

# A Comparative Analysis of Communicative Functions within Instructional Contexts

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## Abstract

Systemic Functional Grammar is a system which looks beyond the organization of language at the lexico-grammatical level and analyzes it at the clausal level. Focusing on the communicative functions of language, a SFG analysis allows us to examine how speakers use language to create meaning. This paper will specifically consider how speakers create particular interpersonal meanings as shown through SFG analyses of three varied instructional situations.

Key words : Systemic functional grammar, Instructional contexts, Communicative functions, Interpersonal meaning, Educational interactions

## 1.0 Introduction

Systemic functional grammar (SFG), originally introduced by Michael Halliday in the 1960s and developed over the years, is a system of looking at the interrelated meanings of language within context. Context is defined by the aspects of field, tenor, and mode of the given text. Where traditional grammar models are concerned with formal ‘rules’ that create structure at the lexico-grammatical level, SFG is interested with the *communicative functions* of language at the level of the clause and clause complex. Unlike traditional grammar, SFG looks at the ways that people use language to create meanings through communicative metafunctions.

These metafunctions are identified through the experiential, interpersonal, and textual meanings of language. All three must be taken into account in order to interpret any given text from a SFG perspective. Experiential meanings pertain to how we use lexico-grammatical processes, participants, and circumstances in language to represent reality. Interpersonal meanings are concerned with how we affect each other and manage relationships through the language choices we make. Textual meanings are those related to the organization of these experiential and interpersonal meanings in relation to the text as a whole.

This paper will examine how three separate texts involving instructional and educational interactions between adults and children realize these different meanings. The texts all function to ‘teach’ children, but produce quite different realizations of teaching. These differences can be identified through the interpersonal meanings expressed between the interlocutors. By means of a detailed SFG analysis, this paper aims to compare and contrast these interpersonal meanings within the three texts.

## 2.0 Overview of Interpersonal Meanings in Systemic Functional Grammar

According to Halliday, as interpersonal language choices concern maintaining relationships, within any given context interlocutors will work to fill, or through the interaction be delegated to, a role. This role influences the language choices they make in managing communication in that situation. At the interpersonal level, the subject is connected to the finite and polarity of any given clause to determine its mood, making this ‘mood block’ central to the arguability of the clause. The order of the subject and the finite in the mood block are also indicative of the type of process occurring. Interlocutors have four basic options available in either the giving or demanding of information or goods and services as illustrated in Table 1 below.

Table 1 Interpersonal Options (adopted from Halliday, 2004 : 107)

role in exchange	commodity exchanged	
	information	goods and services
giving	statement (declarative mood) subject → finite	offer
demanding	question (interrogative mood) finite → subject	command (imperative mood) typically no subject or finite

However, interlocutors have alternatives in how they go about these processes. A relevant example involves clause 10 in Text 3 (see Appendix C) where the teacher makes a declarative statement to two students in the classroom :

*Steven and Brad, the sun is shining inside.*

This declarative clause functions as a demand for a service—that the boys remove their hats. Less direct language choices such as these are interpersonal as they ‘shift’ the actual interpersonal meaning from the grammatical structure of the clause. They may also prove more functionally efficient in getting the addressee to comply with demands made. As Butt et al (2000 : 104) comment, ‘being straightforward is not always the most useful way to interact in English’. Additional language choices such as the use of ellipses, contractions, colloquial terms, and vocatives are also possible features of the interpersonal function in that they act as indicators of familiarity and represent the relationship between the interlocutors.

Within a clausal SFG analysis at the interpersonal level, we may also find circumstantial, conjunctive, or modal (mood and comment) adjuncts. Modal adjuncts are also considered part of the mood block, while circumstantial and conjunctive adjuncts join the complement and predicator to make up the non-fundamental residue of a clause. Modality is considered in interpersonal meaning, and in addition to modal adjuncts, may be also realized through modal finites such as *can*, *might*, and *could*. Modal

finites affect the arguability of a clause by shifting the argument from the subject to the modality.

These elements are the foundation of a precise SFG analysis of interpersonal function. We will now look at how these elements are manipulated by the interlocutors of each of the three texts in order to compare the differing communicative approaches.

### **3.0 Analysis of Interpersonal Meanings in the Three Texts**

The three texts analyzed in this paper represent a variety of teaching contexts with specific goals (field), featuring differing relationships of the interlocutors (tenor), and are presented in both written and spoken texts (mode). Text 1 (Appendix A) is from a children's educational book on sound and sound waves. I will refer to this text as 'the sound text'. Text 2 (Appendix B) is a spoken dialogue between a mother and a four year-old child who, prompted by seeing a dead bird in their own garden, enquires about how birds die. I will call this 'the bird text'. Text 3 (Appendix C) is taken from an upper primary science class lesson where the teacher is facilitating a class summary of a film they recently watched. This will be 'the classroom text'. From a detailed SFG analysis, we may see how the interactive choices lend to the variation in each teaching situation.

In the following sections, an SFG analysis of each of the three texts will be used as a basis for analyzing :

1. the positioning of interlocutors through communicative interaction
2. defining the roles and relationships of interlocutors from language choices
3. interlocutors' interactive construction of the learning process
4. interlocutors' interactive construction and representation of the subject matter.

### **3.1 The Positioning of Interlocutors through Communicative Interaction**

#### **3.1.1 The Sound Text**

The interlocutors of the sound text are the book author and reader who fill the roles of teacher and student. As this text is part of a book, all of the active contributions are made by the 'teacher'. The 'teacher' positions themselves in a role of greater power by demanding information as well as goods and services of the reader. This is observed in the interrogative mood in eight of the 32 total clauses (cl. 1, 2, 4, 8, 12, 13, 24, 27) and imperative mood in nine clauses (cl. 5, 9, 10, 17, 18, 21, 22, 29, 30). The 'teacher's' position is also characterized by the declarative mood of six of the 22 total clause complexes, where explanation is provided (giving information) for the questions and commands given.

*How does someone's voice reach you ?*

*The sound travels through the air as sound waves.*

These declaratives show that the 'teacher' in fact knows the answers to the questions they are asking. This supports our understanding of the book's 'teacher' role in this context and helps us to identify

it as an educational text.

The reader is positioned as subordinate in that they are to comply with the commands and contemplate the questions posed. The reader has little power to control their own interpersonal position in an active dialogue with the ‘teacher’. However, the author’s use of rhetorical questions and the reader’s response to their demands create an imagined interaction in the reader’s mind.

### 3.1.2 The Bird Text

We know that the interlocutors of the bird text are a four year-old child and her mother, and through a SFG analysis of the text, we are able to identify an imbalance of power. The mother commands greater control in this interaction, contributing 13 of the 18 clause complexes (26 of the 35 total clauses). The mother’s contributions here are almost entirely declarative.

The child makes only five comparatively short contributions, the first of which are the two interrogatives (CC 1, 5), in which they initially position themselves as requesting information. Two of the child’s following contributions are modal declaratives (CC 12, 17) :

*Perhaps it was on the ground and then a cat got it.*

*Perhaps it’s eye got blind.*

As these declaratives do not follow any type of question posed by the mother, we can argue that the child is trying to re-position themselves in the interaction at this point as a provider of information. Through her use of the modal adjunct *perhaps*, we can see how the child is submitting their own speculations for evaluation by the mother. The mother actually encourages the child to attempt this position shift, through her own use of modality (CC 3, 4, 7, 9, 10) leading up to that point :

*But that didn’t look like a baby bird ; maybe there was something wrong with it ; maybe a cat killed it.*

As this modality alters the arguability of the mood block from a definitive position on *how birds die* to a less certain one on how they *may die*, it invites the child to respond to the probability of the argument.

The child’s own use of modality in her declaratives (in CC 12, 17) maintains the mood block of probability, as the child is probing for confirmation from the mother. The child’s remaining contribution towards the end of the interaction is an independent declarative (CC 15) with no modal use. The child also starts with the textual *but*, linking her comment to the experiential meanings of the previous text, while identifying her own contribution as a new argument in the interaction.

Mother : *…maybe it was just a very old bird.*

Child : *But it looks as if it’s alive.*

Mother : *Yeah, it does, doesn’t it ?*

This final contribution further demonstrates that the child is attempting to claim a higher power

position. The mother's agreement and use of a tag in her very next statement (CC 16) also display how her contributions encourage the child's position shift.

### 3.1.3 The Classroom Text

The classroom text involves a number of interlocutors, the teacher and at least eight students. Clausal division of the text hints to the unequal positioning of power in this teaching interaction. Even if we identify the 'class' as a single interlocutor, the teacher contributes 52 of the total 65 identified clause complexes (56 of 67 total clauses). The teacher makes eight imperative (CC 2, 4, 6, 19, 23, 24, 29, 30), eight interrogative (CC 7, 11, 15, 31, 41, 47, 53, 61), and 37 declarative contributions. What is interesting is the number of instances where there is a 'shift' in the function of the teachers' contributions (14 of these being from the 37 identified declaratives) that does not match the form of the clause (CC 1, 7, 9, 10, 11, 13, 14, 17, 25, 26, 27, 28, 34, 60). Some specific examples will be explored further in section 3.3.3 below.

In this text, the teacher repeats the students' answers in nearly every instance, in an evaluative confirmation of the accuracy of that answer. Demonstration of prior knowledge is exemplified in a number of instances (CC 33, 44, 57, 64, 65) where the teacher provides direct assessment of the students' responses. One example is in the following exchange :

Teacher : *Maybe we can get six uses of an inclined plane. Um Aranathi ?*

Aranathi : *Stairs ?*

Teacher : *Stairs, right. Great answer.*

In all cases, the students' 13 total contributions (CC 3, 5, 16, 18, 21, 32, 34, 37, 40, 42, 48, 54, 62) are limited to short, ellipsed independent declarative clauses. All these instances are in fact elicited responses to the teacher's questions. The ellipsis here is typical of traditional classroom 'information exchange' interactions where the teacher demands specific information from students (Butt et al, 2000 : 87). The students here are relegated to the position of providers of information based on the teacher's demands.

## 3.2 Defining the Roles and Relationships of Interlocutors from Language Choices

### 3.2.1 The Sound Text

Despite the mode of this being a book, the 'teacher' of the sound text assumes a certain degree of familiarity with the reader / child. Seven of the eight interrogatives in the text have the personalized 'you' as the stated subject of the mood block. Additionally, the eight imperatives here also address the child as the implied subject of the clause :

*What different sounds can you make with your body and your voice ?*

*Put your fingers on your throat as you talk or sing.*

*What can you feel ?*

The ‘teacher’ also tries to define the interpersonal relationship with the child through the use of modal finites in five instances (cl. 4, 8, 12, 19, 24), as represented above with the use of *can*. All five clauses include finites of ability directly addressed to the child which affect the mood block and hence express interpersonal meanings.

Although these elements indicate the author’s attempt to imply a closer and more personalized relationship with the child, there is, however, still marked interpersonal distance in language choices. There are no instances of informal language or slang, no use of first names, no use of reduced forms, no incomplete clauses, and only a single ellipsed element (CC 4).

### 3.2.2 The Bird Text

Language choices in the bird text indicate a close interpersonal relationship. The mother’s initial reply to the child’s question is not an immediate answer, but another interrogative using subject ellipsis (shown in the extract below). Yet, the mother does not wait for the child’s response, indicating that the answer is shared knowledge, and hence showing a large degree of familiarity in her relationship to the child.

Child : *How could birds die ?*

Mother : *Like the one in the garden, are you thinking of? Well, sometimes birds die when they get very old, or maybe they get sick because they got some disease, or maybe a cat got it. Baby birds sometimes die when they fall out the nest, or, in the winter-if you were in a cold place-birds might die because they can’t get enough food.*

As we see, the mother offers the child varying hypothetical reasons as to how birds could die. Her contributions are interpersonally marked by a high degree of modality as she is careful not to assert a definitive response. These language choices help the mother to foster the child’s own deductive ability and also indicate a degree of care in dealing with such a sensitive topic as death. Beyond her use of modal finites (clauses 11, 12), the mother also expresses degrees of probability within 11 separate mood adjuncts (clauses 3, 5, 7, 8, 19, 22, 23, 28, 29, 34, 35). All of these examples directly ‘modalize’ the arguability of the clausal mood blocks, as shown in the above excerpt. This modality in turn offers more power to the child in the interaction and shifts the mother’s role to more of a ‘guide’ than a traditional ‘teacher’.

The strong interpersonal mother-child relationship is also realized through the use of *yeh /yeah* (CC 5, 16), contractions (clauses 12, 15, 17, 18, 20, 21, 24, 30, 32, 35), and tags (clause 32), as shown in the following selection.

Child : (*referring to dead bird in garden*) *But it looks as if it’s alive.*

Mother : *Yeah, it does, doesn’t it ?*

Child : *Perhaps its eye got blind*

Mother : *Could have been, but it definitely wasn’t alive.*

### 3.2.3 The Classroom Text

In the classroom text, the teacher immediately asserts the power of their role exploiting three of the basic interpersonal options using imperatives, interrogatives, and declaratives.

Teacher : *Alright, a quick summary of what we have just seen. (teacher writes the heading 'Summary' on the board.) Quick.*

Andrew : *Lever. (calls out to the teacher before he is ready)*

Teacher : *Hold on.*

Daniel : *Seesaw. (another child calls out to the teacher)*

Teacher : *Right. Just wait till we are all here. Have you got enough scrap paper on your desk please ? You'll probably only need two or three pieces.*

Despite the power imbalance, there are many examples of strong interpersonal familiarity by all interlocutors throughout the text, with ellipsis of the finite, predicator, and / or subject is present in 37 of the 67 total clauses.

Teacher : *Joanne ?*

Joanne : *Lever.*

Teacher : *No, we've done a lever.*

Brad : *Baseball bat.*

Teacher : *Baseball bat. (pause) Any bat really.*

Joanne : *Flying fox. (said very quietly)*

Teacher : *Pardon, flying fox ? (writes on the board)*

Kane : *Clothesline.*

Teacher : *And what with it ?*

Kane : *A wheel.*

The teacher also makes extensive use of student names, uses colloquial language such as *yeah* (CC 44), *hey* (CC 56), *yep* (CC 57), *righto* (CC 58), and even jokes with the class (CC 19), clearly showing a close relationship (given the classroom context) between the teacher and students.

An interesting point in this text is that the teacher switches to a more distant and polite interpersonal position on a few occasions :

*You'll probably only need two or three pieces.*

meaning : *take out two or three pieces of paper*

*You may have to use the stand.*

meaning : *use the stand*

*You'll probably need to see that film tomorrow, as an extra...*

meaning : *see the film tomorrow*

Here, the teacher utilizes ‘modalized’ declarative mood in making demands of the students. In doing so, he avoids the harsh interpersonal ‘directness’ of an imperative command, and through modality, he simultaneously suggests that the command is not absolute. With these language choices, the teacher maintains interpersonal relationships while ensuring that students will (hopefully) be more willing to comply with his demands.

### 3.3 Interlocutors’ Interactive Construction of the Learning Process

#### 3.3.1 The Sound Text

Despite the written mode of the text, through the use of rhetorical interrogatives, the ‘teacher’ in the sound text constructs their contributions to make the child feel as though they are contributing to the discourse. The ‘teacher’ also creates an interactive and physically explorative learning process for the child in their use of imperatives. The author could just as easily reduced the effective text to the six declarative statements (CC 10, 11, 13, 17, 19, 22) to fulfill the basic requirements of a ‘provider of information’. However, the weaving together of interrogatives, imperatives, and declaratives is an effective strategy for making an informative text as interactive and engaging as possible for the assumed target learner.

The author uses interrogatives and imperatives not to demand information or goods and services, but rather to create a learning environment of self-discovery. These interrogatives and imperatives function here to have the child reflect on the phenomenon witnessed. The ‘teacher’ creates tactile activities for the child to perform to help them conceptualize the more abstract concepts of sound. Each set of imperatives and interrogatives is followed by a declarative that partially explains the phenomenon that the child is being asked to explore :

*Hold a ruler on the edge of a table.*

*Press down the end and let go.*

*Can you hear a sound ?*

*What do you see ?*

*Whenever you hear a sound, there is something moving.*

*This movement is called vibration.*

The ‘teacher’ in the sound text also contributes to the learning process by keeping clause structure simple, as over half (14 of 22) of the clause complexes consist of a single independent clause, and all but one of the eight remaining clause complexes consist of only two separate, very short clauses.

#### 3.3.2 The Bird Text

The majority of the clauses in the bird text are independent clauses, with only 10 of the 35 being dependent. This is reflective of the mother’s attempts to keep the interaction simple for the child. The child’s first two utterances (CC 1, 5) are both interrogatives, and the mother replies using multiple declaratives in succession, with heavy use of mood adjuncts. The mother speaks of birds’ deaths in gen-



eral, encouraging the child to 'step up' and answer their own question by proposing hypotheses as to how birds could die.

It is not until well into the text (CC 8, clause 21) that the mother begins to relate her comments to the *specific* bird that died in the garden. Although both of the child's questions up to this point did refer to birds in general, the mother keeping her own comments generalized up to this point was likely intentional. These generalized comments establish a conceptual environment in which the child can now think about which *general* theories may apply to the *specific* instance of the dead bird in the garden. As such, in CC 8, the mother turns her comments directly towards the bird in the garden, using frequent modal adjuncts to further prompt the child to become involved in the ongoing speculation. At this point, the child switches from using interrogatives and begins making her own guesses as to the birds fate, at first using mood adjuncts in declaratives (CC 12, 17), seeking approval from the mother. The child's final declarative shows no modality at all (CC 15), showing that they have grown confident in making their own assumptions.

Child : *Perhaps it was on the ground and then a cat got it.*

Mother : *Yeah, it was probably pecking something on the ground...maybe it was just a very old bird.*

Child : *But it looks as if it's alive.*

Mother : *Yeah, it does, doesn't it ?*

Child : *Perhaps its eye got blind.*

Mother : *Could have been, but it definitely wasn't alive.*

The mother supports and comments on each of the child's propositions in turn (CC 13, 16, 18). We can see how the mother manipulates her own contributions to encourage the child to grow more confident in making their own propositions about death. It is with the child's successive interactive contributions that the learning process is constructed, and this is how the child begins to learn about life and death.

### 3.3.3 The Classroom Text

As the teacher is the dominant contributor in the classroom text, he is mainly responsible for constructing the learning process here through a class 'summarization'. The teacher initially invites the students (CC 1) to openly contribute to the summary in any way they wish.

Teacher : *Alright, a quick summary of what we have just seen.* (teacher writes the heading 'Summary' on the board.) *Quick.*

Andrew : *Lever.*

Teacher : *Hold on.*

Daniel : *Seesaw.*

However, the teacher does not accept the first two contributions from Andrew or Daniel (CC 3, 5) yet, as he puts a hold on the current task and immediately switches to make a number of contributions per-

taining to classroom management (CC 7-12). After this, he re-formulates his initial invitation. In an elicitation, he asks the class to produce two more specific responses with the use of a declarative that functions as a request for information (CC 14)–*they seem to mention two basic machines*. The teacher prompts Andrew to repeat his previous contribution with a vocative only, with the entirety of his request for information being ellipsed. Andrew successfully replies, pulling the meaning from the prior exchange.

After receiving both of the prompted responses, the teacher continues with the class ‘summary’ by asking the class to provide five more specific examples from the film, He again frames his request for information with declaratives (CC 25-28) :

Teacher : *…now they extended these two basic machines, (pause) into five separate machines. In that movie they extended them out, they extended out some of the machines. They used the lever. Hold on, hold on. (a child is calling out)*

Teacher : *Joanne ?*

The teacher continues to accept responses up until CC 53, at which point, he invites students to now think of similar machines that were not specifically introduced in the film :

Teacher : *Anything else that wasn't mentioned that possibly uses the principles of a lever.*

Steven : *Door handle.*

Teacher : *A door handle, good one, hey.*

The teacher again invites students to expand on the reviewed concept at CC 60 :

Teacher : *…Maybe we can get six uses of an inclined plane.  
Um Aranathi ?*

Aranathi : *Stairs.*

Teacher : *Stairs, right. Great answer. (writes on board)*

It is also interesting to see that these two ‘original’ answers that represent the students’ own extensions on the machines summarized incur the only examples of explicit praise from the teacher–*good one* (CC 56) and *great answer* (CC 65).

So, the teacher here has constructed a learning process whereby students are prompted to recollect details of a previous lesson through reminders and elicitation. Building upon this ‘summary’, the teacher then invites students to apply this knowledge by identifying these same concepts within other simple machines.

### 3.4 Interlocutors' Interactive Construction and Representation of the Subject Matter

#### 3.4.1 The Sound Text

The subject matter of sound in the 'lesson' of the sound text is represented in experiential meanings that are realized in the word choices. The child is being asked to take their experience of tactile interactions with vibration and sound, and then apply this to the more abstract concepts of sound waves. The 'teacher' utilizes an abundance of material processes which the child can easily relate to. These are realized in words such as *make*, *press down*, *let go*, *strike*, *touch*, *throw*, and *move*. In fact, material processes can be identified in 21 of the 32 total clauses (clauses 2, 3, 4, 5, 9, 10, 11, 15, 17, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 31, 32). The teacher also uses mental processes to ask the child how they perceive these physical actions. There are eight instances (1, 8, 12, 13, 14, 18, 24, 30) that use words such as *feel*, *hear*, *see* (two instances each), and *watch*. The use of material and mental processes of perception make the material immediately accessible to the child :

*How does someone's voice reach you ?*

*The sound travels through the air as sound waves.*

*Throw a stone in a pool of water.*

*Watch the waves spreading out.*

*Sound waves move through the air in a similar way.*

The teacher uses circumstantial elements of manner and location to make the material processes easy for the child to relate to : *on your throat*, *on the edge of a table*, *with a beater*, *in a pool of water*, etc. In the instances where material processes are used, twelve directly state or imply *you* as the actor participant. Likewise, in all eight of the mental processes, *you* is identified as the senser participant. Additional participants are also identified in words that the child can easily comprehend such as : *your fingers*, *a sound*, *a triangle*, *someone's voice*, *the waves*, etc. Such readily identifiable participants are used to help introduce the more difficult subject matter of this 'lesson' which is realized through the participants of *vibration* (clause 16) and *sound waves* (clause 32).

#### 3.4.2 The Bird Text

The subject matter of the bird text deals with the death of birds and is largely realized with either material or relational attributive processes involving *birds* as a participant. Material processes are found in 16 of the clauses here (clauses 1, 3, 6, 7, 8, 9, 11, 12, 13, 14, 16, 19, 20, 23, 27, 28), in words such as *die* (five instances), *get / got* (four instances), *fall out* (three instances), *flies*, *pecking*, and *killed*. These are all very tactile processes which are easy for the child to identify. Relational attributive processes here describe attributive factors that may cause the death of birds. These types of processes, found in 14 of the total clauses (clauses 4, 5, 10, 17, 18, 21, 22, 29, 30, 31, 32, 33, 34, 35), are identified in words such as *get* (three instances), *look like / looks* (two instances), as well as the *be* verb (seven instances). Again, these basic relational processes are easy for the child to recognize :

- Child : *Yeh, but what happens if one bird falls out and then-and when it's just about at the ground it flies?*
- Mother : *Yes, if it's big enough to fly it'll be alright. And sometimes birds fall out of the nest but they don't die...But that didn't look like a baby bird.*

As the mother is trying to keep the dialogue simple and 'on subject', it is not surprising to find *birds*, or pronouns referring to *birds*, as actor or carrier participants in 27 of the 35 total clauses in this text. With only one instance of the *bird* participant being ellipsed (clause 2) throughout the entire text, we see that this repetition is important, given the child's age and the learning process that the mother is creating.

### 3.4.3 The Classroom Text

The classroom text concerns a class review of the concepts of levers and inclined planes, as prompted by the teacher. This text features heavy ellipsis of both participants and processes, and as such, it presents a unique challenge in accurately identifying these ellipsed elements. The text includes a wide range of processes used by both the teacher and students: material (23 clauses), relational attributive (15 clauses), relational attributive possessive (three clauses), relational identifying (four clauses), mental (six clauses), behavioral (six clauses), verbal (eight clauses), and a single existential process.

While behavioral processes are limited to classroom management (e.g. *hold on*), the subject matter itself is constructed and represented largely with verbal, mental, and relational attributive processes. We can see three major shifts over the course of the text that utilize these three processes as the lesson flows from one stage to another.

In the first stage of the lesson, verbal processes are used heavily (CC 13-22) as the class summarizes what was seen in a prior lesson's film, using the verb *mention* in six clauses. The participant sayers in these clauses are the people from the film :

Teacher : They seem to mention two basic machines.

Teacher : ^ THEY MENTION an inclined plane.

At this point, the teacher shifts the class discussion to extensions of the basic machines as shown in the film (CC 25). There is a switch to the use of material processes (CC 25-49) in explaining how these machines were *extended* and *used* in 18 clauses. Again, the participant actor in many of these clauses is represented by people seen in the film—*they* and *she* :

Teacher : In that movie, they extended them out.

Teacher : What did she use on the clothesline ? ^ SHE USED a pulley.

The third and final identifiable shift in the representation of the subject matter occurs near the end of the text (CC 53-64). Here the teacher asks students to apply their (freshly reviewed) knowledge

and provide additional examples that were not mentioned in the film. Relational attributive processes such as *use* and *is*, are mainly used here to relate characteristics of levers and planes, realized as attributes to the carrier participants that students present. These relational attributive processes enable the teacher to encourage students' learning and awareness by asking them to expand their understanding of the concepts reviewed in class to other 'real life' systems of levers and inclined planes.

Steven : *Door handle* ^ USES THE PRINCIPLES OF A LEVER.

Aranathi : *Stairs* ^ ARE A USE OF AN INCLINED PLANE.

#### 4.0 Comparison of Communicative Approaches in the Three Texts

As we can see through our analyses, each of the three instructional texts represents different and unique communicative approaches to teaching interactions. Although the mode precludes direct interaction between interlocutors in the sound text, the 'teacher' here employs interpersonal functions in order to improvise an imagined interactive learning experience for the child. By limiting the text to two cognitively straightforward processes within simple clausal structures, the sound text provides a very accessible 'lesson' for the child learner. The bird text shares many similarities with the approaches in the sound text as far as simplicity of clausal structure and limiting its representation of subject matter to two relatively straightforward processes. However, interpersonal meanings in the bird text reveal a much closer relationship between interlocutors. The bird text is also unique in that the 'teacher' here makes no demands of the child 'student', but rather fosters the students' own cognitive growth interpersonally, by manipulating modal declaratives that increasingly encourage the child to present their own hypotheses. The classroom text, set within the context of an educational institution, implements yet another approach to instruction. Despite the classroom context, with heavy use of ellipsis and first names, interpersonal meanings display a high level of familiarity between teacher and students. Again, by limiting and manipulating the types of processes used, the teacher here guides students to extend applications of scientific concepts that have been reconstructed through the summary review of a film.

#### 5.0 Conclusion

Using systemic functional grammar, we can analyze texts to uncover the communicative meanings that language choices contain. Observation of interpersonal meanings allows us to observe how these language choices position the interlocutors into 'roles' within the interaction. These choices also expose the actual or perceived relationships between the participants. The contributions made by each of the interlocutors help to interactively build a learning process, each 'custom tailored' to the relationship of the participants, the educational goals, and context of the situation. Through the choices and patterns that we uncover in an SFG analysis, we may better see and understand the pedagogy of these educational interactions.

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## APPENDIX A : Text 1

Text 1 : Extract from *Talk about Sound*, a short pictorial information book for young children

Do you enjoy making sounds ?

What sounds do these things make if you bang them ?

What different sounds can you make with your body and your voice ?

Put your fingers on your throat as you talk or sing.

What can you feel ?

Hold a ruler on the edge of a table.

Press down the end and let go.

Can you hear a sound ?

What do you see ?

Whenever you hear a sound there is something moving.

This movement is called a vibration.

Try this with a rubber band and see.

You can make musical sounds with rubber bands of different sizes or if you pluck the strings of a guitar.

Strike a triangle with a beater.

Touch the triangle while it is ringing.

What can you feel ?

When something stops vibrating the sound stops.

How does someone's voice reach you ?

The sound travels through the air as sound waves.

Throw a stone in a pool of water.

Watch the waves spreading out.

Sound waves move through the air in a similar way.

(from Webb, A. 1987 : *Talk about Sound*. London, Franklin Watts)

Clause division of Text 1

(verbal groups are underlined)

(inserted ellipsed elements from previous clause marked with ^)

CC 1	cl. 1	<u>Do you enjoy</u> making sounds ?
CC 2	cl. 2	What sounds <u>do</u> these things <u>make</u>
	cl. 3	if you <u>bang</u> them ?
CC 3	cl. 4	What different sounds <u>can</u> you <u>make</u> with your body and your voice ?
CC 4	cl. 5	<u>Put</u> your fingers on your throat
	cl. 6	as you <u>talk</u>
	cl. 7	or ^ YOU <u>sing</u> .
CC 5	cl. 8	What <u>can</u> you <u>feel</u> ?
CC 6	cl. 9	<u>Hold</u> a ruler on the edge of a table.
CC 7	cl. 10	<u>Press down</u> the end
	cl. 11	and <u>let go</u> .
CC 8	cl. 12	<u>Can</u> you <u>hear</u> a sound ?
CC 9	cl. 13	What <u>do</u> you <u>see</u> ?
CC 10	cl. 14	Whenever you <u>hear</u> a sound
	cl. 15	there <u>is</u> something <u>moving</u> .
CC 11	cl. 16	This movement <u>is called</u> a vibration.
CC 12	cl. 17	<u>Try</u> this with a rubber band
	cl. 18	and <u>see</u> .
CC 13	cl. 19	You <u>can make</u> musical sounds with rubber bands of different sizes
	cl. 20	or if you <u>pluck</u> the strings of a guitar.
CC 14	cl. 21	<u>Strike</u> a triangle with a beater.
CC 15	cl. 22	<u>Touch</u> the triangle
	cl. 23	while it <u>is ringing</u> .
CC 16	cl. 24	What <u>can</u> you <u>feel</u> ?
CC 17	cl. 25	When something <u>stops vibrating</u>
	cl. 26	the sound <u>stops</u> .
CC 18	cl. 27	How <u>does</u> someone's voice <u>reach</u> you ?
CC 19	cl. 28	The sound <u>travels</u> through the air as sound waves.
CC 20	cl. 29	<u>Throw</u> a stone in a pool of water.
CC 21	cl. 30	<u>Watch</u> the waves
	cl. 31	<u>spreading out</u> .

CC 22 cl. 32 Sound waves move through the air in a similar way.

APPENDIX B : Text 2

Text 2 (Parent child conversation–M=mother, C=4 year old child)

C : How could birds die ?

M : Like the one in the garden, are you thinking of ? Well, sometimes birds die when they get very old, or maybe they get sick because they got some disease, or maybe a cat got it. Baby birds sometimes die when they fall out the nest, or, in the winter–if you were in a cold place–birds might die because they can't get enough food.

C : Yeh, but what happens if one bird falls out and then–and when it's just about at the ground it flies ?

M : Yes, well if it's big enough to fly it'll be all right. And sometimes birds fall out the nest but they don't die... But that didn't look like a baby bird ; maybe there was something wrong with it ; maybe a cat killed it–(hastily) I don't think it was our cat.

C : Perhaps it was on the ground and then a cat got it.

M : Yeah, it was probably pecking something on the ground... maybe it was just a very old bird.

C : (referring to dead bird in garden) But it looks as if it's alive.

M : Yeah, it does, doesn't it ?

C : Perhaps its eye got blind.

M : Could have been, but it definitely wasn't alive.

(Text 2 from Martin, J.R., C.M.I.M. Matthiessen, and C. Painter. 1997.  
*Working With Functional Grammar*, London, Arnold.)

Clause division of Text 2

(verbal groups are underlined)

(inserted ellipsed elements from previous clause marked with ^)

CC 1	cl. 1	How <u>could</u> birds <u>die</u> ?
CC 2	cl. 2	^ A BIRD Like the one in the garden, <u>are you thinking of</u> ?
CC 3	cl. 3	Well, sometimes birds <u>die</u>
	cl. 4	when they <u>get</u> very old,
	cl. 5	or maybe they <u>get</u> sick
	cl. 6	because they <u>got</u> some disease,
	cl. 7	or maybe a cat <u>got</u> it.
CC 4	cl. 8	Baby birds sometimes <u>die</u>
	cl. 9	when they <u>fall out</u> ^ OF the nest,



- cl. 10 or, in the winter-if you were in a cold place –  
cl. 11 birds might die  
cl. 12 because they can't get enough food.
- CC 5 cl. 13 Yeh, but what happens  
cl. 14 if one bird falls out  
cl. 15 and then-and when it's just about at the ground  
cl. 16 it flies ?
- CC 6 cl. 17 Yes, well if it's [[big enough to fly]]  
cl. 18 it'll be all right.
- CC 7 cl. 19 And sometimes birds fall out ^ OF the nest  
cl. 20 but they don't die...
- CC 8 cl. 21 But that didn't look like a baby bird ;  
CC 9 cl. 22 maybe there was something wrong with it ;  
CC 10 cl. 23 maybe a cat killed it –  
CC 11 cl. 24 I don't think  
cl. 25 it was our cat.
- CC 12 cl. 26 Perhaps it was on the ground  
cl. 27 and then a cat got it.
- CC 13 cl. 28 Yeah, it was probably pecking something on the ground...  
CC 14 cl. 29 maybe it was just a very old bird.  
CC 15 cl. 30 But it looks [[as if it's alive]].  
CC 16 cl. 31 Yeah, it does, ^ LOOK AS IF ITS' ALIVE  
cl. 32 doesn't it ?
- CC 17 cl. 33 Perhaps its eye got blind  
CC 18 cl. 34 ^ IT'S EYE Could have been ^ BLIND,  
cl. 35 but it definitely wasn't alive.

#### APPENDIX C : Text 3

Text 3 : Classroom talk : extract from a sequence of lessons in an upper primary science class  
(The class has recently watched a science film on the topic of mechanical advantage)

TEACHER : Alright, a quick summary of what we have just seen. (teacher writes the heading 'summary' on the board.) Quick.

ANDREW : Lever. (calls out to the teacher before he is ready)

TEACHER : Hold on.

DANIEL : Seesaw. (another child calls out to the teacher)

TEACHER : Right. Just wait till we are all here. Have you got enough scrap paper on your desk please ? You'll probably only need two or three pieces. (children get organized)  
Right, you may have to use the stand. (the teacher is waiting for the class to settle

before he begins) Steven and Brad, the sun is shining inside (reminding the boys to take their hats off inside). Alright, thank you. Solved your problem? (gaining the attention of a child) You'll probably need to see that film tomorrow, as an extra, to get you (pause) to get your ideas really sorted out. Right. Let's have a summary of what was the film basically about. They seem to mention two basic machines. Um, Andrew?

ANDREW: Levers. (pronounces the word with an American accent as in the film)

TEACHER: It has an Australian pronunciation.

SIMON: Levers.

TEACHER: Yeah, leave her alone. (said as a joke and the class laughs). Lever (writes on the board) and ... (pause)

BRAD: An inclined plane.

TEACHER: An (pause) inclined plane. (the teacher repeats the word as he writes it on the board and a child calls out) Hold on, hold on, now they extended these two basic machines, (pause) into five separate machines. In that movie they extended them out, they extended out some of the machines. They used the lever. Hold on, hold on. (a child is calling out)

TEACHER: Joanne?

JOANNE: Lever.

TEACHER: No, we've done a lever.

BRAD: Baseball bat.

TEACHER: Baseball bat. (pause) Any bat really.

JOANNE: Flying fox. (said very quietly)

TEACHER: Pardon, flying fox? (writes on the board)

KANE: Clothesline.

TEACHER: And what with it?

KANE: A wheel.

TEACHER: A wheel. (repeats out loud to the class and writes on the board) Yeah, no you're right. Clotheslines. That was a... (interrupted) what did she use on the clothesline?

SEVERAL: Pulley.

TEACHER: A pulley, which is a type of (pause) lever. Except of course, you've got also a what with it? A (pause) wind (prompting children) lass. Anything else that wasn't mentioned that possibly uses the principles of a lever.

STEVEN: Door handle.

TEACHER: A door handle, good one, hey.

TEACHER: Yep. (writes on board) Righto, let's have a look at an inclined plane one (pause) well actually that is a type of tool which you have seen in action, come to think of it. Maybe we can get six uses of an inclined plane. Um Aranthi?

ARANTHI: Stairs.

TEACHER: Stairs, right. Great answer. (writes on board)

(Text 3 from Martin, J.R., C.M.I.M. Matthiessen, and C. Painter. 1997.  
*Working With Functional Grammar*, London, Arnold.)

Clause division of Text 3

(verbal groups are underlined)

(inserted ellipsed elements from previous clause marked with ^)

(MC = minor clause)

CC 1	cl. 1	Alright, ^ <u>LET'S HAVE</u> a quick summary [[of what we <u>have just seen</u> ]].
CC 2	cl. 2	^ <u>BE</u> Quick.
CC 3	cl. 3	^ <u>WE SAW</u> A Lever.
CC 4	cl. 4	<u>Hold on</u> .
CC 5	cl. 5	^ <u>WE SAW</u> A Seesaw.
CC 6	cl. 6	Right. Just <u>wait</u> [[till we <u>are</u> all here]].
CC 7	cl. 7	<u>Have you got</u> enough scrap paper on your desk please ?
CC 8	cl. 8	You'll probably only <u>need</u> two or three pieces.
CC 9	cl. 9	Right, you <u>may have to use</u> the stand.
CC10	cl. 10	Steven and Brad, the sun <u>is shining</u> inside
MC 1		Alright, thank you.
CC 11	cl. 11	^ <u>HAVE YOU Solved</u> your problem ?
CC 12	cl. 12	You'll probably <u>need</u> [[to <u>see</u> that film tomorrow, as an extra,]]
	cl. 13	<u>to get</u> you (abandoned)
	cl. 14	<u>to get</u> your ideas really <u>sorted out</u> .
CC 13	cl. 15	Right. <u>Let's have</u> a summary [[of what <u>was</u> the film basically about]].
CC 14	cl. 16	They <u>seem to mention</u> two basic machines.
CC 15	cl. 17	Um, Andrew ? ^ <u>WHAT WAS THE FILM ABOUT</u> ?
CC 16	cl. 18	^ <u>THEY MENTION</u> Levers.
CC 17	cl. 19	It <u>has</u> an Australian pronunciation.
CC 18	cl. 20	^ <u>THEY MENTION</u> Levers.
CC 19	cl. 21	Yeah, <u>leave her alone</u> .
CC 20	cl. 22	^ <u>THEY MENTION</u> Lever and
CC 21	cl. 23	^ <u>THEY MENTION</u> An inclined plane.
CC 22	cl. 24	^ <u>THEY MENTION</u> An inclined plane.
CC 23	cl. 25	<u>Hold on</u> ,
CC 24	cl. 26	<u>hold on</u> ,
CC 25	cl. 27	now they <u>extended</u> these two basic machines, into five separate machines
CC 26	cl. 28	In that movie they <u>extended</u> them <u>out</u> ,
CC 27	cl. 29	they <u>extended out</u> some of the machines.
CC 28	cl. 30	They <u>used</u> the lever.

- CC 29 cl. 31 Hold on,
- CC 30 cl. 32 hold on.
- CC 31 cl. 33 Joanne ? ^ WHAT DID THEY USE
- CC 32 cl. 34 ^ THEY USED A Lever.
- CC 33 cl. 35 No, ^ YOUR ANSWER IS UNSATISFACTORY.
- CC 34 cl. 36 we've done a lever.
- CC 35 cl. 37 ^ THEY USED A Baseball bat.
- CC 36 cl. 38 ^ THEY USED A Baseball bat.
- CC 37 cl. 39 Any bat really ^ WOULD BE CORRECT.
- CC 38 cl. 40 ^ THEY USED A Flying fox.
- MC 2 Pardon
- CC 39 cl. 41 ^ THEY USED A flying fox ?
- CC 40 cl. 42 ^ THEY USED A Clothesline.
- CC 41 cl. 43 And what ^ DID THEY USE with it ?
- CC 42 cl. 44 ^ THEY USED A wheel ^ WITH IT.
- CC 43 cl. 45 ^ THEY USED A wheel ^ WITH IT.
- CC 44 cl. 46 Yeah, no you're right.
- CC 45 cl. 47 ^ THEY USED Clotheslines.
- CC 46 cl. 48 That was a... (abandoned)
- CC 47 cl. 49 what did she use on the clothesline ?
- CC 48 cl. 50 ^ SHE USED A Pulley.
- CC 49 cl. 51 ^ SHE USED A pulley,
- CC 50 cl. 52 which is a type of lever.
- CC 51 cl. 53 Except of course, you've got also a what with it ?
- CC 52 cl. 54 ^ YOU HAVE A wind lass.
- CC 53 cl. 55 ^ IS THERE Anything else [[that wasn't mentioned [that possibly uses the principles of a lever.]]
- CC 54 cl. 56 Door handle ^ USES THE PRINCIPLES OF A LEVER.
- CC 55 cl. 57 A door handle ^ USES THE PRINCIPLES OF A LEVER.,
- CC 56 cl. 58 ^ A DOOR HANDLE IS A good one, hey.
- CC 57 cl. 59 Yep. ^ YOUR ANSWER IS CORRECT.
- CC 58 cl. 60 Righto, let's have a look at an inclined plane one
- CC 59 cl. 61 well actually that is a type of tool [[which you have seen in action]], come to think of it
- CC 60 cl. 62 Maybe we can get six uses of an inclined plane.
- CC 61 cl. 63 Um Aranthi ? ^ WHAT IS A USE OF AN INCLINED PLANE
- CC 62 cl. 64 Stairs. ^ ARE A USE OF AN INCLINED PLANE
- CC 63 cl. 65 Stairs, ^ ARE A USE OF AN INCLINED PLANE
- CC 64 cl. 66 Right ^ YOUR ANSWER IS CORRECT.
- CC 65 cl. 67 ^ THAT IS A Great answer.