

IDENTIFYING PRODUCTIVE TALK FOR THE WRITING OF ARGUMENT TEXTS

Margaret Franken
School of Language Studies
Massey University

Abstract

Investigating the relationship between prewriting tasks carried out by means of pair or group interaction and subsequent writing is a complex undertaking, but an important one if teachers are to sequence tasks productively. Some writers have described effects in a somewhat descriptive way (Sweigart, 1991), while others have attempted to test effects statistically (Shi, 1998; Franken, 1997, 1999). This paper attempts to add an additional perspective by examining the nature of discourse in the transcripts of three case study pairs of second language students in a year 11 high school context working together before and during writing of argument texts, and relating features of that discourse to the findings of an empirical study (Franken, 1997, 1999), and to claims in the literature regarding positive effects for interaction. The transcript data is described and analysed according to a coding scheme adapted from the work of Meloth and Deering (1994). The comparison of the patterns of interaction, together with quantitative findings, point to particular features of interaction that can be seen to be productive both in terms of content and language for the writing of argument texts.

Introduction

Research investigating the relationship between sequenced classroom tasks such as reading and writing, and speaking and writing is arguably more important than looking the effects of one particular task type. Sequencing is a feature of all lessons, all units of work and all curricula. Sequencing of tasks by teachers is often not done in a principled way but should be, and should be guided by research. General models for sequencing and building of tasks productively have been described by a number of writers (see for instance Low, 1989). Other writers have looked at particular combinations of skills. For instance, Franken (1993, 2001) explores the parameters of the relationship between speaking and writing. Research exploring the relationship in reading to writing, often referred to as 'composing from sources', is well represented in the work of McGinley (1992) or Bloome and Egan-Robertson (1993) for example.

Research investigating the benefits of particular sequences of “building blocks” (Graves, 1996, p.28) is problematic. The following discussion deals with some of the issues associated with this type of research in the area under investigation in the current paper, the area of speaking to writing.

Researching speaking to writing

Little empirical research investigating the effects of speaking on writing exists to date. Sweigart's (1991) study is in fact one of the first to directly measure the effect of speaking on the quality of the writing produced by students. Sweigart's study concluded that students who participated in small group discussion (contrasted with class discussion or listening to a lecture) produced better opinion essays in terms of ideas and organisation, were better able to remain on task and were generally more positive about the prewriting activity.

Sweigart's study did not examine the conditions and the nature of the talk that could explain these findings. Shi (1998, p. 319) makes the same point in his review, when he states that no previous studies examining the effects of prewriting discussions (including teacher-led discussions) “have tried to establish clearly how teacher-student or student-student interactions actually assist students’ writing”. It seems that a response to this challenge can be either to trace discourse features from spoken transcripts to written texts (Franken, 1996a; Shi, 1998); or to examine and analyse transcript data.

The examination and analysis of transcript data in isolation is problematic. Stables (1995) identifies the weakness of much research into collaborative learning as being the assumption that learning has taken place from a mere analysis of discourse. He comments that transcripts of student interaction “purport to, and doubtless often do, show moments of insight attained through discussion. It is worth considering however, what they do not show” (Stables, 1995, p.62). Stables’ objection is countered in this paper by the fact that the data analysis is situated in a larger study that reported statistically significant effects, and that the analysis makes careful reference to claims in existing and well established literature.

The present study

The present study examines transcribed interaction, guided specifically by claims in the literature regarding the features of talk and learning conditions facilitated by talk. The transcript data was

obtained from the interaction of pairs of second language high school students before and during the writing of argument texts. (See Toulmin, Rieke and Janki, 1984, for an analysis of argumentation).

There are a number of reasons why argument was the genre chosen for investigation in the study. The first of these is the fact that argument is its importance in curricula. In McCann's (1989, p. 62) words,

Argument is a complex activity which often incorporates many of the other writing tasks stressed in a composition course. Its position as a culminating activity for courses of study indicates how highly regarded argument is. In a very narrow sense, argument is an important tool for students who face the task of writing dozens of lengthy papers before finishing their college careers. In a broader sense, argument is an essential instrument for a free society that deliberates about social, political, and ethical issues.

The second factor in the choice of argument for the study relates to the difficulty that the students have in gaining control over the genre. Many studies investigating students' ability to write argument texts have illustrated difficulties across a range of age levels (for example McCann, 1989; Knudsen, 1992; Coirier, 1994; Varghese and Abraham, 1998). The third issue relates to the fact that a number of studies of effective writing have viewed expertise as context or genre-specific (Carter, 1990; Franken, 1996b; Torrance, 1996). In other words writing expertise entails the possession and use of appropriate genre knowledge.

Methodology

The data collection occasion

As mentioned above, the audiotaped data of three case study pairs presented in the present study was part of the data collection for a larger quantitative study that sought to measure the effects of opportunities to talk with before and during the writing of argument texts (Franken, 1997).

Appendix

A outlines the tasks students were given and the way in which these were experienced when working with a peer.

The data represents the discourse during one occasion out of a total of six and was a response to the topic: *The government does not exist only to provide a service for the people. All government services should make a profit.* The talk for this topic was chosen as positive effects on writing

content were identified through statistical analysis for that occasion (Franken, 1997, 1999). In addition, the scores indicated a large standard deviation suggesting that there was great variation in the way in which individual students wrote their texts. A selection of three case study pairs showing very different patterns of interaction was made from a sample of ten.

The three case study pairs

As the students in the three case study pairs were part of a larger study, the holistic scores for the text written on the selected occasion, as well as their profiles of proficiency, were available to the researcher. The proficiency profiles included information on the students' respective rankings in the class (as assessed on pretest writing scores).¹ Stan and Alan, the first pair, both had high initial rankings resulting from the pretest. Stan was ranked 1, while Alan was ranked 3, (rankings were from 1 to 10). In the second pair, Will had an initial ranking of 6 while Fred had 8. For the third pair, Anne's initial ranking was 2, while that of Carl was 7. One of these students, Stan, scored highly on the selected occasion while the other, Alan, had low scores. Will and Fred, the second case study pair, both had low scores on the selected occasion. Anne and Carl, the third pair, scored equally highly.

Stan, Will, and Anne were Taiwanese, speaking Mandarin as their first language. Alan was Indian and a first language speaker of Hindi. Fred was Mexican with two other languages, Chinautec and Spanish. All of the students had been in New Zealand for less than six months and were enrolled in a year 11 class of an Auckland high school.

Transcription and analysis of case study data

The tapes of the interaction between the three pairs were transcribed. The transcripts were minimally punctuated to facilitate reading. All phonological and paralinguistic information was omitted so that a focus on content could be maintained (see Fisher, 1996, for a justification of this approach). The transcription used the notion of a turn, "one or more streams of speech bounded by the speech of another, usually an interlocutor", as the unit of analysis (Crookes, 1988, p.145). Turns were then categorised and analysed using an adaptation of Meloth and Deering's (1994) coding scheme for peer talk. See Figure 1 below.

¹ Pseudonyms close to the students' already anglicised names were given.

Type of talk	Major categories	Subcategories
Academic	<i>Task initiation</i>	Substantive comment, Procedural comment, Clarification, Directive/directing attention, Offering assistance, Other comment/question
	<i>Task response</i>	Substantive comment, Procedural comment, Seeking/ or providing clarification, Directive/directing attention, Repetition/acknowledgement, Evaluation
	<i>Oral reading</i>	
	<i>No response</i>	
Social/behavioural		Positive appraisal, Cooperation, Negative appraisal, Pacing, Management
Off-task		

Figure 1. Coding scheme for peer talk

The first level of analysis incorporates the three major types of talk in class tasks: academic, social/behavioural, and off-task (Meloth and Deering, 1994).

The next level of analysis is a set of four major categories that specify the nature of the academic talk in particular. The four major categories include task initiation, task response, oral reading (a feature of talk for writing), and no response. The categories task initiation and response are consistent with other analyses of turn taking in the classroom (see for example Sinclair and Coulthard, 1975). The category, no response, exists in few, if any, coding schemes for classroom talk. However, it is important to record when the potential for a response exists or when a response can be expected but in fact is not offered by a partner.

The third level of analysis includes the subcategories substantive and procedural talk. Initiations and responses appear to relate specifically to the ideas and content of the topic, or to getting the task done. The purpose of the analysis, like that of Meloth and Deering, is essentially to describe the focus of the academic talk, and specifically to focus on the nature of the substantive and procedural talk in a way that may provide insights into how the talk helps students to generate ideas, modify ideas, model processes and procedures all of which may become available for a subsequent writing task. In addition to these subcategories, seeking clarification and providing clarification, directives or attempts to direct attention, repetitions and acknowledgements, and offers of assistance or evaluation are included. The five subcategories within the social/behavioural type are retained from Meloth and Deering's original analysis, as is the major category, off-task talk.

The coding scheme was designed to account for the discourse that may precede and accompany writing. The features of that discourse are linked to the conditions in interaction that are claimed to bring about benefits in two areas: knowledge and language. These two areas are dealt with in detail below, together with an analysis of the transcript data.

Knowledge effects

Conditions for knowledge gains

A number of writers maintain that talk can activate qualitatively 'better thinking' (Swing and Peterson, 1982; Webb, 1991; Cohen, 1994; Webb, Troper and Fall, 1995). The term, better thinking, encompasses such outcomes as more elaborate conceptualisations, the strengthening of connections between new information and previous learning, and the utilisation of problem-solving strategies (Webb et al, 1995). In the act of talking, verbal thought is supported by words. The act of verbalising in turn acts as a support for thought. Fletcher's (1985) study uses the term cognitive facilitation to capture the fact that the talk of the individual, not necessarily of, and to, the other can bring benefits. Fletcher (1985) found that students involved in a computer problem solving game did as well when they verbalised their thoughts aloud to themselves as when they talked in a group to others. Another possible explanation for the effects mentioned above is that interaction with others provides a context for exploratory discourse (Barnes, 1976; Britton, 1970; Corson, 1988; de Bot, 1996). Exploratory talk is speaking "without the answers fully intact" (Barnes, 1976, p.35). Speaking is the medium through which students have the opportunity not merely to reproduce information but to use language to try out hypotheses, ideas and relationships tentatively. It is the verbalisation of one's thoughts to others that results in the recognition of gaps in one's knowledge (Webb, 1991).

Knowledge may be changed not only because of the opportunity to try out ideas and discourse but because one's ideas have gained relevance or saliency (Slimani, 1989). Slimani's study points to the fact that what can be critical for learning or 'uptake' is the topicalisation of items by partners in interaction. Therefore what the listener hears as significant, as indicated by the partner, may prove to be important.

Another well documented condition facilitated by interaction is 'scaffolding'. The term, scaffolding, describes the role of an expert in assisting a learner to solve problems in the zone of

proximal development described by Vygotsky (Gredler, 1997). “Scaffolding is the process of controlling the task elements that are initially beyond the learner’s capacity” (Gredler, 1997, p.365). In relation to talk, it is the expert’s talk that provides the means by which task elements are brought within the learner’s capacity.

Observations of the way in which exploratory talk functioned to bring knowledge benefits in the interaction between three case study pairs is presented below.

Observing conditions for knowledge gains

To assess the possible knowledge gains the three pairs of students may have experienced, and that may have been useful for writing argument texts, it is necessary to focus on the task-related talk in the interaction. Table 1 below summarises the information relating specifically to task-related talk.

Major categories	Sub-categories	Frequency (and percentage) of turns		
		<i>Stan & Alan</i>	<i>Will & Fred</i>	<i>Anne & Carl</i>
Task initiation	Substantive	3 (6.00)	7, 1* (8.75)	17 (17.75)
	Procedural	1 (2.00)	7 (7.75)	2 (2.00)
Task response	Substantive	0	10, 2* (13.25)	22, 3* (26.00)
	Procedural	0	1 (1.00)	3 (3.00)
Off task		25 (50.00)	20 (22.00)	8 (8.50)
Total number of turns		50	91	96

Table 1. Frequency of types and categories of task-related talk

(* indicates that substantive and procedural concerns are combined)

It includes substantive and procedural initiations and responses, omitting other categories and subcategories of talk.

In the talk between Stan and Alan, only 8% of all turns, (when initiations and responses are combined) could be said to relate directly to either content or relevant procedures needed to complete the prewriting and writing tasks. Two substantive initiations, relating directly to the topic were asked by Stan, (and not responded to by Alan) eg,

What is the government for?

Alan made one substantive initiation that focused on word meaning:

I want to know this ... This word (...) ²

The topic of Government devolution of responsibility for social services, featured on the occasion the transcript data was analysed, was a difficult one and one which few had background knowledge of. One exception was Stan who was in fact studying Economics. It would appear that he was not prompted to share his understanding of the topic with his partner, Alan. Another feature of note in the interaction is the large number of turns featuring off-task talk. They accounted for 50% of the total talk.

In the interaction between Will and Fred, substantive talk, or talk when substantive and procedural concerns are combined, accounts for just over 20% of all talk, and procedural talk accounts for nearly 9%. In total then, almost one third of the talk (28 turns) can be said to be task-related. The instances of substantive talk are associated with several areas. The first of these is the setting of criteria in the text study activity. (See Appendix B, stage 2).

- Will: *For the introduction is actually is a excellent introduction It tells us what is the title talking about step by steps*
 Fred: *I think that uh the introduction is very good too very easy to read*
 Fred: *Uh. The second?*
 Will: *Gives an example to show that Maoris people behaviour that is very good about that*
 Fred: *Uhhuh. Its good. A good example of the topic you know*
 Fred: *Now the last one*
 Fred: *I said that. Examples suggesting for and against the topic which is?*
 Will: *Um. OK*
 Will: *Good ending um using good structure to finish the essay off*

Although involved in a great deal more task-related talk than Stan and Alan, the interaction gives a sense that the participants, Will and Fred, are moving through the task to get it completed, as the interaction follows a pattern in which responses are not further responded to. As Fisher (1996, p.242) states "If the participants see the task to be simply to 'get through' some aspect of work, it is quite likely that there will be little discussion and early 'closure'". The interaction between Will and Fred very much follows through the stages of the task sequence. The section of transcript below relates to another task, generating ideas (Appendix B, stage 3).

- Fred: *I was thinking that that some services but they should make some profit because if they don't do that they can't run. And uh. They will have to increase the tax so that they can run that (...)*
 Fred: *Right we're starting. What do you say for uh?*
 Will: *This topic is so boring and we have to think*
 Fred: *The Government does exist to provide service but it should charge a small amount for the service in order to be able to run an institution whether a school health or any other service. My addition change was any service provide by the Government it does not make a profit it might be closed. To run this the Government may have to increase tax*

² ... indicates pause longer than sentence break; (...) indicates indecipherable section of turn

- Will: *OK (...)*
 Fred: *What do you think there should be for first point? (...)*
 Fred: *I wrote this for the introduction should be a general comment about the topic about the history if possible. Why Government should provide free services what is the advantage of doing this? Second paragraph. Why should should not the provide free services and um advantages and um last points in favour and against for the two paragraphs*
 Fred: *What'd you say? What'd you say?*
 Will: *Um um what is the situation with now um? Second part is there any effects with the Government if the Government keep on provide a service without making a profit*

Most of the substantive initiations in the section of transcript above are put forward by Fred. In total there are only seven substantive initiations. The fact that procedural initiations are as frequent, gives further support for the observation that Fred, in particular, and Will are concerned with getting the task done. The procedural initiations are below.

- Fred: *I really don't know what to say*
 Fred: *I don't know what to say but*
 Fred: *I can't think how to start this*
 Will: *Can you think of anything that I should?*
 Will: *Are you trying to expand your ideas? (× 2)*
 Fred: *Do you think uh you need uh another reason that's good is about your (...)*

What much of the interaction between Fred and Will indicates is that when one or other initiate, there is either no response, or the responses do not prompt elaboration or explanation. At best, the interaction between Fred and Will could be classified as 'cumulative talk' (Fisher, 1996, p.250). This type of talk occurs when speakers build on each others utterances and respond in a limited way, but in an essentially non-reflective and uncritical way.

The interaction between Anne and Carl features a great deal of substantive and procedural talk (almost 50% of the total number of turns). In total, 17 task initiations and 22 task responses could be classified as substantive, or a combination of substantive and procedural concerns. The fact that task responses outnumber task initiations suggests that sequences of turns are sustained for a length of time and that responses themselves are being responded to. This is illustrated in the following section of transcript. The transcript also indicates that material useful for supporting the argument (grounds-related material) featured in the discussion. The turns in the section of transcript below largely deal with how two issues (the health system and taxation) were handled in the students' respective countries.

- Carl: *You said takes (...) when you going to hospital new country you didn't pay?*
 Anne: *Um in government hospital no*
 Carl: *Government*
 Anne: *You pay little bit only so if just like I'm very poor now my just like um I my just like uh I only have ten cent. OK I only have ten cents and I have to go the hospital. So if I go to the hospital and then I tell I only have ten cents and I dress badly just like you can tell*
 Carl: *(laughs)*

Anne: *You can tell that you poor. You don't have to pay you don't have to pay. Usually usually in Malaysia people go to private hospitals private clinics because just like the government hospital mostly mainly the doctors will just like uh you know. Because all those good doctors they open their own private hospitals just like um so then the bad ones stay in the Government hospital and then uh the nurses they will train just like under training so they will not train and then you know people just worry about going to going to government hospital*

Carl: *Just I am asking do we have the government hospital in Korea*

The section of transcript above shows Anne initially making two turns in response to Carl's first attempt to seek clarification. The responses Anne gives are long and offer a great deal of substantive information. Then, as seen below, the roles change with Anne asking questions specifically about taxation in Korea, material used in the subsequent text Carl wrote. Her questions are factual and she seeks clarification to ensure she has understood Carl's intention. Then she asks Carl an evaluative question.

Anne: *Don't you feel ...? Is it high. High taxes? Or low?*

Carl: *Maybe normal because someone gave us benefit*

Anne: *Does does all those the money you pay go to the welfare just like?*

Carl: *No some parts is going to army. Because North Korea South Korea*

Anne: *Oh yeah*

Anne: *So mean just like some of the money you pay have to go to just like the Government services like um army or*

Anne: *Army the same?*

Carl: *Yeah army the same. Some other things*

Anne: *Don't you feel don't you feel that is not fair? Just that you pay money to to to other people just like you giving money to other people?*

Carl: *We have to pro protect by ourselves because North Korea and South Korea both but about 17% is going to army*

Anne: *Wow!*

In the exchange, Anne pushes Carl to provide further explanation and elaboration, which he does. Explanations are the way of knowing each other's intentions and understandings, a condition of collaborative talk (Wells, 1989). Elaborations indicate whether or not participants are justifying and supporting their opinions and suggestions by relevant arguments. Wells (1989) states that this is also a feature of collaborative talk. Both explanations and elaborations are critical to the construction of an effective argument.

What characterises the talk of Anne and Carl in this productive interaction is its reflective and exploratory nature. Wegerif and Mercer in Fisher (1996, p.250) redefine exploratory talk as talk "in which participants engage critically but constructively with each other's ideas. It is characterised by the explicit use of reasons, a hypothetical mode and constructive exchanges". Carl's text (Appendix B) picked up many of the concepts from the interaction. This supports the claim that talk can operate to generate useful content knowledge for writing, if it is indeed exploratory.

Another feature, observed to a great extent in the interaction between Anne and Carl, and to a lesser extent in the interaction between Will and Fred, is when substantive and procedural concerns are combined both to provide potentially useful content and a model for how to proceed in the writing of an argument text. Anne, in fact, does this on three occasions in response to Carl's initiations or requests for clarification. Two of these can be seen in the sequence below.

Carl: *So ... So what do you think?*

Anne: *Well. There are there are benefits on both sides just like (...) So I'm I'm going to write some just like some just like. I'm going to write about the benefits if the Government just only um just like the more important uh just like they care more about profit. So I'm going to write about the benefits and then on the other side*

Carl: *What you write is the government should care about people more?*

Anne: *That's right. I'm I'm writing about on both sides what if the Government cares about people just like the benefits and then what if the Government does not care about the people the benefits I'm writing about both sides and then the conclusion*

In this interaction, Anne has articulated the processes associated with expertise for her partner and in so doing has provided the conditions for scaffolded learning. The ability to coordinate both substantive and procedural concerns has been associated with expertise in writing (Scardamalia and Bereiter, 1987). Therefore in this case it can be said that Anne and Carl's interaction meets an additional but important condition identified by Cohen (1994) that talk match the desired outcome. Cohen (1994, p.4) points to the importance of this type of matching when she states, "Beyond sheer volume, the type of interaction that is most effective, and thus most desirable, will also vary with the nature of the task and the instructional objective".

In summary, the transcript of the interaction between Anne and Carl exhibits the most productive talk. They engage in more on-task talk, a greater amount of procedural and substantive talk, and a greater degree of sustained interaction on a topic. The less proficient partner in this interaction, Carl, appears to have access to relevant prior knowledge and appeared able to transform this knowledge for use in supporting the claims made in the argument text under construction.

Language effects

Conditions for language gains

There are several claims related to the effect of interaction on language and clearly these are the most salient for teachers of students for whom English is a second language. Interaction increases the amount of input learners are exposed to, the opportunities for language practice, and it provides a context for negotiation (Long and Porter, 1985; Swain, 1985, 1995; Swain, and Lapkin, 1995). When negotiation occurs it is claimed that students are 'pushed' to consider surface level concerns such as accuracy (the output hypothesis). Pica (1987) states that negotiation occurs when

participants share a desire to communicate. A desire to communicate can correlate with features in the interaction indicative of the general socio-affective climate, such as the pattern of responses, the distribution of turns, the number of directives and the number of evaluations used by the participants in interaction. It can also correlate with specific linguistic devices used to ensure that communication is repaired or maintained. These include requests for clarification and acknowledgements. Observations of the interaction between three different case study pairs presented below, focus on the amount of input and the frequency of features indicative of negotiation.

Observing conditions for language gains

A simple count of the number of turns in each transcript revealed interesting differences in the amount of interaction experienced by the three different pairs of students (see Table 2 below).

Major categories	Subcategories	Frequency of turns		
		<i>Stan & Alan</i>	<i>Will & Fred</i>	<i>Anne & Carl</i>
Task initiation	Seek clarification	1	1	4
	Directive/direct attention	4	11	7
Task response	Seek/provide clarification	1	1	4
	Directive/direct attention	0	0	2
	Repeat/acknowledge	2	8	10
	Evaluation	1	2	1
No response		[8]	[6]	[1]
Social/behavioural	Positive appraisal	1	2	0
	Negative appraisal	0	4	0
	Pacing	0	1	0
	Management	0	0	1
Total number of turns		50	91	96

Table 2. Frequency of types and categories of talk indicative of negotiation

NB. Instances of no response [] are not included in sum of turns

The interaction of Alan and Stan was minimal. In total, they engaged in 50 turns. The transcript of the talk between the second pair, Fred and Will, contained a much greater frequency of turns. Ninety one turns were counted in this interaction. The amount of talk engaged in by Anne and Carl, the third pair was close to that of Fred and Will as in total there were 96 turns.

Table 2 also indicates substantial differences in terms of the frequency of particular categories of utterances. A noticeable feature of the interaction between Stan and Alan is the high number of

times no responses occurred. On eight occasions, initiations were not responded to, whereas in the discourse of Anne and Carl only one instance occurred when an initiation was made but no response was given.

Only two attempts were made in the interaction between Stan and Alan to seek or provide clarification. On two occasions, the participants repeated or acknowledged the other's talk by back channelling devices such as *OK*. On only one occasion did one of the participants, Alan respond beyond the level of mere acknowledgement. Alan made one evaluation of Stan's oral reading, when he stated:

You're writing in economics language (.) You're writing it actually in economics language

Although the pair did little to maintain mutual understanding, Stan in particular did attempt to control the interaction by means of directives or attempts to direct attention. Three of the four examples below are his:

Stan: *These are my points*

Stan: *So let's see*

Stan: *Finished?*

Alan: *Read your three lines aloud*

For Will and Fred the frequency of instances of no response were fewer than recorded in the previous interaction. The fact that participants in this interaction were more likely to respond can also be seen from the high frequency of actual responses. In total there were 24 responses, accounting for almost 25% of all turns (responses in Tables 1 and 2 combined). Eight of the responses were acknowledgements such as, *Yeah, OK*. Acknowledgements may indicate a positive relationship between participants in interaction. However, they do not necessarily mean that much of substance is covered in the talk as was evident in the discussion of Stan and Alan. Many of the acknowledgements were in response to Fred's directives or attempts to direct attention, not substantive initiations as the following section of transcript shows:

Fred: *I really don't know what to say (...)*

Fred: *What do you say? What do you say for the first introduction?*

Will: *Boring. I hate this. It's stupid (...)*

Fred: *Tell me when you finish yours*

Will: *Yep. OK (...)*

Fred: *Tell me yours*

It appears then as if Fred controlled and directed the interaction and Will was a less willing and less active participant. Will also appeared to have a negative attitude towards the task as the analysis of socio/behavioural talk shows. This was mostly negative appraisal. The instances of negative appraisal numbered 4 out of a total of seven socio/behavioural turns. All four instances of negative appraisal were uttered by Will and concerned the task itself, not Fred.

Boring. I hate this. It's stupid

This topic is so boring and we have to think

It's stupid stupid stupid

I hate those kinds of topics. The one I did before was better

For Anne and Carl, there was only one occasion on which no response was made but could have been made or could have been expected. Repetitions and acknowledgements were frequent. These two observations suggest that there is a cooperative and positive interaction between Carl and Anne. Carl is the most frequent user of turns to seek clarification. His attempts focus largely on substantive issues, for example:

You said (...) takes (...) when you going to hospital new country you didn't pay?

Just I am asking do we have the government hospital in Korea

What you write is the government should care about people more?

Another frequent category of talk is directives and attempts to direct attention. These are equally shared between Anne and Carl, suggesting that, unlike Fred and Will, there was a more equal distribution of turns.

In summary, Anne and Carl experienced a great deal more input and opportunities for output, and their interaction is characterised by a great number of features indicative of negotiation and a positive social climate.

While interaction between pairs of students did not result in the production of more accurate texts as identified by statistical analysis of group data, positive and productive exchanges such as those observed in the interaction between Anne and Carl did. Carl's text did show improvement over previous texts written in the programme. Just as Stables (1995) asserts that discourse data can overestimate effects, so can group data underestimate the individual patterns of improvement.

Conclusion

The present study sought to examine transcript data of interaction before and during writing for evidence of productive features that could be seen to facilitate conditions, such as hypothesis testing, scaffolded learning and negotiation, and bring about improvements in written argument texts. The observation of productive features for knowledge gains was supported by the findings of a quantitative study. This was not the case for language-related benefits as measured in the study by group data. Nonetheless this type of selected transcript analysis guided by findings of a quantitative study is useful in that individual differences in responding to a task can be documented. The present study found that the three different pairs of students differed markedly in quantity and

quality of interaction they engaged in. Evidence of truly productive talk was limited to the interaction of one pair.

The resulting implication for pedagogy is the composition of collaborative arrangements. Second language acquisition research has limited itself largely to a language-related perspective when making recommendations on the nature of the most productive arrangement for collaborative tasks. For instance Ellis (1994, p.600). comments that "intermediate learners get more input and better quality input from advanced learners than from other intermediate learners. Conversely, advanced learners get more opportunity to practise when they are communicating with intermediate learners" This suggests that mixed proficiency pairings may result in better interaction. However, many other factors may to determine the productivity of groups including a mutually positive attitude of participants. Stables (1995, p.66) rightly identifies that students may have largely "social and ephemeral" interests in group work. However rather than viewing this as a limitation, it needs to be seen as a beneficial and necessary aspect of a productive arrangement. A teacher's sensitivity to the dynamics of individual pairings and groupings in language classrooms is crucial.

The present study also goes some way in documenting what might be regarded as the 'interactional proficiency' of students in working in such collaborative arrangements. It is this aspect that suggests that learners should be encouraged to pursue a dialogue of both substantive and procedural concerns in tasks that prepare them for academic writing.

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APPENDIX A. Text written by case study subject, Carl

The Government does not exist only to provide a service for the people of the country. All Government service should make a profit.

I can't agree with this topic, because we are paying the tax, so the government should do something for us. This topic say, all Government service should make a profit. This means we have to pay more tax for them. I don't know much about this but the system is not good. Example is Korea. In Korea we also pay lots of taxes but the services can also get lots of profits like phone call. When we make phone call we must pay money for one call. Also the Post Office. When we want to send something have to pay. When we old and retired they Government didn't care about people. So they just stay home and wait for their children's help. The Government say almost all tax for defend to North Korea. When New Zealand was strong country people paid small tax but now NZ is not that much strong but people's tax must cover it so will be same position.

I think NZ should find other way for nationality. Government help some part of service and service have to make profit for people not for government.

APPENDIX B. Prewriting and writing steps

Steps	Task requirements
1. Articulating knowledge and claiming a thesis	<p>The first task required students to think about and note down what they already knew about the assigned topic.</p> <p>If working with a peer they were required to share their thinking with that peer.</p>
2. Analysing a sample text to establish criteria for the genre	<p>Students read an argument text and identified the features of the text that made it a good example of the genre. The features they identified were listed on the right of the text and later served as criteria for their own writing.</p> <p>If working with a peer, they generated the list together or shared the lists they had compiled.</p>
3. Information gathering and organising	<p>Students were required to generate ideas for the topic and map this information.</p> <p>If working with a partner, they mapped together or shared their maps.</p>
4. Composing	<p>While composing students had to make regular reference to a cue card.</p> <p>If working with a partner, the partner selected and read a cue after reading the other's text.</p>
5. Checking against the criteria for the genre	<p>Students checked their own writing against the criteria they had identified in task two.</p> <p>If working with a partner, the partner was shown the criteria.</p>
6. Revising the text	<p>Students had time to revise their texts. Both groups did this in a solitary manner.</p>
7. Presenting an oral argument	<p>Students presented their argument without reference to their written texts.</p> <p>If working with a partner, the partner listened to their argument. If working alone, the teacher was the audience.</p>