

Scaffolding understandings of literacy through multimedia in teacher education

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Abstract: In this paper, the developer of a multimedia resource entitled, 'Scaffolding Literacy in the Content Areas', outlines some of the design features underpinning its function as an interactive resource that can be used for professional development purposes, and in teacher education both in an Australian context and internationally. 'Scaffolding Literacy in the Content Areas' is a video-based DVD designed as a comprehensive resource for teachers working with language and literacy across the subject areas in the middle years of schooling. Adopting a simplified version of Systemic Functional Linguistics (Halliday, 1994) and genre theory (Martin, 1992), 'Scaffolding Literacy in the Content Areas' uses video clips, animations, tutorials and various interactive functions to show how spoken and written language are used in effective teaching. The 8 units cover issues to do with Language, Literacy and Learners in the 21st century; up-to-date educational understandings of the concept of 'scaffolding' (Gibbons 2002; Hammond, 2001) in terms of literacy for learning; oral language for learning; the standard and elaborated genres of schooling; supporting and evaluating reading and writing; and planning for language and literacy in the content areas. Key decisions about the design and content of the resource will also be briefly outlined.

Keywords: Instructional design, pedagogy, teacher education, case study, constructivism, multimedia, literacy, new literacies, genre, critical literacy, scaffolding

Bio Note

Dr. Kristina Love is a senior lecturer in the Faculty of Education at the University of Melbourne, Australia, where she works with pre-service secondary teachers and post-graduate literacy teachers. She has co-ordinated the development of the CD ROM, 'BUILT' (Building Understandings in Literacy and Teaching), a multimedia resource which is used extensively in teacher education and teacher professional development, both within Australia and internationally. She is currently managing the development of Scaffolding Literacy in the Content Areas, and working with Government departments of education on the provision of literacy professional development for teachers across the curriculum.

1. Introduction

In Australian school education, interest in literacy and its role in learning across the curriculum has been growing (eg Hammond & Macken-Horarik, 2001), with recent policy development (eg Wyatt-Smith, 2000), and research activity (eg Unsworth, 2000) increasingly concerned with specific literacies which operate within and across Key Learning Areas (KLA) of the school curriculum. Yet there have been challenges in providing teachers with sufficient opportunities for professional development in this area (Cumming & Wyatt-Smith, 2001).

These challenges are compounded by the fact that traditional notions of literacy as simply 'reading', 'writing', 'speaking' and 'listening' are inadequate in the new communicational landscape of the twenty first century. The 'new literacies' (Cope & Kalantzis, 2000) take a view of texts as 'genres', staged to achieve purposeful social interaction (Derewianka, 1990, 1998; Martin, 1992). These texts are inherently multi-modal (Kress, 2003; Unsworth, 2001), making their meanings through a range of visual and aural, as well as verbal means. The complex synthesis of meaning-making systems presents additional challenges for many high

school students, who may require support in identifying the separate meanings and purposes of charts, images, animations, hyperlink trails, verbal and audio text of a web site for example, but also how these separate purposes combine to make the meanings students are required to comprehend and use. For students to succeed in accessing and using the meanings embedded in these multi-modal texts, teachers need to know how to identify their purposes, structures and language features. For students to succeed in writing or constructing such texts to effectively achieve their intended purposes, teachers also need a ‘metalanguage’ to talk with their students as they critically deconstruct sample texts and explicitly model the structures of the required texts (Gibbons, 2002; Hammond, 2001).

Working with notions of new literacies as purposeful socio-cultural practice, teacher education programs in Australia are increasingly seeking to give novice teachers experience in working with school texts whose forms and functions vary with increasingly more diverse purposes and technologies. In my own teacher-training context at the University of Melbourne, while we are accounting for the burgeoning variety of text forms associated with information and multi-media technologies, we are also supporting student teachers into recognising the discipline-specific forms of text reception and production required across the K-12 curriculum. In a subject entitled ‘Language in Education’ I work with novice teachers in disciplinary areas such as Maths, Science, History, Geography, Commerce, Music or Art who have 18 hours in total of their one year pre-service course dedicated to examining the role of language and literacy in the learning of their content areas. The multimedia product, ‘SCAFFOLDING LITERACY ACROSS THE CONTENT AREAS’, is specifically being designed to help such content area teachers understand that, through a little knowledge of how language is structured to achieve different social purposes in various contexts and modes, they can support their students into developing the literacy and multiliteracy skills needed in their specialisation.

2. Design principles underpinning the development of ‘Scaffolding Literacy’.

‘SCAFFOLDING LITERACY’ is designed as an 8 Unit DVD, as outlined below:

Unit 1: An Introduction to Language and Literacy.

Here we examine the range of first and second language learners in Australian schools and the complex relationship between language, literacy and learning in community and school contexts.

Unit 2: Scaffolding Literacy

Here we introduce the notion of scaffolding as a highly planned and explicitly structured support for learning through and about literacy in the middle to upper years of schooling.

Unit 3: Oral Language

Here we examine the structures of the oral language that can be used for effective learning in various classroom contexts in its various forms, from exploratory to more formal purposes.

Unit 4: Standard Written Genres

Here we introduce the structures and linguistic features of 6 of the key genres that students are required to read and write across the subject disciplines.

Unit 5: Multi-genre texts

Here we examine the more varied structures that underpin the print and multimodal texts that students are required to read and write across the various subject disciplines.

Unit 6: Supporting Reading

Here we make explicit the reading demands of the more complex texts that students need to understand to be successful in the various subject disciplines and outline means whereby teachers can support their students.

Unit 7: Supporting Writing

Here we make explicit the writing demands of the more complex texts that students need to produce to be successful in the various subject disciplines and outline means whereby teachers can support their students.

Unit 8: Planning for Literacy Learning

Here we suggest a framework for teachers who are working across the discipline areas to support students in the complex literacy demands of the tasks they set and to assess their progress.

This Unit structure is represented in the Index screen below.

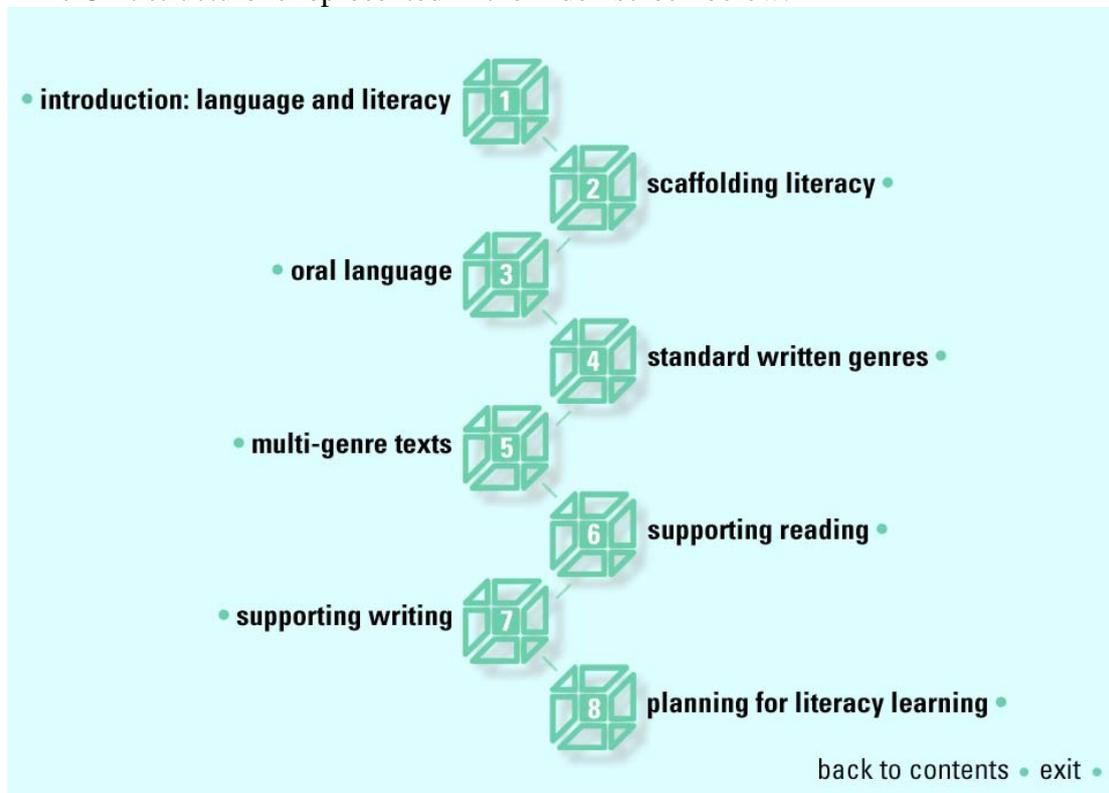


Figure 1: Index Screen from 'Scaffolding Literacy in the Content Areas'

The design of 'SCAFFOLDING LITERACY' is underpinned by a number of social constructivist principles about the nature and process of effective learning, principles which have underpinned the design and evaluation of much recent multimedia. Foremost amongst these are the key constructs of: 'situated cognition' and 'cognitive apprenticeship' (Brown, Collins & Duguid, 1989; Lave & Wenger, 1991); 'scaffolding' (Herrington & Oliver, 1997; McLoughlin, Winnips & Oliver, 2000; Winnips, Collis & Moonen, 2000); 'authentic learning and assessment contexts' (Lebow & Wager, 1994); and learner reflection and responsibility for learning (Herrington & Standen, 2000). In particular, Herrington and Oliver's (1995) list of criteria fundamental to the design and development of multimedia within a constructivist

model (extrapolated from a review of literature on situated learning), informed the design of 'SCAFFOLDING LITERACY'. Five of these criteria are briefly discussed below.

Firstly, 'SCAFFOLDING LITERACY' was designed to provide an authentic context that reflects the way language is used in real classrooms. Central to this process is the extensive use of QTVs of classroom teaching and learning episodes, representing interactions across the subject areas and years of secondary school. These interactions are unscripted and represent authentic aspects of the physical, pedagogical and interpersonal contexts into which the novice teachers will be apprenticed. The QTVs of classroom interactions are accompanied by QTVs of teacher interviews which provide clear insights into teachers' planning, teaching and assessment decisions and how these influence their students' language and literacy development. Through these QTVs, novice teachers are actively encouraged to bring to consciousness knowledge about language and literacy, and to reflect on the role of language and literacy in their own learning and teaching. Thus, users are provided with extensive opportunities to experience virtual classroom contexts similar to those in which they will later be making their own pedagogical choices. Visual presentations of authentic student and teacher texts present vehicles for guided analysis and interactive exercises, allowing the teaching and learning to be more practically-oriented. Through such a deeply situated approach (Brown, Collins & Duguid, 1989; Lave & Wenger, 1991), novice teachers are provided with rich opportunities to systematically examine the language used in a range of classrooms as specific discourse communities.

A second design principle underpinning 'SCAFFOLDING LITERACY' focuses on the development of authentic activities which encourage deep learning within a constructivist paradigm, which have a real world relevance and which enable learners to become immersed in the language, culture and situations of communities of practice, and subsequently to truly 'see the world' as practitioners do (Herrington and Oliver, 1995: 4). The genre based model of language and literacy which underpins 'SCAFFOLDING LITERACY' is itself functionally-oriented and concerned with how meanings are made in real social and cultural contexts where language serves a variety of purposes (Halliday, 1994; Derewianka, 1990, 1998). Within and across each of the eight units, interactive tasks scaffold users as 'linguistic novices' into progressively more sophisticated understandings of the structures and functions of spoken and written texts. Activities based on animations, drag-and-drop and roll-over facilities provide opportunities for novice teachers to rehearse emerging knowledge about written and spoken language as this is used in a range of classroom contexts and learn how to apply this linguistic knowledge for effective student learning. Tools such as a Glossary button allow users to check their understanding of linguistic terminology at point of need and a Bibliography function allows them to access a list of references. All learning activities in 'SCAFFOLDING LITERACY' are based exclusively on the authentic written and spoken texts of real classrooms, involving users in 'legitimate peripheral participation'. Users are scaffolded through these activities into convergent understandings of language consistent with an explicitly valued model of literacy and learning.

A third principle underpinning the design of 'SCAFFOLDING LITERACY' was that it should provide access to expert performance and the modelling of processes (Herrington and Oliver, 1995). In 'SCAFFOLDING LITERACY', the effective use of oral and written language for learning is modelled in the QTV clips of 'expert' teachers in everyday classroom interactions. Reflective tasks and guided analysis of these QTV clips provide novice teachers with opportunities to 'freeze' these complex and often 'messy' interactions and reflect on them systematically in ways not available in the pressures of their own

teaching experiences. Analysis of these ‘expert performances’ is further assisted through the provision of transcripts of the classroom interactions in the video clips, some transcripts also having been coded in ways that highlight key features of oral interaction, thus providing the novice teacher with a specialised reflective metalanguage. Written products, as well as interactive processes are also modelled. Still shots of model student- and teacher-written texts are available for close examination, with the wording and images of longer texts being made available through enlarged ‘thumbnails’. ‘SCAFFOLDING LITERACY’ thus provides the ‘window into model practice’ advocated by Herrington and Oliver (1995: 5).

A fourth principle underpinning the design of ‘SCAFFOLDING LITERACY’ is the centrality of reflection as a key to making sense of any situated learning experience. Reflection operates at two levels in ‘SCAFFOLDING LITERACY’. It is the concluding stage of the 5-stage learning/teaching cycle which accompanies its model of language, literacy and learning (see below). At this level of ‘content knowledge development’, novice teachers are guided, through using the various multimedia resources of the DVD, to understand the significance to the learning process in classrooms of a stage where teacher and learner are able to review understandings, evaluate the tasks accomplished and plan future directions. Reflection also operates in ‘SCAFFOLDING LITERACY’ at a metacognitive level where the architectural design of the DVD encourages novice teachers to evaluate the effectiveness of the teaching they are experiencing through the multimedia resource, the relevance of their own learning, the problems or challenges they are facing and their own teaching goals. Regular small reflective tasks are built into each topic, with larger reflective tasks at the end of each Unit which invite teachers to consider the implications for their own planning.

Users can also draw on hyperlinked tutorials to deepen their understanding of certain features of language or text structuring, at ‘point of need’. While the more technical linguistic terminology is explained within the units, the designers recognise that, given the range of disciplinary backgrounds that teachers will come from, there will be considerable variation in users’ metalinguistic knowledge. The tutorials thus provide ‘point of need’ opportunities for further clarification.

The final and most important principle guiding the development of ‘SCAFFOLDING LITERACY’, central both to its instructional content and its instructional design, is that of scaffolding. The concept of scaffolding was originally used by Wood, Bruner & Ross (1976) to portray the temporary, but essential nature of parental support in the language development of young children. This concept has proved to be attractive in socio-cultural models of learning in general (Mercer, 1994) and of language learning in particular (Halliday, 1994). This socio-cultural model posits that cognitive development is not simply **influenced by** social processes, but is profoundly grounded in social and cultural processes. It is this theoretical model of learning which underpins the instructional content of ‘SCAFFOLDING LITERACY’. Given the ‘intersubjective’ foundations of learning (Bruner, 1986), teachers at all levels have a profound responsibility for organising the social processes of their classrooms to maximise learning. Wood, Bruner & Ross’s (1976) concept of scaffolding has since been used extensively in the educational literature and in a variety of institutional contexts, though it is often used very loosely to refer to any sort of teaching or helping of learners. Three key factors have emerged as distinguishing scaffolding from other forms of teaching (Hammond, 2002; Maybin, Mercer & Stierer, 1992):

- the task, skill, or understanding being scaffolded is a specific learning activity with finite goals.

- the 'instructor' or 'expert' determines what skill or understandings learners currently have in order to help them build on those skills and understandings in positive and constructive ways.) Scaffolding thus requires the identification of the learner's Zone of Proximal Development (ZPD) (Vygotsky, 1978:86) or the 'gap' in students' understandings and the construction of ways of helping learners bridge that gap and move into a new ZPD.
- the learner is brought closer to a state of competence which will enable them eventually to complete the task on their own. The teacher structures the learning activity such that her/his own expertise can be gradually withdrawn till the learner or 'apprentice' can complete the task independently.

These central features of scaffolding are explicitly outlined in the instructional content of 'SCAFFOLDING LITERACY' (particularly in Units 2 and 3) to help teachers identify how structural support through language occurs in the exemplary practice represented in the QuickTime video clips and in the other authentic resources presented. These features of scaffolding also inform the five stage 'learning/teaching cycle' built into the instructional design of 'SCAFFOLDING LITERACY' that allows novice teachers to systematically examine the skilled language and literacy practices of experienced teachers as modelled in the video clips. This five stage cycle comprises Engagement, Building Knowledge, Transformation Presentation and Reflection.

As well as underpinning the instructional content, the metaphor of scaffolding also underpins the instructional design of 'SCAFFOLDING LITERACY', such that users are themselves moved recursively through these five stages of each learning/teaching cycle, as they are: engaged in issues of language, literacy and learning; helped to build knowledge in this new area; guided into transforming that new knowledge into understanding; provided with various means of presenting that new understanding; and provided with the means of reflecting on that new understanding. Thus, while they are learning about the principles of scaffolding children into learning through language and literacy, novice teachers are themselves scaffolded into new professional understandings as they experience the sequences of learning/teaching cycles that underpin the design of the DVD.

The principles of constructivist pedagogy underpinning the design of 'SCAFFOLDING LITERACY' outlined above would ideally scaffold novice teachers substantially in their learning about the central role of language and literacy in teaching, by providing authentic contexts, authentic activities, models of expert performance and opportunities for articulation of and reflection on knowledge. Designed along these lines, the expectation was that 'SCAFFOLDING LITERACY' would be a valuable resource for developing and experienced teachers alike, permitting a balance between expert guidance and learner autonomy.

3. Focus on Unit 5 of 'Scaffolding Literacy': An introduction to multi-genre texts.

In the remainder of this paper, I will offer a brief description of the key content and design of one unit, Unit 5, where the varied structures that underpin the print and multimodal texts that students are required to read and write across the various subject disciplines. In Unit 4, teachers were introduced to Narratives, Recounts, Information Reports, Arguments, Explanations and Procedures as the 6 key genres or text types used across the discipline areas and years of schooling. The specific purposes of these genres were outlined, along with some of the typical language features that help them achieve their purposes. For example, the genre of Recount tends to use the past tense and language which marks the passing of time in order to describe events which have unfolded in the past. Information Reports on the other hand tend to use the present tense and classificatory language to describe phenomena as they exist

independent of time. When we come to Unit 5, we examine how these ‘standard’ genres regularly occur in combination, such that a single page of a History text book may contain an Information Report about the hierarchical social structures in Feudal England, alongside an Explanation about how a Knight was prepared for battle. To complicate matters further for the student reader, some of the information about the feudal structures may be contained in a diagrammatic representation and some of the explanation of the Knight’s preparation for battle may be contained in a series of visual images.

Through a series of animated tasks, users in Unit 5 get the chance to identify the varied generic purposes of visual and verbal materials in a range of everyday and school based texts. For example, by rolling their cursor over appropriate sections of one page of a school History text book, they are able to see its generic staging and the labels that accompany these.

5
Written texts
screen 05

MULTI-GENRE TEXTS IN SCHOOLS

In the school context, students often encounter multi-genre texts in their reading and they are expected to read across a number of purposes on one page. This puts particular and varied demands on students as they must adjust the way they read and construct meaning from these texts. Students need to recognise different types of writing through knowledge of text organization and text features as well as putting together visual elements. In recognising the different purposes of sections of texts, students are able to adjust their reading accordingly.

On the right is a page from a Year 8 textbook. As you roll across this page, you will notice that the text contains various sections of different genres.

The overall purpose of this text is to give information about being a knight, but it is organised into a sequence of information reports and explanations. The first set of texts generally present characteristics of the hierarchy in the feudal system, describing the roles and expectations. Because they are about an entity that no longer exists in English society they are written in past tense, a grammatical feature which is particular to historical information reports.

The explanations on the righthand side are about the process of becoming a knight. Although written in past tense (which would usually suggest a recount), they explain a generalised process rather than that related to a particular knight. This suggests an explanation text.

It is important for students to realise how the visual texts relate to the verbal text. The diagram supports the written text and words from the pyramid (serfs, freeman etc) must be used in conjunction with the text to make sense of each. The illustrations, however, are only instances of something referred to in the written text and are not necessary to the meaning of the text.

BEING A KNIGHT

THE CONCEPT OF ‘FEALTY’

The social and political set-up of medieval times revolved around the concept of ‘fealty’ — protect me from harm and I will serve you. It relied on strong concepts of allegiance, loyalty and respect. This went all the way through medieval society, from the king down to the lowest serf. The hierarchy of obligations was structured as follows:

- The serf was virtually owned by the knight, but the knight was obliged to protect him and his family from attack.
- The knight served his lord (or baron) whenever the lord required him, but the lord was required to protect the interests of the knight.
- The lords, in turn, swore to serve the king, and in return the king swore to protect his realm — the land of the barons and his own.

So each party in the hierarchy could exert pressure to a certain extent on the other, as they relied on each other. This provided the framework for knights to thrive. The better the knight, the more people would swear fealty to him.

Source 2.6.1

Hierarchy of obligations under the feudal system

Source 2.6.2

The making of a knight

A knight's training began early with the games he played as a child. As a page and then as a squire, the young man learned the behaviour and skills necessary for a knight.

When he was ready to be made a knight, the squire purified himself in many ways. First he bathed to wash away his sins. He then dressed in a white tunic to show his purity and a red robe, which symbolised his readiness to be wounded.

tutorial • glossary • documents • references •
back • forward • index • exit •

Figure 2: Screen 4 from Unit 5 of ‘Scaffolding Literacy in the Content Areas’

History teachers’ knowledge of these structures helps them make explicit to their students how to read such texts for the relevant information. It also allows teachers to make explicit the kind of writing they require of their students. Likewise, Science teachers, who regularly work with Procedural texts, can make explicit to their students at what stages they want them to read or write a Procedural Recount (in which they report the steps they have undertaken to conduct an experiment) and at what stages to read or write an Information Report (in which they describe or classify what they have found). By engaging with the interactive tasks embedded in Unit 5, teachers are supported in clarifying the generic demands of the texts they work with.

Across a number of subjects, students are required to read and write Reviews of various sorts, which are often structured in specific ways for specific purposes. For example, in secondary Art, a Review of a painting may require the student to systematically describe the various compositional features in the form of an Information Report, before making a judgement of it as an aesthetic object. In a Language Arts context, the same student may be

required to write a Review of a novel or film, where s/he may be expected to provide a Recount of the key features of the narrative before providing an evaluation. In both subjects, the Reviews contain a key Argument or Evaluation phase, in which the writer expresses a value judgement about the artefact reviewed. However, this can be preceded by either a Recount of key features of the narrative (in the case of the novel or film) or an Information Report describing key aspects of a work of Art. In Unit 5, again through interactive tasks with samples of authentic student Reviews, teachers are given further opportunities to identify the various combinations of genres required in reviews in different subject areas.

5
Written texts
screen 08

RESPONSE TEXTS

Response texts are typically used in a number of subjects. These texts ask students to make some judgement – usually personal – about a topic. Whilst they have the same general purpose, the structure can vary, depending on the particular purposes identified by the teacher or by the nature of the subject.

Click on the three thumbnails to read three different types of response texts.
For each, roll the cursor down the text to view the its various purposes and stages.
What do you notice is similar across the texts?
How are they different?
Can you identify the various smaller purposes within each text?

You may notice that each text provides a context for the topic under discussion, but in different ways, and using different genres. The book report and the film review contextualise by providing recounts since their topics are story-based. The visual art response on the other hand gives an information report since it details the elements of the art work. This text is also written in present tense rather than the past tense of the recounts.

All three texts give an opinion at the end, using emotive or judgemental language. The book review and visual art response have both shifted into a personal style with no tense change. The film review, on the other hand, has not shifted into first person, despite giving an opinion. This may have been required by the task or is simply the writer's style choice.

When teachers ask students to write these lengthy response texts, it is useful to be aware of the stages that are required and how students are expected to write so that appropriate support can be given.

THE REMAKE!!!!

SCARFACE (R) Al Pacino, Steven Bauer, Michelle Pfeiffer, Mary Elizabeth Mastrantonio, Robert Loggia, Miriam Colon, F. Murray Abraham, Paul Shenar, Harris Yulin, Angel Salazar, Arnaldo Santana.
Director Brian De Palma
Genre Action/Drama
Rating 5 out of 5

Al Pacino is Tony Montana, a political refugee from Cuba. "THE AIN'T COME OVER IN NO BANANA BOAT." At the beginning of the movie Tony Montana has nothing but throughout the movie he makes connections, establishes his own drug business. This is an unforgettable story that is a MUST SEE. Vince Leo quotes "SCARFACE IS MOST MEMORABLE FOR THE INCREDIBLE PERFORMANCE BY PACINO, AND AS A WHOLE, IT'S A WELL-CRAFTED, IF SOMEWHAT OVERLONG, MORALITY TALE" good quote for the capital or underline it

Tony Montana arrives in Miami seeking fortune in the US. Him and his friend Manuel Ray (Steven Bauer) jump at the chance to perform a drug handover for Miami mobster Frank Lopez (Robert Loggia). Tony and Manuel soon end up becoming Frank's number one employees. Tony then sees a good opportunity to make a lot of money. But Frank is not willing to play with so much money. ✓

When Tony sees this opportunity he takes it. To insist Tony with his new job is Frank's girlfriend Elvira (Michelle Pfeiffer). Frank is then killed and Tony starts his new company MONTANA REALITY COMPANY. Taking his sister Gina (Mary Elizabeth Mastrantonio) with him puts Tony's mum (Miriam Colon) in a bad position. She thinks that Tony is going to take Gina in the dark side of drugs and crime. Tony has now got the power and the money. As he said in the movie "WHEN YOU GET THE MONEY, YOU GET THE POWER." But things start to go wrong. One bad move starts the terror for Tony. ONE BAD DEAL. From something that looked like it was going to last, ends up ending. ✓

Mike Thompson quotes "SCARFACE SHOWS THE RISE AND FALL OF TONY MONTANA, SOMEWHAT REALISTICALLY (WE THINK) AND ALL OF THE PROS AND CONS OF BEING A RICH AND POWERFUL DRUG DEALER WHO IS IN CONTROL OF MORE THAN ANYONE CAN IMAGINE" good quote for the capital or underline it

Despite the film going on for three hours, it still remains very watchable due to Pacino's bombastic performance. Scarface is recommended to fans of Al Pacino or people who like to watch gangster films. Viewers who don't like extreme violence or dislike gangster flicks are recommended to turn away from this movie due to the high violence and gangster scenes. ✓

tutorial • glossary • documents • references •
back • forward • index • exit •

Figure 3: Screen 8 from Unit 4 of 'Scaffolding Literacy in the Content Areas'

If teachers are able to make explicit the purposeful staging of reviews in different subject areas, their students will be more able to write well-staged Reviews that meet the requirements of the Art teacher in one instance and those that meet the different requirements of the English or Media Studies teacher in another.

This paper will conclude by identifying a final feature of Unit 5 which is central to content area teacher's role in supporting students throughout the years of schooling. It is often presumed that students will 'pick up' the increasingly specialized language demands of subjects as they move up the years of schooling. It is one of the central arguments of 'SCAFFOLDING LITERACY' that more students will succeed in schooling if these language demands are made explicit and if teachers have the necessary and conscious knowledge of such demands. By way of illustrating these increasing demands, Unit 5 provides a brief overview of the generic demands made of students as they move up the years of schooling, based on the work of Veel (1997) and Coffin (1997). In Science in the early years of schooling for example, students are largely concerned with 'Doing Science', where the preferred genres are Procedures (where instructions are given for tasks) and Procedural Recounts (where a record of completed tasks is chronologically structured). As they progress further into the middle years of schooling, students are required to also learn to 'Organise Scientifically', learning to control Information Reports and Taxonomies (where information

is described and classified) and to ‘Explain Science’, drawing on Explanation texts (where sequential, causal or theoretical relationships between phenomenon are clarified). In the later years of schooling, in addition to these processes, students are also required to ‘Challenge Science’, using Argumentative genres to put one or more appropriately supported points of view. These increasing generic demands of school science, summarised in Table 1 below, are further discussed in Halliday & Martin (1993).

Table 1: *Generic requirements of school Science (adapted from Veal, 1997)*

Doing Science	Organising Scientifically	Explaining Science	Challenging Science
Procedure	Descriptive Report	Sequential Explanation	Argument
Procedural Recount	Taxonomic Report	Causal Explanation	Discussion
		Theoretical Explanation	

Similarly, the demands of reading and writing the genres of History increase through the years of schooling in ways that teachers are not generally aware of. Unit 5 of ‘SCAFFOLDING LITERACY’ offers teachers a means of identifying how the purposes and associated genres of History can be clarified. The model offered here builds on the work of Caroline Coffin (1997) who sees the increased sophistication of thinking and writing about history as a movement from History as Narrative, through a process where time is ‘dismantled’, to a concern with Explaining and Arguing history. This movement can be illustrated in Figure 4 below.

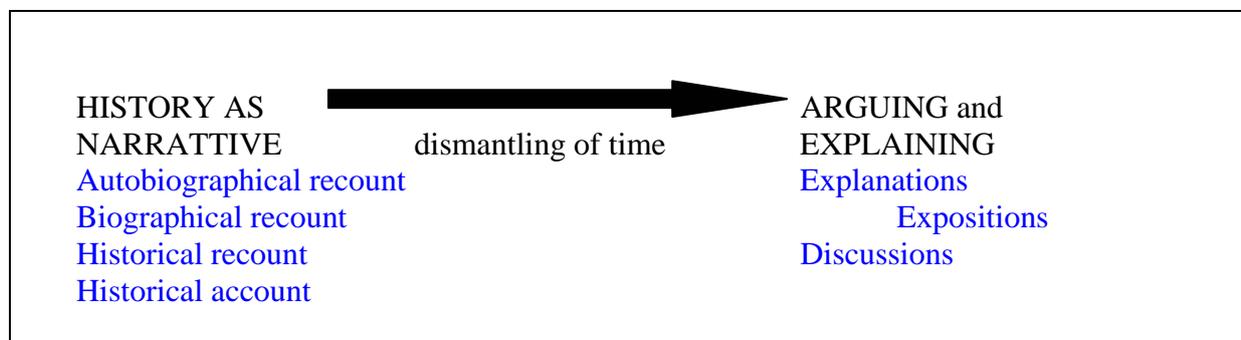


Figure 4: ‘Dismantling’ time in school History. Adapted from Coffin (1997)

The shift in thinking, reading and writing about history as a story, to a set of issues to be explained and argued about is generally not made explicit in secondary schools. This can cause students a great deal of confusion, which could be avoided if the purposes of various History texts are clarified using a framework such as that outlined in Table 2 below.

Table 2: *Generic requirements of school History. Adapted from the work of Unsworth (2000)*

	Text type	Social purpose
Chronicling history	Autobiographical recount	To retell the events of your own life
	Biographical recount	To retell the events of a person’s life
	Historical recount	To retell events in the past, not necessarily of a person

Reporting history	Descriptive report	To give information about the way things are or were
	Taxonomic report	To organise knowledge into taxonomy
	Historical account	To account for why events happened in a particular sequence
Explaining history	Factorial explanation	To explain the reasons or factors that contribute to a particular outcome
	Consequential explanation	To explain the effects or consequences of a situation
Arguing history	Analytical exposition	To put forward a point of view
	Analytical discussion	To argue the case from two or more points of view
	Challenge	To argue against a view

The notion of genre as purposefully structured text is a powerful one for teachers concerned to support their students into the (often invisible) literacy demands of their subject areas, whether this be History, Science, Art or any other discipline. In addition, teacher knowledge of how language functions at different stages of these genres (as offered in the tutorials in 'SCAFFOLDING LITERACY') provides an important further scaffold for students struggling to read and write the range of texts required of them in any one day. The success of such an approach has been evidenced in teachers' responses to the precursor to 'SCAFFOLDING LITERACY', a CD ROM entitled 'Building Understandings in Literacy and Teaching' (Love et al, 2002, 2005). This multimedia resource had been developed for K-12 teachers and focused less on the specific demands of the specialised curriculum than on the general literacy demands of schooling (see Love, 2003; Love & Shrimpton, 2002 for further details of BUILT). 'SCAFFOLDING LITERACY' tries to provide teachers who may have no prior knowledge about language with some manageable models of literacy to support their students in a new communicational world where "there are now choices about how and what is to be represented: in what mode, in what genre, in what ensembles of modes and genres and on what occasions' (Kress, 2003, p. 117).

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