

## Patterns of Interaction in University Tutorials: A Framework for Analyzing Interaction in Tutorials

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### Abstract

*The purpose of this article is to report on the framework used to analyse the tutorial data quantitatively by first determining the number of discourse acts and turns and by also analysing the quality as the framework postulates certain acts and turns as constituting more effective participation than others. The analytical framework developed involved a combination of a specific set of discourse acts derived from Crombie (1985) and Hubbard (1998) and turn categories based on Van Lier (1988) and these were explained with examples from the tutorial data of the present study. Using an integrated framework to explore differences in 'participation effectiveness', (i.e. the quantity of speaker discourse acts and turns and speaker initiative at discourse act and turn taking levels) between first and third-year students and between male and female students in male-led and female-led tutorials revealed that third-year students participated more effectively than first-years and that the males in male-led tutorials used more discourse acts than females, while females in female-led tutorials did better than the males.*

### Introduction

The analytical framework developed in the present study was informed by ideas about turn taking initiative categories from Van Lier (1988) and discourse acts derived from Crombie (1985) and Hubbard (1998). Linking turn taking and discourse act analyses into a framework made it possible to examine students' participation in quantitative as well as qualitative terms.

It is reported that over 200 different observation instruments now exist (Brown and Rodgers 2002). But because the objective of this paper is to show how a system for analysing interaction in tutorials was developed, a brief discussion of a few better-known frameworks devised for the study of second language classroom interaction is presented here. One of the earliest known frameworks was produced by Bellack et al. (1966). With only four categories, namely *structure*, *solicit*, *respond* and *react*, frequently occurring together in teaching cycles, it was 'as the very fabric of classroom interaction' (Walsh 2006:41). Although it was criticised for not distinguishing between longer and shorter questions, it formed a useful basis for Coulthard's (1974) analytical framework. Bellack et al. (1966) was followed by Flanders (1970) Interaction Analysis Categories (FIAC) with ten broad categories. FIAC was also criticised but for lack of consistency as some of its categories were crude and operated at different levels (Love 1991 in Tichapondwa 2008:62). Walsh (2006) questioned whether it

'could adequately account for the complex interactional organization of the contemporary classroom-content or second language-where teacher and learner roles are arguably, more equal and where student-student interaction is commonplace' (Walsh 2006:42).

In spite of all these criticisms, FIAC still influenced a number of researchers, among them Sinclair and Coulthard's (1975) I-R-F (Initiation-Response-and Follow-up) framework. 'With a list of 22 acts representing the verbal behaviours of both teachers and students participating in primary classroom communication, this framework has been criticised for reflecting traditional approaches to teaching (Cazden, 2001), for having restrictive effects on students' reasoning (Chin, 2006:1316) and also for stifling learner initiative by eliciting short response pitched at the lower order cognitive level. However, in recent years, it has been accepted that most of classroom communication is characterised by an IRF structure. Because of this realisation, some attempts have been made to expand the original IRF format to IRFRF (Mortimer and Scott 2003) to include dialogue interactions in the classroom. But this has not changed the fact that teacher talk still has more time than the students.

More recent work by Kasper (2001 in Walsh 2006: 41) and others (Newman, Griffin and Cole, 1989 in Chin 2006, p 1316) countered some of the criticisms leveled against the IRF structure. For example, Kasper argued that it could be utilized positively if teachers allowed students more participation time. It was also shown how the feedback part (i.e. F in the IRF structure) could be used successfully by providing correct information to students in cases where incorrect responses are given to enable students to appropriate knowledge. The third part of the IRF structure is where the 'co-construction of meaning that the next cycle of the learning-and-teaching spiral has its point of departure' (Wells 1993 in Chin 2006: 1316), that is why it is important. Although the IRF framework still remains the widely used instrument for analysing classroom discourse, in the present study, however, which explores students' interaction in tutorials; it was found unsuitable, as its objectives were to measure participation in terms of frequencies and also in terms of student initiative in the interaction. Because of this, then, an integrated analytical framework (the one discussed in the next section) was developed to analyse patterns of interaction in university tutorials.

### The integrated analytical framework

The integrated analytical framework that was developed has three turn categories, namely self-selection, allocation and sequence, drawn from Van Lier (1988) and six discourse acts, i.e. counter-informs, comments, elicits, informs, reply-informs and acknowledges derived from Hubbard (1998). These acts originate from Crombie's (1985) eliciting, informing and acknowledging moves. Combining turn taking and discourse acts into a framework made it possible to look at students' participation in quantitative as well as qualitative terms. The quantitative analysis of turn taking was operationalised as the total number of turns, while the qualitative analysis was based on a very specific aspect of the distribution of turn types, namely that between the initiative-bearing turn types, on the one hand, and those that were not initiative bearing, on the other. An initiative bearing turn occurs when a participant takes part in an interaction willingly, while a non-initiative turn occurs when a speaker joins the speech floor only because of being allocated a turn. So any turn that is not a self-selection, an allocation or a sequence is not initiative bearing.

From the three turn taking categories drawn from Van Lier (1988), sequence was the only category that was defined more objectively by specifying that a speaker only shows initiative when he or she sustains interaction by following up an initial turn with another after an interlocutor has taken a turn. This definition does not allow for an indefinite number of intervening turns between the initial speaker's turns as in Van Lier's (1988) definition. The restriction to one intervening turn makes the definition less open-endedly subjective and it also recognises the high degree of initiative taken by speakers who stay active on the speech floor when they take up alternate turns over a certain period. When, however, a third person comes to the speech floor, that particular sequence is interrupted. The definition allows for easier coding and it reflects a very common occurrence in conversation and also in the tutorial data. By way of illustration, turns [20] and [22] below are part of a sequence, but as soon as a third person joins the speech floor, as in the case of Tebogo (pseudo name) in [24], Mark's sequence is interrupted. In Van Lier's (1988) definition, Mark's turn [25] would be coded as a sequence, even though there are two intervening turns between turns [22] and [25]. As already pointed out, the definition in this study, however, is less open-ended and easier to apply than Van Lier's (1988).

### T301

- [Sequence][20]Mark: And with the concepts like greediness, which are lustful...  
 [Sequence][21]Tutor: ... values.  
 [Sequence][22]Mark: Not values, they are lustful desires emanating from the facts like eh  
 ... all he wants is land and more money. He just wanted to acquire  
 more money at the expense of other people getting poorer.  
 [Sequence][23]Tutor: OK! It also highlights selfishness. Anybody to add to that? What  
 about Abigail?  
 [Self-selection][24]Tebogo: Actually, she was in love with Proctor.  
 [Self-selection][25]Mark: I do not think they were in love. It was adultery.

The discourse units used to quantify the amount of discourse students (and tutors) use are called Functional-units (F-units). The F-unit structure used first by Lieber (1981) and then followed by Hubbard (1989:117) was applied to written work, but in the present study it was used to segment spoken discourse into rhetorically relevant units of discourse, using slashes to mark off the F-unit boundaries, as the example below illustrates:

**T301**

- [30]Tony: Abigail and Proctor had an affair/ and indeed that affair did exist.  
 [52]Mark: I think she deteriorated /because nowhere does she confess what they did in the woods.

The F-units help define the length of an act, which is defined by Crombie (1985:37) as 'the actual realization of a move in a conversational discourse', as in turn [7] where an eliciting move is realised by an *elicit*; an informing move in turn [8] is realised by *inform* and in turn [9] a follow-up or acknowledging move is realised by an *acknowledge* etc.

**T111**

- [7]Tutor: ...which page?  
 [8]Dorothy: First page.  
 [9]Tutor: Okay.

However, in T311 turn [3] below, the speech act theory would consider the whole turn as an informing move. In the present study, however, I am quantifying the speech act in terms of the meaningful discourse act units, namely F-units. In this example, there is one speech act which comprises five discourse acts.

**T311**

- [3]Nono: Yes,/ that is pretty much what I understand by caretaker speech./  
 What she said contributes a lot to the child's first language acquisition /in a sense that it gives the child a lot of time to involve himself in the language/ and in the process absorbing the language as well.

The example below presents the six discourse acts in a third-year tutorial excerpt.

**T301**

- |             |   |     |     |
|-------------|---|-----|-----|
|             | A->   | I-> | E-> |
| [23]Tutor:  | OK!/ It also highlights selfishness./ Anybody to add to that?/<br>E-><br>What about Abigail?<br>I-> |     |     |
| [24]Tebogo: | Actually, she was in love with Proctor.<br>Cl->   |     |     |
| [25]Mark:   | I do not think they were in love.<br>C-> I->  |     |     |
| [26]Tony:   | It was lust./ The fact that they had an affair.<br>A->  |     |     |
| [27]Tebogo: | They had an affair.<br>Cl->   |     |     |
| [28]Mark:   | But there is nowhere...where it is written.<br>A-> C-> I->  |     |     |
| [29]Tutor:  | Yeah!/ It is not necessarily an affair./ They were just flirting.                                   |     |     |

The acts within turns in the excerpt perform different functions. For example, acknowledge (A), realized by expressions such as OK! In [23] Yeah! In [29] or short phrases in [27], echoes an agreement. Informs (I), on the other hand, provide additional information that expands and clarifies preceding acts or turns, as in [23],[24], [26] and [29]; while elicits (E)request verbal responses, which could be any of the six discourse acts, as in [24] where inform is a response to elicit.

Counter-informs (CI) directly challenge the content of preceding turns and are usually signaled by negation, as in [25] and contrast expressions such as *but* in [28], are pointers (e.g. *negation* and *but*) that provide an objective and explicit definition that easily distinguishes counter-informs from comments in [26]. In turn [29] above, although *not* is used, this discourse act is analysed as a comment because it is not a direct contradiction, as it is hedged by *necessarily* and the following acts after comment explains why it is not an affair. Reply-informs (RI) provide minimal responses to elicits, as in [30] below.

### T112

A-> E->  
[29]Tutor: Yes./ Who asks that question?

RI->  
[30]Dorothy: It is the landlady.

The six discourse acts briefly discussed above provided a basis for quantitative analysis of the students' discourse performance, but because the focus of the study was also on participation effectiveness, which is the quality of each student's discourse performance as well as its quantity, it was therefore necessary to distinguish between the different types of discourse acts in a more qualitative manner, that is by establishing the relative degree of initiative that might be attributed to each discourse act in terms of what has been called a cline of initiative (Hubbard 1998) and to do this then, the six acts were rank ordered for the cline of initiative from lowest to highest initiative, as presented below:

Acknowledge  
Reply-inform  
Inform  
Elicit  
Comment  
Counter-inform

To validate the ranking of the discourse acts, ten lecturers in the English department were requested to complete an initiative assessment sheet on a scale of 1-4 (1 representing no initiative, 2 very little initiative, 3 a fair degree of initiative and 4 a high degree of initiative) after reading ten excerpts drawn from the tutorial data. To get the total rating per discourse act, the number of ratings was then multiplied by the value assigned to each act. The rating of the six discourse acts produced a two grouping structure rather than a cline, as in Hubbard (1998), where it was intuitively perceived. The result of this test provided a basis for positing not a cline, but a two-group division for the analysis of discourse act quality, namely between four high-initiative (e.g. counter-inform, comment, elicit and inform) and two low-initiative acts (reply-inform and acknowledge).

Integrating turns and discourse acts in the analytical framework of the present study meant that certain 'rules of thumb' had to be applied in the analysis. Thus, for example, minimal turns which comprised less than a standard F-unit were counted as F-units, and so given a discourse act label, as long as they were understood in terms of the preceding discourse, as in the example below:

### T111

I->  
[6]Dorothy: But this man, for me it says...  
E->  
[7]Tutor: ...which page?  
I->  
[8]Dorothy: First page.  
A->  
[9]Tutor: OK!

Another point regarding segmentation was that-complement clauses. No matter how many clauses they contained, were not analysed as separate F-units, as in [18] below, which was analysed as just one discourse act:

**T113**

- E->
- [Sequence, allocation][17]Tutor: So, what do you think this article is all about..., yes sir?
- I->
- [Self-selection][18]Joe: I still think that in Buddhism they still teach, or discriminate the left  
because they say the left part is the one which is bad and the right part is right.

**Methodology**

This study is characterized as hypothetico-deductive because of the two hypotheses that were tested and it is also analytical (Seliger and Shohamy 1989) in that students' performance in the tutorials is analysed in terms of participation effectiveness, which incorporates the number of discourse acts and turns and initiative at both levels.

A total of 70 students drawn from eight first-year and eight third-year tutorial groups and five tutors participated in the study. Focusing only on these two groups was justified by the results of the pilot study conducted with first, second and third year students, which indicated very little difference between first and second-year students' participation in tutorials. The other reason for considering only first and third-years was to see what differences might characterize tutorials towards the beginning and the end of undergraduate studies in the English department. Of the 70 students, 37 were first and third-year female students and 33 first and third-year male students. The gender imbalance in the tutorial groups was due to the fact that first-year English usually has a higher enrolment than third-year because the majority of the students at first-year take it as an elective, which implies that they only do it for a year and drop it for their major courses, as they proceed to second and third year of study. The majority of the participants shared the same mother tongue, Setswana, but the tutorials were conducted in English, which is the language of teaching and learning at the Mafikeng campus of the North West University (NWU). Most of the students at this institution are products of previously disadvantaged local high schools.

Data were collected from 16 tutorial groups using a video camera. To mitigate the observer effects, the first five minutes of the recordings were discarded. As the recordings continued, the students seemed to forget the presence of the camera man in their midst and began acting more naturally, getting involved in the discussion and focusing much less on the camera. Using a video camera made it possible to capture both verbal and non-verbal aspects of the interaction, which proved useful in distinguishing initiative from non-initiative-bearing turns. After data were transcribed, it was segmented into F-units and then coded using the six discourse acts and three turn categories in the framework.

**Hypotheses**

In analysing the data the following hypotheses were explored:

H<sub>1</sub>: Year of Study hypothesis

The third-year students would participate more effectively in tutorials than the first-year students.

H<sub>2</sub>: Tutor Gender hypothesis

There would be a relationship between tutor gender and student participation effectiveness in tutorials.

H<sub>2</sub> was however tested in terms of two sub-hypotheses, namely H<sub>2</sub> (a) and H<sub>2</sub> (b).

H<sub>2</sub> (a): Students' participation effectiveness would differ according to the gender of their tutor.

H<sub>2</sub> (b): Students' participation effectiveness would differ according to whether or not their gender is the same as that of their tutor.

**Findings**

H<sub>1</sub>: Year of Study hypothesis

The third-year students would participate more effectively in tutorials than the first-year students.

The table below presents the overall results for the first-year and third-year students' discourse acts.

**Table 1: Students' discourse acts (H<sub>1</sub>)**

Discourse acts	CI	C	E	I	Total-high initiative acts	RI	A	Total-low initiative acts	Total
1 <sup>st</sup> years	8 (1.7%)	21 (4.6%)	4 (0.9%)	357 (77.9%)	390	50 (10.9%)	18 (3.9%)	68	458
3 <sup>rd</sup> years	9 (1.6%)	20 (3.4%)	18 (3.1%)	498 (85.9%)	545	24 (4.1%)	11 (1.9%)	35	580

Because data for both groups was based on the same number of tutorials and therefore on virtually identical amounts of time available for each, for this hypothesis a direct comparison of the overall totals of discourse acts indicated that third-year students produced a considerably higher number of acts than the first-years (580 to 458). With respect to the total number of acts, then, the Year of Study hypothesis could be said to have been supported to an extent, although when two totals such as these are compared, requirements for statistical testing are not met and so findings need to be treated with particular caution.

In terms of discourse act initiative, (i.e. the students' perceived willingness to participate in an interaction, as measured in terms of high-initiative acts, namely counter-informs, comments, elicits and informs as opposed to low-initiative acts, namely reply-informs and acknowledges), Table 1 indicates that by far the largest number of discourse acts were informs and that both groups had a similarly high percentage of them. These occurred as students were providing information in support of their arguments. Despite informs being by far the most frequent acts in all the tutorials, the third-year students produced a noticeably higher percentage of elicits, while the first-years had more than double the percentages for the low-initiative reply-informs and acknowledges, as shown in the table.

The distribution of the students' discourse acts as just discussed is directly relevant to the quality of participation in terms of how much initiative the students reveal (i.e. in their proportions of high-initiative acts relative to low-initiative acts). As seen in Table 1 the first-years produced 390 high-initiative acts to 68 low-initiative ones, while the third-years produced 545 of the former and 35 of the latter. Statistical testing indicated a very significant difference (Chi-square =21.26 (df=1); p=0.00010) between the two groups. Thus in terms of initiative support can be found for the Year of Study hypothesis.

In as far as turn participation is concerned, Table 2 below shows that third-year students had fewer turns, but with a higher mean length of discourse act per turn (3.5) than that of the first-years (2.4). This suggests that overall, third-year students spoke more than the first-years, a supposition that is supported by the discourse act participation overall result in Table 1. Despite this, however, specifically with regard to the amount of turns, the Year of Study hypothesis was not supported.

**Table 2: Student turns (H<sub>1</sub>)**

Turns	Self-selection	Allocation	Sequence	Total initiative-bearing acts	Non-initiative bearing turns	Total	Mean length of turn
First-years	68 (35.1%)	4 (2.1%)	99 (51.0%)	171	23 (11.9%)	194	2.4
Third-years	82 (48.8%)	7 (4.2%)	70 (41.7%)	159	9 (5.4%)	168	3.5

In terms of turn taking initiative, third-year students had higher percentages for self-selections and allocations and they also had fewer non-initiative turns as shown in Table 2 above. The higher percentages for self-selection for third-year students implies that they got more speech floor and the higher percentage for sequence, on the other hand, shows that first-years were able to hold the floor space more than the third-years.

In first-year tutorials, there were fewer allocations by students and allocating turns to the next speaker was done mostly by the tutors and these tutor allocations resulted in non-initiative turns, which were more for first-years (11.9%) and very few (5.4%) for third-years.

The statistical result also indicated a significant difference (Chi-square= 3.95 (df=1); p=0.0469) for initiative bearing as opposed to non-initiative bearing turns in favour of the third-years. The analytical finding with respect to this hypothesis aligns closely with our general expectation that third-years would do better, given their longer exposure to English as the language of teaching and learning at university, more confidence in using this language in spoken interactions and the fact that they have successfully completed two years studying in English. The finding thus suggests that the framework on which it is based does indeed appear to measure participation effectiveness between first-year and third-year students.

**Effects of tutor gender on students’ participation irrespective of gender (H<sub>2</sub> (a)):**

Table 3 below presents the tutor and student discourse acts in the first and third-year male-led and female-led tutorials.

**Table 3: Male versus female tutor and student discourse acts**

Tutorials	Tutor discourse acts	Student discourse acts	Total acts
Male-led tutorials T105, T114, T116, T301, T306, T310.	215(45.9%)	253 (54.1%)	468
Female-led tutorials T111, T112, T 113, T115, T 117, T305, T311, T312,T 314.	660(45.7%)	785(54.3%)	1445

The discourse act percentages of the students and the tutors in the male-led and female-led tutorials were almost exactly the same. Thus the Tutor Gender hypothesis in terms of the number of discourse acts in the male-led and female-led tutorials was not supported. However, the figures in Table 4 below show that the students in the male-led tutorials had slightly higher percentages for three of the four high-initiative discourse acts, but both groups had very high percentages for informs and relatively low percentages for acknowledges.

**Table 4: Students’ discourse acts (H<sub>2</sub>)**

Tutorials	CI	C	E	I	Total-high-initiative acts	RI	A	Total-low-initiative acts	Total
Male-led tutorials	7 (2.8%)	13 (5.1%)	8 (3.2%)	197 (77.9%)	225	21 (8.3%)	7 (2.8%)	28	253
Female-led tutorials	10 (1.3%)	28 (3.6%)	14 (1.8%)	658 (83.8%)	710	53 (6.8%)	22 (2.8%)	75	785

The statistical test on the relative proportions of high-initiative acts to low-initiative acts indicated no significant difference (Chi-square=0.34 (df=1); p=0.5598) between the students in the male-led and female-led tutorials. There was also no support (Chi-square=0.49 (df=1); p=0.4839) for the Tutor Gender hypothesis in terms of number of student turns relative to tutor turns, even though the students in the male-led tutorials took proportionally more turns than the students in the female-led tutorials. Also, in terms of turn-taking initiative, there was no significant difference between the two groups. All in all, then, this part of the Tutor Gender hypothesis was not supported in terms of any of the four discourse features, namely number of acts and turns and act and turn initiative. In other words, tutor gender had no effect on students’ participation effectiveness.

**Effects of tutor gender on students of different genders (H<sub>2</sub> (b))**

In this section the focus shifts from considering tutor gender in terms of all students to considering whether having a tutor of their own gender affected students differently to having a tutor of the opposite gender. The figures presented in Table 5 below show that the male students had a higher frequency of discourse acts in the male-led tutorials, but in the female-led tutorials female students used more discourse acts than the males. This pattern remains in place also once the necessary adjustment has been made to allow for the differences in numbers of the two groups (bracketed values provide the mean number of acts per student there being 11 males and 11 females in the male-led tutorials and 21 males and 27 females in the female-led tutorials).

**Table 5: Male and female student discourse acts (H<sub>2</sub>(b))**

Tutorials	Student discourse acts		
	Male Students	Female Students	Totals
Male-led	187(17.0)	46(4.2)	233
Female-led	296(14.1)	492(18.2)	788

The statistical result indicated a very significant difference (Chi-square=129.79 (df=1); p=0.0001) between the male and female students' discourse act participation in the male-led and female-led tutorials. The females' mean values in the female-led tutorials were four times higher than those of the females in the male-led tutorials. In the male-led tutorial the male students did better than the males in the female-led tutorials. The Tutor Gender Hypothesis was therefore strongly supported with respect to student gender as the dependent variable in terms of the discourse act participation.

Even though the figures in Table 6 below indicate that the males and females in male-led tutorials showed initiative through all four high initiative acts, the males had higher percentages of these than the females.

**Table 6: Discourse acts in male-led tutorials (H<sub>2</sub>(b))**

Students	CI	C	E	I	Total-high initiative acts	RI	A	Total low initiative acts	Total
Males	6 (3.2%)	10 (5.3%)	7 (3.7%)	148 (79.1%)	171	10 (5.3%)	6 (3.2%)	16	187
Females	1 (1.5%)	3 (4.5%)	1 (1.5%)	49 (74.2%)	54	11 (16.7%)	1 (1.5%)	12	66

Statistical testing showed a strong tendency toward a significant difference (Chi-square=3.67 (df=1); p=0.0554) between the two groups with regard to initiative. This was largely because the males used more counter-informs, comments and elicits and fewer reply-informs than the females. The Tutor Gender hypothesis was therefore supported with respect to discourse act initiative in the male-led tutorials.

In the female-led tutorials both males and females used all four high-initiative discourse acts, but with slightly higher percentages for the females in three of the four high-initiative discourse acts. However, the statistical test (Chi-square=2.12 (df=1); p=0.1454) indicated no significant difference between the two groups. This is largely because the males and females used similarly large numbers of informs. The females used a much higher percentage of reply-informs than the males, but this was not enough to generate a significant overall result. The second part of the Tutor Gender hypothesis therefore was not supported with respect to discourse act initiative in the female-led tutorials.

The statistical result of the frequencies and proportions of male and female turns per student in male-led and female-led tutorials indicated a very significant difference (Chi-square=9.25 (df=1); p=0.0024) between the male and female students. In the male-led tutorials, the male turns per student were higher than those of the females. In the female-led tutorials, the female turns per student were higher than the male turns per student, thus confirming that the tutors tended to have more positive effects on students of the same gender. The figures in Tables 7 and 8 below show that in male-led as well in female-led tutorials, the females performed better than the males in self-selections, but in terms of sequences the males had higher percentages in both tutorials. This implies that the females got more speech floor and the males interacted more with other participants over a succession of turns.

**Table 7: Male-led tutorials (H<sub>2</sub> (b))**

Tutorials	Self-selections	Allocations	Sequences	Total: initiative-bearing turns	Total: Non-initiative bearing turns	Total
Male students	21(41.2%)	0 (0%)	29 (56.9%)	50 (98.1)	1 (1.9%)	51
Female students	24 (61.5%)	0 (0%)	10 (25.6%)	34 (87.2%)	5 (12.8%)	39



**Table 8: Female-led tutorials (H<sub>2</sub> (b))**

Tutorials	Self-selections	Allocations	Sequences	Total: initiative-bearing turns	Total: Non-initiative bearing turns	Total
Male students	34 (31.5%)	0 (0%)	53 (49.1%)	87 (80.6%)	21 (19.4%)	108
Female students	80 (43.5%)	1 (0.5%)	82 (44.6%)	163 (88.6%)	21 (11.4%)	184

In male-led tutorials the male students used larger proportions of initiative-bearing turns and in the female-led tutorials this was the case with the female students. However, statistical testing indicated that these differences were not significant in the male-led tutorials (Chi-square 2.63 (df=1); p=0.1049) or the female-led tutorials, although in the latter there is a tendency toward a significance (Chi-square=2.94 (df=1); p=0.0864). In sum, then, the second part of the Tutor Gender hypothesis was not supported with respect to turn taking initiative.

### **Discussion and Conclusion**

The findings with regard to the effects of tutor gender on students of different genders indicated that the females' mean values of discourse acts in the female-led tutorials were four times higher than those of the females in the male-led tutorials. Also, in terms of turn participation, the male turns per student were higher than those of the females in the male-led tutorials, while in the female-led tutorials, the female turns per student were higher than those of the male students. This finding contradicts earlier findings by Boersma et al. (1981), who found that the male students performed better than the females and interacted with the female teachers more than the female students and De Klerk (1995) whose finding indicated that there were more student turns under the male tutor than in the female led seminars. The present study differs from theirs in a number of ways. Again, because of the unequal numbers of males and females in the female-led tutorials, I considered individual student participation levels and this is an important factor which the earlier researchers did not accommodate.

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