

Genre and curriculum: language and learning

(Adapted from Polias 2006)

Traditionally, curriculum design has been concerned with content, such as what does an 8-year-old need to know in Health and Physical Education or Science or Arts? In recent years, there has been an attempt to include the processes involved in learning that content, so investigations, for example, have been written into curriculum materials. However, there is still the absence of an approach that unifies knowledge and processes as a set of practices (ie genres). If, instead, the variable that is common to both, language, underpinned the design of the curriculum, it would be possible to unite the knowledge and the processes. This would help connect the generic practices of the various curriculum areas, which would then provide comprehensive descriptions of these practices within and across year levels, as well as drawing commonalities and differences across curriculum areas. So as teachers, we are reassured that certain genres are repeated in certain curriculum areas while other genres are specific to certain curriculum areas and certain genres would best be addressed before other genres because the language resources of one act as precursors to other genres. These issues are central to ensuring that the setting out of what is to be taught and learnt successfully is relevant, rigorous, consistent, structured and supportive of all students.

Before addressing genre and the curriculum, it is important to elaborate on the statement that an approach to teaching and learning that is underpinned by an understanding of language would be crucial.

THE ROLE OF LANGUAGE IN LEARNING

Research (e.g. Halliday (1975) and Painter (1984)) has suggested that we build our understanding of the world by interacting with knowledgeable others using language. It would be impossible to develop all the knowledge we have simply by, say, observing. Instead, they tell us that language itself provides the means for going beyond immediate tangible meanings to accessing less tangible more abstract meanings. Let's take the example of constructing a technical classification, a taxonomy of sorts. In the following text (Painter 1999: 75), a pre-school child, Stephen (S), complains that he cannot find a picture of a seal in his fish book, so his older brother, Hal (H), helps him out:

[S complains that his book on fish doesn't have a picture of a seal]

H: Seals aren't fish. That's why. They're mammals.

S: Are seals mammals?

H: Yes, cause they don't lay eggs; they have babies.

So how does a child, Stephen in this case, learn that a certain animal is this but not that? It is done through language: there is nothing tangible about the taxonomy; the class of mammals is a human construction, realised through language. So young Stephen, who is not attending school yet, has developed this knowledge (that one can classify animals in technical ways) through a schooled child, his brother Hal. It was Stephen's linguistic ability that enabled him to understand the criterion that was presented by his brother through language. Painter (1996: 67) states further that, as the child's ability to use language expands, it opens up new possibilities for thinking and learning. In other words, we can understand and make the increasingly technical and abstract meanings as we progress through school because we have developed the necessary linguistic resources. This has major implications then for students as they move into higher levels of abstraction: what if they do not develop the language for realising the technical and abstract meanings demanded in secondary schooling?

THE DEVELOPMENT OF LANGUAGE AND LEARNING IN SCHOOL

Schooling could be defined as the process of taking perspectives on the world that are increasingly technical and abstract (eg Painter et al. 2007). Of course, there are processes of socialisation that go on in education but that can also happen in contexts in which non-literate people lead their lives. There is something different that happens in ‘literate worlds’ and central to that is the increasing technicality and abstraction; the idea that instead of doing we discuss and reflect.

Typically, children come to school with commonsense understandings of the world around them. Children such as Stephen have already started on the path of schooling by engaging with books and with older, informed peers or adults. Generally, though, there is a distinction between the meanings made at home and those made at school. For example, if whales are being discussed at home, the talk will typically be about where, when and how the family will go to see the whales and will feature words such as beautiful creatures, love, incredible, awesome, coast, sighted and whale-spotting. At school, however, the discussion sooner or later will be directed by the teacher towards a taxonomy of whales as mammals, divided into whales with teeth and whales with baleen, and further subdivisions. That will be the purpose of the lesson: parents don’t typically engage with their children with the purpose of constructing a taxonomy of whales; and the teacher will want the students to move beyond talking about the lovely whales with the awesome tails. The class activities will be different too. If they decide to go on an excursion to see whales, the rationale will not be solely enjoyment; in fact, teachers are asked to justify educationally why they are undertaking the excursion. The students’ actions will not be those of a family on an outing; they will be expected to behave like apprentice biologists on a field trip, taking scientific notes and then processing the data back at the school, perhaps hypothesising and researching further examples of the species they observed and then comparing these with species they did not observe.

These differences—commonsense versus technical and abstract perspectives—start from the very beginning of schooling, wherever there is a person whose role is to be the teacher. A crucial question to consider then is: which practices in the different curriculum areas do we engage in to develop these technical and abstract meanings with students?

DESCRIBING A CURRICULUM AREA IN TERMS OF LANGUAGE

If schooling can be seen as learning to understand the world in increasingly technical and abstract ways, the curriculum areas can be seen as learning to understand those increasingly technical and abstract ways from a variety of perspectives. The curriculum areas look at the objects, events and issues that comprise our complex world, and construe them in different ways. We can take any object or event or issue and engage with it, act on it, view it, or perceive it in the way the various curriculum areas do. For example, in the art classroom, a tree will probably be seen as an aesthetic entity, and art students will draw or paint a representation of it or make models of it or use it as the medium. Apart from the modes of action and visual representation, they will also talk about it—its shape, colours or symbolic value and respond to it emotionally or politically, using certain patterns of language. In the biology classroom, however, the student biologist will look at a tree scientifically, as part of the living world, and attempt to classify it against other trees. This objective will also be achieved using certain patterns of language, but these patterns will be different from those used in the art class. It could be the same student in both classes using the same language, English, but the patterns that are chosen from the language system are different and so are the visuals and the actions.

Let us concentrate on the area of science, and specifically biology, to illustrate how we can perceive a curriculum area in terms of language. Biologists behave in certain ways: for example, they examine a flowering plant’s leaves, flowers, stems and roots, and use the characteristics to help distinguish the various kinds of plants that make up the taxonomies in biology. They perform certain tests and experiments on plants to see if they are of this or that kind. They

inspect the roots and the bark, and draw cross-sections of the various components of the tree. Importantly for teachers and students, the texts that the biologists construct and the contexts that they typically participate in are patterned and predictable. At all levels of schooling, from studying living things in school at the age of five to the subject called biology in secondary school, students are being apprenticed into the practices of biologists. We could set out the major generic practices (Table X) that constitute the curriculum area called science in the following way (Veel 1997, 2006). [Footnote: For school history, see Veel and Coffin (1996), Coffin (1997), Schleppegrell (2004); for geography, see van Leeuwen and Humphrey (1996)]

Knowledge and activity domains	Genre label	Purpose of the generic activity	
Doing science	EXPERIMENTS	instruct someone in how to make or do things	
	Macro-genres that involve the doing of science	PRACTICAL REPORTS	provide a recount of the method undertaken in an experiment, as well as the results and the conclusions
		INVESTIGATIONS	investigate a scientific phenomenon by combining aspects of the experiment and practical report genres
Acknowledging scientists	BIOGRAPHICAL RECOUNTS	recount the major events in a famous scientist's life	
Describing and organising scientifically	DESCRIPTIVE REPORTS	describe the features of scientific phenomena	
	COMPARATIVE REPORTS	compare the features of two or more examples of a phenomenon	
	COMPOSITIONAL REPORTS	organise knowledge according to the component parts of a phenomenon (whole : part)	
	CLASSIFYING REPORTS	organise knowledge according to a system of classification (class : sub-class)	
Explaining events scientifically	temporal Explanations	SEQUENTIAL EXPLANATIONS explain a scientific phenomenon by presenting the events producing the phenomenon in chronological order. CAUSAL EXPLANATIONS do the same but with reasons included.	
	non-temporal Explanations	FACTORIAL EXPLANATIONS explain the multiple factors that contribute to a particular phenomenon, while CONSEQUENTIAL EXPLANATIONS focus on the consequences. THEORETICAL EXPLANATIONS define and then illustrate a theoretical principle or law.	
Arguing and challenging aspects of science	ARGUMENTS	ANALYTICAL ARGUMENTS present arguments on an issue in order to persuade the reader/listener to agree with a particular point of view. HORTATORY ARGUMENTS add an attempt to also persuade the reader/listener to take some action.	
	DISCUSSIONS	present the case for more than one point of view about an issue	
	CHALLENGES	challenge an established point(s) of view	

Table X: The genres of Science

Note that in the middle years and especially the senior years, these genres often combine in various ways. These are called macrogenres (Martin 1995, Christie 2002): they are described

further later in this reading. Practical reports and investigations are macrogeneric but have been listed in this table seeing as students are apprenticed into them at a very young age. Of course, the expectation that students take on macrogeneric activities almost from the start of their apprenticeship into science creates its own problems and teachers are aware of how long it takes for many students to develop control of writing practical reports.

If we compare the table for science with the taxonomies that follow (Fig. X), we will see that all of the genres in the table for science make up only part of the larger taxonomy (Fig. X). That would be so for all curriculum areas. If the taxonomies are complete, we can say that they make up the genres in schooling. So what we have done here for science could be done for each curriculum area. This would then allow a school's curriculum to be described and classified in terms of genre (and register) and this would allow for teachers to communicate with other teachers about their teaching programs without getting obstructed by concerns about field. If history, science, art, and physical education, for example, all deal with genres such as reports and explanations, then genre and register are their common points of reference.

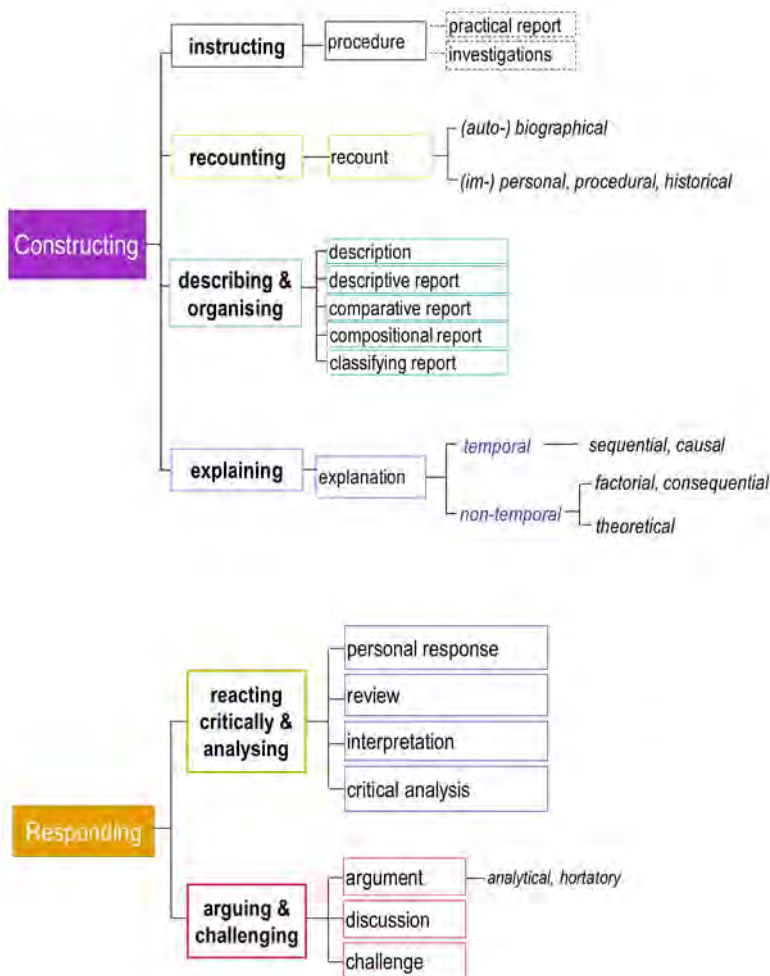


Fig. X Genre taxonomy

To what degree are these genres unchanging? We can confidently state that genres are resistant to change, otherwise they would not have become a recognisable socio-cultural activity in the first place—the cultural group that enacts the genre would have shaped it differently over time—they have evolved into a state of equilibrium. However they can change over long periods of time but the cause of a change in any cultural group would need to be significant enough to cause a rupture in the way that that culture behaves.

We can also see a parallel in school curricula. For example, how different would the table for science have looked fifty years ago? At that time, it would have been a very unusual science curriculum if the students were set the task of arguing science's impact on society. However, as environmental concerns have become critical to our existence, the role of science education has included taking on responsibility for one's impact on the world. And so, at some point when the pressure on the cultural institution that is education was sufficient to enact a change in the curriculum, the language of arguing, discussing and challenging was introduced and now it is commonplace in science curricula, if not all curricula.

RELATING GENRES TO EACH OTHER

In any taxonomy, such as the genre taxonomy in Fig. X, we can ask what kinds of relationships hold between and across the different components of the taxonomy. For example, we could ask:

- Are there any relationships that hold between genres of the same set? If so, what are their distinguishing features?
- Are there any relationships that hold between sets of genres; for example, is there a relationship between recounting and organising genres or explaining genres?
- Are there any relationships that hold across the genre taxonomy as a whole?

In this reading, we will elaborate on the first point by providing examples of the majority of the genres and sub-genres. There has been an attempt to draw the examples from a variety of curriculum areas.

Relationships between genres that construct phenomena and events

Instructing

Procedures can be organised into two small categories: those that create a product of sorts by setting out a series of actions and those that set out a series of actions to act simply as a protocol. The first category need to have a stage in which materials or ingredients of some kind are listed—recipes and experiments are examples of this kind—whereas the protocols don't need to have the materials stage, typically because the materials are assumed (eg a camera or other machine, or simply oneself and credit cards). Text 1 is an example of the first category and Text 2 of the latter.

TEXT 1: PROCEDURE (RECIPE)

Chicken and mushroom congee

1 cup of rice	7 cups of water
5 cups of chicken stock	2 skinless, chicken breasts, cut into thin slices
1 tablespoon of chopped ginger	1 tablespoon of rice wine
1 pinch of white pepper	1 pinch of salt
6 slices of mushrooms	3 chopped spring onions
A few drops of sesame oil	

Marinate the chicken with rice wine, a pinch of salt and white pepper in a bowl.
Heat the rice, water and chicken stock in a large pot until it is boiling.
Turn down the heat and simmer for about 1 ½ hours. (Cover partially.)
Stir occasionally.
Add the ginger, mushrooms and marinated chicken slices.
Stir and boil the chicken for 2 minutes.
Serve the congee in bowls.
Add a few drops of sesame oil and sprinkle with spring onions.

(Lexis Education 2008)

TEXT 2: PROCEDURE (PROTOCOL)

How to access the internet

1. Turn OFF your computer.
2. Connect your computer with an Ethernet cable.
3. Turn ON your computer.
4. Launch a Web browser.
5. Type "ipath" in the address bar and press "Enter".
6. Follow the on-screen instructions to browse the Internet.
7. For technical assistance, please call freephone 18002456666

(Lexis Education 2009)

Recounting

The set of recounting genres is sub-categorised into those whose focus is more on specific individuals (Text 3) and those whose focus is more on the events (Texts 4 to 6).

TEXT 3: BIOGRAPHICAL RECOUNT

Wassily Kandinsky (1866-1944)

One of the most renowned artists working within German Expressionism was Wassily Kandinsky. Not only did he adopt the style but he also helped shape it as well as revolutionising what we believe art to look like.

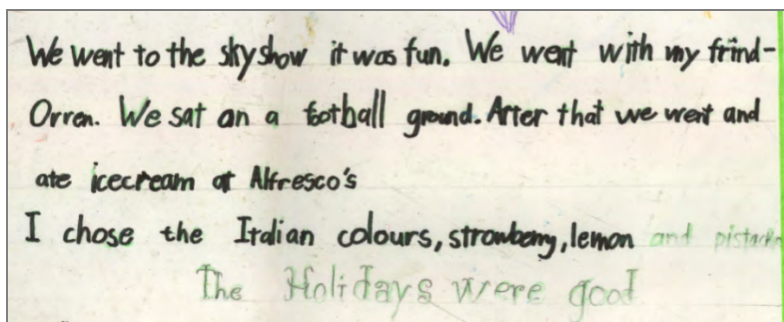
Born in Moscow in 1866, Kandinsky spent his early childhood in Odessa. His parents played the piano and the zither and Kandinsky himself learned the piano and cello at an early age. The influence of music in his paintings cannot be overstated, down to the names of his paintings 'Improvisations', 'Impressions', and 'Compositions.'

In 1886, he enrolled at the University of Moscow, chose to study law and economics, and after passing his examinations, lectured at the Moscow Faculty of Law. He enjoyed success not only as a teacher but also wrote extensively on spirituality, a subject that remained of great interest and ultimately exerted substantial influence on his work. In 1895 Kandinsky attended a French Impressionist exhibition where he saw Monet's 'Haystacks at Giverny.' He stated, "...it was from the catalogue I learned this was a haystack. I was upset I had not recognized it. I also thought the painter had no right to paint in such an imprecise fashion. Dimly I was aware too that the object did not appear in the picture..."

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15-year-old student text (CNP)

TEXT 4: PERSONAL RECOUNT



7-year-old student text (CNP)

TEXT 5: PROCEDURAL RECOUNT

... Once all the metal pieces were finished, they needed to be welded together. Heating the brazing rod slightly and then dunking it in the flux readied it for welding. Placing the rod between the metal pieces and then melting it, created the joint. After the welding was completed, the model was quenched in water.

...

13-year-old student text (CNP)

TEXT 6: HISTORICAL RECOUNT

The atomic bombings of Hiroshima and Nagasaki

The atomic bombings of Hiroshima and Nagasaki occurred near the end of World War II, on 6 August and 9 August 1945, respectively. These bombings against Japan were carried out under the executive order of the President of the United States, Harry S. Truman. The first bomb was dropped on the city of Hiroshima after six months of intense fire-bombing of 67 other Japanese cities, followed by an ultimatum which was ignored by the Showa regime. The second bomb was dropped on Nagasaki.

The bombs killed as many as 140,000 people in Hiroshima and 80,000 in Nagasaki by the end of 1945, roughly half on the days of the bombings. Of these, 15–20% died from injuries or the combined effects of flash burns, trauma, and radiation burns, compounded by illness, malnutrition and radiation sickness. Since then, more have died from leukemia (231 observed) and solid cancers (334 observed) attributed to exposure to radiation released by the bombs. In both cities, most of the dead were civilians.

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http://en.wikipedia.org/wiki/Atomic_bombings_of_Hiroshima_and_Nagasaki

The original work has been modified. Refer to: <http://creativecommons.org/licenses/by-sa/3.0/>

Describing and organising

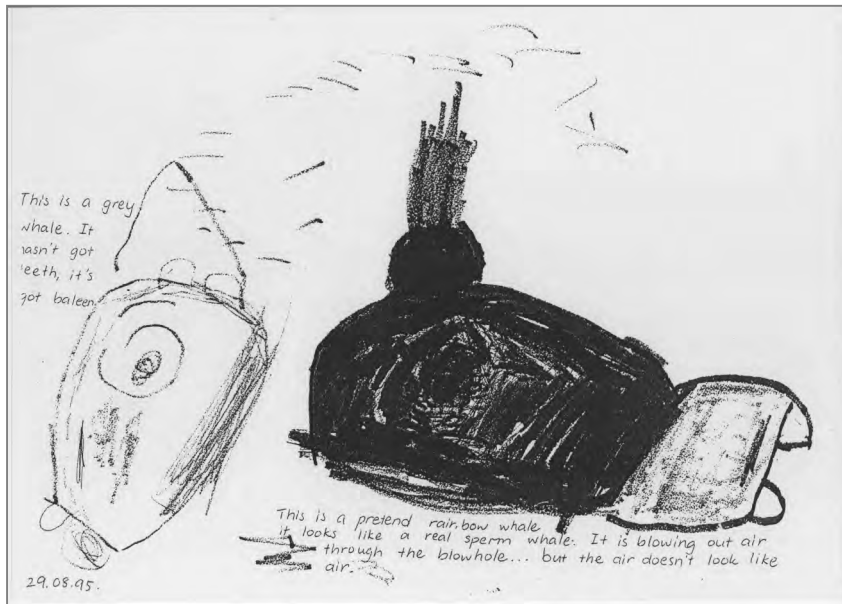
In Fig. X, the genres functioning to describe and organise, the reports, are also set out in terms of their typical take up in schooling: simple descriptions (Text 7) are begun at a very early age before these descriptions are extended to descriptive information reports (Texts 8a and 8b), before two descriptions or descriptive information reports come together in a comparative information report (Text 9), before detailed components either become the text itself (Text 10) or the text is incorporated in another report. The later developed genre would be the classifying kind (Text 11), which is often macrogeneric (refer to the section on Macrogenres). This would be the typical sequence in school curricula.

TEXT 7: DESCRIPTION

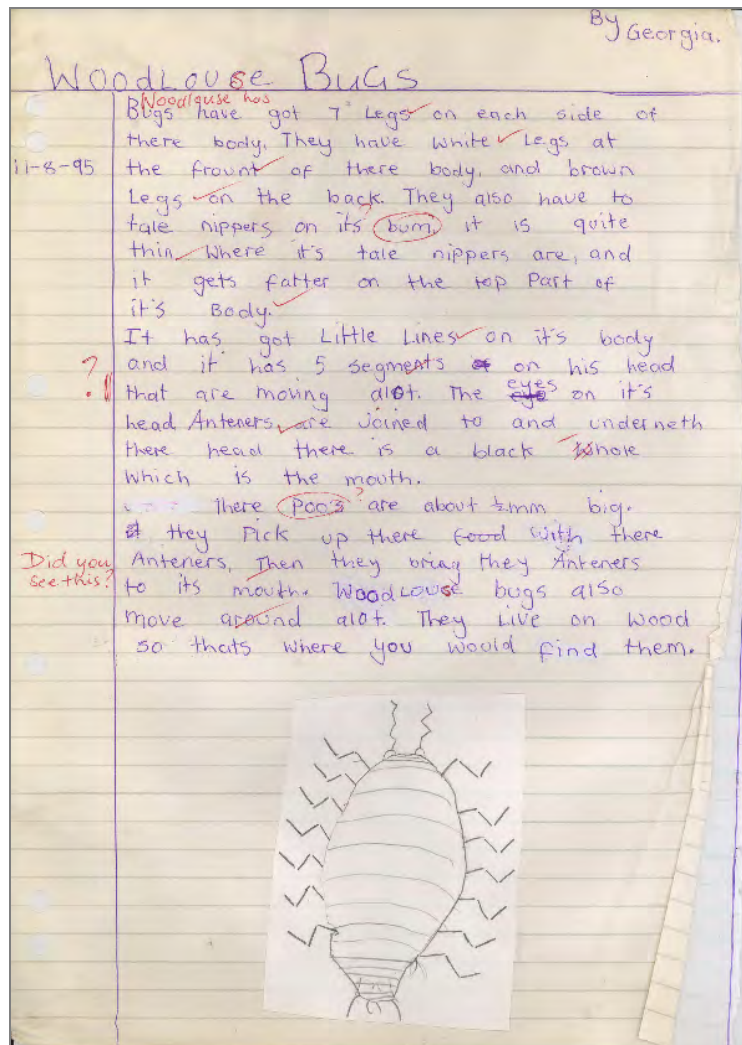
[Spoken by a child who was almost 5 after a visit to a natural history museum and scribed by the teacher underneath the child's drawing of the whale. The rainbow whale was coloured by the child in the colours of the rainbow.]

This is a grey whale. It hasn't got teeth, it's got baleen.

This is a pretend rainbow whale. It looks like a real sperm whale. It is blowing out air through the blowhole...but the air doesn't look like air.



TEXT 8a: DESCRIPTIVE REPORT



11-year-old student text (GD)

TEXT 8b: DESCRIPTIVE REPORT

Tsunami

Tsunami comes from the Japanese for 'harbour wave' and is used to refer to a seismic sea wave; that is, an ocean wave that results from an earthquake under the oceans. Tsunamis have erroneously been called tidal waves, but they have nothing to do with the diurnal pattern of high and low tides.

A tsunami can be set off when the ocean floor is tilted or offset during an earthquake, displacing a massive volume of water and creating a set of concentric waves which spread out from the quake's epicentre. Other possible causes are landslides on the ocean floor or volcanic eruptions.

Tsunamis generally originate along the edges of the Pacific and Indian Oceans, where there are numerous volcanoes and a great deal of seismic activity. An example is the devastating tsunami of December 2004, with its epicenter north of Sumatra in the Indian Ocean.

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(Lexis Education 2008)

TEXT 9: COMPARATIVE REPORT

Comparing plant and animal cells

On comparing animal and plant cells, we find that there are some major similarities and some critical differences. These differences are linked to the different functions that cells have in the different organisms.

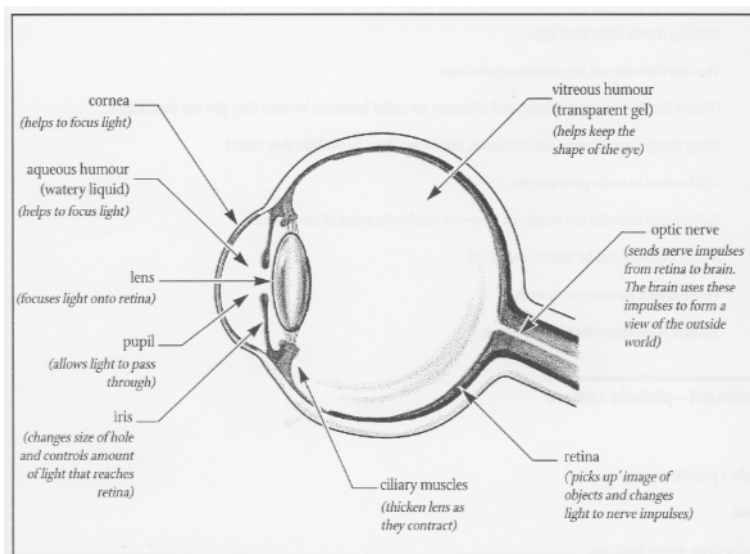
To begin with similarities, animal and plant cells have three major structural elements that are similar. They both have a defined nucleus, cytoplasm which surrounds the nucleus, and a cell membrane.

One of the significant structural differences between the two kinds of cells is that the plant cell has a wall consisting of cellulose. This allows the plant cell to withstand high pressure by taking in large amounts of liquid through osmosis without bursting. An animal cell, on the other hand, would burst if too much distilled water or other fluid filled it.

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(Lexis Education 2009)

TEXT 10: COMPOSITIONAL REPORT



Department of Education, Training and Employment (1998) *Teaching ESL through science: a science curriculum for intensive English language programs*. South Australia: Department of Education, Training and Employment

TEXT 11: CLASSIFYING REPORT

The internal structure of Earth

Earth can be considered to have an internal structure of four layers which are distinguished according to their chemical and physical properties. The outermost layer is the crust, then comes the mantle, followed by the core, which itself is divided into an outer core and an inner core.

The first layer, the crust, is made up of the continents and the sea floor. Compared with the other layers, the crust is very thin. It is between around 25 and 30 kilometres thick where the continents are, while it is only about 6 kilometres thick under the ocean. The crust is itself layered with an extremely thin layer of soil or sand lying on top of rock, which under the continents is mainly igneous whereas under the oceans it is mainly the denser rock, basalt.

The mantle is the layer which makes up, by volume, most of the Earth. It is approximately 2900 kilometres thick. The upper part of the mantle consists of rock but as the temperature increases to around 2200°C in the deepest parts, the mantle becomes more plastic and moves like a fluid even though it is a solid.

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(Lexis Education 2009)

Explaining

The two main categories of explanations are those that are organised according to time and those that are not. There are two subcategories of temporal explanations: the first one to be developed by students, the sequential explanation (Text 12), does not have explicit cause while the later developed, the causal explanation (Text 13), does.

The ones that are temporally organised can, of course, be accompanied without visuals (flowcharts such as cycles) but it helps the reader markedly if the visuals are there. The pedagogical significance of this is taken up later in this reading under resonance.

TEXT 12: SEQUENTIAL EXPLANATION

The pinna, or the outer ear, collects sound waves, which are directed by the ear canal to the eardrum. The eardrum vibrates as the sound waves hit it. The vibrations from the eardrum are amplified by the ear bones, or ossicles, in the middle ear and are passed on to the inner ear. In the inner ear, the cochlea changes the vibrations into electrical messages. These electrical messages are carried to the brain along nerves and the brain interprets the messages, which we call sounds.

(Polias 2008)

TEXT 13: CAUSAL EXPLANATION

Why do we get tropical cyclones?

Cyclones are tropical storms with very high winds. They are also called typhoons and hurricanes. Cyclones only happen in the tropical parts of the world and start out at sea in places where the air pressure is very low.

A tropical storm begins when air flows into an area where the air pressure is low. As this air flows in, it circles around the centre of the low pressure area. In the tropics, this circling air is warm and moist. Because warm air rises, this circling air also rises up into the atmosphere in a spiral like a corkscrew. When this warm moist air gets up into the atmosphere, it cools and forms rain clouds. These rain clouds and spiralling winds are what cause a storm at sea.

...

(Christie F et al. 1994)

The second major category of explanations is the non-temporal, which is comprised of factorial explanations (Text 14), consequential explanations (Text 15) and theoretical explanations (Text 16). What we can say about these three subcategories of genre is that the theoretical explanations are developed much later than the other two.

TEXT 14: FACTORIAL EXPLANATION

Why did the Renaissance first take place in Italy?

Renaissance means ‘rebirth’ and the period in Europe from about 1350 to 1600 is called the Renaissance. During this period, many great changes, such as the revival of classical learning, took place. The Renaissance first started in Florence, Italy, and the main reasons for the Renaissance beginning there were the possession of Roman remains, the presence of many rich merchants, the existence of many independent governments and the influx to Italy of Greek scholars.

The first reason for the Renaissance originating in Italy was the possession of ancient Roman remains. As the home of Roman Civilization, Italy abounded in remains of ancient Roman art and learning. This offered the Italians excellent opportunities to learn about that classical civilization. The great number of ancient ruins also inspired the Italians to rediscover their past.

The presence of many rich merchants in Italy was another factor for the Renaissance’s origins in Italy. In the late Middle Ages, Christian Crusaders, who were on their way to Jerusalem to fight against the Muslims in the Holy Land, traded with Italian merchants such as the Medici family in Florence. The immense wealth from this trade was spent by the merchants on pictures, books and fine goods. This was a rich time for the development of art.

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(Polias 2005)

TEXT 15: CONSEQUENTIAL EXPLANATION

What are the consequences of air pollution in Hong Kong?

Air pollution is increasingly a major problem for cities around the globe, including Shanghai, Beijing and Hong Kong. Air pollution can be defined as the presence of airborne particles that are harmful to the well-being of animal and plant life. The quality of life in Hong Kong is negatively affected by air pollution in several ways and they include: degradation of visibility, acid rain, and, more broadly, rising temperatures and depletion of the ozone layer.

Visibility degradation is caused by airborne particles, which scatter light and serve as condensation nuclei for clouds and fog. The particulates can come from natural phenomena such as volcanic eruptions, dust storms and sea spray or from human activities such as combustion. In Hong Kong, the combustion of fossil fuels in cars is the main contributor and the situation is worsened by the occurrence of photochemical smog—formed when smoke and exhaust fumes are trapped in a fog and undergo photochemical reactions.

Acid rain is a chemical phenomenon caused by the dissolution of nitrogen oxides and sulphur dioxide in rainwater to form nitric acid and sulphuric acid, respectively. The oxides are released during the combustion of fossil fuels by cars, factories and power plants. Acid rain has multiple adverse effects on ecosystems, where plants and soils are degraded, and on humans and property. Irritation of respiratory systems and corrosion of buildings and car bodies are some of the ways acid rain will afflict the people of Hong Kong.

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(Lexis Education 2008)

TEXT 16: THEORETICAL EXPLANATION

Explain what the law of demand is using two real-life applications in Hong Kong: the mobile phone market and the increase in fines for littering as part of the Team Clean Project.

The law of demand asserts that there is an inverse relationship between price and quantity demanded. In other words, if prices increase, quantity demanded decreases, with the condition that other factors are held constant. The two Hong Kong applications to be considered here—the portable phone market and the Team Clean initiative—do indeed support the law. However, real-life applications are not always clear-cut and both the portable phone market and littering examples are illustrations of this.

In recent years, the demand for mobile phones has grown remarkably. Yet, despite this huge increase in demand, prices have not increased as the law of demand would predict. Instead, they have fallen. This situation in the mobile phone market is due to another factor. Whereas the law of demand requires that all other factors remain constant, what is found in this example is that the supply of mobile phones has increased greatly. The large increase in supply has been possible because of technological improvements and the influx of new mobile phone companies to the market. This has led to the current situation in Hong Kong, where, despite the increase in demand for mobile phones, the prices have fallen because the supply has increased at an even greater rate.

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(Polias 2003)

Narrating: entertaining and moralising

There are quite a few sub-genres that constitute this category: short stories called narratives (Text 17) that students are frequently asked to listen to, read, retell and write themselves. There are also those that they are generally asked to listen to or read more than write, such as myths, legends, fables and parables.

TEXT 17: NARRATIVE

Far off in the distance, he heard the rumble of stampeding buffalo.

Perched comfortably on his horse, he scanned the close horizon with severe eyes. The hills, slight but still obvious, rolled away in every direction. A yellowed light pierced the jet stream clouds and then hovered shyly over the ground-hugging fog. Wind made the grass seem to flow like a sea across the land and it swirled around the horse's legs, enveloping the hooves. His eyes followed the meeting point of sky and earth until he spotted a growing hemisphere of dust. As the hemisphere grew, so did the sound and soon it was quite possible to make out the buffalo and the taller figures of men atop horses flickering in and out of the herd.

With a tap of an ankle, he charged forward, pelting down into and then out of the fog. He felt the warmth of the stampeding mass ahead of him. The buffaloes' powerful legs tore through the early morning air carelessly. Their heads down and eyes focused on nothing, it

seemed like they were possessed by their will to live and their need to escape. Some hunters swooped like birds of prey from one side to the other picking off buffalo indiscriminately while others followed more prized buffalo carefully until there was a certain kill, making every spear or arrow count.

...

13-year-old student text

In senior secondary schooling, students are no longer required to write narratives but instead asked to respond to them in critical ways and this leads us into the next section.

Relationships between genres that are a response to a variety of texts, events and phenomena

Arguing and challenging

This category of genres is made up of those whose overriding function is to respond to phenomena and events in the world rather than individual works.

There are three sub-categories. The first (argument) is broken into two parts itself, with one attempting to persuade the listener or reader to agree with them and the other not only attempting to persuade them but exhorting them to take some action (Text 18). The second (discussion) attempts to bring in multiple perspectives so as to provide a balance (Text 19). The third (challenge) picks up a widely-held belief and attempts to undermine it or even destroy it. An example of a task that requires a student to respond with writing a challenge is: "Write challenging the view that the Cultural Revolution was about a class struggle and suggesting instead that it was about an internal power struggle in the Communist Party of China." Of course, a challenge could also attempt to defend a view against its detractors.

TEXT 18: ARGUMENT (HORTATORY)

Money spent on Space ought to be spent on reducing suffering on Earth

Did you know that the US Government gives \$16 billion in funding to NASA, the National Aeronautics and Space Administration? Do you think that a starving child in the Horn of Africa cares about life on the red planet? That \$16 billion could be better spent on reducing disease and starvation.

A child dies from malaria every 30 seconds. With a pill that costs less than a \$1, these poor lives could be saved. A billion dollar trip to the moon won't save them but imagine how many could be saved with \$16 billion.

Spending on medicines could save millions of lives from the flu, the mumps, AIDS and HIV, or even just common chicken pox. While NASA is waiting for lift off and counting, 10 ... 9 ... 8 ... 7 ..., every few seconds a little child will die from a disease because they didn't have the money for the medical supplies that they needed. They can't even get immunisations against infectious diseases that cost just a couple of cents.

Charities are trying to raise money for the unfortunate people who are so poor they can't even bring home dinner for their family let alone buy medicines. While the astronauts are flying up there in the sky running on big bucks, charities are struggling to raise money to provide food for the starving and run programs to minimise child deaths.

There is no choice! We have to take the space exploration budget and put it towards saving humans here on Earth. That \$16 billion dollars must be spent fixing the misery on our planet – the blue planet.

Based on a text by 11-year-olds

TEXT 19: DISCUSSION

The impact of logging rainforests

The logging of rainforests has caused major conflicts between environmental groups around the world and countries looking for greater sources of export income through expanding their timber industry. It is clear that there are very different views on whether or not the logging of rainforests has a major impact on our environment.

To begin, major logging companies argue that logging of rainforests is essential in providing the products we use daily. These companies claim that if there were no logging of rainforests, there would not be sufficient timber for building and for the production of paper, furniture and other goods.

However, many indigenous peoples who rely on the forests for shelter and food claim that they have had to move into cities because there are no trees left to sustain their way of life. In other words, these indigenous cultures are being wiped out as we destroy their homes to build our own.

Another argument for logging is that clearing of rainforests has resulted in benefits for all, including the indigenous people. The cleared forests make land available for cattle and crop farming, which provide people with meat, cereals and other food products. The opportunities for food exports result in an increase in employment and financial gain.

...

Adapted from a text in Department of Education, Training and Employment (1998)
Teaching language through science: a course for intensive English language programs.
Adelaide: Curriculum Resources Australia.

Reacting critically and analysing

These genres respond to aesthetic texts, such as novels, paintings or plays. The responses vary according to how personal, how analytical and how critical they are. Personal responses have very little analysis or critique, reviews are typically responses to individual aesthetic works (Text 20) and, as such, are not the same as critiquing all the works of an author or film-maker or playwright. Text 21 is an example of how the critical analysis genre requires the student to evaluate with a high degree of justification.

TEXT 20: REVIEW (FILM)

Turtles Can Fly

Kurdistan

The ceaseless woes of the Kurdish people have been far from unrecognised in the past decade. Their persecution at the hands of Iraq, Turkey and Iran (the countries which the unofficial territory of Kurdistan overlaps) has been unabatedly awful, to say the least. So, it is with the weightiest of historical baggage that Bahman Ghobadi's film, set in Kurdistan before and during the latest American invasion, comes to our screens. Yet, the film stands up as a sublime and original cinematic vision.

Turtles Can Fly is a film based on children, somewhat in the vein of *Lord of the Flies* or the more recent *City of God*. Our protagonist is Satellite, named for his remarkable capacity to source satellite dishes for Kurdish villages desperate for international news that might herald the liberating forces of "Mr Bush". Satellite is the best advertisement for the entrepreneurial spirit in a free-market economy that I've ever come across—his pragmatic approach to the desperation of his situation is to organise refugee children into work gangs clearing landmines that they can sell or barter with to provide themselves with a livelihood. Clearly we're not talking about the Brady Bunch kids here and it is a credit to Ghobadi's

direction that the children's performances are both engaging and charming without treading into the mire of arch cuteness or naiveté.

The film's tone is at once affrontingly authentic—dystopic landscapes of obsolete and burnt out munitions—and magically surreal. Ghobadi knows better than to give the viewers an overly earnest and detached documentary style. The horrifying subject matter and remarkably beautiful and unsympathetic landscapes of grey mountains and mine-infested fields demand a heightened style. There is nothing quotidian about this story, or at least there shouldn't be, but this is of course an all too real everyday life for too many people. Ghobadi invests the story with a thrilling level of metaphor and allegory. There is no cheap symbolism, just carefully and subtly created elements and storylines that in their content and execution parallel the enticing but rapacious poetry of Ovid.

...

© August 19, 2008 Carl Nilsson-Polias <<http://www.carlnp.com.au/2008/08/19/turtles-can-fly/>>

TEXT 21: CRITICAL ANALYSIS (ART)

...

Interpretation

The painting could be interpreted in a number of ways. Obviously the man is walking away from a disaster that has engulfed the city in flames. A pessimistic interpretation could be that he is escaping from the destruction of his property and possessions, leaving him with nothing but his life, the clothing he wears and the contents of his pockets. A more optimistic approach might be that he is walking to a new and promising future, leaving behind everything that was bad and evil in his past. The staring red eyes, reflecting the intensity of the burning flames, suggest he has been deeply affected by what has happened. Certainly they provide no hint that the future is likely to be more positive than the present. The presence of a dog, traditionally acknowledged as 'man's best friend', suggests that although he may not be alone, surviving the future will be difficult without other people. Living will be hard because the surrounding country is also desolate, indicating that the destruction has been widespread outside, as well as within, the burning city.

Such destruction could have been caused by a nuclear explosion or, perhaps, some kind of natural disaster, such as a massive meteor crashing into the area.

...

Judgement

The painting is very effective because it communicates strongly the idea that society and civilisation are doomed unless people address the issues that confront them. It is impossible to miss the point that to ignore these issues will result in disaster and the destruction of life. Viewing the work is an uncomfortable experience and Booth obviously intended people to feel that way.

Although the subject can hardly be considered beautiful in the traditional sense, it has its own kind of beauty in that everything in the painting is highly appropriate for the message it conveys. Although it is not easy to enjoy that message, it is easy to enjoy how successfully the artist has conveyed it. The different techniques that Booth has used, and the way they all work together in the overall composition, help to communicate his idea.

...

Aland, J and Darby, M (1998) (2nd ed.) *Art connections*. Melbourne, Victoria: Heinemann. pp.15-17.

MACROGENRES

As students continue through their schooling, their field knowledge expands greatly and, at some point, how they develop that field requires them to construct highly complex texts that are made up of more than one genre. These complex genres are called macrogenres (e.g. Martin 1995, Christie 2002). In their earlier years of schooling, students would have read and viewed texts that were comprised of a wide range of genres but gradually they are required to produce these themselves. We can see this in the so-called projects that students are asked to undertake, although macrogenres do not need to be so large. The genres involved in a macrogenre are interdependent in a variety of ways such as one genre extending or elaborating another, or one being embedded in the other.

One example of a macrogenre is a practical (laboratory) report in that it has a method stage which is a procedural recount, a results stage which recounts not what the student scientists did but what they observed, a so-called discussion stage which attempts to explain the observations and a conclusion stage which states what is according to the experiment. To successfully complete a practical report, a student would have to be able to write the prototypical genres of procedural recount, causal explanation and information report. This is a critical point to make; that students need to develop control of the prototypical genres to be able to negotiate successfully the increasingly complex meanings in their schooling.

A letter of complaint (Text 22) is also a macrogenre in that it has a recount embedded in it. The purpose of the letter is to evaluate negatively a certain event and finish with demanding some action (perhaps recompense or future improvement) but to establish that there was a problem, a recount of the events is required.

TEXT 22: LETTER OF COMPLAINT (macrogenre)

<date>, <address>
<salutation>

Please find enclosed the remains of two tickets we purchased on Saturday 21 February to attend what can only be described as the worst hour of musicianship we have ever seen: Spencer P Jones playing (?) at the Regal tent.

If we had been at a local pub and they had been young players making their debut and if they had been in tune and if we had been able to hear a single word and if we hadn't paid some \$50 to see this terrible performance, we would not be writing this letter. The only high note we heard was one band member mumbling to another about being out of tune.

We have been to innumerable Fringe and Festival performances and have consistently supported local music but have never seen performers show such scant regard for the public. It was simply appalling. Many others in the audience obviously felt the same way and left during the performance.

We can't reclaim the night and the frustration of feeling like we were badly diddled but we would be very happy to have our money back.

We look forward to your response.

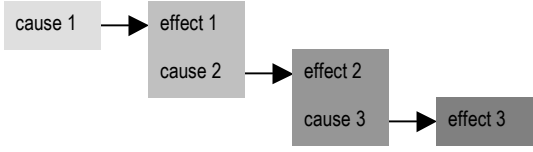
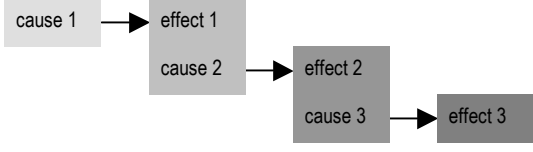
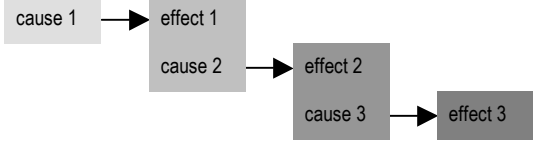
<leave-taking>

(Dare 2004)

Another example of a macrogenre is Text 23. The overarching purpose is to explain the consequences of deforestation so it has the staging of a non-temporal explanation (phenomenon identification followed by the consequences and then the deduction) but within each of its consequences, it incorporates a causal explanation (e.g. how habitat is destroyed). In the

schematic representation of the text (which is non-temporal), the grey shapes indicate the flow of information in the causal explanations (which are temporal).

TEXT 23: CONSEQUENTIAL EXPLANATION (macrogenre)

<p>Deforestation Definition and significance followed by the consequences in the order they are dealt with in the text: habitats, CO₂, erosion</p>	<p>Phenomenon identification <i>Deforestation and the consequences</i></p>
	<p>Consequence 1 <i>Habitat destruction</i></p>
	<p>Consequence 2 <i>CO₂ increase in the atmosphere</i></p>
	<p>Consequence 3 <i>Soil erosion</i></p>
<p>Deforestation's significant impact and possible further consequences if the above effects are not taken into account</p>	<p>Deduction <i>Significance or possible further outcome of the phenomenon</i></p>

CREATIVELY EXPLOITING KNOWLEDGE OF A GENRE

One of the key messages of *Language and Literacy* is that a student needs to develop control of a wide range of language choices in order to exploit them in creative ways. In the same way, we can say that students can exploit the potential of the various genres and start to play with them. This is called generic metaphor or contextual metaphor (Martin and Rose 2007). One common way of doing this is to use one genre to do the work of another genre. Text 24 exploits a procedure within a film review. We could ask why a procedure, a genre that deals with very concrete actions, is being used within a genre which is supposed to be reflective and what we see is that using the procedure underlines the negative attitude of the writer that the film was as banal as a painting using the 'paint-by-numbers' method.

TEXT 24: FILM REVIEW (AS PROCEDURE)

Take several established directors.

Add a handful of legendary actors (with a sprinkle of fashionable ones).

Fold in some cobble stones and avenues.

Add it to a well-greased pan, splash it with Pernod and put it into a fan-forced oven.

Remove it before it's fully baked and serve with 4kg of icing sugar.

If you like the sound of that, you'll like Paris, Je T'Aime. If the idea of a frivolous confection for the whole family doesn't get you salivating, steer clear.

It's not all saccharine nonsense though, some of the short-films in this compendium work hard to redeem the rest. Daniela Thomas and Walter Salles provide a profoundly simple vignette of a young mother from the banlieue and Alexander Payne's 14ème Arrondissement, which closes the film, is all the more remarkable in its monotone melancholia when set in relief against the heartless fancies before it.

Stylistically, the film is much of a muchness. France's cinematic aesthetes like Jeunet, Besson and Ozon are notably missing. So, it's left to Australian cinematographer Christopher Doyle to add some surreal panache and, unfortunately, it's just a silly muddle.

At least on DVD, you can skip to the good stuff.

<http://www.sparkonline.com.au/2007/12/31/paris-je-taime/>

RESONANCE

The importance of students understanding and using explicitly the patterns in language and the genres that make up the curriculum has been stated clearly. Just as important is that teachers use an understanding not simply to teach explicitly the features of the genres and the various language choices but that their teaching is shaped by that understanding. This matching or conflation of how we teach with how meanings are made in what we teach I am referring to as resonance. It works in the same way as in wave theory in physics, where waves can destroy each other when they are not synchronised (ie they do not resonate) and where they can magnify each other when they are synchronised. So the analogy is that when teaching and content are synchronised, they resonate with each other and we achieve heightened learning.

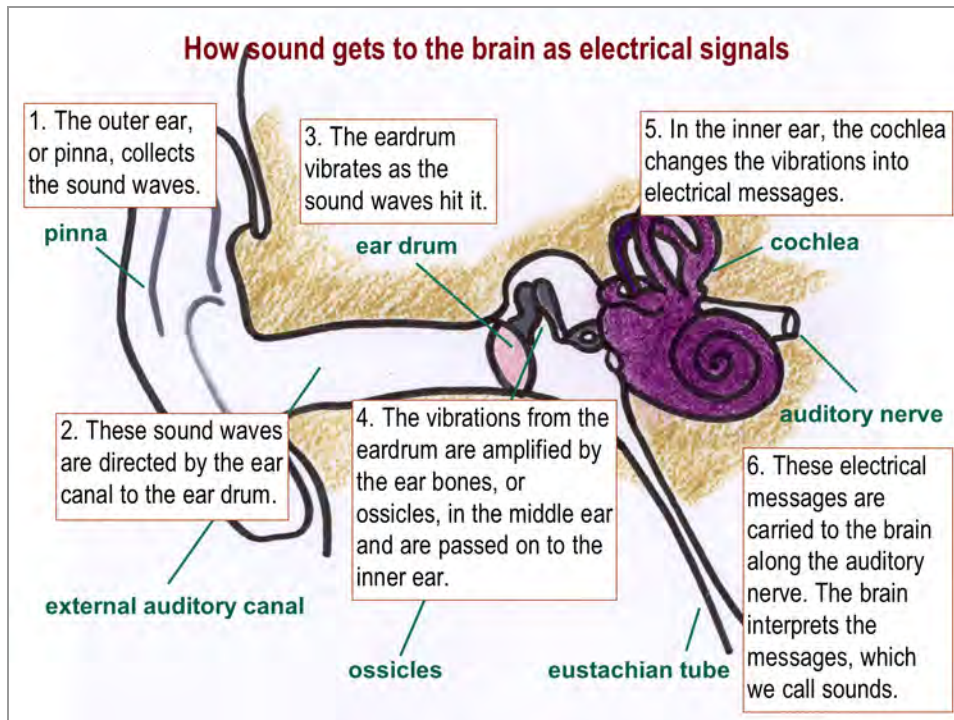
As an example, we can use an explanation on how sound is registered by the brain. The generic structure of the original text (Text 25) was being explicitly taught by the teacher by having the students reconstruct the text, which had each sentence copied onto strips of paper that had then been jumbled.

TEXT 25

The pinna, or the outer ear, collects the sound waves.
Then the ear canal directs the sound waves to the eardrum.
They hit the eardrum and make it vibrate.
The ear bones amplify the vibrations from the eardrum and pass them on to the inner ear.
The cochlea changes the vibrations into electrical messages in the inner ear.
These messages are carried to the brain along nerves.
The brain interprets the messages and we can hear the sounds.

However, the problem was that the text was supposed to be a sequential explanation yet its language patterns were more those that would be used in a descriptive report. We can see this if we look at the beginnings of five of the seven sentences: they begin with the different components of the ear and each sentence acts as if it were simply giving a list of features. A sequential explanation, as a dynamic process and represented much more helpfully as a flowchart using a cross-section, would be characterised by having that flow realised in the language as well (Text 26). Examining the beginning of each sentence and the end of the previous sentence, it is clear that there is a flow.

TEXT 26: SEQUENTIAL EXPLANATION



(Polias 2008)

This is the importance of resonance in our classrooms. If we match our teaching activities and our texts with how the meanings are being made in the text, the new meanings are more accessible and learning is improved.

To sum up, pedagogical practices (curriculum design and teaching) that are underpinned by understanding how language does its work allow everyone in the learning context to communicate with each other because there is a common way of talking about education. Teachers from different curriculum areas can communicate about teaching and learning unconstrained by the fact that they deal with different fields; teachers and students can communicate about learning because they share a metalanguage, a common language for talking about language. The same can be said for teachers working across the year levels. A schooling context in which teaching and learning can be mapped promotes improved teaching and learning.

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