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Big ideas & sharp focus: Researching and developing students' academic writing across the disciplines

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1. Introduction

This paper showcases Halliday's influence on the teaching of English for academic purposes in three different programs at the same university. The authors work in various degree programs, and come together here to consider which of the many 'big ideas' in Systemic Functional Linguistics (SFL) permeate their thinking about education, frame their analyses of disciplinary discourses and practices, and guide their teaching of the forms of communication that tertiary students need to master. All have the general aim to support students as they transition into and through higher levels of education, in line with institutional policy and standards for course design and learning support. They achieve that broad aim through their subjects,[1] and careful consideration of what 'transition' and 'support' mean in specific educational contexts. Influenced by the model of language developed by Halliday and his colleagues, the authors interpret learning support in terms of students' need to understand and write particular assignment texts, and teachers' obligation to make literacy practices explicit in specific

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[1] the word 'subject' is used at the University of Wollongong to refer to credit-bearing, semester-long units of study within a degree program ('course').

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contexts of disciplinary and professional learning. This paper presents three snapshots of teaching practice, to show how ideas from SFL apply to teaching English language and academic literacy. The 'sharp focus' in these accounts is the analysis and teaching of something specific that students need to be able to do in their academic writing, and seem to find difficult to master without instruction. In each case, this has something to do with the use of evidence to make some kind of 'point' within an extended piece of writing. The presentation of these teaching scenarios follows a clarification of which ideas from SFL they apply, and why.

2. Key concepts from SFL theory

There are several big ideas drawn on in these snapshots: text – which in SFL is conceived not as a material artefact (such as a book, paper or talk) so much as an instance of meanings configured in a particular and dynamic context (communication); stratification – which refers to the many levels of semiotic systems and patterning through which any communication makes meaning; register – which refers to variation in language according to its use in specific situations; metafunctions – which refers to the semantic choices (ideational, interpersonal and textual) configured in text to make multiple meanings simultaneously; language development – which refers to the central and enabling role of language in learning (differing from theoretical and instructional traditions that frame language and content learning as separable); and genre – which refers to the way texts unfold in particular stages and phases to realise particular purposes. In the snapshots described, these big picture ideas guide the analysis of discourse, and the teaching of writing and grammar.

The texts that students read and write are central to the work of teachers, and 'text' is the core object of study in Halliday's linguistics and semiotics (Martin, 2016, p. 39). Halliday defines a text in terms of the meanings it makes, not its size or form. A text is understood here as communication motivated and shaped by the needs of a particular social context, and as the means of connecting a context to semiotic systems (such as a language). There is a mutually constructive relationship between texts and contexts, in that each (effective) text, through the types of linguistic choices it makes, evidences a specific context (Halliday & Hasan, 1985). Student success in education is seen here to largely depend on a teacher's ability to recognise and make explicit the types of linguistic choices expected in specific contexts, and to expand students' linguistic repertoire responsively, so they can meet the demands of new situations. In this way of thinking, wherever teachers **can** show and explain good text examples, and make time for guided practice in producing them, they do so, because "one learns to make texts by making texts" (Halliday & Hasan, 1985, p 69).

Inseparable from his view of text is Halliday's idea of 'stratification' (Halliday, 2003, vol. 3, p. 29; Halliday & Matthiessen, 2014), which refers to language as working on various levels – each of which can be examined separately, for analysis, but which are actually always functioning in harmony together. Halliday's stratified model of language (Fig. 1) visualizes how the material expression of language is intimately related to meaning and to context (Fig. 1):

In this complex, 'architectural' view of language, the communication happening through texts can be viewed from both the top down and the bottom up - as meanings manifested ('realised') in lexicogrammatical choices, which are realised in visible and audible signs, and as signs that bring situation types into being, to re-create and maintain a broader culture. The

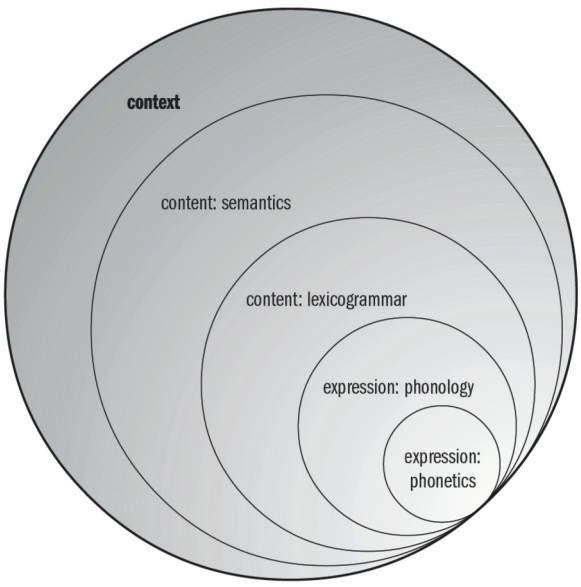

Fig. 1. Diagram of SFL's stratified model of language.
Source: Halliday & Matthiessen, 2014, p. 26.

meanings made through text are constructed through grammar, and the stratified model gives the literacy educator a framework and rationale for developing teaching practices which connect micro, meso and macro views of what is going on in language communications. Working with this model in mind, a teacher is unlikely to focus on spelling per se, for example, without referring to specific texts, or to present a topic without also discussing how and why students might use the information to talk or write in a particular way and further their own interests.

Also central to Halliday's theory of language is the concept of 'register'. To describe a text in terms of register is to account for its linguistic patterns in terms of how they enact a conventionalised type of communicative situation, which can be described in terms of three variables (Halliday, 1978, p. 110): what is going on and being represented in discourse (the field); the interlocutors involved, and how they are positioned in the unfolding discourse (the tenor); and the role language is playing in bringing the social activity, relationships and text into being (the mode). The concept of 'metafunctions' enables a nuanced description of semantic choices represented in a text, that relate to the situational variables of field, tenor and mode. The big insight here is that consciously or not, success in communication depends on a strongly sensed relationship between text and context: that each specific social situation limits the range of linguistic choices occurring in communications associated with it, and that the semantic and lexicogrammatic patterns in any text represent choices made to suit and define a specific context. However much flexibility there may be, there is nothing random about it, and theory of register explains how texts relate to social context. While SFL theorists model this relationship differently (Matthiessen, Kazuhiro, & Lam, 2010, p. 176), they share an aim to explain systematic, functional relationships between linguistic patterns in a type of text and the social situation for which it is designed. An analysis of discourse might focus on variation at lexicogrammatical, semantic and/or contextual level (Matthiessen, 2019), but however described, the key proposition is that there is a necessary and systematic relationship between the contextual variables of field, tenor and mode and the linguistic choices represented in a text. The authors of this paper are working with, testing and discussing Martin's ideas about register and genre, because of similar educational aims to intervene in curriculum and pedagogy, and thereby improve students' ability to produce the specific types of text on which success in education depends. They also acknowledge the origins of these ideas in Halliday's work, which continues to prompt serious thinking about these concepts amongst many language educators. Halliday's powerfully simple model helps explain how any communication is made relevant and coherent in a given context by a principled limiting of possibilities in what might be said or written.

Halliday's view of learning as a matter of language development is another influence on the approaches to teaching described below. Writing about how children learn their first language, Halliday (1975) and then Painter (1989, 1991, 1999) trace developments of individual children in detail, noting how their capacity to learn expands with their linguistic repertoire, which expands through conversations with parents and care-givers while doing activities together. By closely observing intimate, regular interactions of daily life, they found that children's language develops as an inseparable part of their development of knowledge about the world. Children learn the language involved in doing particular activities in order to be able to do those activities, and with the help of others who draw attention to the words, phrases and ways of using the language that typify those interactions and situations. In "Towards a language-based theory of learning" Halliday goes so far as to say that "language is the essential condition of knowing, the process by which experience becomes knowledge" (Halliday, 1993, pp. 93–4). In this view, language is not learned first and then used to learn and do activities; rather, language is learned incrementally as part of the process of doing things with other people. Wells (1994) further suggests that educators at all levels should closely explore how language development relates to knowledge development in particular contexts, because if the process of language development is dynamic, never finished, and key to the development of knowledge, students entering university will only succeed by changing what they do with language and expanding their linguistic repertoire. For some, the changes will be great, and their developmental process is greatly helped when educators think of disciplinary knowledge not only as 'content' but also in terms of how knowledge is exchanged and evaluated trough specific types of text, and implement some form of educational 'scaffolding', to help students read and write in the ways expected. This idea has developed from Vygotsky's work (1978), which recognised that simply telling someone what to do is less effective than showing them how, and helps explain why learning is easier when a task is closely guided by an expert, or done together with slightly more capable peers. The space between what a child knows and doesn't yet know is described as a 'zone of proximal development' (ZPD), and an effective ZPD surrounds the learner with dialogue about the task at hand. While this idea is widely embraced in education, it can be difficult for educators to see how to create effective support when learning is complex and developed through writing. Halliday's detailed and nuanced descriptions of the language involved in particular situations helps turn vaguely good intentions into powerful language-teaching action. Halliday and Hasan (1985) suggest that no one can learn to write about a topic just by talking about the topic, because writing itself has to be done in specific ways, which only become familiar through exposure to those particular ways of writing, in situations where they actually and immediately play a key role. From this it follows that the best time and place to expand linguistic repertoire is within the situations requiring use of new lexical and grammatical resources, and that learning and writing will be enhanced and accelerated when subjects are designed around a deliberate language development process.

Finally, in this overview of the intellectual context for the teaching scenarios below, the idea of 'genre' needs to be prefaced, particularly Martin's conception of it as a "staged goal-oriented social process" (Martin 1992, 1999, 2012; Rose & Martin, 2012). Although Martin's positioning of genre in the stratified model of language differs from Halliday's (see Martin, 2016 and Lukin, Moore, Herke, Wegener, & Wu, 2011 for some elaboration), his work emerges from practical attempts to operationalise and popularise Halliday's ideas in literacy education. The general aim in SFL theory (to understand how meanings are realised in texts) has been developed into a teaching tradition over the past thirty years, often referred to as

Sydney School Genre Pedagogy (SSGP). This pedagogy aims to rapidly develop students' capacity to learn, read and write, by analysing and openly discussing the specific linguistic means through which particular forms of communication are recognised and performed. Though sometimes misconstrued as being obsessed with static text structures, this approach is just using a particular idea of 'genre' as a way into more detailed awareness-raising of what characterises effective engagement in particular fields of study and disciplinary practices. SSGP makes explicit the linguistic behaviour through which knowledge in a field develops, aiming to liberate learners into greater control and creativity. It is used to support primary school children learning to write (Martin, 2000; Martin & Rose, 2008; Rose, 2011; Rose & Martin, 2012; Christie & Rothery, 2013), to help high school children understand and engage in the ways of writing valued by schools (Disadvantaged Schools Program 1994), to help indigenous and other students often disadvantaged in mainstream education to master reading and writing (Rose, 2014), and increasingly, to help students in higher education make sense of the forms of writing required in the assessment of learning. The SSGP cycle for classroom teaching and learning, known in the literature as the curriculum cycle, or the Teaching and Learning (T/L) Cycle, is represented diagrammatically below in Fig. 2. In this model of practice, students are not asked to write anything before being taken step-by-step through a carefully scaffolded and monitored process, full of open discussion and repetition, until they recognise, understand and feel confident to produce the target form of communication independently. Teaching and learning activity rotates around a view of the whole text, and works down into fine details of wording, following a 'top-down' logic that relates to Halliday's concept of stratification.

While building students' knowledge of a particular field (in the tertiary context, this is done through readings, lectures, tutorials and discussions in class and online), the T/L Cycle proceeds through the following steps (Fig. 2):

1. Modelling/Deconstruction (where students are shown successful examples of the texts they are expected to write and these text examples are deconstructed to show key structural and language features).
2. Joint Construction (where students work with each other and the teacher to write a new example text – in part or whole – based on work done in the Deconstruction stage).
3. Independent Construction (where students construct a new text, either in groups or alone).

This approach is becoming more known in tertiary education, but as Humphrey and Macnaught (2011) note, its application is still mostly limited to the first step (Modelling the target genre), and perhaps some simple analysis (Deconstruction) of text stages (Humphrey and Macnaught (2011), p. 103). Joint Construction involves more detailed analysis of genre stages and phases, and an examination of lexicogrammatical resources at clause level. In the three teaching scenarios to which the paper now moves, both Deconstruction and Joint Construction are implemented, to carefully scaffold an aspect of academic writing that students otherwise find difficult.

3. Teaching practice

The scenarios described here are all credit-bearing subjects delivered over a 13-week semester to students in their first year of study at the University. In each case, teaching is based on some careful analysis of a particular form of communication,

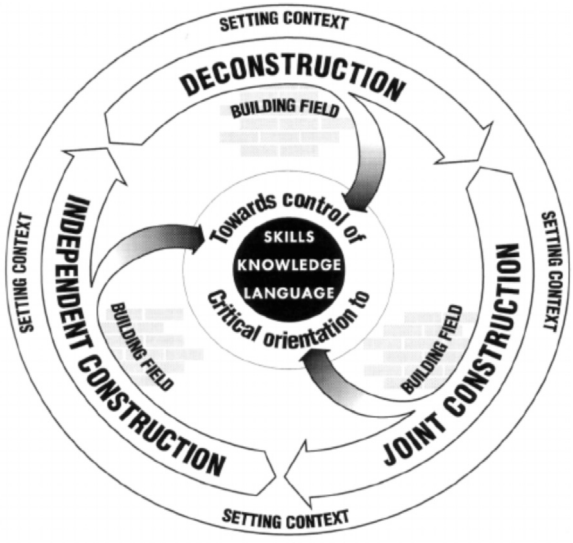

Fig. 2. Diagram of the Sydney School T/L Cycle: from Deconstruction to Independent Construction, with continual field building and context setting. Source: Rothery & Stenglin, 1995.

and scaffolds students' learning of a topic and a particular way of writing about it, through the T/L Cycle framed by SFL ideas about the relationship between context, text and lexicogrammatical resources.

3.1. Scenario 1: Teaching undergraduates to write about linguistic evidence.

A subject in Arts and the Humanities offers first year undergraduates from various disciplines an introduction to academic writing. It focuses on the similarities and differences in how knowledge is constructed across the disciplines, as students in the one degree program may be taking subjects in various disciplines, and need to understand that writing like a philosopher is not the same as writing like a sociologist, historian or linguist. They may also find themselves expected to master various discourse practices as if by osmosis, without explicit discussion of the differences between disciplinary sub-cultures and between the various texts students are required to produce. Some manage to pick up the linguistic patterns of their discipline without very much instruction being focused onto language, but many do not, so to help everyone, this subject identifies key discourse features on which success in particular assignments depends. The teaching practice 'makes visible' the discourse requirements of being an apprentice historian or sociologist, or in the example presented, an apprentice linguist, by raising students' awareness of the nature of discourse in a particular discipline and the expected form of writing.

Whatever disciplinary context students are in, the subject encourages them to ask and answer some basic questions, based in SFL conceptions of genre, mode and tenor, such as: What am I being asked to do here? What is the social purpose/structure/shape/organisation of the text I am being asked to write? How is knowledge being organised and construed? What kind of textual voice should I adopt? How should I weave the voices of experts into my text? To frame and guide discussions of such questions, a 'top-down' approach to text analysis and writing is taken (following Martin), whereby the kinds of texts that students need to write for particular assignments are modelled. Exemplar texts are examined, their overall social purpose, structure and organization are considered, and then various parts of a text are discussed in terms of how they achieve specific aims and help make the whole coherent. Students are guided through macro and micro views of what a 'point' is, and how clear points are linguistically constructed.

Language communication is discussed in terms of how a genre is 'realised' at the level of discourse semantics, and how those meanings are realised through the lexicogrammar, according to Martin's perspective on literacy education (eg., Martin, 1992; Martin & Rose, 2008). The macro, meso and micro structures and functions of texts are examined in class, in that order. To help students learn about how language works to make meaning, students are tasked, in the case presented here, to write a 'linguistic interpretation' (Humphrey & Dreyfus, 2012), in order to learn to interpret the language choices in any given text(s). The purpose of this genre is to interpret the findings of a linguistic analysis. Following the T/L Cycle, students are shown how to analyse an example for specific patterns, before identifying the same kinds of meanings in another text. Based on the results of their own analysis, they then write a commentary on how meaning is made through the linguistic choices that their analysis has revealed.

To illustrate some of the difficulty they experience in doing this kind of writing for the first time, and why it needs careful and often repeated instruction, what follows is the text given to a whole class to analyse, followed by one student's analysis of this text. First, the text they analysed – a recount written by an Afghan refugee to Australia:

> When I lived in Afghanistan, I was a shepherd and a farmer. We had a small house. It was very simple and we slept on the floor. Mostly we were happy with our life - All we really wanted was enough food and safety but the Taliban made life very complicated for us. When I refused to reveal where was my eldest son, they threatened to kill me, so I had to flee my village without delay. I knew that my wife and children would be much safer once I was gone so I departed for Indonesia – but was unable to stay there for there was no work and eventually I found myself aboard a crowded boat to Australia. We drifted on the ocean for days but finally the Australian Navy rescued us and took us to Darwin. It was only then that I finally felt safe. Although the Woomera processing centre was a bleak place, I found the guards to be kind and good people. After six years of waiting in detention I finally got my visa and could bring my family to safety in Australia. They all love this country: Australia is the most beautiful place in my life. It is the first time my children are safe and it is the first place we have slept well for the whole night, without fear and bomb blasts.
> (adapted from http://www.amnesty.org.au/refugees/comments/24434/)

Students conduct two types of analysis on this text (transitivity and ergativity), which are ideational systems from the stratum of lexicogrammar (wordings) in the SFL model. These two systems allow for an examination of how experience is construed – in terms of who does what to whom, where when and how. Students use their findings from this analysis to write a linguistic interpretation, aiming to make a clear point about how meaning is linguistically constructed. The following text illustrates just one part of the text students produce - a 'point phase' (Humphrey & Dreyfus, 2012). Point phases are usually found in the body of linguistic interpretations, and our analysis shows that they are repeated many times through a typical linguistic interpretation, as particular points are made about the analysis. The following excerpt is from a higher-ranking student text (Extract A):

Extract A

> As expected from a recount, the speaker (I, we) was found to be the main first participant. However, an analysis of the ergativity roles within his recount shows how little he actually acts in his own story. The speaker takes the role of Agent once in the text (in clause 11.2: [I] could bring my family to safety), but in all other clauses, he is Medium. The Agents in the text are instead the Taliban (clauses 5 and 6.2), and the Australian Navy (clauses 8.2 and 8.3). This shows that while the speaker is the focus of the story, he causes almost none of the processes – things happen to him due to others, not because of his actions.

Close examination of many such linguistic interpretations shows that the students awarded the highest marks do three things, in sequence, to construct a clear and strong point about their analysis: they first report the language patterns that their analysis reveals, then give a good example of that pattern, and they then say something about its function or meaningful effects. Successful 'point' phases in the assignment are always made up of these three internal "moves" (which we call Findings, Example and Nub - see Table 1), and students seem to experience greatest difficulty in writing the Nub part – that is, they manage to conduct the analyses without too much difficulty, and identify good illustrative examples, but tend to find it hard to make a clear point about the findings of their analysis.

Our extensive analysis of these 'point' phases in student writing shows that causative resources, both within and between clauses, are crucial to making effective points. Making a point relies not only on the perhaps more obvious resources for constructing relations of cause between clauses (such as "because" or "in order to …"), but also on elaborative relationships (such as dependent clauses that begin with "which"), as the example below see Table 2.

As can be seen in the example in Table 2, the point is made complete in the combination of Findings and Nub. Being able to show students how discursive moves are constructed in grammatical detail helps them produce the kinds of texts required, through focusing on how to make the 'right' kind of point in their writing. At the end of experiencing this kind of teaching, many students ask why their other lecturers are not showing them examples of the kinds of texts required for assessment tasks, and explicating how to write as is expected and valued. They all clearly appreciate this kind of support for writing wherever they find it, and seem to continue applying and benefiting from it as they progress through their degree programs.

3.2. Scenario 2: Teaching pre-service teachers to write about pedagogical practice.

This next subject is taught in the first semester of a four-year undergraduate degree course in Education. It offers primary preservice teachers an extended focus on the role of language in learning. It introduces students to the model of language underpinning the current school curriculum for English, and familiarizes them with the genre-based T/L Cycle, which these students will need to apply in their own future teaching. The curriculum for English in Australian schools draws heavily on Halliday's functional theory of language (Derewianka, 2012), and now mandates that school students develop a conscious and

Table 1
An example of a successful point phase is analysed below in terms of its moves.

'point' phase	Signal (with Findings & Nub)	As expected from a recount, the speaker (I, we) was found to be the main first participant. However, an analysis of the ergativity roles within his recount shows how little he actually acts in his own story.
	Findings 1	The speaker takes the role of Agent once in the text << … » but in all other clauses, he is Medium.
	Example 1	« (in clause 11.2: [I] could bring my family to safety) »
	Findings 2	The Agents in the text are instead the Taliban << … », and the Australian Navy << … ».
	Example 2	(clauses 5 and 6.2) … (clauses 8.2 and 8.3)
	Nub	This shows that while the speaker is the focus of the story, he causes almost none of the processes – things happen to him due to others, not because of his actions.

Table 2
Example (from another excerpt) showing how a point is successfully made with these causative resources.

Findings	α = β	α		The Taliban' or 'them' plays the role of the Agent whose transitivity role is Actor,
Nub		= β	α	which construes the highest power
			xβ	because they take real actions ('threatened to kill') upon another participant ('us').

Note that the analysis in the table above comes directly from Halliday's descriptions of how clauses are connected through different kinds of dependencies and logico-semantic relations. The alpha symbol refers to the dominant or independent clause, while the beta symbol refers to the dependent clause. The times symbol means the relation is one of enhancement (meanings of cause, time, place, purpose etc). The equals symbol refers to meanings of elaboration, where one clause elaborates on the meaning of another. Being able to analyse text to this level of delicacy, and reveal the language patterns and their functions, is one of the important features of Halliday's legacy.

cumulative knowledge about language (ACARA 2016). This is all informed by the development and application of genre theory to literacy education over the past few decades (Derewianka & Jones, 2016; Martin, 2000), but the more recent requirement to be very specific in describing lexicogrammar makes many undergraduate students of Education extremely anxious, having gone through the education system themselves at a time when it lacked systematic attention to grammar in context. Many students may vaguely recall something about 'parts of speech' and 'text types' from their own schooling (Harper & Rennie, 2009), but they typically lack detailed knowledge about clause level grammar, and more recent developments in descriptions of language beyond the clause (Macken-Horarik, Love, & Unsworth, 2011). The double challenge for this subject, then, is to prepare new teachers to deliver the 'knowledge about language' strand of the current national curriculum, and to develop their own ability to write the sort of evidence-based, analytic expositions required in tertiary level studies. The Language in Education subject has therefore been designed as both a model for the approach they will take in their future teaching practice and as a practical support for students' own writing.

The subject is organised around several inter-related tasks, one of which asks students to write an expository essay that shows understanding of theory and ability to write about it persuasively, presenting and defending a point of view, on the basis of evidence from readings. The first six weeks of the subject (Fig. 3) guide students through the T/L Cycle. In the first few weeks, their knowledge of the field is built up (in this case, SFL-based knowledge about language and genre-based pedagogy) through lectures, video observations of teachers demonstrating functional and genre-based approaches in primary classrooms, guided readings and tutorial discussions of several key readings and a purpose-written textbook (Derewianka & Jones, 2016). The following few weeks are then devoted to teaching how the type of assignment they are expected to write is constructed (Fig. 3):

In weeks four and five, as students widen their reading, and learn about genre-based pedagogy, the type of essay they are to write is modelled and deconstructed. They learn about the purpose of expository genres, and work together to identify the key stages and language features of an analytical exposition, by deconstructing a sample text about a related but different topic. In week 6, tutors lead the Joint Construction of a 'Position Statement' that students can use to begin their own assignment, using the lecturer's annotated version of the opening paragraph of a model text. Table 3 shows the completed jointly constructed Statement of Position (with internal phases indicated) produced in a tutorial. Students are advised that they may use and adapt jointly constructed texts for their individual essays.

In small groups, they construct further paragraphs for the body of that model text, with tutors guiding the discussion of how good points are made in academic writing. Students then proceed from week 7 to complete their own expositions individually, posting a draft paragraph to the subject's eLearning site to receive and give peer feedback, specifically on how well or otherwise paragraphs make a clear point.

Through this process, students encounter Halliday's functional theory of language as a topic, and experience a scaffolding pedagogy, as they examine texts and learn to write a particular type of text effectively. Their learning is guided by concepts

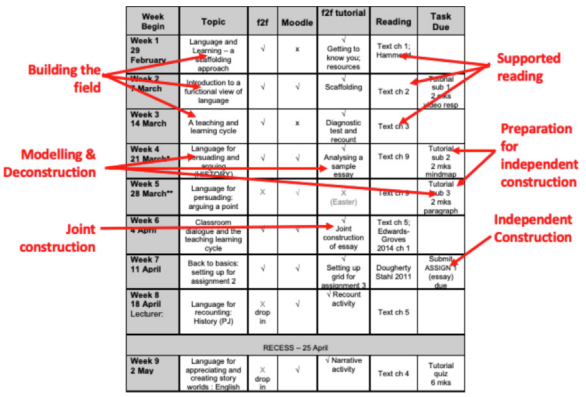

Fig. 3. The T/L cycle in EDLL101.

Table 3
A jointly constructed Statement of Position stage.

Key concept & background	The teaching learning cycle highlights the role of the teacher in developing students' language and literacy skills across different curriculum areas. Drawing on Vygotsky's Zone of Proximal Development and scaffolding theory (ref), the teaching learning cycle describes a range of rich learning activities that are carefully selected and sequenced by the teacher to lead students to increasing independence in academic discourse.
Thesis	The role of the teacher (or 'expert other') is critical.
Text preview	This essay will discuss the teaching learning cycle in general before describing each of the four stages: building the field, modelling the text, joint construction and independent construction. In doing so, the essay foregrounds the teacher's expertise in guiding and supporting students through both 'designed-in' and 'contingent scaffolding (Hammond & Gibbons, 2005).

from SFL theory (such as periodicity, logico-semantic relations, cohesion and engagement), but using the meta-linguistic terminology of the curriculum for school English (such as text-openers, paragraph openers, sentence openers, compound and complex sentences). Some students find close examination of texts and regular reflection on language overwhelming, and report finding it easier to think about teaching fractions than clause boundaries and noun groups, but others report feeling empowered by knowing how to analyse and talk about texts, and to understand why the construction of a succinct, theoretically informed point in an argument depends on a carefully constructed noun group. The majority, regular evaluation reveals, find that learning how to talk about language is critically important at this foundational stage in their course. After just two months, most students are managing to produce the type of logical, coherent and well supported argumentation that was previously, without this subject, only emerging in later years of the degree course. Excerpts from two essays are discussed below, both responding to the following prompt: "The teaching learning cycle presented in this subject emphasises the importance of the teacher in developing students' literacy and their knowledge about language. Explain the role of the teacher in the teaching learning cycle with specific reference to scaffolding theory as espoused by Hammond and Gibbons (2005)".

Tables 4 and 5 present opening paragraphs from essays by two students, both recent school leavers, whose texts received different grades for this task. Their use of the jointly constructed text (in Table 3) is indicated in bold.

In this text, the student has used much of the jointly constructed draft position statement, reworded slightly to make it their own, and has developed the thesis with further background information, to make a strong stance about the responsibility of the teacher with respect to tracking student development and the dynamic nature of scaffolding. Analysis of the jointly drafted and independently developed texts shows that this student's writing includes a wider range of process types than the model (*illustrates; is*), more lexically dense participants (*the required level of assistance to learning; the implicit connection with teaching within the Zone of Proximal Development*), and circumstances which ground the text in the educational setting (*in school literacy practices; in the early stages*). Complexity within clauses is achieved through the use of grammatical metaphor (*the learner's level of expertise and independence*). Interpersonal meanings are developed through added evaluative resources (*rich learning activities; carefully selected and sequenced by the teacher; the crucial role of the teacher*), and modality is heightened to develop the thesis (*the implicit connection … should be evident …; this level of assistance should gradually decrease*). The student also adds logical connectives to develop the thesis (*Furthermore, therefore*). A high grade was achieved, because it demonstrates good use of the jointly constructed text, weaving it into a new argument, based on independent reading and writing. In contrast, the next extract shows less use of the Joint Construction, and less ability to move from there into independent reading and writing.

The initial phase here is longer, but does not use and add to the jointly constructed text – it borrows wordings from a previous essay, which had asked students to investigate other aspects and applications of the T/L Cycle. The first phase here seems to have been lengthened at the expense of the thesis, which is then just a brief restatement of wordings from the essay

Table 4
Excerpt from a distinction grade Statement of Position, with text phases indicated on the left, use of the Joint Construction in bold, and Thesis underlined.

Key concept & background	**The teaching learning cycle** is a model which guides teachers to develop **student's language and literacy skills across the curriculum. Drawing on scaffolding theory** (Hammond & Gibbons, 2005) **and Vygotsky's Zone of Proximal Development**,
Thesis	the teaching learning cycle illustrates a variety of rich learning activities. These are carefully selected and sequenced by the teacher to assist students move from everyday discourses to academic discourses.
Text Preview	**This essay will discuss the stages of the teaching learning cycle (building knowledge of the field, modelling the genre, joint construction and independent construction)**, highlighting the crucial role of the teacher in guiding and supporting students in school literacy practices.
	Throughout the teaching learning cycle, the implicit connection with teaching within the Zone of Proximal Development (ZPD) should be evident (Howard & Watson, 2015). Vygotsky's concept of ZPD centres on the fundamental idea that learning is a collaborative process where the learner is supported by a more knowledgeable other, in this instance the teacher. The role of the teacher throughout the teaching learning cycle is therefore to act as the driver for how learning development occurs.
	Furthermore, the key teaching principle of scaffolding is directly linked to Vygotskian theory (Hammond & Gibbons, 2005). Effective scaffolding is able to increase the upper limits of a student's ZPD, making it possible for them to become more independent in their literacy practices (Hammond, 2001). Throughout the teaching learning cycle a teacher should therefore aim to provide the required level assistance to learners, especially in the early stages. However, this level of assistance should gradually decrease with the learner's growing level of expertise and independence. …

Table 5
Excerpt from a pass grade Statement of Position, with phases indicated on the left, and text from the Joint Construction in bold.

Key concept & background	**The Teaching and Learning Cycle** was originally developed to improve literacy pedagogy for young English language learners from socially disadvantaged backgrounds and has been reshaped into todays [sic] society to guide educators in supporting student's literacy development. **Drawing on the scaffolding theory**, it was developed to make the teacher's role in improving literacy outcomes more explicit (Hammonds [sic] and Gibbons, 2008). The Teaching and Learning Cycle incorporates a range of scaffolding strategies through which the teacher assists student's more [sic] from everyday discourses transitioning to academic discourse.
Text Preview	**This essay will discuss** the stages through building knowledge of the field, modelling the genre, joint construction and finishing with independent construction of the Teaching and Learning Cycle highlighting
Thesis	the crucial role of the working teacher in helping student's literacy development. …

prompt, realised as a dependent clause attached to the text preview. Of the jointly constructed text starter, only the preview phase has been used. Further analysis shows how this attempt demonstrates fewer features of the academic register expected. Process types tend to be material (*was developed; reshaped*), rather than also of the relational type more frequent in academic writing, creating more of a recounting effect than an analytic one. Participants are generally simple and predictable (*The teaching learning cycle*), and departures from modelled text are sometimes cumbersome or inelegant (*literacy pedagogy for young English language learners from socially disadvantaged backgrounds; the working teacher*). There is some successful take-up of abstraction in the circumstances (*from everyday discourses transitioning to academic discourse*), and confident use of 3rd person, but limited use of evaluative resources. The minimal use of modality here contrasts strongly with the previous student's explicit stance (Table 4), suggesting the second student will merely describe the role of the teacher, rather than argue a case for their importance throughout the T/L Cycle. The Statement of Position here does preview the coming essay, but errors indicate weaker writing overall.

These excerpts illustrate early attempts to implement Joint Construction into tertiary level teaching, and some interesting results. One student's participation in this step has helped them understand and perform the genre, and using a model starter has not limited creative development of their own text. The second has perhaps misunderstood what they can freely use and how they can modify a model to develop their personal repertoire of linguistic resources, or feels uncomfortable positioning their own sense of voice into negotiated text. Through a careful, ongoing investigation of student experience and writing in this subject, teachers are identifying textual patterns of the target genre, but also misconceptions about genre analysis and text development, for future teaching and peer review activities to address. There is need for precision in Joint Construction, to carefully point out wording options at each phase of each stage of a genre, and to engage all students in the process, using a range of models, so that they come to see themselves as researchers of language use, and conscious, creative (not slavish) users of meaningful patterns.

3.3. Scenario 3: Teaching novice researchers to write about academic literature

The subject described in this third snapshot offers an introduction to research writing for international postgraduate students from various disciplines, whose first language is not English.[2] It focuses on the major piece of writing that they have to do in their first year – the 'literature review'. Reviewing the research literature on any topic is a complex and slow process, and many students find it the most challenging part of their research writing experience. This is partly because of the inherent linguistic complexities of reading and writing at this level of study and in another language, and partly because the difficulties students experience in writing tend to be glossed over in meetings with supervisors, where the focus of attention is on research activity in lab and field. This subject is designed to help novice research writers understand the purposes of reviewing literature and the style of writing expected, and to stimulate curiosity about language. It guides them through a text development process that is monitored by language educator and research supervisor, and that itself functions as something of a research laboratory, with research genres as an object of study.

Instruction follows the T/L Cycle to scaffold students' learning of what is known, and remains unknown, in their chosen research area. Students build their field knowledge, while the subject demonstrates how to find literature, read critically and write about it in the genre expected. Various types of research publication are explored for modelling and analysis of the target genre, which is to justify further research in a particular field. Joint Construction sessions focus on strategic segments of text – the type of paragraph that makes a point, and helps develop an argument. Not all paragraphs within the students' texts need to function in this way, but clear and strong points need to be made periodically through their ongoing discussion of the literature, to make the text more than a summary of what other researchers have done, and what many students find most challenging seems to be making points and using the literature to build a case for doing further research. Students need to be shown the linguistic means through which summarising and reporting on academic literature differ from using it as evidence in an argument. The following excerpts describe a sequence of activities in the subject, which are framed by the Hallidayan view of language, but for students' ease of use, avoid its technical meta-language.

As they gather useful reading material and construct a professional bibliography, students are asked to include a published review article, and identify paragraphs within it that they think make a 'point'. This begins a conversation about the difference between describing and arguing, the nature of points, their role in developing an argument, the role of argumentation in the type of literature review they are writing, and the role of various types of literature review in research practice. The following example paragraph was found by a student in a published review article they were reading, for use in class. Students were asked to consider and articulate, as best they can, how many steps the paragraph goes through to make its point (Table 6) where the boundaries between elements are; and what the function of each element they identify might be. The labels on the left (*claim, summary*, *conclusion*) indicate the distinct functional parts identified in class discussion, in a preliminary Deconstruction of the paragraph (Table 6):

Observation of many such examples, gathered from the various review articles and thesis review chapters students gather, suggests a recurring structure that is key to the genre, and the point of examining them is that students experience difficulty

[2] Courses in research methods are generally taught within faculties in Australian universities, while instruction in forms of research writing (such as proposal, literature review and thesis) are often provided by specialists outside the faculty structure - in this case, by the Learning Development unit within the DVCA portfolio, in collaboration with the Graduate School of Research.

Table 6
Paragraph from a published review article, with functional elements indicated.

Claim	Debates regarding the structure of cell membranes have a long history. **Technical developments are always the basis of a new understanding of cell membrane structure**.
Summary report of previous research	Using simple extraction and Langmuir methods in 1925, Gorter and Grendel extracted the lipid from a known number of erythrocytes and measured the lipid area, thereby concluding that the membrane consists of a double lipid layer. As a result, the famous term "lipid bilayer" was coined, which became a milestone in the study of membrane structure.
Conclusion of the point	*To date, the location of proteins in the lipid bilayer has remained a challenging and controversial topic regarding membrane structure*.

Source: Shan & Wang 2015, p. 3618.

reproducing this structure in their own writing. As problems are identified in students' attempts to construct points of their own, analysis and explanation become finer-grained, lexicogrammatical detail discussed as the basis for recognition of a pattern, but first, students need to understand that points **are** being made in literature reviews, through paragraphs that have a structure. In other words, they need to notice that information is being presented in a particular way, for a purpose, and according to a particular organising principle. Such recognition might be intuitive and instant for those fluent in the discourse, but is not necessarily so for students who are not yet fluent in the language they are reading and writing. Working together on some simple, guided Deconstruction, students can, however, agree quite quickly on some basic functional descriptions, using common terms they already understand. Class discussion of the example above tentatively established that while the text summarises some literature on cell membrane research, it is also making a point (that understanding of the phenomenon depends on the technology available to observe it). At this early stage in the T/L Cycle, it is also noted briefly (and in greater detail later) that paragraphs and sentences are connected in various ways, not least through the way they begin and end. The excerpt in Table 6 was also considered in relation to the paragraph preceding it in the original text, which ends by stating that the exact positioning of structural units within cell membranes has been unclear and controversial "since cell membranes were discovered". The first sentence of the next paragraph (in Table 6) links that thought about past discovery to the new point about the history of debate in this area.

Discussion around the model 'point' paragraphs then focuses on the 'claim' (in bold, in the example in Table 6). Questions are asked, such as whether everyone would necessarily agree with the statement, whether it might need to be explained or illustrated in some way, and whether there is any particular word in it that could be challenged, if not supported by evidence. The statement is simplified to replace nominal elements with letters (eg *Xs are always the basis for Y*), and in this case the modal Adjunct (*always*) was identified as the generalising word. With this initial identification of a generalization as a claim, the following two sentences were described as providing evidence to substantiate the claim (not just reporting previous research). The final sentence was then considered in relation to the claim and the evidence, and a few linguistic resources identified as the means of constructing connections between parts of the text. The tense of verbs was noted to shift as the text unfolds, from present (*has; are*), to past (*extracted; measured; was coined; became*), to a tense relating to the present (*has remained*). SFL classification of process types and description of transitivity patterns become relevant in later discussion of lexical density, but at this stage, features were noted in terms familiar to students. Lexical connections were noted between the first word in the paragraph (*debates*), the claim (*new understanding*), the conclusion (*challenging and controversial topic*), and the overall point that what is currently unclear will only be settled through further technological development.

Joint Construction exercises then follow in the T/L Cycle. A paragraph is co-authored for the demonstration text (on another topic, being used in this subject to guide the entire process of developing a literature review), until the class is satisfied that it makes a good point. Finally, students each draft a similar paragraph on their own research topics, which construct a point - beginning with a claim, using several sources as evidence to explain, illustrate or otherwise support the claim, and concluding with a statement that connects to preceding text. The following example was offered by its author for discussion in class, to check that it was enacting the functions discussed, and to move discussion into a bit more detail about linguistic resources. Ignoring non-standard uses of English momentarily, the focus of attention is kept on the overall pattern in constructing a point. Non-technical labelling of phases within the paragraph reflects the nature of discussion going on in the subject (Table 7):

Table 7
Paragraph from a student draft review, with functional elements indicated.

Claim	Atomic force microscopy (AFM) is a powerful tool for mechanical measurements of living cells in near physiological conditions, and enables systematic, in situ characterization of the cell-material interactions at the nanometer scale (Sotomayor and Schulten, 2007). **Typical AFM experiments may consist of limitations those are still to be addressed**.
Summary of relevant literature	Time-consuming is the major limitation of AFM, so that a limited number of cells can be analysed in one day (Müller and Dufrêne, 2011). Another major challenge is to position cells automatically under the AFM tip for consistent and rapid sequential measurements. In this scenario, it is essential to minimize the lateral drag of the cell to avoid denaturation of the cell (Sueiras et al., 2015). Sample and tip-preparation, data collection and interpretation and tip-sample integrity are the other limitation category which comes under the technical issues when dealing with living cells. Such procedures require extensive expertise and a great deal of patience, usually gains after months of practice (Dufrêne, 2008).
Concluding statement	*Therefore, a standardized procedure is required to overcome the limitations of AFM that reduce the efficacy and frequency of its common usage in cell biology*.

Table 8
Revision of student draft emerging from a Joint Construction session.

Claim	**Significant improvements in cell biology could be achieved through more widespread use of Atomic force microscopy (AFM), but several of its current limitations first need to be overcome**.
Summary of relevant literature	The value of AFM is that it enables mechanical measurement of living cells, in near physiological conditions, and systematic, in situ characterization of the cell-material interactions at the nano scale (Sotomayor and Schulten, 2007). Experiments using AFM, however, are extremely time-consuming, as only a small number of cells can be analysed in a day (Müller and Dufrêne, 2011), and it is also very difficult to position cells quickly under the AFM tip. Automating the positioning process would be a significant improvement, so that many samples could be measured in rapid sequence and consistently, and denaturation could be avoided by minimizing the lateral drag of the cell (Sueiras et al., 2015). Further challenges of handling living cells with this technology arise in preparation of samples and tip, tip-sample integrity and data collection and analysis. All these procedures require extensive expertise and much patience, which can only be gained through extensive practice (Dufrêne, 2008).
Conclusion of the point	*Overcoming these limitations on the efficacy and wider uptake of AFM in cell biology will require a standardization of procedures.*

Students thought the pattern previously identified is also followed in the student example in Table 7 for the following reasons: literature has been used to support a claim (that uses of the particular technology in the study of living cells is currently limited) and the conclusion relates to the claim and the evidence presented. Considering the basis for making the judgement, it was noted that the last sentence makes the point, particularly through the causal conjunctive Adjunct (*therefore*). Through guided discussion, certain nouns and modifiers within noun groups were also recognised as helping to construct a 'problem' view of current uses of the technology (*limitation; challenge; issue; time-consuming; still to be addressed*). Considering surrounding points in the developing text, however, it was then decided that the example could still be improved, and the following table shows the outcome of a collaborative re-writing exercise, aimed at both amending problems observed in the initial wording and strengthening the point (Table 8):

In the process of negotiating such revisions, some new linguistic concepts are introduced, to build on the recognition of how coherent text and strong points are constructed. For example, in this case, the significance of first position in a sentence, a paragraph and a whole text was discussed, and the means of constructing noun groups to put into Theme (first) position in a clause, so that upcoming text is effectively previewed (eg *the value of AFM; experiments using AFM; automating the positioning process; further challenges*) and preceding text reviewed (eg *all these procedures; these limitations; efficacy and uptake of AFM*). Through collaborative effort and ongoing discussion, the paragraph achieves a clearer and stronger point that satisfies supervisors, as it helps move the argument confidently forward to a justification for doing further research. Finally, students then write another paragraph completely independently, to demonstrate that they can make a good point at another strategic moment in their literature review, as the same student has done in the following example (Table 9):

The label 'literature review' refers to a type of text that is critically important in research programs, as it frames and prepares subsequent research, and the subject aims to clarify for students the difference between a text label or common format, and a 'genre' (defined in terms of purpose). The subject carefully defines the genres students are reading and being expected to write, at different stages of their research. A literature review written to introduce a report on completed research differs in various and often subtle ways from one written to preface research before it has been done, and without careful discussion of the differences, students can easily be over-influenced by the research reports they are reading, and overlook the need in their own writing (at this early stage in their research program) to review the literature in a way that makes a case for doing new research. Especially when reading in a second language, students tend to read for information, and are less attuned to details that more fluent users of English sense quickly. Paying attention to the overall purpose of writing, the organisation of key moments in texts, and some lexicogrammatical detail at the point of need, develops students' range of linguistic resources in English for making the sorts of meanings they are trying to make. The target genre these students are expected to write is more "oriented to tenor" than to field (Halliday & Matthiessen, 2014, p. 41), and this orientation is slowly brought out through the subject, by looking at text examples, from big picture down to linguistic choices at clause level. The instruction considers what is going on from a macro perspective first, and on the basis of examples explored together then suggests that

Table 9
Independently written paragraph for another section of the same students' review.

Claim	**Biomarkers-driven therapy has excellent potential for clinical diagnosis of various diseases.**
Summary report of relevant literature	Biomarkers can be used to distinguish the difference between healthy and diseased people, gain information on the likely course of disease in an untreated individual, identify patients who are at higher risk for adverse disease and forecast the potential for a patient to respond to one or more specific treatments (Amur et al., 2015). Although the topic of biomarkers is broad and covers multiple disciplines, from a signalling perspective biomarkers can be classified as biochemical and mechanical. Biomolecular indicators of medical conditions that are frequently found in complex biological matrices or body fluids, such as antibodies, are known as molecular biomarkers, while cellular properties such as viscoelasticity and cell rigidity are known as mechanical biomarkers (Sonker et al., 2017). As biomarkers provide information on the molecular pathophysiology and biological pathways of cell differentiation, recent research has focused on using biomarkers alone or in combination, to monitor treatment and as prognostic markers (Balling & Gustafsson 2016).
Conclusion of the point	*Whether biomarkers are biochemical or mechanical, their use needs to be carefully assessed if they are to be recognised as a powerful therapeutic approach.*

texts reporting and summarising what other researchers have done, are often also using the literature as evidence to support claims, which incrementally build up an argument about the need to conduct further research.

4. Conclusion

This paper has presented three snapshots of teaching in different scenarios. The focus in each has been on practice in discourse analysis and pedagogy framed by Halliday's theory of language. It provides direction for considering both what and how to teach 'English' for academic purposes in these scenarios, and students' writing for assessment is their common point of departure for designing and teaching subjects. In the SFL framework, teaching anything to do with language and literacy means paying close attention to grammar **in relation to** a particular understanding of text and context. Commonly recognised types of text circulating in higher education, and glossed as 'report', 'essay' or 'literature review', for example, may also be analysed as genres of communication and defined more theoretically, on the basis of linguistic evidence, and used as the foundation for a pedagogy that targets what students find difficult to achieve without assistance. Educational linguistics in the SFL tradition pays close attention to the definition of genres in a curriculum in order to develop students' academic literacy and linguistic repertoire. It also pays close attention to the ways in which classroom discourse plays out, in order to understand and better design learning pathways that target language learning needs effectively. With concepts of register and genre in mind, teachers can then focus attention onto the level of detail that helps their students learn, working between the 'big picture' of context and the levels of text and clause, according to what students need to master at their current level of study. Attention to linguistic detail in specific communications has been presented here as an effective form of learning support in the tertiary context, for students who are making a significant transition into new ways of working in specific disciplinary contexts. Learning is scaffolded in these subjects through a process that helps students recognise a genre they need to master, identify common features in various text examples, collaboratively construct key parts of a new example, and finally write their own text independently. This approach to teaching and learning is framed by several 'big ideas' in the SFL approach to discourse analysis, namely: that a 'text' is a semantic unit, manifesting relationships between the social practices of a specific context and a stratified language system; that success in communication is a matter of signalling relationships between language choices and the parameters of meaning set by the context; and that learning in formal education is a matter of language development, which can be greatly enhanced and accelerated when subjects are designed around a conscious language development process. Whether as a stand-alone program or an integral part of disciplinary curricula, EAP can benefit from a good understanding of SFL theory, as it is sophisticated enough to describe and account for anything going on in and through language, and makes a useful point of reference in developing any pedagogy that needs to focus on language development. Halliday's ideas about language are also a catalyst for an inter-disciplinary research group at UOW focused on the application of linguistics and semiotics to other disciplines. This paper presents a snapshot of some work applying his ideas to the practical issue of supporting students as they transition into new academic settings.

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