Mapping subject-specific literacies

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I'd like to begin this paper by asking readers to look at the following two texts and consider their style of writing. Both were produced by secondary school students of a similar age. How would you account for the differences?

Text 1 The Hero of Geduldig	**Text 2 Ice movement**
The snow began to fall, the winds began to howl and the temperature began to drop. Santina poked her head out of the window. Her face did not flinch when the snow rose to head height.	In high mountain areas, large thicknesses of snow can collect. This is compressed by its own weight and hardened. The compression of the snow can cause it to form into large bodies of ice. The weight of the snow and ice causes the ice to move slowly down the valley. This moving body of ice is called a glacier.

I expect that most readers would agree that Text 1 and 2 are quite distinct in their style of writing and that this is, in part, a result of the different subject areas in which each is located (Text 1 comes from English and Text 2 from Geography). That is, each piece of writing has a distinct purpose relating to wider disciplinary practices and goals and this affects the style of writing. This relationship between disciplinary goals and different forms of writing (captured in the notion of genre) is the area I will be exploring in some detail in this paper.

The notion of subject specific language is, of course, not a new idea, particularly in EAL circles. In the 1980s, for example, English as a second language (ESL) research drew attention to the relationship between content knowledge and skills and the linguistic means through which that knowledge and skill is manifested (e.g. Chamot and O'Malley, 1987; Mohan, 1986; Snow, Met and Geneese, 1989). However, it is only in the last decade or so that linguists have developed tools of analysis that, in my view, are able to capture in precise ways, how language functions in different areas of the curriculum. These tools have largely evolved in the functional linguistic and social semiotic tradition (Halliday 2004) and have been refined through researching and analyzing many instances of the language of school subjects (see Christie and Martin, 1997, for an overview of this type of research). As a result there are now a number of linguistically principled, detailed descriptions of different subject areas, including English (Christie, 2002; Rothery, 1994, 1996; Rothery and Stenglin, 1997), history (Coffin, 1997, 2006, forthcoming 2006), maths (O'Halloran, 2004) and science (Veel, 1997; Martin and Veel, 1998; Schleppegrell, 2002).

Significantly, the descriptions derived from functional linguistic research not only pin point the linguistic structures and functions which distinguish the language of different school subjects but show how these are related to their socio-cultural context. In particular, the descriptions show how the way language operates in different school subjects is related to the different 'cultural' purposes and practices of disciplines (such as science or history) and their communities of users (such as

professional scientists or historians). For example, an important goal for professional scientists is to perform observations and conduct experiments and as a result, reading and writing *procedures* (texts which set out a sequence of actions that need to be carried out in order to achieve a goal) and *procedural recounts* (texts which record a sequence of actions conducted by the writer) are important literacy activities in school science.

Inevitably, in order to fit in with the purposes and practices of schooling, disciplinary and professional knowledge (and their related texts and literacy practices) are, to some extent, re-contextualised for school use. Nevertheless, the broader cultural uses and traditions attaching to different disciplinary areas remain a key factor in how school subjects are organized. Thus, as we noted above, observations and experiments play a major role in school science and this affects the kinds of writing and reading students are expected to undertake.

In the report, I will first discuss in broad terms how school learning requires students to use language in quite different ways to the everyday. I will then look more closely at how school subjects each have their own specialized language. I will consider what happens when academic disciplines are re-contextualised as school subjects, examining the way in which disciplinary purposes are played out in language via the different types of texts students are required to read and write. I will focus, in particular, on how purpose affects the way texts are structured. I will then consider how an understanding of text structure (or genre) can be used to map subject-specific literacies and how this can be of use to EAL practitioners and learners.

School learning and specialized language
Most people both inside and outside schools will agree that the language demands of schooling are special. They are different from those of everyday life both because they are more 'academic' in their nature and because (written) language forms one of the main methods for the assessment of achievement and comparative performance. Unlike in previous eras, however, in the 21st century, simple divisions are increasingly problematic in that new forms of 'edutainment' have emerged and such knowledge is increasingly disseminated outside the formal walls of schooling and academia (for example, through web sites, chat rooms and interactive TV). Nevertheless, I think it is helpful to recognize that there are two fundamental categories of knowledge which are quite different in their overall orientations. These two types which are referred to as everyday or 'commonsense'[1] knowledge and educational knowledge (see Bernstein, 1975, 1990) are summarized in Table 1.

Commonsense knowledge	Educational knowledge
• allows us to construct meaningful sets of relationships from within the immediate and localised contexts in which we experience life	• a way of generalising about experience, of constructing meaningful sets of relationships *between* contexts
• gives us the resources to be	• gives us resources to go beyond

[1] Painter (1999, pg. 68) provides a useful definition of the term commonsense knowledge – "knowledge that appertains to the visible, material world, that is functional for the routine living of daily life, that is non-specialized, shared by all members of the culture/community and realized through everyday forms of talk."

specific and detailed about particular events taking places in particular places at particular times	the local and directly experienced - to learn *concepts*, to reason *abstractly*, to *generalise*, to *predict*, to *hypothesise*, to explain things which are *counter- intuitive* etc.
• closely related to the world of spoken language and to home/family life	• closely related to the world of written language and to public, institutional life
• necessary to get through our daily lives and in all employment settings	• related to particular bodies of knowledge (scientific, legal, religious, humanities, bureaucratic etc) and associated with 'professional' employment
• built up unconsciously and gradually	• built up consciously and rapidly
• built up in a piecemeal, fragmented way	• systematically presented, logically sequenced within a topic
• lack of insulation between topics	• disciplinary boundaries may be maintained

Table 1 Some differences between commonsense and educational knowledge (based on Bernstein, 1990 and Painter's summary, 1999, p.71)

The overarching differences in purposes and practices between commonsense and educational knowledge are reflected in the very different kinds of language used to construct educational knowledge as compared to commonsense knowledge. Thus, when students learn the content of school subjects, they are often learning **the language** of educational knowledge at the same time.

School subjects and specialized language
Not only do school students need to learn, in general terms, the language of educational knowledge (or develop what has often been referred to in an EAL context as cognitive academic language proficiency – see Cummins, 1979) but, at the same time, they need to learn the language of different areas of knowledge such as that of the Humanities, Science, Technology. And success in one area does not necessarily guarantee success in another. Thus a student who is a capable user of language in the study of literature may not have the language skills to succeed in Mathematics, Science or other technical subjects. Conversely, a student may be very capable in understanding the language of school Mathematics but unable to adequately respond in writing to a work of literature or art. Even within closely related Humanities subjects, such as English and History, some students may fail to produce the kind of writing favoured in History whilst excelling in English. One way of understanding and accounting for this 'failure' is to argue that students have not developed control

of the kinds of texts and linguistic structures that serve the specific purposes of the subject area.

In order to make more concrete the notion of different types of texts and linguistic structures, the following two pieces of student writing illustrate some important differences between the types of writing valued in English and History. They also exemplify the relationship between language use and disciplinary purposes and practices. Text 1 is an example of the type of writing common in the subject area of English whilst Text 2 represents a type of writing common in History. As you read the texts, you may find it interesting to consider what the purpose of each piece of writing is, how this relates to the subject at large and how it may affect the structure of the text and the students' choice of language.

Text 1 The Hero of Geduldig (abridged)
The snow began to fall, the winds began to howl and the temperature began to drop.

Santina poked her head out of the window. Her face did not flinch when the snow rose to head height. This was not unusual weather on the planet of Geduldig; these snowstorms were about as common as rain is in England. Santina felt a flood of relief when she saw the temperature had dropped to -500°.

She had been worried that the weather was going to get warmer. The forecaster on Ice-vision last night had looked very worried. With a slight tremble in his voice, he had warned that the planet was getting perilousy close to the sun. The protective blanket of white cloud surrounding Geduldig was in danger of being destroyed by the sun's heat.

That would be more than just a bad spell of weather; it would be the end of her planet, her home, her life. She tried to picture in her mind what it would be like if the temperature rose. The ice cold, bitterness of the planet would be destroyed. The vapour, rising mysteriously up from the crystal-white floor would no longer exist. The world would no longer be peaceful and airy, with only the colour white and the gold of the peoples' eyes.
…
Santina, her heart finally at rest, went over to her bed (made of ice), slid back in between the ice sheets and went back to sleep. She started sweating, and felt hot and clammy. She woke up and once again looked out of the window. She was horrified to see that the whole world was beginning to melt. Drip, drip, drip. CRASH, the cathedral spire had collapsed into a slushy mess. People everywhere were running, screaming, shouting, praying for the temperature to drop. Santina looked up and saw the ball of the sun getting ever closer, red, blazing, angry.

She ran into her closest friend Eaon. He looked at Santina, saw her golden eyes staring fearfully out of that pale face, and they both understood. They knew that they had to do something. They ran out into the square, and looked at the remains of the cathedral. They stood in horror, their silver hair blowing in the strangely warm breeze.

"We must find Iceana" said Eaon determinedly. "Only he can save us."

…
She heard a terrifying, thundering sound. She looked up and saw a massive chunk of blazing rock broken off from the sun. It was hurtling, like a shooting star, straight towards Santina. She could feel its heat, boiling her blood…

Santina, as if in slow motion saw Eaon forcing the massive fireball down the hill into the raging torrent. With a final cry, he hit the fireball. They vanished together in a huge explosion of steam. Steam rose up clouding the whole of Geduldig, forming new, fresh clouds, to protect her world from the cruel heat of the sun. Geduldig was saved.

Text 2 Eora Resistance to Europeans 1790-1816
The Eora people had lived in the Sydney area for at least 40,000 years before the Europeans arrived. They had lived by hunting, fishing and gathering and believed that they were the guardians of the land. This lifestyle did not last.

When the Europeans arrived in 1788 they occupied sacred land and destroyed Eora hunting and fishing grounds. In 1790 the Eora people began a guerrilla war against the Europeans.

In 1794 the Eora, whose leader was Pemulwuy, attacked the European settlement of Brickfield. Thirty six British and fourteen Eora were killed during this attack. In the same year the Eora killed a British settler. Then the British ordered that six of the tribe be killed.

The Aborigines continued to resist the European invaders by burning their crops and houses, taking food, destroying cattle and killing some settlers. In 1797 they attacked Toongabbie and within a week the farmers had to retreat and the farms were burned. In that year their leader, Pemulwuy, was captured by the British but later escaped.

By 1801 many settlers lived in fear of the Eora and the British started a campaign to destroy Aboriginal resistance. Troopers were sent to kill Aboriginal fighters and capture Pemulwuy. One year later settlers killed the leader in an ambush.

Other great Aboriginal leaders continued fighting against the white settlers. However, the guns of the British were more powerful than the Aboriginal spears. The British shot many of the Aboriginals and many others died of the diseases that the British brought.

This period of black resistance in Sydney finally ended in 1816. It is a significant period in Australian history as it showed the determination of the Aboriginal people to resist the invasion. It also demonstrated how unjustly the Aboriginal people were treated by the White invaders.

It is unlikely that you had difficulty in recognising Text 1 as belonging to the subject area of English and Text 2 as belonging to History. This is not only because of the

obvious differences in subject matter but because of differences in text structure and use of language.

First, the texts are organised differently in terms of their beginning, middle and end structures (as shown in Table 2). Text 1 has a beginning (*orientation*) stage which orients the reader to what is to follow in terms of establishing a setting and introducing characters. Then follows a stage where the main character, Santina, is confronted with a problem – the heating up of her planet (the *complication* stage). The next stage deals with Santina's and Eaon's reactions to the problem which is then resolved in the final stage of the text (the *resolution*). Text 2, on the other hand, has a beginning stage which provides a *background* - a summary of previous historical events that are of significance to the remainder of the text. This background stage is followed by a sequence of past events (the *record of events*). The final stage draws out the historical significance of the events. This process of identifying the main stages a writer works through to create and organize a text is referred to as genre analysis.

Text 1 Structure: Orientation ⟶ Complication ⟶ Resolution

Text 2 Structure: Background ⟶ Record of events ⟶ Deduction

Table 2 A comparison of the stages in Text 1 and 2

Another difference between the two texts, apart from the way they are structured or 'staged', is that whilst Text 1 deals with specific participants (*Santina* and *Eaon*), Text 2 deals with generalised ones (*the Eora people, the Europeans, the British, settlers*). Finally, there is also a difference in the way in which each student writer gives meaning to the events recorded. In Text 1 it is the characters' thoughts, feelings and emotional reactions to the problem they must solve which give particular significance to the events (the words marked in bold below):

> *He looked at Santina, saw her golden eyes staring **fearfully** out of that pale face, and they both understood*
>
> *They stood **in horror**, their silver hair blowing in the strangely warm breeze*

In Text 2, rather than highlighting people's emotions, the writer foregrounds the moral dimension of their behaviour (the words marked in bold), judging the Aboriginal people as having resolve and the Europeans as being unethical:

> *it showed the **determination** of the Aboriginal people to resist the invasion*
>
> *it also demonstrated how **unjustly** the Aboriginal people were treated by the White invaders*

The above are only some of the features which distinguish the two texts or genres. There are other differences in the meanings valued by the two subject areas (in line

with their different disciplinary goals) which require students to make different choices in grammar and lexis.

Specialized literacies and disciplinary purposes
If writing a 'narrative' genre, in which characters face and deal with a problem is likely to be a requirement for English but unlikely to be so in history (where, instead, writing about past events and making a deduction about their importance is) what is the significance of these different choices? Why do different learning areas value different types of text or genres and different types of meaning?

In functional linguistics, differences in genre, language choices and meaning can partly be accounted for by way of the different cultural purposes that underlie different disciplines or domains of learning (or, indeed, any context of language use). We thus return to the starting point of this article and the idea that variation in the way language operates in different school subjects is related to the different 'cultural' purposes and practices of the larger disciplines and how these are re-contextualised to accommodate, and combine with, the purposes and practices of schooling. One of the ultimate goals of English as a discipline is to develop in students a sensibility for appreciating literary works (see Christie, 1999). Thus school English tends to place importance on texts such as the type of narrative genre exemplified in Text 1 as a means of developing students' understanding of plot and their appreciation of character development (through the construal of various characters' feelings, thoughts and responses). The pedagogic purposes of English are also realized through the '*interpretation*' genre which is designed to develop students' skills in reading the message of a literary work and in responding to its cultural values. (see Rothery, 1994, pgs. 156-170, 1996 for further detail).

A key purpose of school History, in contrast, is to develop students' ability to sequence past events. This is reflected in the use of texts such as the historical recount genre exemplified in Text 2. There the focus is on building a record of the past in order to develop a historical understanding of events. Other important goals in History such as explaining past events and negotiating different perspectives are realized through additional genres, namely the explaining and arguing genres (Coffin, forthcoming, 2006 a and b). In sum, English and History have their own particular goals with the result that they select and value different genres. In other words, quite distinct sets of genres with quite distinct lexical and grammatical choices constitute the two different learning areas.

Mapping the literacy and learning demands of different subject areas
As I commented on at the beginning of the article, until relatively recently, there has been an absence of linguistic tools for capturing subject-specific literacies in ways that are sufficiently precise to be educationally useful. Within functional linguistics, however, the notion of genre to distinguish different types of texts has proved to be a useful 'way in' to looking at subject-specific language use. Genre can be used to identify:

> • the social purposes or functions within a subject area (e.g. *explaining observable and natural processes in Geography*, *interpreting the theme of a narrative in English*, *debating interpretations of past events in History*)

> • the distinctive structures which allow a writer to achieve their purpose (e.g. *Orientation* followed by *Complication* followed by *Resolution* in an English story genre – as illustrated in Table 1)

> • distinctive grammatical features (e.g. time sequences, cause-and-effect links, nominalisation etc)

Genre can thus be used to 'map' the types of text and associated language use which students are expected to develop control over in order to construct and communicate knowledge in different curriculum areas. Within any subject area we may recognise a range or network of interrelated genres which students frequently read or write. Figure 1, for example, sets out some of the major genres used in school science. It is not an exhaustive list of all the genres used in science. However, it does give a general idea of the range of literacy demands placed on students. In the diagram we can see how genres relate to the overall purposes of scientific knowledge. In science, for example, the main purposes of scientific activity can be described as:

• performing observations and experiments (doing/enabling science)
• reasoning and explaining events scientifically
• constructing bodies of knowledge (organising scientific information)
• persuading people about scientific theory/practice (arguing, using scientific information)

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doing science ———————— procedure
                        procedural recount

explaining events ————— sequential explanation
scientifically          causal explanation
                        theoretical explanation
                        factorial explanation
                        consequential explanation
                        exploration

organizing scientific ——— descriptive report
information
                        taxonomic report

arguing using ——————— exposition
science
                        discussion
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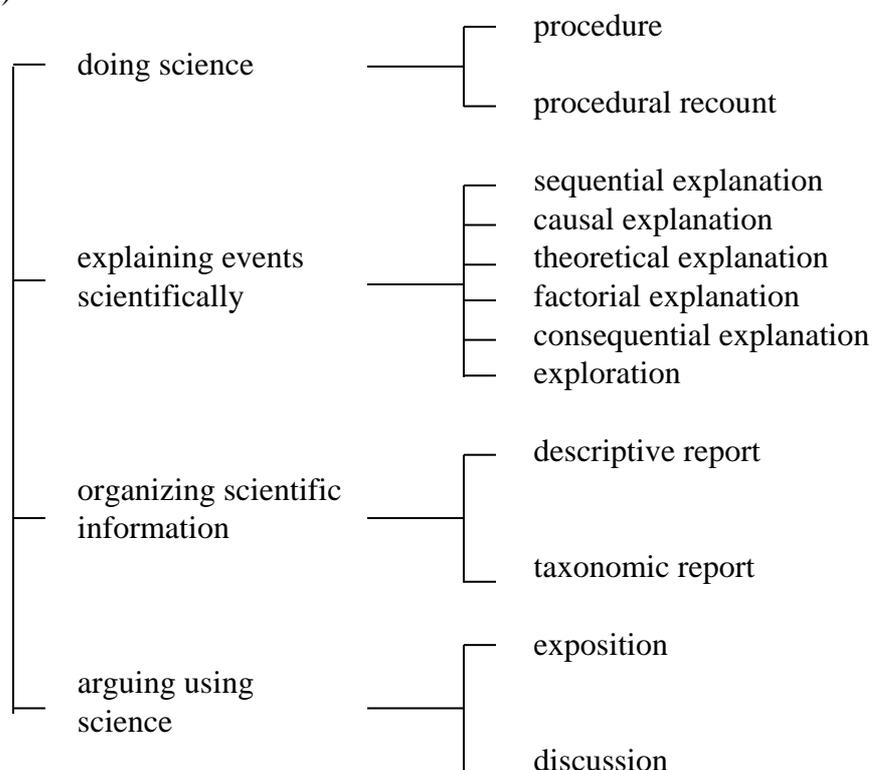
Figure 1 Key genres in school Science (adapted from Veel, 1997, pg. 171)

In other subject areas, different networks of genres will be found. Figures 2 and 3 provide maps of some of the key genres in school English and Geography. You will see from these diagrams, that some genres are common to all subject areas. However, it is important to be aware that despite the commonality of text structure, some aspects of language use will often be quite distinct. For example, the technical

language used within a geography exposition (e.g. *rainforest ecosystem, dieback, vegetation species*) will be very different to the technical vocabulary used in a visual arts exposition (e.g. *tone, texture, proportion, unity*). In addition, the relative 'status' or 'prestige' accorded to a genre and its importance in student assessment often varies considerably from one subject to another. Thus, a procedure in Science is a highly valued text as it forms the basis of the 'scientific method' of building up knowledge and almost invariably, students spend much of their time in Science reading and, in some cases, writing procedures. In school English, on the other hand, whilst Procedures may also be used and studied as part of an 'everyday' communication strand, they are not nearly as highly regarded in English as other kinds of text, such as the narrative genre and the various 'response' genres.
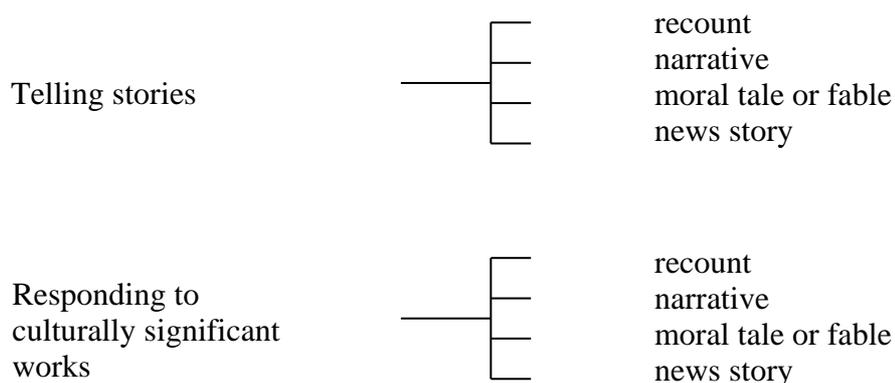
Telling stories
- recount
- narrative
- moral tale or fable
- news story

Responding to culturally significant works
- recount
- narrative
- moral tale or fable
- news story

Figure 2 Key genres in school English (adapted from Rothery, 1996, pg. 111)

Explaining
- sequential explanation
- causal explanation
- factorial explanation
- consequential explanation

Critically analysing and evaluating geographic issues
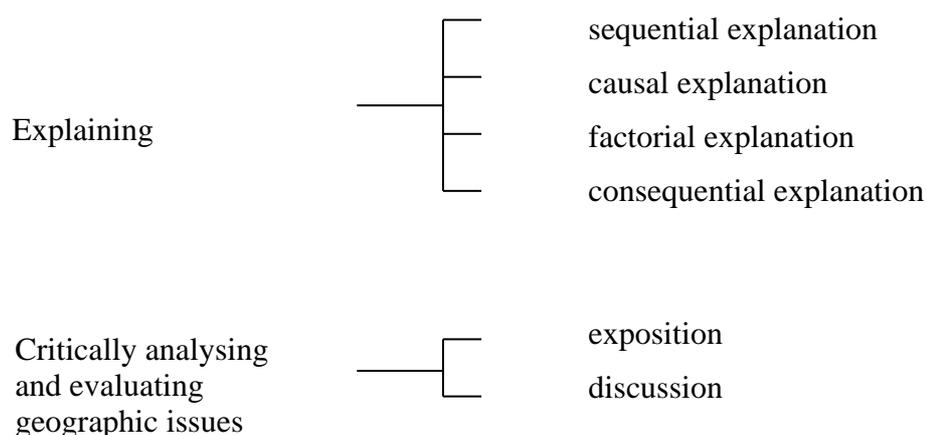- exposition
- discussion

Figure 3 Key genres in school Geography (see Humphrey, S.,1996)

In Figures 1 to 3, I have given a sense of the different purposes of three school subjects and how these are reflected in different networks of genres. These diagrams do not however show the structure of each genre. In a report of this size it is simply not possible to look in detail at the different stages across all genres in all three subject areas. However, Figure 4 will give you a sense of how each of the genres in

school science is organised differently. That is, in order to achieve each different 'scientific' purpose students need to move through different stages (as illustrated previously in Table 2).

Main Purpose	Genre	Staging/organisation
Doing Science	Procedure	Aim Materials needed Steps
	Procedural Recount	Aim Record of Events Conclusion
Explaining events scientifically	Sequential Explanation	Identification of Phenomena Temporal Sequence
	Causal Explanation	Identification of Phenomena Implication Sequence
	Theoretical Explanation	Identification of Phenomena Statement of Theory
	Factorial Explanation	Input Factors Reinforcement of Factors
	Consequential Explanation	Outcome Consequences Reinforcement of Consequences
Organising scientific information	Descriptive Report	Identification Description
	Taxonomic Report	Classification Description of types/parts
Arguing using Science	Exposition	Thesis Arguments Reinforcement of thesis
	Discussion	Issue Argument Thesis/Position

Figure 4 School Science genres and the stages they move through

The maps of the key genres in Science, English and Geography (as set out in figures 1- 3) provide insight into the way in which secondary schooling inducts students into relatively complex, 'uncommonsense' representations of the world. In these subjects, commonsense knowledge is largely set aside. Therefore, it is clear that, if students are to make sense of, and survive, secondary schooling, they will need to learn how to access and use the specialised genres and language that construct the different curriculum areas of secondary schooling. In the following section, I give some examples of how EAL teachers can make use of subject genre maps to develop students' control over subject specific literacies.

Teaching subject-specific literacies - the role of the EAL teacher
In this section, I outline a 'teaching and learning cycle' which has been designed for EAL teachers either working independently or in partnership with subject teachers to implement a series of activities which will help students learn about the different genres in a particular subject area. The aim is that, by developing a conscious understanding and control of the genres, students will simultaneously build content knowledge and understanding.

The model as shown in Figure 5 has three main stages - Deconstruction, Joint Construction and Independent Construction. Whilst throughout these three stages the emphasis is on building **content** or field knowledge, there is an emphasis on **reading** texts in the Deconstruction phase and an emphasis on **writing** texts in the 'Joint and Independent Construction' phases. There is therefore an important role for EAL teachers to play - by providing activities or leading sections of the lesson where literacy is the main focus and/or assessing the language dimension of students' work.
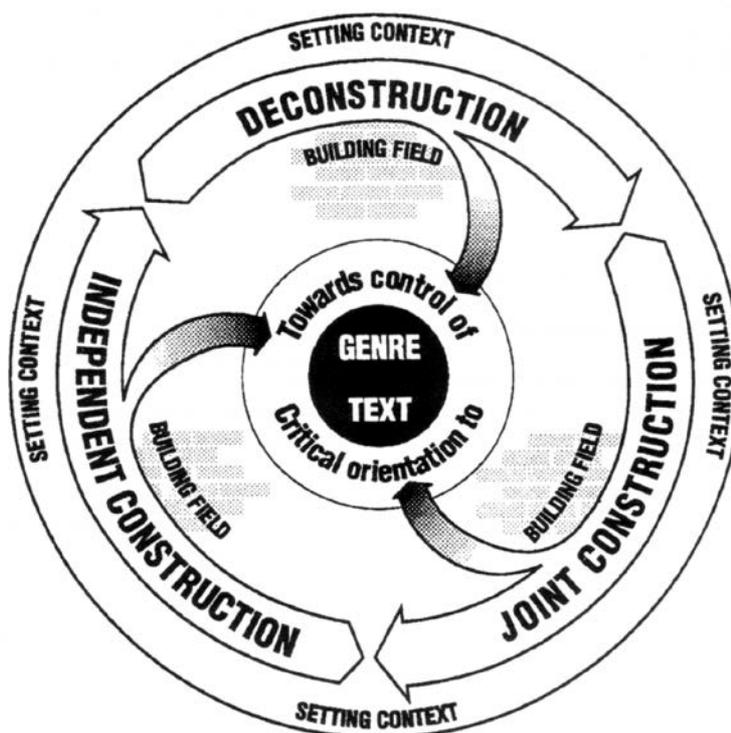

Figure 5 The Teaching and Learning Model (see Martin, 1999, pg. 131)

The section below is essentially practical. For each of the three teaching and learning stages I outline some of the strategies that can develop students' skills in reading and writing the specialised texts of different subject areas.

The deconstruction stage
The main purpose of the deconstruction stage is to introduce a subject topic, theme or issue and to then extend students' understanding of this, partly through detailed analysis or 'taking apart' (deconstruction) of texts. The main literacy focus is to help students read and understand one of the genres that plays a key role in the subject area and which has been targeted as a literacy goal. For this reason, texts which are clear examples of the 'target genre' are focused on - both their structure and key language features. A critical perspective is also encouraged. Typical strategies in this stage include:

• Reading several texts which exemplify the genre.

• Predicting content and purpose from the title of text or key words.

• Using the sample genre to answer pre reading questions.

• Providing students with the labels for each stage of the genre and asking them to match the label with the stage.

• Cutting a text into its stages and asking students to order and name each stage.

• Asking questions about:
  a) the social purpose of the genre and how its stages help to achieve its purpose
  b) the cultural value of the genre - how valuable is this genre in the particular subject? Who is it valuable to? Why? Should it be?

• Erasing language features (e.g. time or cause words/phrases) from the sample text and asking students to work out the missing words.

• Taking out a whole stage or a paragraph from the model text and asking students to either predict the content or write an alternative.

• Reading through the text and summarising the information in point form.

• Examining a less successful text that has some stages either missing or not fully developed and asking students what needs to be changed or added to improve the text.

• Comparing the target genre with different genres, or the same genre in a different medium e.g. spoken or visual.

The joint construction stage
The main literacy focus in the joint construction phase is for teachers and students to jointly write a text that exemplifies the organisation and language features of the target genre that they have focused on in the deconstruction phase. In order to write the text, however, additional content knowledge may need to be built with students

engaging in various reading and research activities. Since any additional field knowledge needs to be relevant to the topic of the text which will be jointly constructed it is important for students to have a clear assignment task and to have the ground rules made visible. For example it should be clear what genre is required so that notes can be organised under suitable headings. Initially, these headings, and possibly subheadings, can be supplied by the teacher. For example if a task in history is to write a biographical recount of Robespierre, sample headings (following the genre's stages of Orientation, Record of Events and Evaluation) could be:
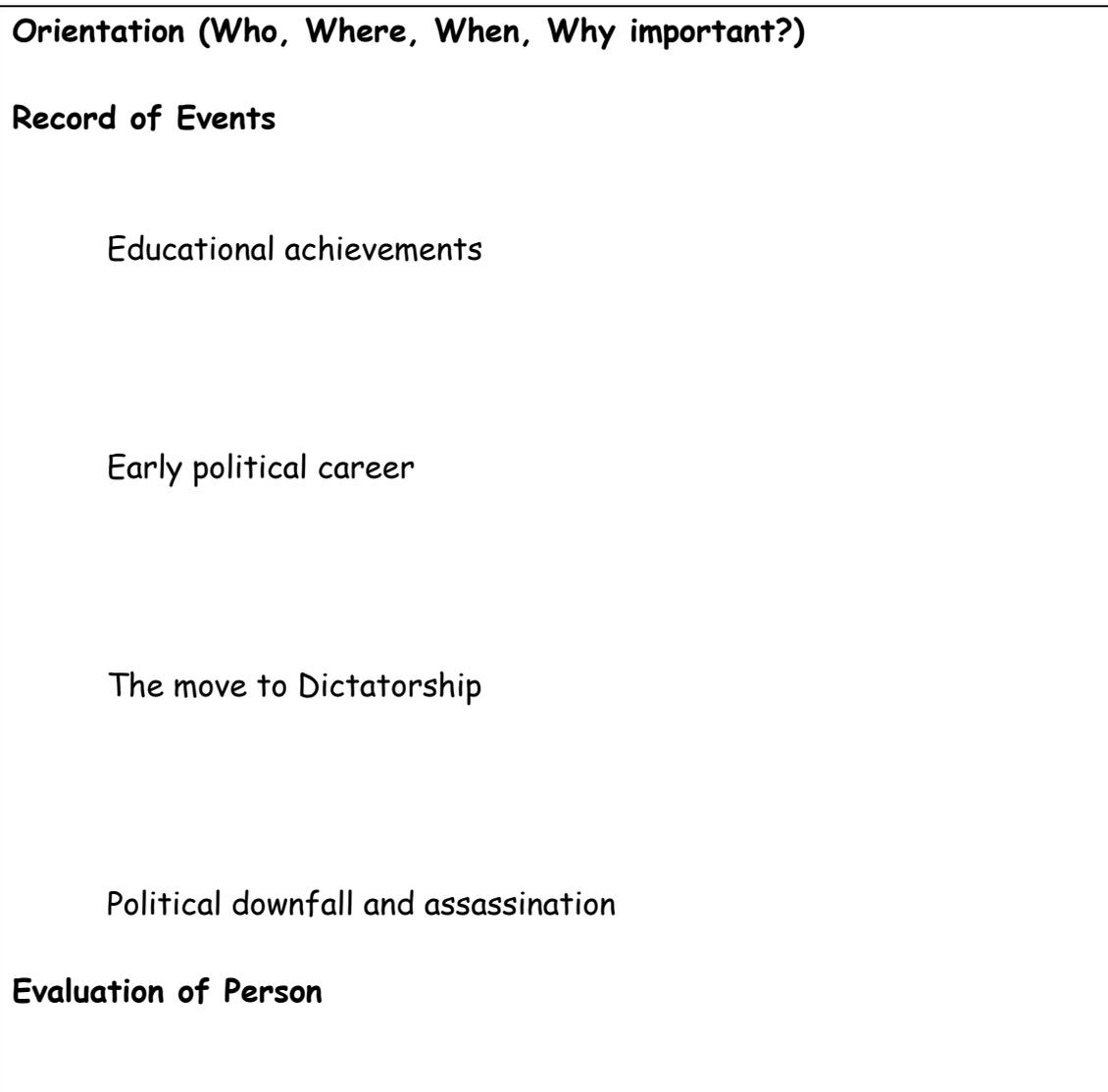

Orientation (Who, Where, When, Why important?)

Record of Events

      Educational achievements

      Early political career

      The move to Dictatorship

      Political downfall and assassination

Evaluation of Person

Figure 6 Outline for notetaking in relation to writing a biographical recount

In the joint construction stage of the teaching and learning model the teacher's role is that of informer, guide and negotiator. When jointly constructing the target genre it is the teacher's carefully thought out questions and comments that guide the students into constructing an appropriate text. This means that, at times, the teacher may need to reword a students' contribution, suggest alternatives, feed in more sophisticated vocabulary and rework the structure of sentences so that the text 'hangs together'. The following are some strategies that a teacher might want to employ at this stage:

- Providing an outline of the text using the structure as scaffolding, with notes being built up for each stage.

- Focusing on part of a text only, eg. the Thesis, or the adding of Arguments to an exposition.

- Jointly constructing the text on a computer screen, (interactive) whiteboard or overhead to allow for face to face interaction during composition as well as in drafting and editing.

- Different groups of students preparing different parts of the text and then using technology for putting together the whole text.

- Aiming for **approximation** of genre. Wherever possible the teacher accepting students' responses but rewording them where necessary, either by asking students for reformulations or making changes

- After the first draft being jointly constructed giving each student a copy to work on and improve (the parts to improve could be underlined)

- Reading through the text with the class and making final revisions

- Giving each student a copy of the text

The Independent Construction Stage
This phase may also involve students in continuing to build field knowledge. This is then reworked into the target genre (such as a biographical recount on a different historical figure) with students either constructing a text individually or else as part of a small group. By this time students should feel fairly confident and should be at a point where they can be successful. It is an important phase in the teaching learning cycle as it provides students with essential practice in writing independently. Useful strategies to use at this stage include:

- students writing a draft text

- consulting with teachers and/or peers about the text

- revising and rewriting according to the consultations and advice

- focusing on presentation including spelling, punctuation and handwriting or graphic presentation if using a word processor

- publishing for a wider audience if applicable

- giving students a check list to assess and revise their own work where necessary

Conclusion

In this report I have shown how EAL teachers can help students to access and display curriculum knowledge by developing subject specific reading and writing skills. To do this I have suggested that it is useful to develop an awareness of the role that genres play in different subject areas and to help students deconstruct and construct these in order to develop specialized, educational knowledge.

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