knowledge about language (e.g., genre) and scaffolding pedagogy practices. However, until recently, there have been few resources to support teachers’ knowledge of language and, most importantly, little time given in pre-service and PL to building a knowledge base of language systems and their relationship to context, and to providing supportive opportunities for teachers to apply explicit pedagogical practices.

e) multiliteracies perspectives. While multiliteracies research has built on social-semiotic models that also inform linguistic perspectives, knowledge of the systems behind multimodal and digital meaning-making has not been a focus of teacher education. The inclusion of multiliteracies into knowledge building courses has in fact often come at the expense of building foundational knowledge of semiotic systems.

## **8.2 Participants in professional learning experiences**

Much professional learning research has been concerned with the perspectives and experiences of the people who participate in professional learning. This research focus has included teachers’ values, beliefs, their individual learning processes and experiences, and their role in social activity. In sociological terms, the *social actors* (Maton & Moore, 2010) in professional learning practices have been given much attention. This body of research body has contributed to understanding ‘what works’ through closely examining *who* is involved in professional learning. These contributions are now briefly

discussed.

### **8.2.1 Teacher beliefs and knowledge**

In recent years, there has been increasing interest in research into the influential role of teachers' beliefs and knowledge, referred to as teacher cognition, in shaping teachers' classroom teaching practices (Borg, 2003). Versed in an 'individual' perspective on processes of learning and development, these studies point out that what teachers do in their classroom practices is mediated by their individual processes of cognition, i.e. what they think, know, and believe (Barnard & Burns, 2012; Richards, 2008). As teachers are 'active, thinking decision-makers' (Borg, 2006, p. 1), their knowledge and beliefs play a central role in shaping classroom events. Similarly, in the context of curriculum change, Zheng and Borg (2014) argue that teachers' response to a pedagogical change results largely from teachers' understanding of the new pedagogy and teachers' previous beliefs regarding language teaching and learning. As such, their beliefs and knowledge exert a powerful influence on student teachers' professional growth (Kurihara & Samimy, 2007; Wyatt & Borg, 2011) and can strongly impact the degree to which new pedagogies can be implemented in the classroom practices (Borg, 2003, 2006, 2009; Cross, 2010; Fang, 1996; Feryok, 2010).

While these individual dimensions are important to consider in the design of professional learning experiences, a social-orientation to teacher development sees social interaction as pivotal to learning new knowledge. As Jones (2001) explains,

*In a social view of the mind, then, cognition is a consequence of interactions which take place in socio-cultural practices such as those of schooling. This view of learning may sit uneasily alongside more individualistic ideas about the mind, the nature of knowledge and learning ideas in which the mind is a largely private matter, knowledge is fixed and finite, and learning tends to revolve around 'activating' or*

*'enhancing' the learners' natural abilities and capacities...*

(p. 83).

In relation to the professional learning of teachers, this explanation highlights a fundamental difference between individual and socially-oriented perspectives on development: While teachers' beliefs and existing knowledge are a starting point or foundation and crucial to ongoing reflection, socially-oriented perspectives argue that further social-interaction with mentors is crucial to extending what teachers already know.

### **8.2.2 Teacher agency**

Another focal point in research about teacher participation in professional learning practices has been on the important role of personal agency. For example, Guskey (2000, p. 16) identifies three core attributes—intentional, continuous, and systematic learning—as essential to effective professional development. Similarly, Pettis (2002) further emphasises that teachers' personal commitment is crucial for continual professional learning and growth. As Nicholls (2001) concurs, professional learning only works when teachers can understand when the change is initiated by the individual teacher. Indeed, as in any context of effective teaching and learning, learning occurs when there is a shared understanding of the purpose and the ultimate goal of the learning at hand (Feiman-Nemser, 2001). Fostering a shared understanding of the need for professional learning will be an important design principle of the proposed professional learning model.

### **8.2.3 Learning communities and distributed leadership**

Professional learning research consistently highlights the value of teacher-to-teacher collaboration. An influential concept is the notion of 'communities of practice' (after Lave & Wenger, 1991). While this term is, in itself, subject to critique and debate (see for example Allen, 2013), it draws attention to the value of peer-to-peer interaction and opportunities for shared reflection in teachers' learning experiences (e.g., Buysse, Sparkman, & Wesley, 2003;

Hadar & Brody, 2013; Hardré, Ling, Shehab, Nanny, Nollert, Refai, Ramseyer, Herron, & Wollega, 2013; Vesico, Ross, & Adams, 2008).

Supportive teacher-to-teacher interaction is seen as necessary in creating a sense of collective ownership in school-wide change (e.g., Allen, 2013; Stoll, 2009; Stoll, Bolam, McMahon, Wallace, & Thomas, 2006). Research on educational leadership supports models of professional learning where leadership is distributed amongst teachers (Stoll, 2009; Stoll et al., 2006; Timperley, 2005). In other words, the responsibility for professional learning initiatives and their long-term sustainability is shared by the principal and teachers or groups of teachers. Such leadership models challenge the notion that school success stories can be largely attributed to singular charismatic leaders (Spillane, 2005). However, in defining what distributed leadership is, researchers argue that distributed leadership practices are more than 'leader plus' models where teachers are given leadership and mentoring roles: Leadership practices are the result of interactions between school leaders and other staff members in their particular school contexts (Spillane, 2005, p. 144).

The research on teacher participation and leadership in schools places significant value on the role of social interaction in drawing out the knowledge that currently exists in groups of teachers. This concern with contextualised social interaction within schools provides insights into how staff members, with different roles and expertise, can successfully work together. However, less research is directed towards 'what' teachers are learning and the value of new knowledge that may be introduced by 'external' experts. As Timperley (2008, p. 13) critiques, in professional learning literature, 'the nature of the content or understandings to be developed and the skills to be refined' are given far less attention. In sociological terms, the dominant focus on social actors, or 'knowers', may obscure 'knowledge' in educational practices, i.e. what is being learned (Maton, 2014).

A focus on knowledge in educational practices also involves the crucial role of academic mentors in supporting teachers with learning new knowledge (Brisk & Zisselsberger, 2011; Humphrey & Macnaught, forthcoming). Research

suggests that professional learning needs to involve knowledge from outside of teachers' collective knowledge base (Alton-Lee, 2008; Stoll, 2009; Stoll et al., 2006), that is, expert input that brings something new into school communities. As Little (2003, p. 917) argues, if educational change is the goal, then professional learning needs to extend teachers' existing 'horizons of observation'. The assumption here is that new knowledge leads to new or refined teaching practices that improve student outcomes. To date, far more research is needed on the relationship between new teacher knowledge and its impact upon changed teaching practices and student learning (Vesico, et al, 2008). Additionally, as collaboration between teachers and mentors is an important dimension of implementing professional learning (see section 8.5), more research also needs to explicate how teacher educators and mentors work with teachers to introduce new knowledge and make it accessible to students, such as through effective pedagogic models with which teachers share their new knowledge with students.

### **8.3 Knowledge in teachers' professional learning**

Where research has attended to knowledge in teachers' professional learning experiences, it has predominantly been concerned with the relationship between knowledge and classroom practices. Research suggests that teachers' knowledge affects their pedagogical decisions and teaching quality (Freeman, 2002; Golombek, 1998). A number of models have been proposed with which to articulate what kind of knowledge is essential for teaching. Research has, for example, discussed *practical knowledge* (Elbaz, 1983) and *personal knowledge* (Clandinin & Connelly, 1987) as being relevant and important to classroom activity. Of ongoing influence has been Shulman's (1986, 1987) classification of seven categories of teacher professional knowledge. These include *subject matter content knowledge*, *general pedagogical knowledge* (i.e., knowledge about the broad principles and strategies of classroom organization and management that transcend the subject matter), *curricular knowledge* (knowledge about the curriculum or the syllabus in use), *pedagogical content knowledge* (knowledge about the *teaching content* and the *methodologies* in the classroom), *knowledge of*

*learners* (knowledge about students' interests and motivations), *knowledge of educational context* (knowledge about the characteristics of the school and the educational system), *knowledge of educational ends, purposes, and values* (general knowledge about the goal of teaching). Several of these types of knowledge are further discussed in relation to language teaching and learning.

The *subject matter content knowledge* comprises concepts, principles, and skills within a particular subject discipline (Shulman, 1986). In English language teaching, for instance, *subject matter content knowledge* includes the conceptualisation of language and understandings about language choices in relation to their contexts of use. These concepts, skills, and ideas in the subject matter content knowledge define the 'what' of the curriculum and thus serve as an important pillar in the development of the curriculum. For English language learning, valued subject matter is often particularly visible in student learning outcomes, for example, in statements about the kind of language that students are expected to control and in what students are expected to be able to do or achieve with language. Previous research has shown that the teacher's subject matter knowledge exerts a powerful influence on teachers' pedagogical decisions and their teaching quality (Brumfit, Mitchell, & Hooper, 1996; Koehler, Mishra, Kereluik, Shin, & Graham, 2014; Mitchell, Brumfit, & Hooper, 1994).

While knowledge of their disciplines is critical, teachers need to have a good grasp of *curricular knowledge* in order to successfully implement the curriculum (Shulman, 1986, 1987). This kind of knowledge refers to understanding of the curricular content and its organizational and instructional features. Teachers, therefore, need to clearly understand what content and materials should be included in their teaching programs and have sufficient knowledge of what curriculum and resources are available for their instruction. Shulman further identifies two important aspects of curricular knowledge, that of *lateral* and *vertical*. Here *lateral knowledge* refers to the teacher's knowledge of the relationship between the content of languages and English and those of other subjects, while the *vertical knowledge* is related to the

teacher's understanding of the cumulative progression within the subject of languages or English. As both these kinds of curricular knowledge are critical to enacting curricula, they should be attended to in professional learning design principles (see Section 9).

Another crucial type of knowledge is *pedagogical content knowledge* (PCK). This type of knowledge integrates content and pedagogic knowledge. As Shulman (1987) describes, it involves an understanding of how topics, problems, and issues are organised, represented, and adapted to meet the needs of the learners. Shulman argues that the combination of content and pedagogy is 'uniquely the province of teachers, their own special form of professional understanding' (p. 8), and this is what distinguishes the expertise of the content specialists from that of a pedagogue. In the context of language teaching, studies by Andrews (1999, 2001) and Andrews and McNeil (2005) have shown that increasing teachers' explicit grammatical knowledge does not automatically lead to the improvement in the effectiveness of classroom practice. What seems to be pivotal to the teacher's ability to transform this knowledge into effective classroom practice is a form of 'pedagogically-oriented understandings of grammar' (Borg, 2006, p. 124). These findings underline the importance of developing teachers' subject matter and pedagogical content knowledge in professional learning models. As large-scale analyses and syntheses of professional learning have shown a critical part of attending to learners involves a sustained focus on 'what' specific groups of students are expected to learn (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009; Education Review Office, 2015; Timperley et al., 2007). In other words, professional learning design needs to consider 'the learner faced with this' and not just the nature of the learning processes (Freebody et al., 2008, p. 298). For studies of language teaching and learning, this means a focus on the conceptualisation of language itself.

A further type of knowledge that is critical to teaching practices is the *knowledge of learners*. Shulman proposes that in making pedagogical decisions, teachers need to take into account not only their subject matter knowledge, their knowledge of general and content specific pedagogy, but also knowledge about learners' characteristics and the educational contexts in

which they implement their instructions. In particular, he argues that teachers, in enacting any curriculum, need to consider the target learners that the curriculum is designed for and the social and institutional contexts where the curriculum is constructed and implemented. In language teaching, this kind of knowledge includes knowledge of students' cultural and linguistic backgrounds, such as the student 'language profiles' that are advocated in the IBO curriculum.

In summary, understanding what constitutes the knowledge base of a competent teacher is pertinent to an investigation of effective models of professional learning. Many of Shulman's categories involve inter-related types of knowledge. He notes, for instance, that teachers' knowledge of educational ends and values should be also an integral part of their knowledge base as it is in specific educational contexts and with particular learner groups that different educational purposes, ends, and values are recognized, appreciated, and promoted. These related constructs around types of knowledge shed light on important design principles that are relevant to professional learning models. In particular, the review suggests that it is important for a professional learning program to support the development of a range of subject matter and pedagogical content knowledge. In professional learning design, the examination of what knowledge the teachers hold before and after their learning experiences provides important insights into how teachers' professional knowledge may or may not change.

## **8.4 Social-semiotic theory in educational contexts**

This section now considers literature that has drawn on social-semiotic theories of language and language development. It provides an overview of broad contributions, while Section 7.5 analyses professional learning studies in elementary teaching and learning research. This section considers the research question of

*How do teachers use semiotically informed social interactionist perspectives on language learning within standards based curricula?*

First, we review the contributions of SFL theory in articulating the knowledge about language that students are expected to gradually master. Then, we discuss how a social-semiotic view of language development has informed specific classroom practices.

#### **8.4.1 The ‘what’ of professional learning**

Studies of professional learning that draw on social-semiotic theories have proliferated in recent years. The increased interest in theories such as SFL and its associated theories of genre and multimodal discourse analysis (MDA) have come about for a number of reasons and responded to changes in standards based curricula.

Reasons for interest in social-semiotic theories include

- curriculum changes which have reinstated knowledge of language within English (U. Clark, 2013; Derewianka, 2012);
- associated high stakes testing of English language and literacy capabilities;
- increasing evidence that explicit teaching of social-semiotic resources in the context of curriculum learning has a positive impact on students’ literacy development (Humphrey & Macnaught, forthcoming; Schleppegrell, 2013);
- increasing expectations on teachers to analyse and respond to textual data, including the assessment and reporting of student learning growth through analysis of students oral and written responses and externally produced data.

Early professional learning models using SFL in England such as those based on Language in Use (Doughty, Pearce, & Thornley, 1973) and Language in the National Curriculum (LINC) (1992) focused on developing teachers’ understandings of the relationship between lexico-grammatical patterns within

texts and their contexts of use—register (Carter, 1993, 1996, 1990; Carter & McCarthy, 1995). Recognition that ‘correct’ language was not restricted to one regional dialect or register but varied according to the what, who, how, and why of its use. In teacher training, teachers were encouraged to move from transmitting a set of rules and correcting to supporting students to develop a repertoire of meaning-making resources to ensure that they could make meanings across contexts of learning.

Interest in meaning-making resources and their contexts explicit also emanated from sociological findings of Bernstein (1975, 1990, 2000), who worked closely with SFL theorists Halliday and Hasan (1976, 1985). From this research came awareness that the present school system worked as a gatekeeper to linguistically marginalize students whose home language and literacy practices did not match those of school. Without the intervention of teachers, these children did not have equitable access to middle class discourses of power.

Register theory became an influential theory underpinning language education with the arrival of SFL linguists Halliday and Hasan in Australia and their consequent work with teacher educators. Of particular interest to many teachers of multilingual learners were models that focused on the register variable of mode (Carter & McCarthy, 1995; Hammond, 1990). A consequence of whole language movements, as discussed above, was a renewed interest in spoken language and the differences between spoken and written language. In Australia, Hammond’s (1990) ‘mode continuum’ provided teachers with a framework for planning language learning activities across units of study by first introducing texts reflective of everyday spoken usage (e.g., multiple compound sentences; simple sentences with one idea) and working towards those which were ‘written-like’ patterns (e.g., complex sentences, simple sentences with embedded clauses; greater lexical density).

In the 1980s, concerns of teachers providing EAL/D and low SES students with access to culturally powerful literacies led to attention in professional learning to broader patterns of language—known as genre (Callaghan & Rothery, 1988). Framing the meaning-making resources of schooling as

'staged, goal-oriented social purposes' presented teachers with an accessible 'way in' to building understandings of language patterns that realized register. In many professional learning resources, both in Australia and England, however, register and its relationship to systems of meanings (metafunctions) was sacrificed as too complex (Walsh, 2006). In these PL models, genres became known as text types, and knowledge of genres was restricted to rigid text structures and grammatical patterns at clause level.

In their work with teachers within an influential professional learning project, known as Write it Right, SFL theorists also developed further descriptions of the level of language known as discourse semantics (J.R Martin & Rose, 2007; J.R Martin & White, 2005). Models of appraisal have, for example, allowed patterns of evaluation that spill out beyond groups and clauses to be systematically accounted for and related to their contexts of use. Appraisal and other discourse semantic resources, such as text cohesion, have been included in a number of recently developed resources prepared for primary level professional learning (Derewianka, 2012; Humphrey, Droga, & Feez, 2012) and EAL/D (Butt, Fahey, Spinks, & Yallop, 2012). As discourse semantic resources describe language systems at a level closer to the context than those of the lexico-grammar, it has provided teachers with more accessible metalanguage to talk about meanings in text than the more technical grammatical functions and structures.

Further recent work by SFL and multimodal discourse analysts has included broader semiotic resources within the WHAT and led to further acknowledgement of SFL as a social semiotic rather than linguistic model (Unsworth & Thomas, 2014). In primary school teacher training resources, talk about meanings with picture books has also provided a useful way in to more technical verbal patterns of grammar (Callow, 2013; Derewianka, 2008; Painter et al., 2013).

#### ***8.4.2 The 'how' of pedagogic practices***

Pedagogic practices informed by social-semiotic theories privilege learning through social interaction and methods of explicit instruction (as introduced in

Section 4). Informed by research from the sociology of education discussed above (Bernstein, 1975, 1990, 2000), this 'expert-guided' orientation to language teaching and learning includes understandings that, as expert language users, teachers need to make their knowledge about language visible and accessible to learners. Classroom teaching, therefore, aims to identify and explain reoccurring patterns of meaning in texts. In particular, teaching supports students to create the kinds of semiotic patterns that are associated with highly valued texts for school learning.

One particularly influential pedagogic approach is called 'genre-based' pedagogy. This pedagogy, which first emerged in Australia in the 1980s, is designed to 'enable any student to succeed with the writing demands of the school' (Rose & Martin, 2012, p. 1). The starting point for the design of this pedagogy is the SFL model of language as described above and recognition of genres. From a pedagogic perspective, SFL is a 'language-based theory of learning' (Halliday, 1993), a theory which focuses on how language, in the form of whole texts, is used to achieve meaningful social activity. Genre pedagogy has evolved over three decades and has been adapted to an expanding range of educational contexts, both across Australia and internationally (de Oliveira, 2008; Hyon, 1996; Johns, 2002; Rose & Martin, 2012; Schleppegrell, 2004). It incorporates explicit teaching principles, strategies, and approaches consistently supported in the teacher effectiveness research literature from that time to the present (R. E. Clark, Kirschner, & Sweller, 2012; Fisher & Frey, 2010; Marchand-Martella & Martella, 2009; Rosenshine, 1997, 2012).

While a variety of more or less complex variations of the genre-based teaching and learning cycle (TLC) have been developed over the last three decades (Rose & Martin, 2012, p. 62–67), a simple four-part cycle is illustrated below in Figure 6.

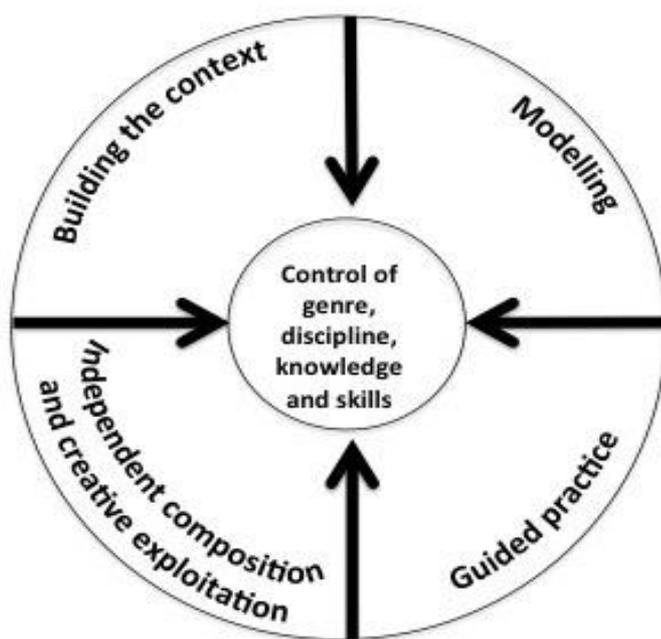


Figure 6: A genre-based teaching and learning cycle (adapted from Callaghan & Rothery, 1988 by Humphrey & Feez, in press)

The first stage of the cycle, *building the context*, begins with the teacher establishing for the students a context in which texts of the target type can be used in a purposeful and socio-culturally meaningful way. Within the inquiry-based learning framework, students engage in exploratory activities that build understanding of the field of inquiry and the significance of the target text type, not only to achieve syllabus outcomes, but also more generally. Part of this exploration aims to draw out students' existing knowledge and then extend it.

During the *modelling* stage, students continue to be engaged in interactive shared experiences. However in this step, interaction occurs during carefully planned learning activities that focus student attention on one or more exemplary, or model, texts. Close reading of model texts and the explicit teaching of knowledge about the stages, phases, and language features used to compose the text prepare the students for successful writing of texts of this type. Importantly, such detailed analysis and discussion aims to

developing a shared metalanguage with which to build critical awareness of the relationship between semiotic choice in the text and the immediate contexts of language use. The overall goal of this step is to make visible the language choices adopted by writers for specific social purposes. As Rothery (1996, p. 104) explains, with the teacher's help, 'students also explore the role of the genre under focus in school learning and in the life of the community'.

The third stage in the cycle involves *guided practice*. This stage commonly includes a form of teacher-led collaborative writing called *joint construction* or *guided writing*. This stage often begins with the teacher supporting students to apply their research skills (gained in the first step of the cycle) to build knowledge about the context, including the field of the topic. As text co-creation commences, the teacher solicits wording for one communal text. As students propose wording, the teacher uses technology that projects the emerging text for the whole class to see. This stage is designed with the principle of *guidance through interaction, in the context of shared experience* (Martin, 1999, 2000; after Painter, 1985). Here '*guidance through interaction*' involves reflecting on and talking about contextualised language choices at the time of writing, rather than through retrospective feedback. '*Shared experience*' refers to shared textual experience. This includes both shared knowledge of the field of the topic for writing and also shared understandings about the organisation and prominent features of the target genre. Thus, the goal of jointly constructing a text (or part thereof) involves carrying over shared knowledge from the *modelling* step into the process of crafting a new text.

In the final stage of *independent composition and creative exploitation*, students integrate what they have learned in the prior stages to write a text by themselves. Students are also given opportunities to reflect on how some writers exploit creatively the stages, phases, and language features they now control. They can be encouraged to think about and experiment with how they might transfer what they have learnt to other contexts. In this and all stages, the pedagogy may be adapted and differentiated in response to student

progress, moving in and out of each stage to ensure success in the independent performance of tasks. Some practitioners also extend this stage by using the independently constructed texts in further cycles of analyses and drafting (see examples in Humphrey & Macnaught, forthcoming; Mahboob & Yilmaz, 2013).

These stages of genre pedagogy thus incorporate key principles of the direct instruction pattern. They are designed to engage students in their learning, draw out students' existing knowledge, explicitly teach new knowledge, and provide guided practice and feedback at the time of writing. As the stages are flexible and iterative, there are many opportunities to monitor, consolidate, and reinforce learning depending on students' needs.

Importantly, however, the texts and tasks within the stages of the TLC cycle are designed to challenge students. Texts are, for instance, above the current level of students' independent writing, and tasks related to text analysis and collaborative writing encourage students to use knowledge and language that they don't yet have full control over. As Mariani (1997) argues, instruction should provide a 'high challenge' and 'high support' interpretation of scaffolding with a focus on what we want students to be able to achieve over time. In other words, classroom activity is difficult for students but made achievable with explicit guidance from the teacher and the support of peers. This interpretation of scaffolding is represented in Figure 6 where alternate combinations of degrees of challenge and support lead to undesirable educational outcomes, such as failure, low motivation, boredom, or minimal learning (Hammond & Gibbons, 2001; Mariani, 1997). In the TLC cycle, the instructional support aims to extend students' learning and current knowledge. For teachers, the stages provide very clear examples of how 'scaffolding' can be enacted in terms of lesson sequences (Jones, 2001; Murray & Zammit, 1992).

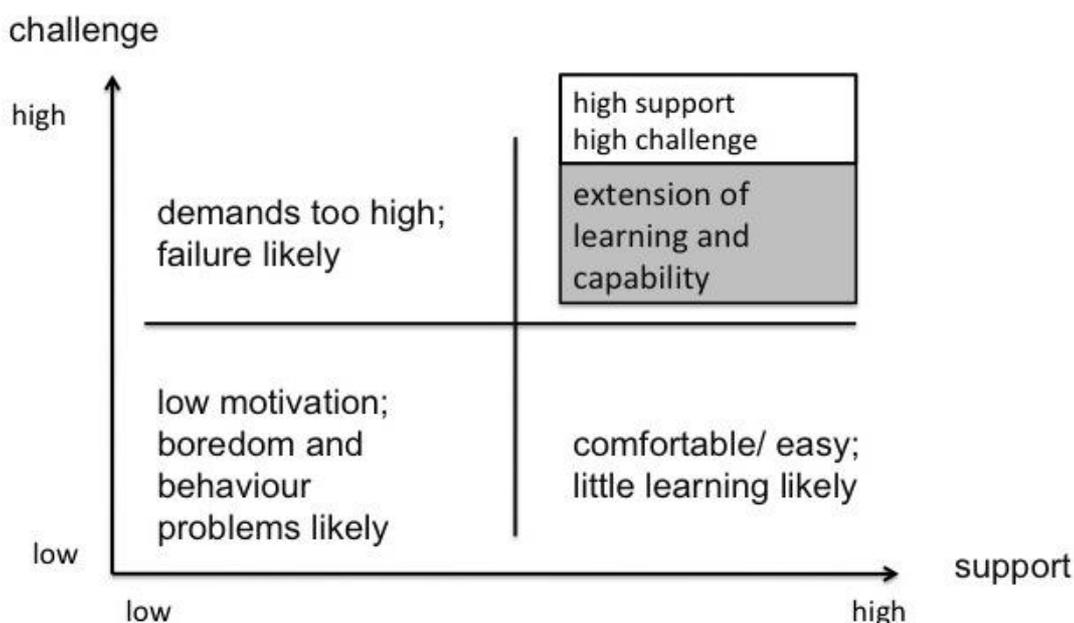


Figure 6: Mariani's conceptualisation of scaffolding  
(in Macnaught, 2015b - adapted from Hammond & Gibbons, 2001)

#### **8.4.2.1 Conceptualising metalanguage and its role in instruction**

Educational linguistics in the SFL tradition have long argued that a crucial part of providing students with 'high support' involves teachers building and sharing metalanguage with students (Brisk, 2015; Gibbons, 2003, 2009; Love, 2010; Schleppegrell, 2013). As Dare and Polias (2001) argue,

*Any serious account of language in scaffolding in the classroom must have teachers and students sharing a metalanguage. Developing a metalanguage allows learners to develop the means for reflecting on language (p. 103).*

At a general level of description, metalanguage refers to classroom interaction where teachers and students talk about language and language learning. However, within and across different fields of applied linguistics, the development of knowledge about language is related to a wide range of 'meta

terminology' and knowledge related constructs, i.e. constructs about constructs. Terms include *metacognition* (e.g., Wenden, 1998), *metalinguistic awareness* (e.g., Andrews, 1997), *metalinguistic talk* (e.g., Dwarte, 2012), *literary metalanguage* (e.g., Locke, 2010), *linguistic metalanguage* (e.g., Hyland, 1996), *functional linguistic metalanguage* (e.g., Martin, 2006), *metalinguistic resources* (e.g., G. Williams, 2006), *pedagogic metalanguage* (e.g., Rose, 2014), *metalinguistic knowledge* (e.g., Roehr, 2008), *metadiscourse* (e.g., Hyland & Tse, 2004), *discourse knowledge* (e.g., P. A. Alexander, Schallert, & Hare, 1991), and *explicit knowledge* (e.g., Ellis, 2006). Scholars note that there is variation, and, sometimes limited precision, in how the same terms are used. Terms like *metacognition*, for instance, have been described as

*One of those critically important, frequently studied, much referred to, but seemingly ill-differentiated theoretical constructs... used liberally in the literature but without a careful regard for the theoretical assumptions underlying it* (P. A. Alexander et al., 1991, pp. 327–334).

As P. Alexander and colleagues note, the informing theories and the extent to which they are drawn upon, influence the precision with which the construct of metalanguage is identified and discussed in research.

#### **8.4.2.1.1 A functional metalanguage**

Social-semiotic perspectives that draw on functional linguistic theories of language see classroom metalanguage as talk about the semiotic resources of texts (de Silva Joyce & Feez, 2012; Rose & Martin, 2012). A 'functional' metalanguage focuses on the way language is used to make meaning in whole purposeful texts. This contextualised approach extends to using knowledge about language as a *resource* to deploy in innovative ways so that students can extend their skills and expand their creative writing repertoire. A functional metalanguage is thus not bound to grammatical units in any given language. Instead, it considers how a range of resources (potentially in any language) can be used to achieve a variety of social functions.

The accessibility or 'user-friendliness' of metalanguage is a concern amongst researchers and educators. Researchers have, for instance, expressed caution about the use of technical terms in classroom language learning (Bourke, 2005). Such concerns draw attention to the journey of metalanguage from academia to the classroom where language constructs are first created in fields of linguistics and then 're-articulated' (J.R Martin, in press) and 'recontextualised' (Bernstein, 2000) for pedagogic purposes. These shifts in context involve selecting and adapting concepts and terminology. As Polias and Dare (2006, p. 125) have reasoned, when the theoretical origins of a 'pedagogical grammar' are complex and elaborate, then they need 'considerable recontextualisation if [they are] to be meaningful and accessible to teachers'. With these concerns in mind, recent research (e.g., Humphrey & Macnaught, forthcoming) has begun to show how the judicious use of classroom metalanguage does not simply involve lifting terms from linguistic theories into pedagogic discourse. In this regard, professional learning can support teachers with using accessible terminology that is accompanied by other semiotic resources, including lexical metaphors and body movement. Put simply, metalanguage is more than just 'terminology' (Berry, 2010): For pedagogic purposes, it can be usefully conceptualised as encompassing multimodal resources that all 'count' as classroom 'talk' about language (Macnaught, 2015a, 2015b).

A functional linguistic perspective on knowledge about language seems particularly relevant to teacher professional learning in teaching communities with IB programmes. These diverse teaching and learning contexts require a language framework that has the potential to build knowledge about language that is relevant to transdisciplinary themes, while also being specific enough for disciplinary learning and the learning of particular languages. A focus on function highlights the general purposes for which we commonly use language and the reoccurring kinds of meanings that people create (Martin & Rose, 2008). The language systems and accompanying metalanguage can therefore be related to a highly diverse range of texts.

## **8.5 Social-semiotic theory in elementary teachers' professional learning**

In this section, we focus on studies of social-semiotic theory in the professional learning of elementary teachers. While there are a vast number of studies that involve SFL understandings of language and language development in educational contexts, fewer studies have made direct connections between teachers' professional learning and changes to pedagogic practices and/or students' learning outcomes. This distribution of research reflects the considerable effort that has made to illustrate how SFL theories can be used and adapted for pedagogic purposes. Such studies have been less concerned with documenting evidence of change and more concerned with showing 'how' functional knowledge about language is used in specific teaching and learning contexts. Nevertheless, in SFL literature, there is a growing body of research that is responding to calls for 'evidence' of how professional learning relates to educational change. As discussed in Section 3, such studies are increasingly important for influencing educational policy.

The SFL studies we review have been selected with a number of criteria. These criteria closely follow those of Bunch (2013) who has also reviewed professional learning studies in relation to educational change. First, only professionally learning initiatives that revealed an SFL conceptualisation of language, language development, and/or the role of language in classroom instruction were included. Second, to be included, SFL theories had to be linked in some direct way to the texts, activities, or practices in elementary school instruction. Third, the initiative described had to be one that had been implemented in practice, at least in a pilot stage, as opposed to simply recommended, proposed, or reviewed in a synthesis of literature. Finally, some sort of teacher and/or student outcomes had to be discussed.

The review addresses the research question

*How have perspectives on language and language learning that are informed by social-semiotic theory been used in the professional development of elementary school teachers?*

In-line with the parameters of this study, 'elementary' is defined as classroom teaching and learning with students between the approximate ages of 5 to 12. To explore this question, we first provide an outline of the scope of the studies that have been analysed. We then specify reoccurring findings and finally provide a summary table of the reviewed research.

### **8.5.1 The scope of the reviewed studies**

In addition to the aforementioned parameters for selection, the reviewed studies have been selected to represent the wide scope of past and present research in elementary professional learning contexts. The sample of 30 studies spans approximately three decades. It represents pioneering and ongoing research in Australia as well as more recent professional learning initiatives in North America, with the latter reflecting the growing geographical reach of social-semiotic research in educational contexts. (See other reviews of genre studies for the extent and approximate chronology of this expansion, e.g. in Martin, 2009; Martin and Rose, 2008; and Gebhard, 2010). The studies involve different groups of students who are mostly between 6 and 12 years of age and who are learning a wide range of curricula content, such as literature, science, and geography, etc. The teachers are predominantly involved with in-service professional learning experiences to further develop their knowledge about language. The findings of the studies all relate to changes in teachers' knowledge about language and how this new knowledge was used in classroom teaching and learning. This body of research thus reflects a broad application of social-semiotic theory in elementary teaching and learning contexts.

The studies that are reviewed are predominantly qualitative case studies where authors have been involved in delivering professional learning initiatives. In this regard, the selected body of literature follows a general trend of professional learning research that is 'authored by those who created and

administered the initiatives, providing helpful depth of context but also presenting obvious limitations’ (Bunch, 2013, p. 308). With this trend in mind, the review does not seek to make definitive statements about ‘what works’. Instead, it focuses on identifying how SFL theory has been used in professional learning and summarising the outcomes of professional learning initiatives. These findings will inform recommendations about the further use of SFL theory in PL experiences with teachers.

### 8.5.2 Summary table of the reviewed studies

The reviewed studies and relevant research findings are documented in Table 4 below.

Study	Professional learning mode/s	Prominent language concepts	Methods of classroom instruction	Reported outcomes
1. Brisk, (forthcoming)	Summer institutes/ workshops, extended on-site collaboration, & one-on-one coaching	Metafunctions & grammar of visual design	Modelling, guided reading	<b>Teachers</b> taught students to analyse images from the perspective of metafunctions (particularly image type & interpersonal relationships).  The use of posters as the medium for writing reports enabled <b>students</b> to fully express their voice and identity.
2. Chandler, O'Brien, & Unsworth, 2010	Workshops, research days, & ongoing collaboration with teachers	Genre (3D multimodal narratives) & grammar of visual design		<b>Researchers</b> and <b>teachers</b> designed a pedagogic framework for multimodal authoring.
3. Palinscar & Schleppegrell 2014		Lexio-grammatical features (modality)	Modelling, discussion, group work	<b>Teachers</b> used new SFL informed metalanguage and new scaffolded activities.  <b>Students</b> showed understanding of KAL to make a claim, cite textual evidence to support that claim, and say how that evidence links back to the claim.

4. Moore & Schelppegrell 2014	Summer institute, workshops, on-site collaboration, & team-teaching	Lexio-grammatical features Discourse semantic features for interpersonal meanings (appraisal)	Modelling, guided readings	<p><b>Teachers</b> used the SFL metalanguage they shared with students to provide more elaborated explanations and mediated discussion about how language functions in texts.</p> <p>SFL metalanguage supported <b>student</b> engagement with the meaning of the text (not just labels for grammatical patterns).</p>
5. Gebhard, Chen, & Britton, 2014	Post-graduate teacher education	Genre Register Metafunctions nominalisation		<p>SFL metalanguage helped the <b>teachers</b> to recognize and name linguistic patterns within and across disciplinary texts.</p> <p>Genre-based pedagogy provided <b>teachers</b> with concrete tools for deconstructing and constructing disciplinary texts in ways that supported their literacy development, e.g. genre moves, clause-level linguistic choices.</p> <p><b>Students</b> all wrote longer texts and performed better in external exams, but their results were uneven.</p>
6. de Oliveria & Lan, 2014	Extended on-site collaboration	Genre & Lexio-grammatical features (clause elements, temporal connectors)	Modelling, joint construction	<p><b>Teacher</b> adapted (expanded) the TLC to explicitly teach science writing.</p> <p><b>L2 student</b> writer was better able to use the language that had been explicitly taught, including increased field-specific technicality, expanded range of processes, &amp; appropriate temporal conjunctions.</p>
7. Gebhard, Graham, & Gunawan, 2013	Post-graduate teacher education	Genre Register Metafunctions	Modelling	SFL metalanguage can support <b>teachers</b> in designing effective academic literacy instruction for ELLs.

8. Schleppegrell, 2013	Extended on-site collaboration	Register & Lexio-grammatical features (clause elements & speech functions)	Modelling	<b>Teachers</b> used metalanguage to support students with text analysis and developing KAL relevant to literary texts; <b>students and teachers</b> engaged in deep discussion of text meaning.
9. Brisk, 2012	Summer institutes/ workshops	Register Genre	Modelling	<b>Teachers &amp; researchers</b> found that SFL theory was useful for understanding student writing in concrete ways that can easily translate into improved instruction.  <b>Teachers</b> used genre (and language) analysis to discover students' understanding of genre differences and their related awareness of audience.
10. French, 2012	Extended on-site collaboration & team-teaching	Lexio-grammatical features (transitivity)	Modelling, guided reading (and other activities)	<b>Teachers</b> could make grammatical structures informed by SFL accessible and relevant to learning literature.  <b>Students</b> were able to use their knowledge of verbal processes ('saying verbs') to improve their punctuation of quoted speech and to become more aware of using expression in oral reading of dialogue.
11. Jones & Chen, 2012	Workshops	Lexio-grammatical features (transitivity)	Modelling, reconstruction	<b>Teachers'</b> expertise, including linguistic knowledge, is crucial to successful curriculum implementation.  <b>Teacher</b> in the study was able to link new functional KAL to the subject content & students' existing knowledge.
12. Brisk, Hodgson-Drysdale, & O'Connor, 2011	Post-graduate teacher education	Register Genre (reports)	Researching writing topics, modelling	Elementary school <b>students</b> of all ages were able to produce reports with the support of their teachers.

				<p><b>Teachers</b> had developed expertise about the features of a report, and they felt empowered to try report writing in their classrooms. KAL provided a framework for how to scaffold report writing.</p>
13. Brisk & Zisselsberger, 2011	Whole school workshops & one-to-one coaching/ extended on-site collaboration	Genre Register	Modelling	<p>Two-thirds of the <b>teachers</b> carried out well-planned writing units integrated with their literacy and content area lessons.</p> <p><b>Teachers</b> tried new ways of teaching writing as a result of the professional development.</p> <p><b>Teachers</b> developed greater confidence in teaching a greater variety of genres and the ability to plan, enact, and revise writing lessons with specific text organization and language features in mind.</p> <p><b>Teachers</b> reported that one-to-one coaching during classroom visits (which included immediate feedback) provided by the researchers had the most direct impact on their teaching and on actual student learning.</p> <p><b>Students</b> wrote a greater variety of genres and through them a greater range of themes. Teachers related improvements in their students' writing to making valued texts and their patterns visible.</p>
14 Brisk, 2011	Whole school workshops & one-to-one coaching/ extended on-site collaboration	Genre (report writing) Register (audience awareness & lexicogrammatical choices)	Modelling	<p><b>Teachers</b> felt empowered to try report writing in their classrooms and use explicit methods of instruction.</p>

				<p><b>Students</b> showed awareness of the purpose of reports, used research to create subject matter for reports, used the structure they had been taught, and started to use and develop control of language features such as complex nominal groups.</p>
15. Rose, 2010	Workshops	Genre Discourse semantics	Guided reading (R2L pedagogy)	<p><b>Teachers</b> changed their habitual ways of interacting with student, through changes in the structure of teacher-student talk.</p> <p><b>Teachers</b> integrated new teaching methods to support reading interactively.</p> <p><b>Students</b> successfully participated in reading difficult texts and received affirmation.</p>
16. French, 2009	Extended on-site collaboration & team-teaching	Genre (narrative structure)	Modelling, guided reading (and other activities)	<p><b>Teacher</b> used carefully selected learning materials, KAL, and collaborative talk to support students with abstract thinking.</p> <p><b>Students</b> used KAL to critically analyse narrative structure.</p>
17. Gebhard, Demers, & Castillo-Rosenthal, 2008	Graduate and post-graduate teacher education	Genre	Modelling	<p><b>Teachers</b> developed new understandings about how 'English works' (genre structure, cohesive devices).</p> <p><b>Teachers</b> developed knowledge of the resources bilingual students bring to their writing.</p>
18. Gebhard & Willet, 2008	Post-graduate teacher education courses	Metafunctions Genre & traditional grammar (nouns, modal verbs, conjunctions)		<p>Most <b>teachers</b> developed a deeper understanding of subject matter and the specific language practices used to construct subject matter knowledge.</p>

		& Discourse semantic features for interpersonal meanings (concession)		
19. Gebhard, Harman, & Seger, 2007	Post-graduate teacher education courses, extended on-site mentoring, & school-based research groups	Metafunctions Genre (argument)  & traditional grammar (nouns, modal verbs, conjunctions)  & Discourse semantic features for interpersonal meanings (concession)	Modelling, guided writing	<b>Teachers</b> used new methods of explicit instruction.  <b>Students</b> demonstrated academic language use that had been explicitly taught
20. Schleppegrell & Go, 2007	Workshops & extended on-site mentoring	Register  & Lexio-grammatical features (processes, participants, circumstances , participants)	Modelling	<b>Teachers</b> used their new KAL to model and explain text structure.  <b>Teachers</b> (with support of researchers) used student text analysis as the basis for developing instructional support.
21. Gibbons, 2006	Extended on-site mentoring	Lexio-grammatical features		<b>Students</b> could extend and adjust their verbal responses ('long conversations') when the teacher's questions drew on shared knowledge of the subject matter and/or shared knowledge about language.  <b>Teachers</b> drew on students' prior knowledge and experiences but also created intertextual links across classroom activities and lessons in order to support cumulative knowledge building.
22. Polias & Dare, 2006	Week-long course & 9 weeks of PL modules	Genre  & Lexio-grammatical features (processes, participants,		<b>Teachers</b> enhanced their understanding of functional grammar significantly and could apply their knowledge in classroom activities.

		circumstances , participants)  & Discourse semantic features for textual meanings (theme-rheme)		<b>Students</b> writing improved (both struggling and more advanced students).  <b>Students</b> used KAL to evaluate each other's work.
23. Quinn, 2004	Workshops & extended on-site mentoring	Lexio-grammatical features	Modelling, guided reading, guided writing	<b>Teachers</b> used new explicit methods of instruction to support struggling students. Teachers used metalanguage that included question prompts (e.g., who, what, where) to support students to identify parts of text and extend their writing.  Evidence of increased KAL in <b>students'</b> oral talk is connected to improvements in <b>student</b> writing.
24. Dare & Polias, 2001	Workshops & extended on-site mentoring	Lexio-grammatical features (process types)	Brainstorming, modelling, guided reading, guided writing	<b>Teacher</b> used students' L1 as bridge to learning new words in English.  <b>Teacher</b> introduced new metalanguage about grammar.  <b>Teacher</b> sequenced new classroom activities to build students' metalinguistic awareness.  <b>Students</b> developed far better control of writing the target genre.
25. Jones, 2001	Extended on-site mentoring & team-teaching	Scaffolding (sequences of classroom activities)	Field building, brainstorming, floorstorming	<b>Teachers</b> changed their view of literacy as a 'learned practice' to that of an 'expert-guided' practice (as per the theoretical framework of this review) and used new teaching strategies.  <b>Teachers</b> changed their interactions with students so that students co-constructed knowledge

				through classroom talk. <b>Students</b> demonstrated awareness of how teacher-student talk supports them with negotiating and co-constructing meanings.
26. Hamilton, 1998	Workshops & team-teaching	Genre & Lexio-grammatical features		<b>Students</b> showed significant growth in their understanding of the functional purposes of grammar.  <b>Students</b> showed significant growth in their confidence with using terminology to identify and talk about language.
27. Rothery, 1996	Extended on-site mentoring	Genre & Lexio-grammatical features	Field building, modelling, guided writing	<b>Teachers</b> developed genre awareness and developed new explicit strategies for teaching writing.  <b>Students</b> wrote more complex genres that had traditionally been considered beyond the abilities of primary school children.
28. Hunt, 1991	Workshops	Genre Register & Lexio-grammatical features & Discourse semantic features for interpersonal meanings	Guided writing	<b>Teachers</b> adjusted their classroom talk with students (interpersonal roles) in relation to the different stages of co-creating a text; their talk patterns also changed in relation to the support that students needed.
29. Derewianka, 1990	Extended on-site mentoring	Register & Lexio-grammatical features	Modelling, guided writing,	<b>Students</b> demonstrated increasing control over the field of their topic for writing, including using register appropriate language, such as technical terms.
30. Rothery, 1986	Extended on-site mentoring, i.e. the researcher guiding and collaborating with the	Genre & Lexio-grammatical features	Modelling, guided writing, conferencing	<b>Teachers</b> could identify a variety of genres that they ask students to write (including their structural elements).

	classroom teacher			<b>Teachers</b> used new explicit teaching methodologies for supporting student writing.
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Table 4: Summary of teacher professional learning that use SFL theory and SFL informed pedagogic practices

### **8.5.3 A summary of findings**

The summary of findings first reports on the design of PL studies that have drawn upon SFL theory. We then synthesise outcomes related to teachers' knowledge about language and classroom practices, followed by student outcomes. This overview will also then identify research areas that have received limited attention in the SFL studies. Finally, we draw upon these findings to propose recommendations about the use of SFL theory in professional learning experiences with teachers.

#### **8.5.3.1 Findings about professional learning design and implementation**

A common feature in the structure and implementation of the professional learning initiatives is the extended on-site collaboration between researchers and teachers. Researchers and teachers have typically entered long-term partnerships where their combined expertise identifies the language learning needs of student as well as effective ways of integrating language knowledge into pedagogic practices and curriculum content. Some of these partnerships have involved a researcher and one or two teachers (e.g., Gibbons, 2006), while others have involved teams of researchers working with the entire teaching body of one or more schools (e.g., Brisk & Zisselsberger, 2011). The researcher-teacher partnerships have involved elements such as collaboratively planning lessons (e.g., Rothery, 1986; Gibbons, 2006), team-teaching (e.g., Hamilton, 1998; French, 2009; Jones, 2011), and analysing student texts (e.g., Schleppegrell & Go, 2007; Brisk, 2012). Such collaboration is viewed as essential for making new theory relevant to teachers' specific teaching and learning contexts. As Brisk & Zisselsberger (2011) report,

teachers found that of all the modes of PL that they engaged with, one-to-one coaching from academic mentors had the most direct impact upon their teaching practices and (according to teachers) the outcomes for their students. The importance of PL design that integrates external expertise has also been highlighted by a number of researchers who study change in schools (e.g., Little, 2003; Stoll, Bolam, McMahon, Wallace and Thomas, 2006; Alton-Lee 2008). Therefore, findings suggest that PL where researchers provide ongoing mentorship to teachers is a critical factor in successful PL design.

Another finding related to PL design is collaboration within schools. Gebhard, Harman, and Seger (2007), for instance, have observed the effectiveness of school-based research groups in which teachers could reflect on their professional learning experiences together. An example from their study includes teachers giving presentations within their school communities on how they had used knowledge from PL in new lesson activities. These findings about collaboration within schools (as well as between researchers and teacher) align with significant research findings about the value of sustained professional learning where a key component of sustainability is the sharing and distribution of knowledge (e.g., Darling-Hammond, Wei, Andree, Richardson & Orphanos, 2009; ERO, 2015; Timperely, Wilson, Barrar, and Fung, 2007).

In terms of the content of professional learning, the design of PL also included both new knowledge about language and specific pedagogic practices for teaching this knowledge in the classroom. This pairing of 'what' with 'how' does not assume that teachers are already confident with talking about language in their classrooms and integrating KAL into their content teaching. As Brisk and colleagues describe, the introduction of specific pedagogic methods aims to provide a 'concrete' framework with which teachers can introduce and support their students with developing knowledge about language (see Brisk, Hodgson-Drysdale, O'Connor, 2011; Brisk, 2012). If, for instance, teachers learned to identify genres and their distinctive lexio-grammatical features, then they would also learn about explicit teaching

methods, such as activities to model exemplar texts (e.g., Polias & Dare, 2006). This design feature reflects the widespread concern of educators and researchers with making valued texts and their structures visible in teaching (see previous discussion in Section 4.3)

### **8.5.3.2 Findings about teachers' knowledge and classroom practices**

Overwhelmingly, the studies of professional learning in elementary school contexts reported an increase in teachers' knowledge about language. The main area of learning was in identifying and analysing the type, structure, and grammatical features of texts that the teachers expected their students to read and write (e.g., Rothery, 1986; Rothery, 1996; Brisk & Zisselsberger, 2011; Brisk, Hodgson-Drysdale & O'Connor, 2011; Gebhard, Chen & Britton, 2014). In one study for example, teachers learned about the distinctive structure and prominent features of texts that have an informing function and felt 'empowered to try report writing in their classrooms' (Brisk, 2011, p. 9). This finding is not surprising given the substantial body of research in applied linguistics that has analysed the genres of schooling (Martin & Rose, 2008). However, fewer studies discussed professional learning about the discourse semantic resources in texts that may reflect the chronological timing of linguistic research where discourse semantics has been given more recent attention. Another more recent area of research has been on the role of multimodal features in texts, such as the analysis of images (e.g., Chandler, O'Brien & Unsworth, 2010). The development of teachers' knowledge of multimodal resources in text creation responds to broad curriculum and language policy changes in recent years, as discussed in Section 3.

#### **8.5.3.2.1 General changes in teaching practices**

Teachers' new knowledge about language was related to a number of changes in educational practice. These include increased confidence in integrating knowledge about language in classroom teaching, new ways of introducing new language knowledge to students, and teachers using language knowledge in diagnostic assessments of students' work.

In a number of studies, developing KAL in professional learning experiences was related to teachers' increased confidence and a sense of empowerment (e.g., Brisk & Zisselsberger, 2011; Brisk, 2011; Brisk, 2012). Brisk (2011) reports, for example, that teachers had the confidence to teach text types, such as information texts, that they had not previously taught explicitly to students. Importantly for PL design, more confidence in using new knowledge about language has been related to ongoing mentorship after initial PL experiences. In particular, the continued 'elbow-to-elbow' work has been shown to support teachers to more confidently integrate KAL into curriculum subject matter (e.g., French, 2010; Gebhard & Willet, 2008; Gibbons, 2006; Schleppegrell, 2013; de Oliveria & Lan, 2014; Gebhard, Chen & Britton, 2014).

The second change related to teaching involves how teachers introduced new knowledge about language to students. Jones (2001) and Gibbons (2006), for example, reported that teachers related new KAL to students' existing knowledge. Such connections are regarded as fundamental to making new language concepts accessible and relevant to students and in building cumulative knowledge about language. As Gibbons (2006) has explored, explicitly connecting knowledge to students' past experiences and texts from previous lessons supports 'long conversation' about language choices. Learning about language is thus positioned as an extension (rather than a replacement) of what students currently know.

A final change related to changes in teaching involves the use of SFL understandings of language in assessment of writing. For example, a number of researchers have reported that teachers conducted diagnostic text analysis to inform their instruction (Schleppegrell & Go, 2007; Gebhard, Demers, Castillo-Rosenthal, 2009; Brisk, 2012). In Schleppegrell and Go's study, for example, teachers and researchers used diagnostic assessment to identify the language areas, such as process types that students currently had control of and those that they needed further support with. These findings highlight how knowledge about language was integrated into the 'core business' of teaching, rather than as an extra 'add-on'.

#### **8.5.3.2.2 Specific changes in methods of instruction**

In addition to general changes to teaching practices, the SFL studies reported specific changes in methods of instruction. The studies consistently reported that, after professional learning, teachers tried new explicit methods of instruction with which to teach and integrate knowledge about language (e.g., Rothery, 1986; Dare & Polias, 2001; Quinn, 2004; Gebhard, Harman & Seger, 2007; Gebhard & Willet, 2008; French, 2009; Rose, 2010; Brisk & Zisselsberger, 2011; Brisk, 2012; Gebhard, Graham, Gunawan, 2013; Palinscar & Schleppegrell, 2014). The most commonly reported new instructional practice was the modelling of texts (i.e., the first step in genre-based writing pedagogy). This instructional step was usually used to create a foundation of language knowledge that was then drawn upon in subsequent guided reading and writing classroom activities. In other words, teachers used a planned sequence of support to introduce language knowledge to students and provided students with opportunities to practice and develop this knowledge. These practices often contrasted with classroom teaching prior to professional learning, where teachers typically had few guidelines for how to teach writing (Brisk, et al, 2011).

#### **8.5.3.2.3 Changes in teacher-student interactions**

The third significant area of change was in teacher-student interactions. During the enactment of new teaching methodologies, studies reported changes in teachers' classroom interactions, including: engaging students in more extended conversations about language (Gibbons, 2006); supporting students to critically discuss texts (French, 2009); using interaction to co-construct knowledge with students (Jones, 2001); shifting interpersonal roles in terms of who had the authority to validate knowledge (Hunt 1991); using new phases of talk where teachers prepared, elaborated on, and praised students' verbal contributions (Rose, 2010); using interaction to create intertextual links across lessons (Gibbons, 2006); and providing students with more elaborate explanations (Moore & Schleppegrell, 2014). These aspects of classroom interaction are underpinned by the use of metalanguage to identify and talk about language constructs. Most excerpts of classroom talk showed little adaptation of technical terms about language, i.e. terms in

linguistic theory were often used in the classroom. However, studies by Quinn (2004) and Rose (2010) provided exceptions where teachers used question prompts, rather than technical terms, to talk about language with students. These examples highlight the enactment of different kinds of metalanguage (i.e., not just technical terms) and its central role in building knowledge about language with students.

### **8.5.3.3 Findings about students' learning outcomes**

The most prevalent finding related to students is that they improved in language areas that were explicitly taught. Students, for example, wrote more complex genres (Rothery, 1986; Dare & Polias, 2001; Brisk et al 2011), used register appropriate language (Derewianka, 1990; Gebhard, Harman & Seger, 2007), wrote oral dialogues with appropriate verbal processes and accurate punctuation (French 2012), showed greater control of attribution/use of evidence (Palinscar & Schleppegrell, 2014) and deeper understanding of images (Brisk, forthcoming; Chandler, O'Brien & Unsworth, 2010). Students' writing of a greater range of genres was also related to the field. For example, Brisk and Zisselsberger (2011) observed that through writing different genres, students wrote about more varied themes, and de Oliveria and Lan (2014) reported that students' writing showed an increase in field-specific technicality. The close relationship between learning new genres and the subject matter provides further evidence of how teachers supported students with curricula content through language instruction.

The explicit teaching of language knowledge by teachers was also related to changes in how students interacted in the classroom. Studies reported that students drew on the introduced knowledge about language to talk about the function of grammatical choices in making meaning (Hamilton, 1998; Schleppegrell 2013; Moore & Schleppegrell, 2014) to critically analyse the structure of narratives (French, 2009), to evaluate each other's work (Dare & Polias, 2006), and to analyse interpersonal relationships in visual images (Brisk, forthcoming). Thus, the knowledge about language that teachers gleaned from their professional learning experiences was not restricted to

'teacher-only' use, but rather shared and made accessible for students to use in classroom interaction.

Fewer studies directly relate the emergence of new classroom metalanguage to students' learning outcomes. While Quinn (2004) provides a detailed account of how one student's oral talk about language was related to substantial improvements in her writing, Brisk and Zisselsberger (2011) observe that teachers attributed their students' improvement to explicit instruction; quantitative findings are sparse. These findings reflect that while students' achievement levels may be mentioned (as in Polias & Dare, 2006) or specified in a small data set (as in Gebhard, Chen & Britton, 2014), they are rarely elaborated on in large-scale analyses of pre- and post-professional learning testing.

## **8.6 Current gaps in SFL studies of professional learning in elementary school contexts**

The previous section has highlighted a number of areas that have been a focus of SFL-informed professional learning with elementary teachers. These include developing and extending teacher's knowledge about language (particularly of genre), introducing explicit teaching methods, and using classroom metalanguage in interactions with students. Past research has also focused on how the content of professional learning relates to changes in student activity, including students' composition of more complex genres and their ability to draw on the introduced language knowledge in their classroom talk with teachers as well as each other. Although the reviewed research has consistently documented changes in classroom activity, fewer studies have measured the effectiveness of professional learning in terms of quantitative changes in internal or external testing or provided detailed qualitative analyses of students who were able to write more complex genres with greater control of specific language features. The limited focus on linking professional learning to student achievement is a concern in terms of the current push for 'evidence-based' research in the development of language policies (see previous discussion in Section 3). This current limitation is not

restricted to SFL-informed professional learning studies. As Vesico and colleagues (2008) critique, studies of professional learning in general ‘must be able to articulate their outcomes in terms of data that indicated changed teaching practices *and* improved student learning’ (p. 82, our emphasis). This critique is particularly relevant to designing and planning professional learning research.

The second area of limited reporting concerns the detailed discussion of professional learning design. While professional learning literature is rich in the discussion of staged or cyclic models of professional learning (see, for example, Timperley, Kaser and Halbert 2014; Timperley, Wilson, Barrar and Fung 2007; Borko 2004), the reviewed SFL studies have tended not to elaborate on processes of creating and customising professional learning experiences. Few studies, for example, report on the initial assessment of teachers’ language knowledge (or students’ current language use) and how this relates to the content of professional learning workshops. This lack of elaboration makes it difficult to relate specific design steps to teachers’ participation and uptake of professional learning content and also more difficult to extract the design principles that arise from the research findings. These issues are particularly important to comparative research studies and building a body of literature that articulates ‘what works’.

Finally, few SFL studies have focused directly on multilingualism in professional learning. Previous studies have observed elementary teachers using students’ first language as a ‘bridge’ to learning English (e.g., Dare & Polias, 2001) and teachers and researchers have used SFL theory to analyse the writing of multilingual students (e.g., Gibbons, 2006; Schleppegrell & Go, 2007; Gebhard, Demers, Castillo-Rosenthal, 2009; Brisk, 2012). There is little SFL research that closely investigates how teachers and students draw upon their knowledge of other languages in the process of teaching and learning English. Research that investigates functional perspectives on language may provide insight into these processes. However, issues of register may also be pertinent, as broader SFL research has shown that the challenge of managing ‘academic’ registers of language use is common to students from a wide range of linguistic and cultural backgrounds (Christie & Derewianka, 2008;

Schleppegrell 2004).

## 8.7 Summary

The review of PL informed by social-semiotic theory provides strong evidence that extending teachers' knowledge about language supports students' language and literacy learning and provides essential resources for broader inquiry. In particular, a systemic view of language can support teachers to recognise, connect, and explain language patterns in texts targeted for composition as well as in texts students read and critique. In terms of pedagogical practice, the review has found that teacher-guided analysis of exemplar texts, composed for authentic learning purposes, provides a valuable context to support students' critical inquiry of 'how texts work'. A crucial resource for guided, collaborative, and independent inquiry of meanings in text was found to be a shared metalanguage—a language for talking about language. A metalanguage informed by systemic functional linguistics was found to support students' confidence in composing valued curriculum texts and their understandings about language use across curriculum contexts. These findings highlight areas of PCK that are related to language teaching and learning and are essential for the successful integration of deep language knowledge in specific teaching and learning contexts.

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## 9. Summary of findings

Overall the findings suggests that professional learning will have most benefit to PYP teachers in early childhood and elementary grades when it

**includes both the *what* and the *how* of language teaching and learning.**

Knowledge about language needs to be presented systematically and organised as an area of learning. However, developing deep knowledge of language functions is best accomplished with specific guidance in how it can be explicitly and creatively shared with students as a resource for learning. Applying explicit instructional methods involves designing new classroom activities and new ways of talking with students, which are likely to require ongoing mentoring. The language theories of SFL and related pedagogies are ideally suited to designing professional learning for PYP teachers because of their incorporation of theories of language in context and language learning. These theories can support PYP teachers to develop deep pedagogical content knowledge about language and language learning.

More specific findings suggest that PL for PYP is beneficial when it

- **presents teachers' knowledge about language as a toolkit—a set of resources to support students' language and literacy development in authentic inquiry-based learning contexts.**

The PYP language curriculum is based on an '**inquiry-based**' pedagogic **approach** to teaching and learning in the elementary years. In terms of language learning, this approach includes supporting students to develop an understanding of 'how language works'. A fundamental principle of SFL is that language is functional, and learning about language involves learning about how texts that are relevant to learning are composed. Teachers need to be guided to connect knowledge about linguistic resources to how they are used in relevant and authentic tasks, most essentially, the tasks we provide for formative and summative assessment

of students' learning.

- **provides a shared accessible metalanguage for guided, collaborative, and independent inquiry of meanings in text.**

The PYP curriculum views **assessment as a form of feedback**.

Feedback about assessment tasks may be provided in the form of classroom conversations between teachers and students, peer feedback between students, and written comments about students' work. Feedback can be supported by effective use of technical and non-technical terms about language, qualities to describe patterns, body movement, gestures, and even intonation. It involves understandings that are not bound or 'stuck' to individual texts but focus on seeing types of patterns that are relevant to a range of texts.

- **provides space for building understandings of how KAL enables deeper critical awareness of texts and their construction.**

The PYP's focus on developing knowledge about language needs to support comparing, contrasting, and critiquing language patterns, i.e. examining language variation. SFL genre-based approaches in the primary years focus on providing access to specialized curriculum literacies through analysis of exemplar texts and through guided practice in using language patterns. Such practices build a foundation for developing knowledge to compare and critique texts, including positive and productive analysis of students' own creative composition and innovation.

- **includes ongoing expert mentoring in authentic classroom contexts.**

PYP values collaboration within its learning communities and networks, including the sharing of knowledge and resources. An essential part of collaboration is introducing new 'external' knowledge to extend what teachers current know, i.e. fresh input that forms the basis of further development.

- **includes collaboration and mentoring within schools.**  
In-school and across PYP network leadership and support, including mentoring within learning communities, is also essential. For sustaining professional learning, virtual learning communities can facilitate ongoing communication, not only with expert mentors, but also by sharing resources and reflecting on practices within larger PYP networks.
- **uses knowledge about language to support scholarly and playful learning about how texts work.**  
A critical aspect of the PYP curriculum that is relevant to PL design is the desire to **foster a joy of learning in students**. The process of learning about how texts are constructed and accessing more resources to use in one's own writing needs to be satisfying and enjoyable. This may be particularly achievable when language knowledge is not limited to the rules and conventions of language use but focuses more on how language works to create meanings in texts.

The findings of this report suggest that PL experiences that draw upon these recommendations will support teachers to understand how texts work and to share their language knowledge with students for the benefit of literacy development. These recommendations inform the design principles for the professional learning modules we will prepare with PYP teachers in international multilingual contexts, as stipulated in the final section.

## 10. Design principles for professional learning modules for PYP teachers

Through the analysis of the literature, we propose the following 12 design principles to guide the choice of pedagogical content knowledge and decisions related to the enactment of professional learning activity.

### **Design principles related to PCK**

1. PYP teachers have invaluable knowledge of their specific teaching contexts (including of their students, PYP curriculum and policies, and the sequencing and planning of lesson activities) that needs to be drawn upon prior to and during professional learning. This will cultivate teachers' ownership of their professional learning.
2. PYP teachers' engagement with language knowledge of the language in texts that are used for curriculum learning is essential for changing language teaching and learning practices and thereby improving student learning outcomes.
3. Language knowledge needs to have a functional orientation in order to support and be relevant to the practical inquiry of how language works in the PYP curriculum, including knowledge that enables PYP teachers and students to compare, contrast, and critique the language patterns in texts.
4. The exploration of how language works needs to focus on how systems of language make meaning (in SFL terms, a metafunctional perspective) and how these systems relate to the context in which texts are composed and received (in SFL terms, register and genre).
5. Developing knowledge about language needs to attend to grammatical and expression level patterns within sentences and discourse patterns across texts.

6. The introduced language knowledge must connect to specific assessment tasks and thereby focus on the language that researchers and teachers have analysed as essential to the language development and success of PYP students.
7. Developing deep knowledge of language is best accomplished with specific guidance in how it can be explicitly and creatively shared with students as a resource for learning.
8. Metalanguage is crucial for mediating language learning, i.e. making language constructs accessible, relevant, and fun to use in PYP classrooms.
9. For metalanguage to be accessible to PYP teachers and students, it needs to involve a range of ways to identify and talk about language, such as the use of technical and non-technical terms, body movement, gesture, and intonation, etc.

### **Design principles related to enactment**

10. For professional learning to be successful and sustainable, PYP teachers need ongoing support from expert mentors as well as collaboration within school communities and PYP networks.
11. Analysing and assessing the impact of professional learning practices in schools that host PYP requires the collection of data before and after professional learning activities, including data that enables the connection between knowledge, changed classroom practices, and change/lack of change in the learning of students.
12. Iterative cycles of professional learning activity with PYP teachers supports the gradual refinement of PL design and content.

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