

A reading based model of schooling

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This paper outlines a model of formal education that treats reading as its fundamental mode of learning, and learning to read as the underlying goal of its pedagogic practices. The model is developed from three theoretical perspectives, firstly Bernstein's (1990, 1996) sociological theory of education as a pedagogic device, secondly an analysis of language and language learning grounded in systemic functional linguistics (SFL) (Halliday 1993, Martin & Rose 2003, 2007, Painter 1998), and thirdly from action research in literacy teaching conducted over three decades by the Sydney School (Martin 2006, Martin & Rose 2005). The model is a dynamic one, interpreted at three scales of change, the evolution or *phylogenesis* of schooling as a cultural institution, the individual development or *ontogenesis* of learners, and the unfolding or *logogenesis* of its discourses, including the learning interactions in which reading skills are acquired. The goal of the model is to describe conditions internal to education that produce unequal outcomes, enhancing the opportunities of some students while disadvantaging many others, as a foundation for designing a pedagogic practice that can overcome this disadvantage (Rose 1999, 2004a, 2005, 2006, Rose & Acevedo 2006a&b, Rose, Gray & Cowey 1999, Rose, Lui-Chivizhe, MacKnight & Smith 2004). Development of the model integrates action and reflection: observations in practice continually enrich and modify the theory, which in turn refines and expands the practice.

1. Phylogenesis

The model interprets schooling as a cultural institution that is continually evolving along with its socioeconomic contexts, from its roots in medieval monasteries and trade guilds, through the centuries of Europe's world colonisation and industrialisation, to the current post-colonial condition. Formal education is assumed to have evolved in tandem with the evolution of modern written modes of meaning, in the developing fields of science, technology and social administration (Halliday & Martin 1993). Its function is first and foremost to apprentice certain groups of students into these fields, primarily through reading their written discourses. In the process of developing these written discourses and teaching its students to read them, education has also developed sets of practices and discourses that are partly autonomous from the economic base, and which have had a profound influence on the evolution of contemporary cultures, including the fields of literature and other arts and the mass media.

A sociological theory that is broad enough to describe this evolving system is Basil Bernstein's model of what he calls the *pedagogic device*. Bernstein's is a social semiotic theory, that describes how systems of meaning are reproduced and transformed across generations. At its most general level, Bernstein distinguishes three sets of organising principles or rules, that operate in any education system:

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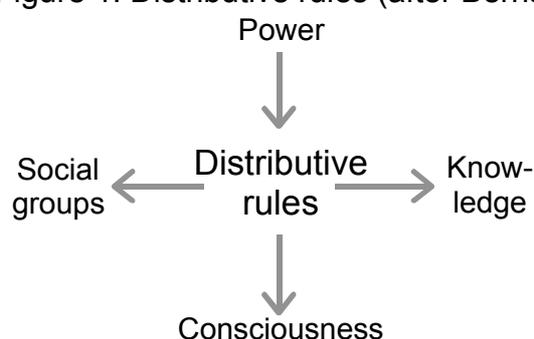
Distributive rules regulate relationships between power, social groups, forms of consciousness and practice...who may transmit what to whom and under what conditions.

Recontextualising rules regulate formation of specific pedagogic discourse... pedagogic discourse selects and creates specialized pedagogic subjects through its contexts and contents.

Evaluative rules constitute any pedagogic practice...the key to pedagogic practice is continuous evaluation...evaluation condenses the meaning of the whole device (1996:42-50).

Bernstein's 1996 diagram of distributive rules places *Power* at the top as their motivating principle, with *Social groups*, *Knowledge* and *Consciousness* as the domains that they organise.

Figure 1: Distributive rules (after Bernstein 1996)



In earlier phases of his theory (1975-90) Bernstein distinguished two categories of consciousness, as *restricted* and *elaborated* orientations to meaning, or *coding orientations*:

We are arguing that elaborated orientations, and even more elaborated codes are the media for thinking the 'unthinkable', the 'impossible' because the meanings they give rise to go beyond local space, time, context and embed and relate the latter to a transcendental space, time and context. A potential of such meanings is disorder, incoherence, a new order, a new coherence.

Bernstein 1990:182

In more prosaic terms the restricted/elaborated distinction simply means access to one, or more than one, way of interpreting experience. Elaborated coding orientations have been compared with Vygotsky's notion of 'high order consciousness', which are claimed to be characteristic of educated social groups, but less so of oral cultures (Hasan 2004). But Bernstein makes a crucial distinction between elaborated orientations to meaning, and elaborated codes that are characteristic of written discourses. Elaborated orientations are realised, for example, in the religious cosmologies of oral cultures, but their "code of cultural transmission, *the relay itself*, is not an elaborated code" (1990: 251).

What I want to draw attention to is this 'relay itself', in other words written discourses. Differences between spoken and written ways of meaning are well described in SFL, in terms of alternative ways of construing experience of the world, and alternative patterns of organising discourse (Halliday 1989, Halliday & Martin 1993). But another aspect I'd like to focus on here is from the perspective of social interaction. From the interpersonal

angle the striking contrast between spoken and written discourse is that speaking typically involves interacting directly with one or more other people, whereas reading and writing involve interacting not with a person but with a book (or its electronic equivalent).

As highly literate readers and writers it is easy to take this distinction for granted, but for a child from an oral family culture it takes on another significance altogether. For such a child, interacting with a book as though it is a person may be a very strange form of consciousness indeed. It is perhaps for this reason that literate middle class parents typically spend around 1000 hours reading books with their children before they start school (Adams 1990), and that many children from oral cultural backgrounds do not learn to read in the first years of school, and may never learn to read fluently. In order to read with understanding and engagement it is essential to conceptualise the book as a partner in an exchange of meaning. Without the orientation to books that middle class parents give their children, it appears to be very difficult for some children to arrive at on their own.

These different orientations to written discourse have consequences right through children's school careers, and on into their adult life and work. Professional occupations are underpinned by a body of accumulated knowledge that is learned primarily through reading; vocational occupations involve less reading and are learnt more through practical training; while manual occupations are learned primarily through personal demonstration. So coinciding with Bernstein's restricted and elaborated categories, I am going to distinguish two general forms of consciousness produced by the distributive rules of the pedagogic device: an orientation to interacting directly with people, and an orientation to interacting with books. Some of us from oral cultural backgrounds have experience with just the first, and some of us have experience with both, in varying degrees. Literacy is often claimed to produce capacities for qualitatively different ways of thinking that are 'abstract' or 'decontextualised', but I suggest that the basis for such orientations lies in reading's alienation of meaning making from direct interactions with people.

As reading is abstracted from the context of social interaction, so school *recontextualises* discourses and practices from the culture and economy to the context of the classroom, for example from the industrial activities of scientists or carpenters to the curriculum subjects of science and woodwork. Bernstein defines pedagogic discourse as "a principle by which other discourses are appropriated and brought into a special relationship with each other, for the purpose of their selective transmission and acquisition" (1996:47). That 'special relationship' is of course the curriculum, and 'transmission and acquisition' are technical terms for the activities of teaching and learning.

However the school's recontextualising rules produce two dimensions of pedagogic discourse: an *instructional discourse* "which creates specialised skills and their relationship to each other", and a *regulative discourse* "the moral order which creates order, relations and identity...the regulative discourse is the dominant discourse" (1996:46). The regulative discourse is interpreted by Martin & Rose 2005 as the context of the school, including its social relations (teacher-students, student-student), its modalities of learning (spoken, written, visual, manual) and its teaching activities that project the 'content' of the curriculum, i.e. the instructional discourse. The instructional thus emerges from the regulative, whose practices, relationships and modalities shape

how different groups of students acquire the curriculum. This is why pedagogic discourse 'selects and creates specialized pedagogic subjects', even though the curriculum may appear to be the same for all students. While our attention is focused on teaching skills and knowledge, the dominant outcome of our practices is differences between students.

What is the nature of the order, relations and identities created by the regulative discourse? I suggest that these are continually apparent to all teachers in all our classrooms in every day of our practice. The dominant moral order within all our classrooms is one of inequality, as it is within and between schools, within and between communities, within and between nations; the moral order of the classroom recontextualises the social order that it serves to reproduce. The inequality of so-called 'abilities', participation, outcomes and learner identities is the fundamental structure that all teachers continually work with. In the model developed in this paper, the origin of these inequalities lies in students' different abilities to engage with instructional discourses, primarily through reading. These differences begin with experiences in the home and are amplified and evaluated by the pedagogic discourse of the school.

The distributive rules have evolved to unequally distribute privileged forms of consciousness, in the interests of the social groups that exercise control over the system. Recontextualising rules have evolved to shape pedagogic discourse, so that it provides unequal access to written discourses through reading. But for Bernstein "evaluation condenses the meaning of the whole device"; evaluative rules "act selectively on contents, the form of their transmission, and their transmission to different groups of pupils" (1996:118). They transform texts into curriculum contents, and then evaluate learners on their skills in acquiring these contents, and their skills in demonstrating their acquisition. This evaluation then determines how and what will be transmitted to different groups of students.

Evaluative rules have evolved to legitimate and cement the unequal access to written discourses that pedagogic discourse affords. By reconstruing written texts as curriculum contents, they background the fact that these contents are transmitted primarily through reading, and that their acquisition is demonstrated primarily through writing. As a result the overt focus of educational practice at all levels is on transmitting curriculum contents, rather than on the literacy skills needed to acquire them. It makes no difference if these contents are construed in terms of academic subjects, of personal or cultural growth, or of a critical stance, they all serve to mask the underlying skills required for acquiring these contents - by learning from reading, and so to divert pedagogic practice from explicitly teaching these skills.

2. Ontogenesis

At the level of ontogenesis, the focus of the model is on the stages of schooling in which privileged written discourses are acquired, at least by some students. At this timescale we find that the recontextualising rules produce a hidden curriculum that underlies the whole sequence of schooling, an instructional discourse that is masked by the overt curriculum of subject 'contents'. This crypto-curriculum is aimed ultimately at the high level reading skills required for university study by the most successful student group. Successful students acquire such elaborate skills by independently processing large quantities of texts across the curriculum over six years of secondary school, learning to recognise, understand and reproduce their language patterns, without being explicitly

taught how to do so. The strategy of leaving these reading skills for tacit acquisition simultaneously ensures that success remains limited to this small minority, and that the majority who are not as well prepared for independent tacit acquisition are directed to vocational and manual occupations.

We can distinguish five general stages in this underlying reading curriculum. Each stage prepares successful students with the skills they will need in succeeding stages. But what students are evaluated on is skills that they have or have not acquired in each preceding stage. In this way evaluative rules work in tandem with recontextualising rules at each stage, to relentlessly differentiate students in the school's hierarchy of success and failure.

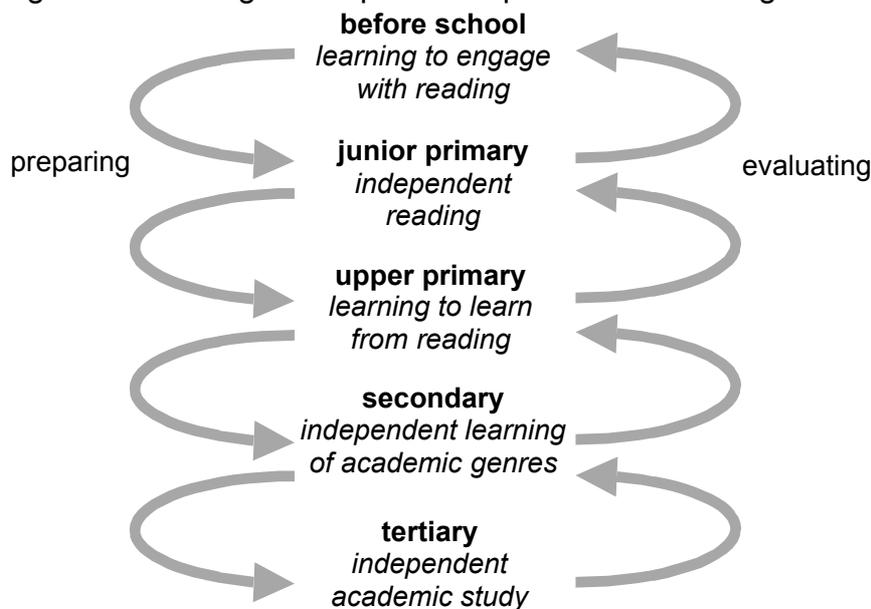
The first stage of the reading curriculum begins for successful students with parent-child reading in the home, which functions to orient young children to written ways of meaning and to the book as a partner in communication. Junior primary teachers are trained in strategies which value add to this learning in the home, teaching the alphabet and letter sound correspondences, reinforcing engagement with written stories through shared book reading sessions, and providing opportunities for independent practice with silent reading periods. The overt curriculum in junior primary is construed in psychological terms, as development of the child's personality, but the underlying goal is for independent reading by the end of Year 2 or 3. The necessary condition for this, as I have said, is engagement in reading as a communicative activity, that is prepared for in middle class homes. Children are continually evaluated in the early years for differences in their learning 'abilities', which are construed psychologically but originate primarily in home reading practices.

For success in school, it is essential that children are reading independently with comprehension and engagement by the end of junior primary, because the next curriculum stage in upper primary is geared to developing skills in learning from reading. While reading as a communicative activity is a difficult concept for young children, learning from reading is doubly so, as the typical mode of learning in all cultures is through practice that is modelled, directed and guided by another person. In order to recognise the book as a teacher it is necessary first to recognise it as an interactant. However skills in learning from reading are rarely taught directly in the primary school, indeed the teaching of reading in general falls away after the junior years. Rather the overt curriculum focus is on learning topics across subject areas, often known as curriculum 'themes'. A variety of activities are used by upper primary teachers to engage children with these topics, using a mix of teacher input and support, group activities, and individual reading and writing. Many of these activities foster the underlying goal of independently learning from reading, without teaching it explicitly. Students at this stage are evaluated on their differing abilities to acquire the curriculum content, demonstrated in writing and class participation, but acquisition depends on skills in reading that are acquired in the early years.

Again, it is essential that students are able to independently learn from reading at the start of secondary school, where reading becomes the primary mode of learning. As Bernstein puts it, "beyond the book is the textbook, which is the crucial pedagogic medium and social relation" (1990:53). Classroom activities across the secondary curriculum have evolved to prepare students to read for homework, and to then build on what they have learnt from reading. Without the requisite skills in learning from reading, students can neither succeed with their homework, nor engage with classroom activities

at the level expected of their grade. In the high school these reading skills are rarely taught at all. Instead teachers are pressured to cover the curriculum content that the syllabus demands, allowing little time for teaching skills in reading and writing this content. They are also typically burdened with a wide range of so-called 'ability levels' in their classes, and are constrained to meet the needs of the successful few at least, and the average group at best. In such a context, students who are least prepared by the home, by the early years of school, and by the upper primary years, typically reach the limits of their so-called 'abilities' by Year 9. Instead of experiencing high school as a gateway to the future, these students frequently experience it as a waste of time, in which their identities are continually invalidated. By contrast, in studying the facts and fictions of curriculum content, successful secondary students tacitly acquire a rich experience of the language patterns of academic and literary texts. Rarely are they recognising and using these patterns consciously, rather they are using the skills they began acquiring tacitly in the home, and elaborated in the primary school, to intuitively recognise and use the meaning making patterns of written texts. The underlying curriculum goal of the whole of secondary schooling is to prepare these students for independent reading and writing of academic texts when they get to university. The five stages of reading development in the educational sequence are illustrated in Figure 2.

Figure 2: Reading development sequence in schooling



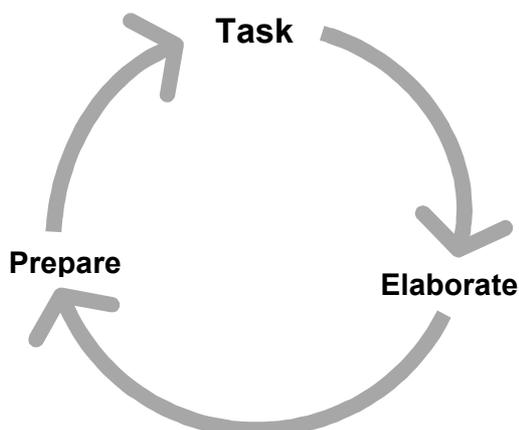
This then is the ontogenetic sequence in which reading skills develop in the school curriculum. Although the pacing of transmission and acquisition varies in each stage of schooling, slowly in early years and accelerating towards senior secondary, the sequencing and pacing of the reading development curriculum as whole is inflexible. If one is slow to acquire the requisite skills in a preceding stage, they will not be made available in following stages except in exceptional circumstances. Yet this age based sequencing is entirely arbitrary. Bernstein points out that "the age by which a child should be able to read is a function of the sequencing rules of the pedagogic practice of the school" (1990:75). For example Scandinavian countries do not traditionally start school until age 7, yet children in Anglophone countries they are expected to be independently reading by this age (Stephen 2006). Likewise, the age that students acquire each subsequent level of reading skills is also determined arbitrarily by the sequencing rules. Sequencing and pacing are dimensions of the regulative context, functioning to differentiate students on their readiness to meet the evaluation criteria at

each stage. In this light it is highly significant that so-called 'learner-centred' progressive pedagogies advocate slower pacing for students who are not able to meet the criteria, and actively oppose explicit transmission of generic skills in reading and writing (Martin, Christie & Rothery 1987). The inevitable result of slower pacing is that these students will be even less prepared for subsequent stages. By middle secondary they will fall so far behind in the pacing of the reading development curriculum that the overt curriculum must be stratified into two or three levels in each subject area. The lower level strands continue with slower pacing, while the upper strands accelerate towards university matriculation.

3. Logogenesis

Skills in reading and learning from reading are acquired through cycles of *logogenesis* or unfolding of texts, spoken and written. In our model these are termed *scaffolding learning cycles* (Rose 2004a, 2005) and are used as a framework for analysing and designing teaching practices. The analysis is predicated on an assumption that learning involves successful completion of learning tasks. The task may be to articulate new words as a child learns language, or to create an object through manual activity, or to read an academic article or listen to a lecture with critical understanding. In order for learners to successfully carry out learning tasks, we have to assume that they have been prepared in some way to do so. In everyday contexts, learning tasks tend to be prepared by a parent, teacher or more experienced peer modelling an activity, that learners then try for themselves. That is, a teacher shows how to do the task, before the learner practises it, such as a manual skill (Gamble 2003, Greenfield, Maynard & Childs 2000) or learning language in early childhood (Painter 1998, 2004). At its most basic this is what scaffolding means: preparing learners to perform a learning task successfully by showing them how to do the task. The preparation may occur immediately prior to the task, or at any time previously, and the task may be repeatedly modelled before the learner first performs it. But in addition to preparing learners for a task, learning activities often involve a third step, during or after the task is done. For example, when a young child uses a new language feature, a parent will often repeat it with correct pronunciation in a whole sentence. The child can absorb this new information because it elaborates what he or she can already do. In the classroom we often use students' responses to our questions to move on to the next step in a lesson, elaborating on what they already know. So the scaffolding learning cycle consists of three steps, *Prepare*, *Task* and *Elaborate*, illustrated in Figure 3.

Figure 3: Scaffolding learning cycle



The scaffolding learning cycle specifies the processes of social learning that Vygotsky called the *zone of proximal development*. Vygotsky's spatial metaphor objectifies the learning process, and this has opened it to manipulation to legitimate individuated theories of learning (Inghilleri 2002), it can become just a space, a context where learning is supposed to occur diffusely. The same is true for metaphorical abstractions such as *semiotic mediation* and *activity theory*, that also objectify and freeze the learning process in order to theorise its elements. In contrast the scaffolding learning cycle temporalises the learning process, describing how learning actually unfolds in steps with the guidance of a teacher. This is an empirical description of how learning occurs, rather than an ideological prescription for how it should occur. As a dynamic description of learning as unfolding interaction, it dissolves manipulative non-empirical dualisms, such as teacher-centred vs learner-centred and process vs product.

The analysis can be applied to teaching practices at three time scales. At each level we can ask what is the nature of the task that learners are expected to perform, how thoroughly they are prepared to perform the task successfully, and whether successful completion includes an elaborating step. Firstly we can apply the analysis to the global level of learning sequences, where the goal is a completed activity of some kind, such as a technological procedure or a written assignment. In the school context, Christie (1993) describes this as a *curriculum macrogenre*, a series of spoken and written texts comprising an integrated whole, and concluding with an assessment task. We can ask whether the activities preceding this task were adequate for all learners to successfully complete it, and whether successful completion is elaborated with another learning sequence that builds on it. Secondly we can use the scaffolding learning cycle to analyse individual learning activities, each of which may involve a micro-task, that may be a component of the global task expected from the lesson sequence as a whole. In the school this is the level of planning lessons. Again we can ask how learners have been prepared for such tasks, such as performing a step in a manual procedure, doing a maths sum, or reading a paragraph of text aloud, and then ask how the task is followed up. Evaluation is always a component of the step following task completion in any context, but in school such evaluation often consumes the whole of the follow-up. Its regulative function is to rank students on their success or failure in completing the task. Thirdly the scaffolding learning cycle can be applied to analysing the continual micro-interactions between teachers and learners that constitute classroom discourse. This is the level at which order, relations and identities are created in the everyday discourse of the classroom.

At the level of classroom interaction, the primary task for students in each scaffolding learning cycle is to respond to teacher questions. This pattern is endemic in classroom discourse, described as 'triadic dialogue' or the Initiation-Response-Feedback 'IRF' cycle by Sinclair & Coulthard 1975 and many others (Gibbons 2002, Lemke 1990, Mercer 2000). Some progressive theorists advocate that students should initiate these cycles rather than the teacher (e.g. Wells 1999), but in reality the teacher first needs to prompt the students to do so. In both instructional and regulative spheres, the teacher is the one with authority in the classroom; we interact with students by asking questions, to which students respond. Under certain circumstances, students also ask questions, express opinions or recount their experience, but usually in response to preceding cycles that the teacher has initiated. And ultimately it is the teacher's role to evaluate these responses.

In our analyses of learning interactions, we have found two general kinds of task demanded by teacher questions: if the class is reading a text the task is to *identify* some element of the text, whether a wording or a graphic feature such as an illustration or chart; if the task is not to identify a text element, it is to *select* an element from students' experience, whether this is personal experience, concepts previously studied, or new elements to contribute to a text. The teacher may prepare students to give the desired response, or simply assume that they already have the resources to respond successfully. And the response may be elaborated with new understandings of the element that has been identified or selected, or the response may be simply affirmed or rejected. Our analyses using the scaffolding learning cycle, are distilled in the following types of exchange moves:

<i>Query</i>	teacher asks a question without preparing (or students ask question)
<i>Prepare</i>	teacher provides information to enable successful responses
<i>Identify</i>	students identify element in a text
<i>Select</i>	students select elements from experience
<i>Affirm</i>	teacher affirms student responses (or students concur)
<i>Reject</i>	teacher rejects response by negating, ignoring or qualifying it
<i>Elaborate</i>	define new terms, explain new concepts or relate to experience (by the teacher or through discussion with students)
<i>Instruct</i>	teacher directs an activity

This analysis is illustrated in Rose 2004a and 2006, for parent-child reading in the home and the early years of school. Here we will examine two interactions from the upper primary school (from Black 2004). In the first, from a Year 5 maths class, an unprepared Query works for the teacher, because at least one student can select the response she needs, which can then be elaborated on.

Exchange 1: Successful student

Teacher	How would we represent that sort of information? All that information on one graph.	Query
Phillip	<i>You could put them...like the Monday underneath it like that.</i>	Select
Teacher	You could.	Affirm
	You could put Monday, Tuesday, Wednesday, Thursday, Friday at the bottom of your graph.	Elaborate
	That's true.	Affirm
	So let's assume it's going to be just like most graphs – it has a vertical and a horizontal axis and at certain points it has little bits of information.	Elaborate
	And at the bottom Phillip you're suggesting in these boxes at the bottom we put Monday, Tuesday, Wednesday, Thursday, Friday [drawing it on the board].	Affirm

The aim of the teacher's question here is to use the successful student's response to move to the next step in the lesson, elaborating it with more technical information. Phillip is able to give the desired response because he has some experience in reading the genre (the graph) that the teacher is constructing. In the process he is continually affirmed and re-affirmed. Unprepared questioning works in most classrooms most of the time because there are usually enough Phillips in each class that can provide the successful responses to teacher questions, that enable us to move from one step to the next in a lesson, confident that we are engaging at least some of our students. Most teachers also try to get weaker students to infer answers like Phillip, but it rarely works as well, as shown in the next exchange.

Exchange 2: Unsuccessful student

Teacher	[pointing to the centre of the Venn Diagram in the textbook] So B will go right in the middle there, won't it Hasan? B. Do you see why it will go in the middle there?	Query
Hasan	[no response]	
Teacher	Do you see why it will go in there? Can you explain why?	Query Query
Hasan	<i>It's got five faces.</i>	Select
Teacher	Pardon?	Query
Hasan	[louder] <i>It's got five faces.</i>	Select
Teacher	Good, it's got five faces. What else?	Affirm Query
Hasan	[no response] [Top pupils have their hands up]	
Teacher	That's one reason why, that's not the only reason why it can go in the middle, is it? [points to one circle in the Venn Diagram] What's that say there?	Query Prepare
Hasan	[reading from textbook] <i>Red.</i>	Identify
Teacher	[points to another circle in the Venn Diagram] What does that say there?	Prepare
Hasan	[reading from textbook] <i>Has at least one square face.</i>	Identify
Teacher	And that has got a square bottom hasn't it?	Elaborate
Hasan	<i>Yeh.</i>	Affirm
Teacher	An' it's red and it's also got five faces, so that's the only shape that will go in the middle, the rest you're gonna have to decide, some might go in between red and has a square face or might go in between red and has five faces, it might not belong in any of them, in which case you put the letter outside the Venn diagram.	Elaborate

The teacher twice rephrases her question before Hasan can murmur a response, which she is asked to repeat before it is affirmed. Hasan's small success then encourages the teacher to demand another inference which Hasan cannot supply, while other students have their hands up. The teacher's reaction is to simplify the task to just reading out words in the text. The teacher then uses Hasan's correct responses as a stepping stone to give information to the whole class. While the teacher may assume that Hasan has learnt from trying to infer the correct response, to Hasan it has merely confirmed her identity at the bottom of the ability hierarchy in the class. The dominant function is always regulative.

These patterns of classroom discourse differ in two important dimensions from scaffolding interaction cycles outside the school, such as parent-child reading or manual activities. The first is instructional: scaffolding interactions beyond the classroom typically prepare learners, either by giving them the information to respond with, or assuming it from information shared in prior interactions. But initiating moves in the classroom typically ask learners to infer the information to respond with: there is a semantic gap between the preparation or query and the desired response, that learners are expected to bridge from their own resources. Judging just how much of a semantic gap to give learners is a skill that teachers acquire tacitly; more experienced teachers who know their students' capacities may be able to make such judgements more consistently, but we all experience failures of judgement such as Exchange 2. The other dimension is evaluative: interactions outside the classroom typically begin with a preparation, but inside the classroom with an unprepared question, ensuring that some students will be better able to respond than others. Neither of these classroom practices - demanding inferences through unprepared questions - are ever wholly intentional. Like the scaffolding interaction cycle as a whole, we acquire them tacitly through our years of experience as students and apply them intuitively as teachers.

The inferential demands of classroom discourse serve the regulative function of evaluating students on their abilities to respond. But for the successful students they

also serve an instructional function, supporting them to intuitively recognise patterns of semantic relations between the teachers' questions and their own responses. Affirmation of successful responses reinforces valued semantic relations in learners' memories for recall in similar contexts. How do teachers know the semantic relations to apply in interactions, without being explicitly trained to do so? One source perhaps is the continual interplay between spoken and written modes of meaning that constitutes teaching practice, and much of everyday discourse in literate cultures; another is directly from reading, since such semantic relations are continually being constructed by authors as texts unfold. As classroom questions are typically only indirectly related to a written text, they privilege those students who are most experienced in negotiating semantic relations between oral and written discourses.

4. Regeneration

These analyses of classroom discourse illustrate how the evolution of the pedagogic device, on the timescale of phylogenesis, is realised in the sequences of curriculum and teaching activities, on the timescale of ontogenesis, which are in turn realised in cycles of interaction, on the timescale of logogenesis. Distributive rules shape the sequence of reading development through the years of schooling from home to university. Recontextualising rules shape the structuring of pedagogic discourse so that it privileges orientations to reading developed in middle class families. Evaluative rules shape the school curriculum so that it masks its underlying function of reading development, and shape the cycles of pedagogic discourse so that it affirms students who know how to interact with books and negates students who don't.

These structures and processes have evolved with the institution of schooling so that they appear natural and inevitable. Schools, and much of the educational theorising that surrounds them, actively promote this illusion, as Bernstein describes:

The school must disconnect its own internal hierarchy of success and failure from ineffectiveness of teaching within the school and the external hierarchy of power relations between social groups outside the school. How do schools individualize failure and legitimize inequalities? The answer is clear: failure is attributed to inborn facilities (cognitive, affective) or to the cultural deficits relayed by the family which come to have the force of inborn facilities (1996:5).

But it doesn't have to be so. Pedagogic discourse is vulnerable to radical change in an era of globalising economies, as individuals, families and nations turn to education as the only viable route to economic equality. The anti-democratic biases of the pedagogic device can be subverted by redesigning our practices at the levels of curriculum sequencing and classroom interaction. Firstly by placing reading at the centre of classroom practice, and explicitly teaching all students how to read and write the texts that realise their curriculum contents. Secondly by carefully designing our teaching interactions so that all students are continually successful at their learning tasks.

With respect to the reading development curriculum, we pointed out above that its sequencing and pacing are entirely arbitrary. It takes six years of primary school for successful learners to acquire independent skills in learning from reading, because they are acquired tacitly without explicit instruction. And it takes six years of secondary school for these students to tacitly transfer their independent learning skills to genres across the academic curriculum, again without explicit instruction. But with the advantages of our

research into literacy demands across the academic curriculum (Christie & Martin 1997, Martin & Rose 2007, Martin & Veel 1998), we can intervene in the sequence at any point, to give all students the skills they need at their particular level of study, from early school years to post-graduate university courses. In the action research program *Reading to Learn*, we have repeatedly demonstrated that all students can acquire the independent reading skills they need within one year, in 2-3 lessons per week that can be embedded in normal classroom practice.

The following transcript illustrates such a redesigned pedagogic discourse, in a stage of the *Reading to Learn* methodology known as *Detailed Reading*. In this example, students are learning to read a complex history text from a school textbook, and to recognise the language resources the author has used to construct it. This is a brief extract of a lesson with South African secondary students in a poor township school, that is described more fully in Martin & Rose 2005, and shown on video in Rose 2004b. Before this lesson no students in this class would have been able to read this text with adequate comprehension, and some had basic problems recognising common written words.

Here the students' task is to identify wordings in the text that has previously been prepared and read aloud to the class. The teacher prepares students to recognise each wording by explaining the sentence and reading it, and then giving them cues to identify each key wording. Cues are either 'wh' elements denoting categories such as who the sentence is about, what they are doing, where or when, or else commonsense paraphrases of unfamiliar wordings. Students have to reason from the cues to identify each wording, but here the inferential gap is intentionally designed. The semantic relation is either general to particular: from a general class of *who*, *what*, *when* or *where* to the particular wording in the text; or from congruent to abstract: from a commonsense synonym to the technical, abstract or metaphorical wording in the text. Preparations are designed to ensure that all students are always successful and affirmed, and the wording they have identified is usually then elaborated, by defining new terms, explaining new concepts, or discussing the language or context of the text. Elaborations may also involve a scaffolding cycle, in which the teacher supports students to jointly unpack metaphors or other elements of the text.

Exchange 3: Scaffolding interaction cycles in *Detailed Reading*

Teacher	Now the first sentence tells us that the trouble blew up in the townships, and that the people were rebelling against the government. [teacher reads sentence] <i>In the mid-1980s South African politics erupted in a rebellion in black townships throughout the country.</i>	Prepare
	Now that sentence starts by telling us when they rebelling. Who can see the words that tell us when?	Prepare
Student	<i>In the 1980s.</i>	Identify
Teacher	Is she right?	Affirm
Students	Yes	
Teacher	OK. Let's all do mid-1980s.	Elaborate
Teacher	Then it tells us that South African politics blew up. Can you see the word that tells us South African politics blew up? South African politics...?	Prepare
Student	<i>Erupted.</i>	Identify
Teacher	Erupted! Is he right?	Affirm
Students	Yes.	
Teacher	Can you see the word that says erupted? Let's do that one, erupted.	Instruct

Teacher	The reason they use the word erupted is because that's what volcanoes do. Have you heard that before?	Elaborate /Prepare Affirm
Students	Yes.	Affirm
Teacher	A volcano erupts?	Prepare
Students	Yes.	Affirm
Teacher	So what were the townships like? They were like...?	Prepare
Students	Volcanoes.	Select
Teacher	Exactly right, they were like a volcano. And there was all this pressure inside, waiting to blow up and erupt, with all this anger the people were feeling about the government's repression.	Affirm Elaborate
Teacher	OK, South African politics erupted and then it tells us that people were rebelling. Can you see the word that means people were rebelling? South African politics erupted in a...?	Prepare
Student	Rebellion.	Identify
Teacher	Rebellion! Is he right?	Affirm
Students	Yes.	
Teacher	OK, everybody do rebellion.	Instruct
	Then it tells us where that rebellion happened.	Prepare
Student	In townships.	Identify
Teacher	Exactly right. Which townships did it happen in?	Prepare
Students	In black townships.	Identify
Teacher	OK! Let's all do black townships.	Affirm Instruct
Teacher	So it happened in townships like Sobantu. So it was your parents that were involved in this. Is that right?	Elaborate /Prepare
Students	Yes.	Affirm
Teacher	Have they told you stories about that time?	Prepare
Students	Yes.	Affirm

The teacher's preparations enable all students to identify the key wordings in the sentence, which they highlight as they go. The multi-layered metaphor *politics erupted* is prepared with a commonsense paraphrase 'blew up', which is likely to be familiar to all students. But then the teacher prepares the students to jointly unpack the metaphor, first by explaining that volcanoes erupt, and checking that they know this, then preparing them to infer what the townships were like – 'volcanoes', and finally elaborating on this response by explaining that the pressure in the volcano was the people's anger towards the government. Next the abstract noun *rebellion* is prepared by unpacking it to a process involving people - 'people were rebelling', so that students can recognise the activity that the abstraction stands for. Such patterns of semantic relations between metaphors and their referents are explicitly and repeatedly addressed in any passage of academic discourse, until all students can recognise and produce them independently.

Finally these students are prepared to relate their own experience to the historical account, by asking them to affirm that their own parents were involved. This extract was followed by a dialogue in which students recounted their parents' experience of the rebellion, as follows:

Exchange 4: Student discussion during *Detailed Reading*

Teacher	Did the police and army come here?	Prepare
Students	Yes.	Affirm
Student	They would run into the bushes and stuff. They would hide away from the police.	Select
Teacher	Here in Sobantu?	Prepare
Students	Yes.	Affirm
Student	Like they would drive around in their cars. Like if they find a person on the streets they would lock them away, or ask them why they aren't at school or why they're not working.	
Student	And also come into the house and count how many people in the family. And if they come and they find someone else, that person will go to jail.	Select

Student	<i>If you want to visit your cousin you must go to the police and write down this is a visitor. Because if they come they'll know that person now.</i>	Select
Student	<i>And at six o'clock everybody must be in the house.</i>	Select
Student	<i>Like sometimes, if you're at home, if there's three boys and one girl, a boy that is over 18 is ordered to move out of the house and go build his own house.</i>	Select
Student	<i>When the police come and ask their ages, like if Morgan is living there and he's over 18, he has to go out and build his own house.</i>	Select
Teacher	How would you feel about that Morgan?	Elaborate
Students	<i>[laughter]</i>	
Student	<i>I'd build a shack.</i>	Select
Students	<i>[laughter]</i>	

Here control passes from the teacher to the students. The initial question is analysed as *Prepare*, because it invites them to relate their own knowledge to the events they have been reading about – it is far from an unprepared query. In this lesson, *Detailed Reading* enabled all students in the class to access the abstract construal of history in the text and relate it to their community's oral recounting of the same events. In Bernstein's terms, the 'local space, time, context' of oral experience is embedded and related to the 'transcendental space, time and context' of written discourse. By such means, elaborated codes can be acquired simply and painlessly by every student, no matter what their class or cultural background. There is no mystery, no quasi-religious realm of 'higher order consciousness', 'transformation' or 'critical consciousness', no pious angst about valuing learners' voices; there are just meanings – useful, and so economically valuable meanings – that can be taught and learnt by anyone.

We are using such carefully planned cycles of interaction to teach reading around the world, with whole classes of students from all backgrounds and all levels of learning skills, at all stages of the education sequence. What enables us to do this with texts across the curriculum are discourse analyses of both classroom interactions and the written texts that students need to read and write, using the language in education research of the Sydney School. The outcomes are consistently twice to four times expected rates of learning development for all students, no matter what their starting point or education context (Culican 2006, McRae et al 2000, Rose, Rose & Farrington in prep).

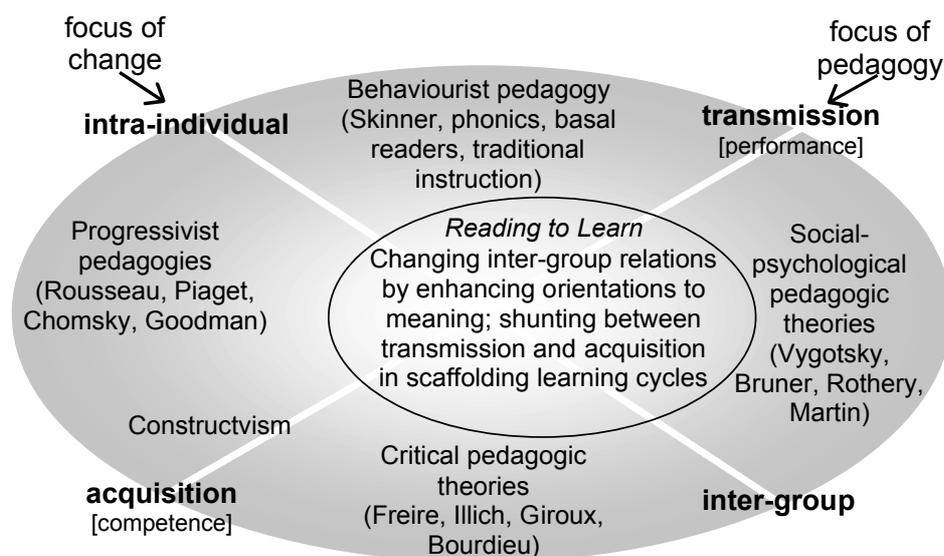
Conclusion

I will conclude with a return to the perspective from phylogenesis, positioning this pedagogy in relation to other theories and pedagogies that compete for niches in the education field. In Bernstein's 1990 analysis, pedagogic theories may be contrasted along two axes: whether the focus of change is on the psyche of individual learners or on relations between social groups, and whether the focus of pedagogy is on transmission of textual performances (skills and knowledge), or on acquisition of competences (personal, cultural, critical). Behaviourist pedagogies, including phonics and basal reader programs and traditional approaches to curriculum instruction, focus on development within the individual by transmitting systematised knowledge of language structures and curriculum contents. Progressivist pedagogies such as Leavisite approaches to literature and 'whole language' literacy methods, focus on personal development of the individual, through acquisition of personal and cultural competences (Martin, Christie & Rothery 1987). Critical pedagogic theories, including Freire's radical literacy program and more recent critical-cultural theories, are aimed at changing political relations between groups, through learners acquiring a critical awareness of these relations (Bourdieu 1991, Freire 1970). Currently fashionable

constructivist theories are focused on opposition to transmission pedagogies, influenced by both progressivism and critical-cultural theories (Muller 2000). A fourth position is taken by social-psychological pedagogic theories, including neo-Vygotskian and genre-based approaches to literacy, which are concerned with changing power relations between groups, but by transmitting skills in reading and writing institutionally privileged discourses (Martin & Rose 2005).

To some extent the *Reading to Learn* pedagogy synthesises these contrasting positions, schematised in Figure 4. The goal of the pedagogy is overtly political: redistribution of the symbolic resources that are the basis of middle class occupations, to social groups that are currently excluded by middle class pedagogic practices. This is achieved by transmitting skills in reading the privileged discourses of schooling, grounded in the genre-based approach to language. However the focus of change is equally on the consciousness of learners, as they become critically aware of written ways of meaning, and develop confidence through continual experience of success in recognising and using them. And the focus of pedagogy is equally on supporting students to acquire orientations to reading, shunting between their developing competence and teacher input at the levels of teaching programs and classroom interaction, in cycles of scaffolding learning that spiral towards curriculum goals. The approach to reading by scaffolding micro-interactions thus refines and enhances strategies previously developed in social-psychological approaches, ensuring success for every student.

Figure 4: Types of pedagogy (adapted from Bernstein 1990)



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