

Structure and Choice in Classroom Exchanges

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Abstract

This paper illustrates a simple model for representing the choices available to participants in classroom interaction. Representing choice within a simple model of exchange structure responds to a weakness of structural models by acknowledging that discourse is a dynamic, participant-managed system. While the strength of a structural model is still its potential for revealing the effect of speakers' contributions as an objective consequence independently of the context of situation, it can also describe with some precision the nature of the actual (unequal) distribution of the choices theoretically available to all participants as they negotiate their pedagogical roles.

The main danger inherent in the search for a simple representation of discourse structure is the exclusion of the dynamic and apparently unpredictable way in which participants manage their interaction as they adjust to each others' contributions. Hoey (1991a:81) suggests that "in naturally occurring dialogue, a speaker has a great deal of choice as to what he or she does next". This paper will attempt to elucidate the relationship between structure and choice in classroom interaction and will then suggest how an element of choice can be integrated into a simple representation of one common type of classroom exchange, the "eliciting exchange".

A simple model of exchange structure is deliberately reductionist, its main aim being to achieve a measure of independence from contextual features of discourse. Sinclair (1992:88) argues that "the need for a level of discourse, where the higher patterns of language can be described without reference to any particular social use, is fairly obvious". When an exchange model focuses only on the way elements of structure function in relation to each other as a "partly autonomous system" (Stubbs (1983:8), it is possible to assess the observable effect of discourse without reference to any features of context or to any school of thought within the field of discourse (classroom language teaching in the case of this study). Intuitive judgement about the purpose of a speaker's contribution is also reduced to a minimum. A speaker's purpose is only inferred at a later stage of analysis from the cumulative effect of his or her contributions in a representative sample of typical classroom discourse. This independence can, paradoxically, be particularly revealing about the social use of discourse in particular contexts.

Context of Situation

Given the variety of uses of the term "discourse", it will be used here to refer only to spoken language as it is used in interaction and "discourse analysis" will only refer to the structural analysis of spoken interaction. A structural model in this restricted sense is in itself insufficient for a complete description of interaction in any particular context: it is likely to be used alongside other research tools within a wider research project. Proposing an independent level of analysis focusing only on the immediate context of discourse does not deny the influence of the wider context on interaction. Ultimately, classroom interaction has to be understood and interpreted in terms of the different features of the situational context in which it is enacted. This paper will confine itself to the relationship between the structural choices available to participants in exchanges and just one feature of context, the "tenor" of interaction.

Stubbs (1983:7/8) suggests that "it is principally through conversational interaction, the give-and-take of everyday multi-party discourse, that social 'roles' are recognized and sustained", adding that "'roles' have to be acted out in social interaction". The relationship between the participants engaged in a field of activity in a particular setting is an essential feature of context, commonly referred to as the "tenor" of interaction. "Tenor" is used in this paper as an "umbrella" term for three interlocking features of this relationship: the permanent and temporary "roles" adopted by participants in their interaction, their relative "status" during the interaction, and their ability to "control" each others' behaviour as the interaction develops. During any interaction, a participant has to adjust his/her own behaviour to the behaviour of the other participant(s), so the "roles" of teachers and students are defined in relation to each other. "Role" is associated with the broadly identified social position of the participants as teachers and students, but is used in this paper to refer only to the actual behaviour of the holders of the positions of "teacher" or "student" when participating in interaction in their usual setting.

Higher or lower "status" is reflected in the unequal distribution of available choices between participants during their interaction which allows the analyst to infer different rights and obligations. The relative status of participants depends on the variable distribution of different choices that would be equally available to participants if they were of equal status, such as the right to initiate or terminate an exchange, the right to initiate a new topic or the right to self-select. The actual level of "control", the extent to which a participant directs the behaviour of other participants by controlling the available choices, is most impartially revealed through an independent structural analysis. Any description claiming to define the relationship between participants can be more plausible if it includes one level of analysis at which every effort is made to minimise a-priori assumptions about the tenor of interaction. It should be possible to determine exactly what choices are available; in other words, which choices are used by any participant strictly from the evidence of the data corpus itself. It is then possible to determine how the available choices are distributed between participants. A context-independent level of

analysis is of wider value because of this sensitivity to context.

Structural analysis at exchange level is also proposed here as a counterbalance to attempts to devise complex systems which give priority to determining generic structure. Ventola (1988:5/6), for example, distinguishes three planes of semiotic organization within a systemic view of generic structure. (Ventola's model draws on work which is more fully outlined in Martin 1992.)

Genre	The plane which organizes the ways social encounters unfold as generic structures in individual instances.
Register	The plane which realizes genre by organizing the appropriate register choices in terms of Field, Tenor, and Mode choices at each stage of the unfolding generic structure.
Language	The plane (together with some non-linguistic systems) which realizes the higher-level choices as linguistic patternings in text.

Ventola (op.cit.) states that "when a social process unfolds as a generic structure it makes its own selections stage by stage for register values in the context of situation". She is able to demonstrate this convincingly in the domain of service encounters. Ventola proposes a generative model of a whole discourse genre, claiming that "the generation is more appropriately represented by a flowchart, which can capture the potentially dynamic aspects of genres more efficiently". The flowchart then represents a system of choice structures on all three planes.

A focus on the exchange is deliberately more limited in scope than this kind of macro-structural approach. While it is clearly the case that other planes have an enormous influence on choices made on the patterning of exchanges, it will always be useful, if not essential, to have a level of analysis that reveals the way these choices are realised independently of other planes. This may be true in any discourse domain, but macro-structural analysis is, in any case, less easily applied to the more complex domain of classroom discourse.

Structural Discourse Models

An exchange can be defined as the most immediate and fundamental point of reciprocal interaction and is therefore an essential focus for the unravelling of complex dynamic discourse. In a structural discourse model, "the exchange" is the smallest essentially interactive unit of analysis involving give-and-take between speakers, so the exchange can be expected to reveal important features of the continuous adjustment and re-adjustment between participants during their interaction. There can be no substitute for focusing on the actual physical evidence of what happens at each point in the interaction at which interlocutors adapt to each others' immediate contributions. Turn-taking models based on

Sacks et al (1974) provide one effective independent source of evidence that is exploitable in language teaching research. (See for example Allwright 1980 & 1988.) This paper, however, will concentrate on the use of structural discourse models based on Sinclair and Coulthard (1975).

Detailed consideration of only one very common kind of classroom exchange, the "elicit" exchange, will be attempted here. "Elicit" is used as a category for exchanges "designed to get verbal responses from students" (Sinclair and Coulthard 1975:51). Within this exchange, there is also an "eliciting move", so, in an "elicit" exchange, the exchange is initiated by an element of structure, "I", which is always realized by an "eliciting" move. The head of the eliciting move is an act called an "elicitation". It has a "function" which is itself expressed in interactive terms, as its role is to elicit a verbal response. In the restricted context of exchange structure, the function of an element of structure is analysed as an "objective consequence". Its function can be defined as the role it is regularly observed to play in structuring the dynamic interaction between participants. The function of an element of exchange structure is thus primarily defined in terms of the way it can be seen to structure interaction in relation to other elements of structure.

There has been and still is wide debate about the structure of exchanges. An elicit exchange indisputably consists of at least two elements of structure, an initiation, "I", and a response, "R", each one provided by a different participant or group of participants. This paper will focus on elucidating what other choices, if any, are available to participants. Only then will it be possible to consider the way participants distribute these theoretically available choices in particular contexts. Determining these roles only from the hard evidence that discourse provides is of considerable interest to analysts interested in the social roles of participants as the interactive classroom roles adopted by participants are closely related to the method actually being enacted.

The way so-called "objective" structural models of spoken interaction handle participant choice in the negotiation of interaction has been strongly criticised. Such criticism questions the extent to which structural models can respond to the potentially divergent goals of participants. This paper also reconsiders how far recent work has answered Levinson's important and damning criticism (1983:294) that "conversation is not a structural product in the same way that a sentence is - it is rather the outcome of the interaction of two or more independent and goal-directed individuals, with often divergent interests".

Rank-Scale Models

The original model referred to is outlined in Sinclair and Coulthard (1975), a model which has inspired a wide range of inquiry that continues to the present day. (See for example Coulthard 1977; Burton 1980; Berry 1980; Coulthard & Montgomery (eds.) 1981; Sinclair &

Brazil 1982; Stubbs 1983; Coulthard (ed.) 1987 & 1992; Ventola 1988; Willis, D 1992, Hoey 1991 & 1993; Tsui 1994, etc.) It is impossible to do justice to such a wide body of literature in an article of this nature and size, so only the briefest of summaries of aspects related to participant choice will be attempted.

Sinclair and Coulthard (1975) proposed a rank-scale model based on a principle of Hallidayan linguistics in which "each rank above the lowest has a structure which can be expressed in terms of the units next below" (Sinclair and Coulthard, 1975:20). In spite of its original focus on sentence grammar, Coulthard and Brazil (1992:55\56) refer to Halliday's original (1961) discussion of rank scale as "an explicit, abstract discussion of the nature of linguistic description". They do not propose a direct analogy between grammar and interaction, but rather the application of the same abstract, analytic system to both.

Although the analysis of interaction has developed as an autonomous discipline in its own right since 1975, the original relationship with grammar is still referred to. For example, Hoey (1993:117) reiterates the principle of analogy between two different systems. He proposes a new version of the interactive rank scale to include an "exchange complex" (based on analogy with the "clause complex" in Halliday 1985). Hoey (1991b:194) refers to language being "triple articulated", the "double articulation" of structure encompassing levels of phonology and grammar proposed by Halliday (1961) being expanded to include a third level of discourse. Hoey suggests that the three are parallel in "their concern for deriving systematic generalizations from their data" (1991b:200).

The ability to specify impossible combinations and to predict others is a feature of structure. There seems no reason, therefore, to deny that interaction is structured in a manner comparable to that of other areas of language.

Some leading proponents of rank-scale models, therefore, still consider that it is useful to explore spoken interaction using the same structural principles that proved useful at the levels of grammar and phonology.

A major advantage of applying a rank-scale model to interaction is that it allows the complexity of the choices available in spoken discourse to be dealt with at different levels of "delicacy". Coulthard and Brazil (1992:57) suggest that "while remaining at the same rank one can take successive steps in delicacy, producing structures more and more finely distinguished, until every structural difference has been handled". The notion of delicacy means that broad or refined analysis is possible within the same data corpus. The broader analysis can be applied to large quantities of data, while more delicate analysis can still be applied to specific data samples within the broader framework. At each rank, contributions to the interaction can be analysed in terms of higher and lower ranked elements. Analysis of spoken interaction is possible at the levels of "exchange", "element of exchange structure", "move", "act" and, on a wider scale, at the level of exchanges in

longer sequences, "exchange complexes" (Hoey 1993).

The wide range of acts available to speakers when they make an interactive contribution at exchange level is an indication that a rank-scale model does itself, at least implicitly allow both unpredictability and choice within a participant-managed system. Focusing on one rank at a time during analysis does not mean that choices available at that rank are the only ones available to the speakers. Choices at other ranks are only temporarily disregarded, because they are not immediately relevant to the rank being considered.

Nevertheless, it is still unacceptable to exclude choice at the rank of exchange, which is at the heart of the process of adjustment between participants in interaction. The main potential criticism of retrospective "objective" structural models of exchanges is the rigid, synoptic way in which they are said to represent interaction. Such models seemingly play down any notion of interaction as a potentially flexible, elastic and dynamic activity between participants who are mutually negotiating not only commonly agreed outcomes, but also individual outcomes that might be contradictory. Reducing the structure of exchanges and hence the structure of interaction to a limited number of static categories that appear in a strict sequence, even at only one rank of a model, can easily allow the conclusion that the resultant description does not adequately reflect the complex and dynamic nature of spoken interaction.

A Developing Discourse Model

The central importance of the data itself in shaping the model was a major factor of the original Sinclair and Coulthard analysis.

This research has been very much text-based. We began with very few preconceptions and the descriptive system has grown and been modified to cope with problems thrown up by the data. (Sinclair and Coulthard 1975: 24)

Although the original formulation of their description is highly detailed and explicit, and acts as a solid point of reference for all subsequent descriptions, Sinclair and Coulthard (1975:7) refer to a "developing theory of language interaction" which they are making "readily available to critics and fellow practitioners". Sinclair (1992:83) confirms this in a much more recent publication, stating that "the original work was mostly valuable as a known position, fairly clearly stated, which acted as a stimulus for further development". This development has remained an on-going process. Sinclair (op. cit.: 83) also suggests "that development was varied and extensive, and no attempt was made to meld it into a coherent whole".

This point is important because using a discourse model that proposes a limited number of "objective" categories has sometimes been said to impose a pre-analytical theoretical structure on the data. For example, Levinson (1983:295) refers to "the arbitrary

imposition on the data of supposedly objective categories". To give this view adequate consideration, the detailed examination of data itself should always influence both the initial choice of a model in any given study and the process of its development.

The Early Model

The relevant features of the early model for this particular article about participant choice can be summarised in Coulthard (1981:18) who states that "most of the classroom data had been easily analysable into three-move exchanges, each move being relatively short and easily analysable into component acts". This kind of three-part exchange is illustrated in sample 1 below.

Sample 1	Qdat9	
T Why were houses lighted by oil lamps?		I
S Because they hadn't electricity.		R
T They hadn't ...yes, electricity. They hadn't got electricity.		F

T=teacher S=student F=follow-up

Three-part exchanges frequently occur in many of the fifteen recorded lessons used in this study, but even a superficial examination of the data indicates that a large number of exchanges cannot be analysed adequately as simple three-part structures. Sample 2 below illustrates the difficulty of applying the traditional three-part analysis.

Sample 2	
T	How many people were talking? How many people... how many people were talking? How many persons were talking? Yea?
S	three people
T	three or two?
SS	two
T	There were ...?
SS	two people
T	two...?
SS	persons
T	persons

SS=students

Sample two illustrates the kind of adjustment that typically takes place in the process of negotiation between teacher and students. At this stage, the sample will not be analysed.

Developments in the Model

The characterization of the third element in the original model, "F", (follow up) as "obligatory" in teaching discourse has led to suggestions that the second exchange element, "R", should be seen as more (or less) than a response; it is frequently followed by a contribution by the teacher, "F", which often contains an act of evaluation. In some models (Coulthard & Montgomery 1981, Francis & Hunston 1987), this kind of response has been given the dual status of an initiation, "R/I", regardless of its grammatical form and its position in the structure of the exchange. The structure of an elicit exchange using this model is presented in figure 1 below.

Fig 1 The R/I Element

I - (R/I) - R - (F)

Brackets enclose an optional element

Francis and Hunston (1987:131) give the following example (sample 3 below) to illustrate their model. Their new analysis presents a paradigm in which both obligatory elements are provided by the teacher ("I" & "R").

Sample 3	move	e.s	
		old	new
T What's this	eliciting	I	I
P A saw	informing	R	R/I
T Yes, it's a saw.	acknowledging	F	R

In almost all the exchanges in my data corpus from one institutional context (Qatari secondary schools), only the teacher seems to have the right to terminate the exchange. For some analysts, this would confirm the suggestion that the final exchange element is not an optional follow-up. It is in some ways like an obligatory response that reacts to what is now seen as a double-labelled student's response/initiation.

This revised exchange structure appears to reflect actual data more closely than the simple I-R-F structure, but leaves us with one very common element with a double label, the second part of which uses a symbol that can normally only be used to refer to an exchange initial element. In spite of its obvious advantages, one criticism of this model of exchange

structure is that it does not clearly distinguish the elements of exchange structure from each other. The "R/I" is defined in terms of two other exchange elements. It does not have its own independent identity. In addition, it strongly implies that there is no alternative choice of exchange element available at each stage of the exchange.

The Participants' View of Interaction

As the analyst is a third party who analyses retrospectively, the criticism that structural models do not reflect the speakers' own perception of interaction as it occurs has been taken up by several analysts. Tsui (1994: 50) suggests that a speaker may retrospectively reclassify a preceding element. This emphasizes the importance of the participants' on-going perception of the developing discourse. In this respect, Hoey's example (1991a: 75) of "a follow-up treated as an initiation" in sample 4 below is interesting.

Sample 4 The Follow-up as Initiation	
11 A: What's kept in that cupboard ?	Initiation
B: Just some old clothes and things.	Response
A: Oh, I thought it might be something exciting.	Follow-up treated as Initiation
B: No, I'm afraid not, unless you find old fashions exciting.	Response
(Fabricated Example.)	

The underlying notion of the above analysis is that speaker B may either interpret the third contribution as an initiation or as a follow-up. This suggests that speaker B's interactive behaviour depends on his interpretation of the immediately preceding discourse. The suggestion is that B might have retrospectively analysed the preceding element differently to the speaker's intended follow-up.

In situations in which the analyst is intimately connected with the discourse, this kind of interpretive analysis is invaluable in revealing the way participants themselves adjust their behaviour during the intersubjective development of the discourse itself. The analyst is then an insider and his intuitive judgement of the perceptions of the participants need not be a subject of serious contention. We may assume that the "fabricated" example in sample 4 above is closely related to the author's own experience.

As outsiders to the interaction, we as readers need to accept several assumptions. Firstly, we are asked to assume that A intended his response to be terminal, although retrospectively we can see that it does not have the effect of actually being terminal. Secondly, we have to assume that B either deliberately or unwittingly overrode the assumed intention of A to terminate the exchange. It is difficult as a reader to test either of these intuitive assumptions as the example is fabricated and we have no way of either accessing the intentions of (non-existent) speakers or of inferring these by analysing regular effects of

interaction over a long stretch of conversation between the same two speakers.

The model of exchange structure proposed below involves retrospective third-party analysis of interactive consequence designed for one stage of an intercultural project. Regrettably, it is often the case that the participants' view of interaction is not available to the analyst. Intercultural projects need to take every measure possible to promote descriptive impartiality. To this end, intuitive judgement of interactive intention is avoided, an element of exchange structure being analysed only in terms of its "objective consequence". The function of each element of structure is thus primarily defined in terms of the way it has been seen to structure interaction in relation to other elements of structure. Its function has been defined as the regular interactive role it has been observed to fulfil over the whole range of exchanges in the data corpus. In this project, the analysis of the whole data corpus led to the interpretation of the cumulative effect of the discourse, inferring purposes only from the regular patterns of interaction that could be extracted from the analysed data and the regular effect the interaction could be seen to have at the rank which is at the heart of interaction. Intuitive judgement was hence reduced to a minimum.

A focus on the structure of exchanges is seen here as an important first step in a process aimed at revealing the cumulative effect of successive exchanges in a whole data corpus. This latter step can reveal a great deal about the tenor of classroom teaching in a particular context. All descriptive tools have their own in-built biases, but by excluding pedagogical criteria, a structural description provides one research stage which is independent of any particular pedagogical trend or ideology. In this sense, it provides a pre-pedagogical stage to a description which acts as a counter balance to pedagogical interpretation.

Negotiation in Exchanges

In language lessons, teachers continually have to adjust to the responses they obtain from students, who in turn have to adjust to the teachers' reactions. The aim of this section is to suggest a satisfactory way of representing the kind of adjustment exemplified in sample 2 above (repeated below for the reader's convenience).

Sample 2	
	T How many people were talking? How many people... how many people were talking? How many persons were talking? Yea?
	S three people
	T three or two?
	SS two
	T There were ...?

	SS	two people
	T	two...
	SS	persons
	T	persons

Sample 2 is repeated to facilitate the present discussion.

The kind of discourse pattern in sample 2 is by no means uncommon in the data corpus and is far from being the most complex in structure. Analysing the second and third contributions as some kind of interruption of a three-part exchange does not seem to be satisfactory. One solution would be to analyse the second "initiation" as a "bound initiation", Ib, giving an "I-R-Ib-R..." structure (See Sinclair and Coulthard 1975:53-55). Suggesting the category "Ib" requires the interpretation that the teacher delays the provision of a follow-up "F" and "starts again" or "reinitiates". This acknowledges that the two parts I-R and Ib-R... are closely connected. It does, nevertheless, still imply that a bound structure is "initiated" and is part of a different unit. The issue is then whether we have a bound structure or an integral part of the same structure.

The frequent occurrence of adjustment and repair in the negotiation of interaction during the lengthy process of analysis led to an attempt to develop an exchange model that allows "negotiation" to be accounted for as an essential part of the basic structure of exchanges. The problem is then to suggest a relatively simple structure that can adequately handle the more complex units of negotiated interaction.

Negotiation, Choice and Exchange Structure

Sinclair (1992) proposes a reformulation of exchange structure which resolves a number of the problems of analysis without essentially increasing the complexity of the model. At the same time, Sinclair acknowledges the need to elaborate the basic I-R-F model. The essential addition is a "new" structural element: "C" (challenge). (See also Burton 1980 and Edmondson 1981.) The notion of a fourth element of structure is also predicted in Coulthard and Brazil (1992:71) where they are prompted to ask "whether there is not also an element of structure which is at the same time both predicted and predicting".

The third element in sample 2 above could be seen as an example of a "challenge" which occurs when the teacher does not accept the student's response and negotiates for a response that satisfies him more. However, "challenge" as a term implies that an essential element of exchange structure is in some way confrontational, so this would seem to be more suitable as a label for only one realization of an element of exchange structure. (But see Burton (1980) for a defence of the term "challenge" within another paradigm.) Hoey (1991a:80) suggests that, at exchange level, a challenge "functions as a counter-initiation", characterizing the "challenge" as a disruption of an exchange rather than as a strictly

interactive choice open to the speaker, although Hoey makes it clear that a "challenge" need not be "constructed as rude".

In naturally occurring dialogue, a speaker may disrupt the exchange by challenging some aspect of the previous speaker's utterance.

For the model of exchange structure proposed here, the term **negotiation**, "N", has been selected for an element that represents a normal alternative to an "R" or an "F" after an exchange has been initiated. In structural terms, it is a regular choice available to participants which has the effect of prolonging the exchange. At exchange level it is not desirable to interpret its purpose in social terms, as, for example, a bid to take over the dominant role in the exchange or as an attempt to support a dominant partner. Analysis at a more delicate level at a later stage may seek to clarify its purpose in a particular context. A negotiation may then be seen to have either socially supportive or socially disruptive qualities. The element of structure "N" simply has the structural effect of keeping the negotiation of the exchange open. Sample 2 below shows how the analysis operates.

Sample 2		
T	How many people were talking? How many people... how many people were talking? How many persons were talking? Yea?	I
S	three people	R
T	three or two	N
SS	two	R
T	There were ... ?	N
SS	two people	R
T	two...	N
SS	persons	R
T	persons	T

By adding a new element, each stage of the developing exchange can be seen to represent an interactive choice. The interlocutors are involved in a process that leads to a negotiated outcome. However, the model does not represent interactive structure as being without sequential constraints or without limitations on divergence. Proposing the interactive choice of a negotiation, "N", simply reflects the structural possibilities that are available to participants.

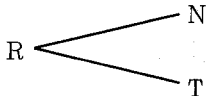
An "N" can be defined in terms of what Sinclair (1992:86) refers to as the two main

"mechanisms of coherence in discourse structure": "encapsulation" and "prospection". Encapsulation involves the retrieval of all previous contributions within the exchange. Any element of structure that makes a retrospective reference encompassing the preceding contributions within the exchange is said to encapsulate them. When an exchange element is exclusively encapsulating, it terminates the exchange.

"Prospection" (Sinclair 1992: 83-84) is a feature of discourse by means of which a speaker may attempt to manage or influence the future direction of the discourse. Each contribution to the discourse is then said to provide a framework for the ensuing discourse. In an exchange, the initiation creates prospections that influence what Sinclair calls the "minimum extent of the exchange" (op.cit.:84). This does not rule out the possibility of participants using subsequent exchange elements to influence the prospection set up by the initiation. For example, the "N" can be used to modify or even to take over the prospection. Prospection can also be combined with encapsulation, as an "N" not only maintains or modifies the prospection set up by the initiation, but also encapsulates the preceding discourse contributions including the initiation.

The "N" in sample 2 above is intimately linked to preceding elements in the exchange which it "encapsulates", simultaneously maintaining a unit of interaction open. The choice of negotiation is structurally central within an exchange that has already been initiated. Whenever the option of using an "N" after a response is not taken up, the exchange ends. This means that an elicit exchange can terminate in two ways; firstly, with an "R" when a response is not followed up at all, or secondly, with a "T". While each realization of an exchange may be presented synoptically as a static, fixed structure (e.g. I-R-F in sample one above or I-R-N-R-N-R-T in sample two), it is only the retrospective view of an analysed structure that makes it appear so. The retrospectively determined structure is only one outcome from a system of choices. After the initiation, there is always a choice until the "T" has been accepted as such. At the rank of exchange structure, one of these choices is always an "N". These choices are available at each point within an exchange at which there is a change of speaker. The choices are as follows:

a. Choices after an "R".



When a speaker provides a response, this response may terminate the exchange. Alternatively, the choice of maintaining the exchange open by providing a negotiation, "N", is available. The response could also be followed up by just one further exchange element, a "T", which would then, by definition, terminate the exchange. These options have already been illustrated in sample 2 above. They represent a very common pattern in the data corpus.

The revised formulation of exchange structure for this pattern can be represented as a formula as in figure 2 below.

Fig 2 The Structure of Negotiation

$$\mathbf{I - R - (N - R)^n - (T)}$$

When discussing the whole theoretical structure, $(N-R)^n$ will be referred to as an "element", although it can actually be realized by several elements of structure. The theoretical structure is characterized by an elasticity enabling it to expand with the recursive $(N-R)^n$ "element" or contract to a minimal two-element I-R structure. Parentheses are used to indicate which elements are optional. For example, the third "element", $(N-R)^n$, is optional. The recursive nature of this "element" is indicated by the superscripted "n" outside the brackets. Recursivity is admittedly a theoretical problem of the model as it allows the possibility of theoretically infinite exchanges. In practice, however, features such as memory limitation, social convention and principles of economy always limit the number of recursions in any particular exchange.

While most exchanges in the data corpus were analysable using the formula in figure 2 above, there was some evidence to suggest that a wider system of choices was available. The occurrence of rare contributions that do not fit into a proposed model can lead to significant insights for the analyst who has to account for all exceptions that occur in the data however rarely they may occur. When a speaker initiates, the next speaker frequently provides a response. However, this is not always the case. Another option is the supplanting of the initiation. This is illustrated in sample 5 below. In this example, the response modelled on a flashcard by the teacher in a drilling activity, was ignored by the student, who supplanted the teacher's question with his own. The teacher answered the student's question. In this data corpus, supplanting the teacher's question was rare, but its very occurrence obliges the analyst to reconsider the nature of exchange structure and reconsider the choices available.

	Sample 5 T (showing card HOW/FEEL) Yes ?	I
→	S Please tell me you catch a fish big or small ?	N
	T Ah. OK. A big one. I caught a big fish and the boat sank.	R

b. Choices after an "I".

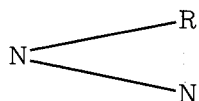


Similarly, a response was by far the most common element after an "N", but was not the only possibility. Whenever a speaker produces a negotiation, the next speaker seems to have the option of further negotiation. Both options are illustrated in sample 6 below.

Sample 6		
	S2 But why?	I
→	S3 Why not?	N
→	S2 Why?	N
	S1 I can't explain that but they help us because the earth is going to be destroyed.	R

A sample from a British Language school lesson with little central control by the teacher

c. Choices after an "N" itself.



The occurrence of alternatives to the pattern proposed in figure 2 above could lead us to consider (albeit tentatively, given the limited evidence available in this data corpus) whether a more complex formula might not be a better representation of the choices available in eliciting exchanges. However, the role of an analyst is not to match the complexity of discourse in the way he represents it. Such a formula would no longer respond to the search for a simple formula of exchange structure and would be of only limited practical use. The aim here has been to explore the possibility of integrating choice into a concise formal structure which adheres to criteria of structural efficiency. The evidence of one data corpus does not, however, allow us to propose definitively that the same options are available in all genres or even in all contexts within the same genre.

Four criteria of structural efficiency (based on Sinclair and Coulthard (1975:15/16) and Coulthard,1977:98-99) have been applied to the model: sequential position, encapsulation, prospection, and the obligatory or optional nature of an element. Applying these criteria, all elements can be clearly distinguished from each other and impossible combinations of

elements can easily be found. While these impossible combinations indicate constraints on the choices of participants, it has also been claimed that an interlocutor always has an interactive choice, unless social norms intervene to prevent certain participants making use of available choices.

Negotiation and the Rank-Scale Model

Analysis at act level often requires the interpretation of intention in the context of the activity being enacted. In this research, the focus is on the interpretation of pedagogic function. The interpretation of moves and acts has been preceded by a thorough analysis at exchange level of the whole data corpus. Interpreting the moment-by-moment decisions is more speculative than the broader identification of the function of an element of structure.

A "negotiation" was said to have the broad interactive function of providing the choice of maintaining the exchange open. An "N" encapsulates the preceding contributions in the exchange and modifies the prospection set up by the initiation leading to a further response. Its function is to enable further negotiation before the exchange closes. The person who negotiates is influencing the pattern of the interaction and in some way controlling its future direction. This function can be further interpreted by associating it with different acts related to the pedagogical context. No attempt has been made to provide a definitive list of acts as an analysis at act level was not the focus of this study.

In sample 7 below, three "negotiations" have been identified. While they all exemplify the way this teacher controls the interaction by maintaining a negotiation open to obtain a response that satisfies him, all the negotiating elements might be said to perform different acts.

Sample 7			
T	What does collars mean? Collars. Yes. Yes.	collars	I
S1	carry the owner's name...		R
T	What does it mean ? The word ... Yes ... Yes. Karim ?	supplant	N1
S2	Could it mean the dog lead?		R
T	Er...lead?	Loop	N2
S2	Yes.		R
T	No... no, something else (nom. by gest)	Reject	N3
S3	Something we tie around the neck		R
T	Something we put around the neck. Yes. OK.		T

Discussion of N2, labelled a "loop", is explained below

When the teacher negotiates for a totally different response, this can be interpreted as a "reject" of the previous response. "N3" in the sample above illustrates this "rejecting act". By simultaneously rejecting a response and nominating another student by gesture, the teacher is enacting a negotiation. The act performed in "N1" has a similar expanding function, but the teacher does not explicitly reject the response. It has the effect of supplanting one student's response by another's. A "supplant" is seen here as an act that uses indirect, interactive means to set up the replacement of a response by a further response that supersedes it. The teacher may then accept the subsequent response as more successful or further negotiate.

"N1" and "N3" above involved the use of the teacher's right to negotiate to replace a response he did not or could not accept. When the negotiation seeks the expansion rather than the replacement of a response, it also has the same broad interactive effect of extending the exchange. In this case, it often performs the socratic function of motivating deeper inquiry by encouraging the students to further consider the content of a response, seeking a modification of some kind. This function is illustrated in sample 8 below.

Sample 8		Qdat3		
T	The first is Mr. Paul		I	
S	Archer		R	
T	Yes, Archer. Yes, That's right. He has got a wife. Yes ? (gesture)		T	
S1	Mrs. Jill.		I	
			R	
→ T	Yes... Mrs... Mrs... (nom by eye-contact)		N	Probe
S2	Archer.		R	
T	Archer. Or her name is Jill. That's right. Her name is Jill.		T	

In sample 8 above, the teacher partially accepts the response "Mrs. Jill". The act performed by the negotiation "probes" further for a more satisfactory response, although the content of the "T" acknowledges both responses. This is similar to the socratic "N" in sample 9, reproduced below, which can be more finely distinguished as an act that requests a clarification of the initial response.

	Sample 9 T What's the man talking about ? Yes ..? (nominates student)	I	
	S1 about dogs crossing the road	R	
→	T What does the talker call them ?	N	clarify
	S2 stray dogs	R	
	T STRAY stray dogs. Thank you. Therefore this is the main problem that the man's talking about.	T	

It is also possible to negotiate with an act that does not seek to modify the content of what has been offered as a response by the student, but encourages the responder to continue, sustaining his contribution (sample 10 below).

	Sample 10 T Tell me about the rooms. How many rooms does this villa have ? Yes, Hassan.	I	
	S. There are three bedrooms	R	
→	T Yes, there are three bedrooms, yes...?	N	sustain
	S and one living room	R	

The position of a negotiation can influence the kind of act it is performing. An act that takes over the control of the exchange immediately after an initiation, such as the "N" in sample 5 above (reproduced below), can be further classified as an act of "appropriation" in that it seizes the initiative from the previous speaker, without providing a response to the previous speaker's elicitation. In sample 5, the teacher was eliciting a pattern that was provided on a flashcard, which the student ignored to ask his own question.

	Sample 5 T (showing card) Yes?	I	
	S Please tell me you catch a fish big or small?	N	Appropriation
→	T Ah. OK. A big one. I caught a big fish and the boat sank.	R	

Other negotiations are used for the management of discourse, such as the repair of minor communication breakdowns. An example of this (sample 11 below) is a request for a repetition. The act being performed is similar to what Sinclair and Coulthard (1975:39) refer to as a "loop". The second negotiation, "N2", in sample 7 above is also a loop with the function of getting a repetition. A "loop" appears to be simply a means of identifying a word the teacher might not have heard, although, as Sinclair and Coulthard point out, it might be being used tactically "to draw the attention of the class to something one child has said". This repetition inevitably has this effect, but there is no objective means of determining whether this is actually intended.

	Sample 11	Qdat7		
	T	Yes?	I	
	S	How about putting some rules to control for the owners of dogs?	R	
→	T	I can't hear you. How about what?	N	Loop
	S	Putting some rules for the dogs	R	
	T	Yes. This is another suggestion-a very nice one. Putting some rules to the owners of the dogs to follow.	T	

More general situational features also assist in the interpretation of an act. In sample 11 above, the general background noise allows the interpretation that the teacher is, in fact, negotiating for less noise from the class. This kind of speculative interpretation relates more to the here-and-now concerns of the participants. It has been avoided in this research, in favour of a broader, but more dependable, analysis at exchange level, which paves the way for subsequent interpretation-rather than objective description - of the roles adopted by teachers and students. In the data corpus, it was interesting to be able to provide conclusive evidence that students in one institutional context almost exclusively, produced only response moves. In this classroom context, an "N" was normally an option only available to the teacher for some pedagogical purpose such as negotiating for a more satisfactory response as in sample 2 above. In another institutional context, students frequently produced negotiations, but almost never produced initiations.

Knowledge Structure

One of the consequences of using a macro-structural approach to discourse is the potential dependence of structural analysis at exchange level on features of context. Despite their obvious use in analysing the complexities of discourse at several levels, systemic models may run the risk in some research contexts of assuming that certain features are given which should be revealed only by the analysis itself. Knowledge status is one of these features. Berry (1981) provides a detailed and convincing three-level analysis of exchange structure upon which many systemic models are based. Only the level of analysis that

refers to "knowledge" structure will be discussed here. The "elegance" (Willis, D 1992:114) of Berry's analysis is even more in evidence when the three levels are presented side by side, which has not been attempted here. Berry (1981:126) refers to the participant who knows more about the topic under discussion in an exchange as the "primary knower". In the classroom context, the teacher might then be assumed to be the "primary knower". The student would then be called the "secondary knower". Following this argument, the teacher can use his status to negotiate a more satisfactory completion of the proposition he elicited in his initiation. As Berry says:

There must be a slot in the exchange where the primary knower indicates that he knows the information and where he consequently confers upon the information a kind of stamp of authority.

In analysing text samples, the "primary knower" is referred to as "K1" and the "secondary knower" as "K2". In sample 9 below, previously presented above, this would produce the following analysis:

	Sample 9 (alternative analysis) T What's the man talking about? Yes ...? (nominates student)	DK1
	S1 about dogs crossing the road	K2
→	T What does the talker call them?	DK1
	S2 stray dogs	K2
	T stray... stray dogs...thank you. Therefore this is the main problem that the man's talking about.	K1

The teacher's question is called "DK1", "D" meaning "delayed" because it delays the use of the primary knowledge status of the teacher, "K1". The teacher as "primary knower" maintains the exchange open with a second "DK1" until the student provides a response to which he is willing to provide his "seal of approval".

The rare exception to this state of affairs is of paramount importance if a model is to embrace as few assumptions as possible in its attempt to handle all the discourse in a corpus. If the person with the higher social status can control the interactive structure regardless of who actually knows more, this would suggest that knowledge of information itself is not the decisive factor. In sample 12 below, the teacher does not actually know how many floors there are at two department stores in Qatar's capital, Doha, yet he still provides the "stamp of authority" that his status as teacher accords him by concluding that the information is "right" without any knowledge. (This was admitted by the teacher

after the lesson.)

	Sample 12	Qdat3	
	T	Now.... this department or as you know Al-Salam consists, as I think, of one floor or two floors? Who went there? Yes	I
	S	One floor	R
→	T	One floor. I think in Assad there is one floor. That's right.	T
		And in Dafna or on the Corniche, there are	I
	SS	two floors	R
→	T	two floors. That's right.	T

In Doha, Al-Salam store has two branches, one in "Assad" area and the other in "Dafna".

The view that knowledge and "social status" are often distinct was also supported by observation of students with near-native linguistic competence who nevertheless accepted the role of "secondary knower" in spite of several instances when incorrect language use was unwittingly encouraged by the non-native teacher.

Willis, D (1992:115) points out that Berry's analysis "rests on the initial identification of the questioner as K1 or K2". Even in teaching interaction, we have tried to show that this identification is not always as self-evident as might be expected. Willis goes on to argue that there is no need for a separate level of analysis that identifies participants according to their knowledge status, because there is already an available means in a rank-scale discourse model to handle this distinction. Analysis at the rank of "act", within the resources of the available rank-scale model, can make the same distinction. Willis suggests that the act "evaluate" in an "F" element "tags the opening elicit as K1" (op. cit.:122). In this way, it is only through the analysis of discourse that status is inferred.

Because he sees interactive structure as separate from knowledge structure, Sinclair (1992:88) recommends the exclusion of "information" from models designed to represent interactive structure.

There is no reference to primary and secondary knower, or indeed any state of awareness of participants. This is because models based on the exchange as a device for information transfer do not lead us to the interactive structure...

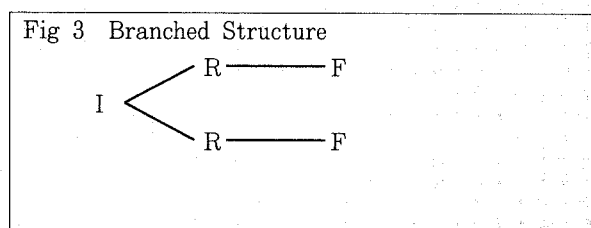
The Extent of the Exchange

A feature of the model presented here is the extendible nature of the exchange. The disadvantage of such a model is that it becomes more difficult to distinguish the exchange

boundaries. This problem would be simplified by considering an "N" as the marker of a new exchange in a unit similar to that proposed by Hoey (1993), who presents the case for what he terms "the exchange complex", a unit above the rank of exchange. He suggests that the "exchange complex" should be considered as a "rank", taking the place of the "transaction" in the original model, stating (1993:118-119):

Because the exchange complex has not been posited, there has been no systematic exploration within the Sinclair-Coulthard tradition of the possibility of such a unit forming "interactive text", nor has it been suggested that exchanges might combine to form text.

Hoey proposes different kinds of structures that define the relationship between the exchanges that make up "exchange complexes". One such complex depends on the notion of "subordination" borrowed from sentence grammar. To represent subordinated structures, Hoey proposes "a branched structure", illustrated in fig 3 below.

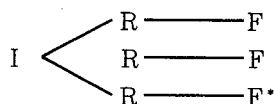


A branched structure postulates a series of parallel pairs, each pair being subordinated to one initiation. Hoey (1993:122) illustrates this structure with the following example in sample 13 below from the data of Sinclair and Coulthard (1975).

Sample 13
 Teacher: What's the name of each of those?
 Pupil 1: Paper clip
 Teacher: Paper clip
 Pupil 2: Nail
 Teacher: nail
 Pupil 3: Nut and bolt
 Teacher: Nut and bolt.

Sinclair and Coulthard (1975:55) analyse this sample as IRF(Ib)RF(Ib)RF, proposing a bound initiation, "Ib", which is "only realized by nomination". They add that the "F" preceding the "Ib" "contains no evaluation". The elliptical "Ib" elements already suggest an intimate link between the three exchanges proposed by Sinclair and Coulthard.

Hoey considers that a subordinating branched structure can satisfactorily account for the discourse in sample 13 above, which can then be considered to be one unit, an "exchange complex".



Hoey's new rank provides a useful means of presenting such discourse as one composite unit, while at the same time avoiding the shortcoming of having exchanges that are theoretically infinitely recursive. However, the status of the third "F" element in Hoey's analysis requires further attention. Hoey states (op. cit.: 122) that "although we are not privy to the intonation used in the final teacher utterance it seems likely that it marked the end of the series [...] bringing the exchange complex to a recognizable end". The final teacher utterance referred to is marked F* above. While the first two "R-F" pairs are indeed parallel, it is the final pair that is different; the teacher maintains the unit open with the first two so-called "F" elements, but terminates it with the third. As Hoey points out, the final "F" is almost certainly contrasted by intonation from the other two.

The discourse in sample 13 below consists of seven elements. Using the model presented in figure two above, this example can be analysed as one exchange with the structure: I-R-N-R-N-R-T.

Sample 13 (re-analysed)	
Teacher: What's the name of each of those ?	I
Pupil 1: Paper clip	R
Teacher: Paper clip	N
Pupil 2: Nail	R
Teacher: Nail	N
Pupil 3: Nut and bolt	R
Teacher: Nut and bolt.	T

Martin (1992: 32-91) provides a detailed explanatory account of longer negotiated exchange structure within a framework of systemic analysis. Martin (op.cit.:74) suggests that exchanges "may in principle be indefinitely prolonged", and that "the exchange cannot proceed towards closure until some consensus is reached" (1992:73). He gives examples (op.cit.:74) of longer exchanges which are maintained open by means of what he classifies as "challenges" after Burton (1980). It is assumed that the notion of "consensus" makes no assumptions about the roles and status of the participants and does not imply equal status a-priori. A more powerful participant, for example, may be able to impose closure.

Although a counter analysis of the subordinated structures in sample 13 above has now been presented, suggesting that the seven elements of structure can also be seen as one exchange, the notion of subordination within an "exchange complex" has not been rejected.

Exchange Chains

The application of the model in figure two above to the whole data corpus also revealed links between exchanges in longer stretches of discourse. It will now be suggested that exchanges are often "chained" together in teacher-whole-group interaction. The links in the chain that follow the first chain initiation and its response are similar to the subordinated structures that make up Hoey's "exchange complexes" discussed above. The first initiation of a chain has a special status as subsequent elicitations within the chain are often increasingly elliptical. An "exchange-chain" is defined here as a complex of exchanges in which all the exchanges following an initiating exchange are in a relationship of subordination to it.

In the following interaction (sample 14 below), the use of chaining is fully established as a common pattern of discourse in the lesson.

Sample 14	Qdat8	
T What does it mean release? Yes...?		I
S1 The people...the one who we apologize for		R
T (interrupting) apologizing (2)		N
S (maintaining turn) for him		R
T for him (3)		Ng
S2 (unclear)...to give a chance.		R
T give him a chance (4) Yeah, we mean ...yeah		Ng
S3 leave him		R
T leave him (5)		Ng
S4 say, "don't worry"		R
T say don't worry. What else in English ? Yeah. (6)		Ng
S5 say, "never mind",		R
T say, never mind. (7)		Ng
S6 say, "forgive".		R

T	say, forgive him (8)	Ng
S7	"don't think about it."	R
T	don't think about it. (9)	Ng
S8	say, "that's OK".	R
T	OK. That's right. That's right. Thanks.	T

The "Ng" is used for a negotiation that both encapsulated the student's response by repeating it and, at the same time, prospects further chained contributions from the group, which is contrasted with the solely encapsulating function of the "T".

A problem of analysis occurs with the negotiations, numbered (4) and (6), in sample 14 above. There appear to be two acts here. The first act repeats the student's response, thereby accepting it, but there is also a separate elicitation ("What else in English?" in 6). Two analyses seem possible here: "T-Ig" or simply "Ng". The first acknowledges the two separate acts, whereas the second — which is used here — sees the two acts as fulfilling the same role in the structure. It is the referring tone of the first act, produced at the same pitch level as the second, which suggests that the second act is not dissociable from the first. The first part — "say don't worry" — encapsulates the preceding part. Its intonation indicates that the following elicitation is redundant.

The occurrence of ellipsis in such chains rather supports the view of an exchange complex than of a longer version of the exchange itself. The detailed analysis of a longer stretch of discourse indicates that a combination of the new formulation of exchange structure outlined above and Hoey's notion of exchange complexes, allows some progress to be made in suggesting formal links within longer stretches of discourse. While further investigation in this area is clearly desirable, it should also be clear that a focus on what can be revealed at the heart of interactive exchange is also an essential element of discourse analysis.

It is also regrettable that the choice potential of intonation could not be integrated into this model of exchange structure. It is clear that intonation provides important clues into the identity of exchange elements, but no direct relationship could be found between elements of exchange structure and intonation patterns. Coulthard (1992:37) emphasizes the principle that "there is no necessary one-to-one relationship between particular paralinguistic cues and interactional significance" affirming also that "it is contrasts and not absolute values that are important". An interactive model of intonation is therefore best seen as a means of supplementing information available from other sources about the way participants structure interaction from the intonational choices that are available to them.

Brazil (1981:40) presents intonation as a separate area of choice potential, stating:

There seemed to be a good reason for postulating a conceptually separable area of meaning potential, wholly realised by intonation, and requiring for its explication reference to interrelated aspects of the here-and-now discourse setting of the utterance concerned.

This view of intonation has been developed as part of a wider approach to describing spoken language (see Brazil 1995) which emphasizes speech as interactive behaviour. His system is aimed at elucidating the "here-and-now" process of communication as cooperative and purposeful behaviour rather than at describing the regular choice patterns of speakers in particular contexts.

Conclusions

Practical problems of analysing a data corpus and theoretical problems raised by Levinson (1983) have led to a revised model for analysing interactive structure at exchange level in one particular research context. The most salient kind of exchanges in the data corpus, eliciting exchanges, were chosen as the central focus for analysis. In the revised model of exchange structure, a fourth element, "N", has been presented as an essential choice available to participants at each stage of an eliciting exchange. In this way, while respecting the basic simplicity of the I-R-F structure, the model also takes into account the dynamic way in which participants negotiate interaction.

A system of dynamic choices has been preferred to a synoptic representation of exchange structure. The strength of a structural approach itself, however, is still to facilitate the description of regular and stable patterns of interaction within a large data corpus. The potential reference to the "here-and-now" intonational choices of participants (See Brazil 1994 & 1995) and to the choice of acts available to speakers when they make an interactive contribution at exchange level is an indication that even a simplified representation of discourse must have a means of representing not only the regular and relatively stable patterns of discourse, but also the unpredictable side of social interaction during which participants are continually adjusting to each others' contributions.

The basic model outlined here can provide a description of classroom interaction with very little reference to any features of the situational context. A structural model is also sensitive to context, in particular to the tenor of interaction, laying the foundations for the later analysis of the pedagogical roles of the participants in interaction. The actual distribution of available interactive choices will provide independent and indisputable evidence for a subsequent pedagogical interpretation. For example, no interpretation of the pedagogical purposes of a teacher's contributions is made until their observable consequences have been described in some detail. A non-pedagogical stage of structural analysis allows us to present subsequent pedagogical interpretations of classroom interaction with more confidence and makes us more critical about the feasibility of any suggestions we may make for pedagogical reform.

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