

The interaction of linguistic and motivational variables in second language task performance

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Introduction

Although research on motivation in second language acquisition (SLA) has generated a wealth of literature for more than four decades, there is a sense in which theories of motivation and related affective determinants of L2 behaviour remain isolated from mainstream applied linguistic research, interacting only tangentially with the key issues preoccupying the field (cf. Dörnyei, 2003). To a large extent, this lack of interaction is a function of the macro perspective that L2 motivation theory has tended to adopt, where the focus has been on general motivational dispositions and influences in relation to global learning outcomes and behaviours. A focus on tasks as the unit of analysis brings to a head the recent shift from the macro perspective towards more situation-specific and process-oriented approaches to investigating L2 motivation (Dörnyei, 2000; Julkunen, 2001; Ushioda, 1996). Implicit in all of this research is the role of motivation as a prerequisite for cognitive engagement in any instructional task. Nevertheless, empirical studies on tasks and motivational processing have been few and far between.

In an exploratory study, Dörnyei and Kormos (2000) investigated how tasks can be researched by involving motivational and other socio-dynamic variables. In this research, the linguistic variables were only concerned with the quantity of speech produced, which was argued to be an important determinant of task-engagement, and as such an important factor in SLA (see Swain's 1985 output hypothesis). In a follow-up to this study conducted on the same database, Dörnyei (2002) analysed how the partner's motivation influenced the amount of talk produced in the same argumentative task. He found that the interlocutors' motivational disposition is a key factor that affects the learner's appraisal and action control processes, that is, task motivation is co-constructed by the task participants.

The results of Dörnyei and Kormos (2000) and Dörnyei's (2002) study proved that the investigation of the effect of motivation and its co-construction by the participants on task-performance is a worthwhile endeavour. The shortcoming of these studies, however, was, that they only concentrated on the quantity of speech produced by the participants and did not analyse other linguistic variables. Therefore, we believed that further insights could be gained into the effect of social factors on task-performance if other linguistic variables were added to the analysis, and thereby the obtained results could be better integrated into mainstream task-based research. A complete reanalysis of the dataset added five further criterion measures to the two that we used in the earlier studies, ranging from an index of the quality of argumentation to speech complexity and lexical richness. Thus, whereas the previous studies only addressed the question of variation in the participants' task engagements (i.e. size of speech), the current analysis covers a wide range of the characteristics of the task participants' oral contribution to the task.

Main aspects of task motivation

Tasks were first highlighted in the L2 motivation literature by Kyösti Julkunen (1989), and in a recent theoretical discussion of task motivation Julkunen (2001) has revisited this issue and contended that students' task behaviour is fuelled by a combination of generalised and situation-specific motives according to the specific task characteristics. This conception is in accordance with Tremblay, Goldberg and Gardner's (1995) distinction between state and trait motivation, the former involving stable and enduring dispositions, the latter transitory and temporary responses or conditions. The potential usefulness of such a distinction lies in its capacity to explain learners' situational and task preferences. The weakness of the approach, however, is that it suggests a rather static conception. Instructional tasks involve a range of complex learner behaviours that can last for a considerable period (e.g. up to several hours), and it is unlikely that the learner's motivation during this period will remain constant. Thus, instead of assuming a simple and stable 'state motivation' component to account for the situation-specific aspect of task motivation, a more accurate characterisation may be provided by taking a process-oriented approach that, as the term suggests, looks at the dynamic motivational processes that take place during task completion.

Thus, we believe that Dörnyei's (2000, 2001) process model of motivation is a good starting point for our examination. However, as Dörnyei (2002) summarises, a problematic aspect of this process-oriented approach is that it implies that the actional process in question is well-definable. Regrettably, this is rarely true in the strict sense. Where exactly does 'action' start in an educational context? The task-specific behaviour characterising a concrete learning activity is not entirely independent of the actional character of the whole course, and this behavioural domain is further embedded in the complex tapestry of other activities in the particular school. These actional domains, then, generate somewhat different, increasingly action-oriented contingencies or 'mind sets' in the students, resulting in a task motivation complex made up of motivational influences associated with various levels of action-oriented contingencies. These motivational influences continuously interact with each other. In an attempt to propose a framework that can accommodate such a dynamic perception of task motivation, Dörnyei (2003) proposed a 'task processing system' to describe how task motivation is negotiated and finalised in the learner. This system consists of three interrelated mechanisms: task execution, appraisal, and action control (see Figure 1).

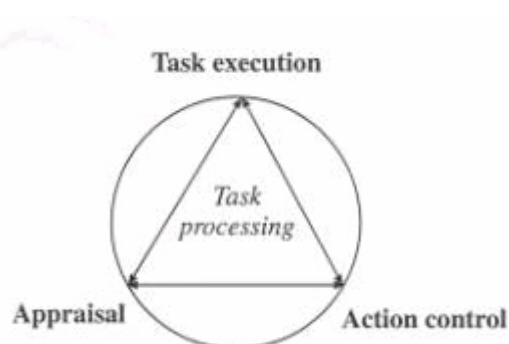


Figure 1: Schematic representation of the three mechanisms making up the task-processing system

Task execution refers to the learner's engagement in task-supportive learning behaviours, following the action plan that was either provided by the teacher (via the task instructions) or drawn up by the student or the task team. Appraisal refers to the learner's continuous processing of the multitude of stimuli coming from the environment and of the progress made toward the action outcome, comparing actual performances with predicted ones or with ones that alternative action sequences would offer. This importance attached to the appraisal process coincides with Schumann's (1998) emphasis on 'stimulus appraisal'. Finally, action control processes denote self-regulatory mechanisms that are called into force in order to enhance, scaffold, or protect learning-specific action. Thus, task processing can be seen as the interplay of the three mechanisms: While learners are engaged in executing a task, they continuously appraise the process, and when the ongoing monitoring reveals that progress is slowing, halting, or backsliding, they activate the action control system to 'save' or enhance the action.

Research on L2 learners' performance in argumentation tasks

There has been extensive research on how various task characteristics influence task performance and the summary of these studies has been reported in a number of articles (e.g. Skehan, 1998a; b) because in our study an opinion-gap task was used, here we will only summarise the relevant studies on tasks that involved argumentation. Duff (1986) used a prioritising and a discussion task to investigate interactional and discoursal differences. She found that the measures of meaning negotiation did not differ to a significant extent, but the results showed that the length of turns was significantly longer in the prioritising task than in the discussion task. Foster and Skehan (1996) and Skehan and Foster (1997) compared decision-making tasks with narrative and personal information exchange tasks. The findings of these series of studies showed that decision-making tasks place a heavy cognitive load on learners in terms of conceptual planning, which in turn, results in the decrease of accuracy and fluency and in the increase of complexity of the output. In a recent study Foster and Skehan (2001) reanalysed their complete database by applying factor analysis, and their results showed that three linguistic factors underlie performance in argumentative, narrative and personal tasks. The factors they found in their dataset are difficult to name (they themselves do not attempt to label these factors), but they clearly indicate that while performing a task, L2 learners are unable to pay attention to accuracy, fluency and complexity at the same time. They argue that learners' attention is oriented at one or two of these linguistic aspects of performance at the expense of the other measures.

Németh and Kormos (2001) investigated Hungarian students' performance in argumentation tasks in the same database as used in this study. In their research they used Toulmin's (1958) model of argumentation and Varghese and Abraham's (1998) adaptation of this model for the analysis of L2 writing. In their analysis of arguments, claims, support, counter-claims and counter-support were identified, and the sum of claims and supports made up the sum of arguments, while counter-claims and counter-supports constituted counter-arguments. They also analysed pragmalinguistic markers of argumentation such as the frequency and type of markers of expression of opinion, agreement and disagreement. Their results indicated that task-repetition helped learners to familiarise themselves with the structure of the task, and despite the different content of the two tasks, participants provided more support for their claims when performing the same type of task for the second time. Therefore they concluded

that familiarity with the structure of the task frees learners' attentional resources to pay more attention to informational content. They also found that language development that was assumed to have taken place within a year did not result in better performance in terms of the quantity of arguments and their pragmalinguistic expression. The study also revealed that participants showed better argumentation skills in a number of respects in their mother tongue than in English. The effect of the intervention was also found to be relatively limited as regards the quantitative measures of argumentation and the use of pragmalinguistic markers. Students in the treatment group were found to improve only in the case of the pragmalinguistic markers of argumentation which were used differently in the Hungarian task than in the tasks preceding the intervention.

Research purpose and design

The study reported in this paper is a follow-up to the Dörnyei and Kormos' (2000) and Dörnyei's (2002) investigation and uses data from the same large-scale British-Hungarian research project conducted together with Martin Bygate (University of Leeds) and Anita Csölle, Dorottya Holló, Krisztina Károly and Nóra Németh (all from Eötvös University Budapest). The research objective was to examine how motivational factors affect the quality and quantity of student performance in an L2 communicative task performed in dyads. Whereas our previous studies concentrated on assessing the influence of motivational factors on task engagement in terms of the quantity of talk, in our current investigation the main focus is on the more qualitative aspects of task performance as measured by accuracy, grammatical complexity, lexical richness and the argumentation structure of the students' output.

The design of the study was relatively straightforward: Following a correlational research design, a number of individual difference (mainly motivational) and language variables were identified and assessed, and then correlations were computed between them. In order to assess participant effects, we correlated the interlocutor's predictor and the speaker's criterion variables, that is, looked at the association between an individual's language output and his/her interlocutor's motivational disposition.

Method

Participants

The participants of the investigation were 44 Hungarian students (aged 16-17) studying English at an intermediate level in 5 classes in 2 Budapest secondary schools. The two schools were of the same type, "gimnázium" (similar to the former British grammar schools), providing general instruction and preparing students for further studies in higher education. The English curriculum involved teaching integrated skills with an emphasis on developing communicative competence and students in all five groups used coursebooks published in Great Britain. The group sizes ranged from 12-16 (but not every student participating in the large-scale longitudinal project was present when the data reported here were gathered).

Task

The task used in the study was an oral argumentative task. This task was designed as an interactive problem-solving activity, aimed at eliciting arguments concerning everyday school matters (see Appendix 1). Students (working in pairs) were given a list of items, and they were asked to select and rank-order some of these individually, based on an imaginary situation. This corresponds to the undetailed planning condition in Foster and Skehan's (1996) and Skehan and Foster's (1997) study. Following the preparation phase, they were to compare with their partners their preferences and come to a compromise by means of a negotiation process.

Data collection and processing

All the data collection for the study was carried out during the students' regular English classes. The students' performance on the research task was recorded and then transcribed.

To describe the quantity of learner engagement, we used two variables, the speech size (measured by the number of words; cf. Dewaele, 2000) and the number of turns generated by the participants. We must note that there is a difference between the two language measures in that the number of turns depends more directly on the quality of the joint interaction than the number of words does. For example, if the interaction itself is not very productive but one person offers lengthy monologues, this will result in a high word count but a low turn number on his/her part. Indeed, turn number is a function of the interlocutor's active contribution, since in turn-taking the number of turns produced by the two speakers is by definition roughly equal.

Accuracy was measured by the proportion of error-free clauses relative to the total number of clauses and grammatical complexity with the ratio of total number of clauses to the total number of AS-units. These measures have been widely used in task-based research and have proven to reflect the accuracy and grammatical complexity of students' output in a reliable manner (see Bygate, 1999, 2001; Foster & Skehan, 1996; 1999; Skehan & Foster, 1997). Our complexity variable only differed from that of the earlier studies that instead of c- and T-units as the unit of measurement, we applied AS-units that seem to be better measures in the case of spoken data produced by L2 speakers (Foster et al., 2000). Foster et al. (2000) defined AS-units as "single speaker's utterance consisting of an independent clause or sub-causal unit, together with any subordinate clause(s) associated with either" (p. 365).

Originally we intended to assess lexical variety by calculating the type-token ratio, which is a widely used measure obtained by dividing the total number of different words (types) by the total number of words (tokens) produced (see e.g. Robinson, 1995; 2001 in task-based research). The problem is, however, that type-token ratio seems to depend on the sample size, that is, on the number of words spoken by the participants. Richards (1987) found that the "type-token ratio falls rapidly as the number of tokens increases" (p. 205). In a recent study Jarvis (2002) proposes another solution to the problems with the type-token ratio: the use of Dugast's (1980, quoted in Jarvis, 2002) Uber formula, which he found to compensate for the varying length of the speech sample. In this study the Uber formula, which is an algebraic transformation of the type-token ratio, was used to measure lexical richness:

$$\text{Uber index} = (\log \text{Tokens})^2 / (\log \text{Tokens} - \log \text{Types})$$

In order to assess the pragmatic aspects of argumentative task-performance, the arguments produced by the students were also analysed. This analysis was carried out on the basis of the study of Németh and Kormos (2001). For the purpose of our analysis, argument was defined as a statement in which the speaker makes an effort “to build support for their own position, at the same time that they are undermining support for an opponent’s position.” (Schiffrin, 1985, p. 35). Schiffrin’s theory, however had to be complemented with models of written argumentation as she did not define the components of argumentation. In our research we drew on Toulmin’s (1958) theory of argumentation and Varghese and Abraham’s (1998) adaptation of this model for the analysis of L2 writing. Similarly to Varghese and Abraham, we used the terms claim and support instead of Toulmin’s (1958) ‘premise’ and ‘backing’. The sum of claims and supports made up the total number of arguments. In dialogues warrants are rarely expressed explicitly; therefore they were not included in the analysis. In order to be consistent in our use of terminology, counter-arguments were divided into counter-claims and counter-support instead of adapting Toulmin’s category of ‘rebuttal’, and the number of counter-claims and counter-supports was added up to arrive at the total number of counter-arguments. We did not analyse the conclusions of the arguments because in most of the cases, they simply involved listing the final order of the options the students selected.

Finally, the individual difference variables included various attitudinal/motivational measures related to learning English in general and to the language course the students were attending in particular. These variables were obtained by administering to the students a self-report questionnaire, which was based on Clément, Dörnyei and Noels’s (1994) instrument specifically developed for Hungarian learners (see Appendix 2). The questionnaire included six-point Likert scale items. We also added to the research paradigm the learners’ ‘willingness to communicate’ (WTC) in the L1, which refers the “regularity in the amount of communication behaviour of an individual across situations” (McCroskey & Richmond, 1987, p. 138) and is related to a number of enduring personality variables such as introversion/extroversion, self-esteem and communication apprehension (for more details, see MacIntyre, Clément, Dörnyei & Noels, 1998). The actual items used in our study were adapted from an instrument developed by the originators of the construct, McCroskey and Richmond (1991).

Because there was considerable between-group variation in the learners’ language output (recall that the learners came from five class groups in two schools), we computed standard scores within each class for both the motivational and language variables and used these rather than the raw scores for the computations. This involved mathematically converting the distribution of the scores within each class sample in a way that the mean was 0 and the standard deviation 1, which is an established statistical method for compensating for within-sample differences before pooling the data from various subgroups (see Dörnyei, 2001; Gardner, 1985). Due to the small sample size, the level of statistical significance was set for $p < 0.05$.

Variables in the study

Linguistic variables

- Number of words: Total number of words produced by the speaker.
- Number of turns: Total number of turns produced by the speaker.
- Accuracy: The number of error-free clauses relative to the total number of clauses
- Complexity: The number of clauses per AS-unit
- Lexical richness: $(\log \text{ word tokens})^2 / (\log \text{ word tokens} - \log \text{ word types})$ (Dugast, 1980)
- Number of arguments: Total number of claims and supports (following Schiffrin, 1985; Varghese & Abraham, 1998).
- Number of counter-arguments: Total number of counter-claims and countersupports.

Motivational variables

- Integrativeness: A broad positive disposition towards the L2 speaker community, including an interest in their life and culture and a desire for contact with them (7 items, Cronbach $\alpha = .80$; q2, q14, q16, q19, q29, q34, q37)
- Incentive values of English proficiency: A broad factor associated with the various benefits – pragmatic and L2 use-related – of L2 proficiency; e.g. “Learning English is important for me because I may need English in the future (work, further education)” (8 items, Cronbach $\alpha = .80$; q38, q35, q32, q40, q39, q41, q33, q30)
- Attitudes towards the English course: E.g. “I like the English classes”; “I wish we had more English classes at school” and “The things we learn in the English classes will be useful in the future” (3 items, Cronbach $\alpha = .83$; q6, q21, q28)
- Linguistic self-confidence: Factor associated with a favourable self-conception of language aptitude, a satisfaction with progress and a belief in one’s ability to succeed in L2 learning; e.g. “I am sure I’ll be able to learn English” (6 items, Cronbach $\alpha = .76$; q5, q3, q9, q15, q11, q26)
- Language use anxiety: Anxiety experienced while using the L2; e.g. “I usually feel ill at ease when I have to speak English” and “I often become uncertain when I have to speak in the English classes” (2 items, Cronbach $\alpha = .73$; q20, q7)
- Task attitudes: E.g. “I have found the tasks used in the project useful for L2 learning” and “I liked the tasks used in the project” (2 items, Cronbach $\alpha = .61$; q42, q44)
- Willingness to communicate (WTC): The learners’ readiness to enter into discourse with people in different social situations; e.g. “Standing in the bus stop with friends” (5 items, Cronbach $\alpha = .48$; see also Note 2)

Results and discussion

Correlations between the motivational and language variables

Table 1 shows the descriptive statistics for the language performance measures in the sample. Considerable individual variation can be seen in the quantity of language produced, whereas the performance of the students was less varied in the case of the other linguistic variables. It is interesting to note that the mean accuracy and complexity values in our study are almost exactly the same (with a difference of 0.02 in both cases) as the values in the decision making task under undetailed planning condition in Foster and Skehan's (1996) study.

Variable	N	Minimum	Maximum	Mean	SD
<i>Quantity of talk</i>					
Number of words	44	55	416	195.09	79.43
Number of turns	44	4	33	15.50	7.17
<i>Accuracy</i>					
Number of error-free clauses/ total number of clauses	44	0.50	0.96	0.75	0.09
<i>Complexity</i>					
Number of clauses/AS-unit	44	1.03	2.13	1.37	0.22
<i>Lexical richness</i>					
Uber index	44	10.87	24.15	14.79	2.22
<i>Pragmatic structure</i>					
Number of arguments	44	4	19	8.23	3.44
Number of counter-arguments	44	0	7	2.19	1.90

Table 1: Descriptive statistics of the language performance measures

Table 2 shows the correlations between the individual difference and language variables. As discussed in our earlier studies (Dörnyei, 2002; Dörnyei & Kormos, 2000) there are significant positive correlations between the quantity of speech and the two most situation-specific variables, Course attitudes and Task attitudes, and there is a further significant correlation between Self-confidence and speech size. As the multiple correlations show, the motivational variables together explain roughly 35-37 per cent of the variance in the quantity of language produced. Willingness to communicate (WTC) is positively correlated with the number of turns, which shows that this general trait manifests itself in argumentative tasks as well, since those participants who liked to initiate conversations in L2 in various situations, indeed initiated more turns in a specific communicative task. WTC did not affect any other linguistic measures.

	Words	Turns	Accuracy	Comple- xity	Lexical richness	Argu- ments	Counter- arguments
Integrativeness	.17	.07	.13	.09	-.12	.01	.09
Incentive values	-.02	.30*	.25	-.09	-.10	-.33*	.17
Course attitudes	.41**	.35*	.33*	.07	-.21	.04	.22
Self-confidence	.35*	.23	.04	.07	.14	.20	-.06
L2 use anxiety	-.10	.00	.08	.19	-.36*	-.11	.16
Task attitudes	.35*	.48***	.06	-.04	-.32*	.10	.29
□ Multiple correlations	.63**	.59*	.39	.32	.42	.54*	.31
WTC	.25	.38*	-.16	-.01	-.05	.17	.05
□ Multiple correlations with WTC	.68**	.68**	.41	.33	.43	.58*	.32

Table 2: Correlations between the dependent and independent variables in the whole sample (N = 44, * = p<.05; ** = p<.01; *** = p<.001)

Accuracy was found to be positively related to Course attitudes. Unfortunately, correlations do not establish causal relationships, but an intuitively appealing explanation for this result can be that the participants' positive attitude to the course involved a positive attitude to the teacher and the quality of teaching. It was probably the high quality of teaching that triggered a positive attitude to the language course, and this also seems to be related to an increased level of accuracy in the investigated students' performance. Interestingly, lexical richness correlated negatively with Task attitudes. A tentative explanation for this finding might be that motivated participants produced more talk that was also more accurate, but they did not have sufficient processing capacity for using rich vocabulary. The negative correlation between L2 use anxiety and lexical richness, which indicates that the students who experienced less anxiety using the language employed a wider variety of words, is probably due to the fact that the lack of anxiety might have induced the participants to experiment with a larger array of words in their output (see also Dewaele and Pavlenko, 2003).

The number of arguments used was negatively correlated with Incentive values. If we study correlations in the other tables, it can be seen that this instrumental aspect of motivation generally affects most linguistic variables, except for speech size, in a negative way. It seems that motivation that is mainly triggered by the utilitarian value of the L2, could make the participants to engage in conversations actively, but was not sufficient for triggering qualitatively superior performance.

As the multiple correlations show, motivational variables explain a relatively low proportion of the variance in accuracy, complexity and lexical richness (9-16%) and account for 30% of the variance in the number of arguments used. Looking at the multiple correlations that include the WTC measure, we can see that WTC does not add much to the explanatory power of the motivational variables in this case.

Although the correlational coefficients concerning the quantity of talk in Table 3 are not lower than the values reported in studies investigating the effect of individual variables on language learning, they are not as high as we expected. On the basis of Dörnyei's (2002) argument that the relationship between motivation and actual learning behaviour is assumed to be stronger than the relationship between motivation and achievement (e.g. language proficiency), the magnitude of the coefficients should have been higher. One intervening variable that might explain a considerable amount of the variance can be the participants' level of proficiency. Another explanation for the findings can be that in earlier studies conducted on the same database, it became clear that the diversity of students' attitude to the task influenced their behaviour to a considerable extent (see Dörnyei & Kormos, 2000; Dörnyei, 2002).

We can also observe that the correlations between the motivational factors and the quantity of talk are considerably higher than the correlations between motivation and the qualitative measures. This is in fact consistent with theories of motivation, which see motivation as the force that determines the magnitude of the behaviour rather than the quality of the behavioural outcome. The latter is, of course, also related to motivational measures but the relationship is modified by a number of intervening variables such as the extent of preparation, previously acquired relevant knowledge and the learners' strategy use.

	Words	Turns	Accuracy	Comple- xity	Lexical richness	Argu- ments	Counter- arguments
Integrativeness	.44*	.14	.08	.16	-.11	.24	.21
Incentive values	-.01	.56**	.14	-.36	-.28	-.36	.30
Course attitudes	.11	.07	.17	-.27	-.06	-.03	.13
Self-confidence	.53*	.38	-.01	.33	.02	.25	-.07
L2 use anxiety	-.19	-.22	-.13	.13	-.26	-.08	.21
Task attitudes	.37	.59**	-.36	-.06	-.38	.10	.62**
□ Multiple correlations	.84**	.83**	.60	.80*	.47	.76*	.66
WTC	.46*	.60**	-.05	0.15	-.28	.16	.27
□ Multiple correlations with WTC	.93***	.91**	.60	0.80*	.48	.80*	.66

Table 3a: Correlations between the dependent and independent variables in the high-task-attitude subsample (N = 21; "Task" >= 4, * = p<.05; ** = p<.01; *** = p<.001)

Separating high-task attitude and low-task attitude subsamples

As we argued in our earlier study (Dörnyei & Kormos, 2000), task attitudes are a key factor in investigating language learners' task performance in a classroom setting. In our previous research, task attitudes were found to function as a 'filter': If this filter was 'down', that is, if students had a positive attitude to the task they had to perform, their behaviour was more 'predictable' than the performance of students whose filter was 'up', that is, did not take the task seriously. On the basis of this finding, we divided the sample into two subgroups based

on the Task attitudes variable, and assigned the upper half of the sample to the 'high-task-attitude' subsample (HighS) and the lower half to the 'low-task-attitude subsample (LowS) (in the end, because of some equal scores at the mid-point, the HighS had 23, the LowS 21 students). Following this, we repeated the correlation analysis reported above in the two subsamples separately (see Tables 3a and 3b).

	Words	Turns	Accuracy	Comple- xity	Lexical richness	Argu- ments	Counter- arguments
Integrativeness	-.12	-.08	.12	.10	-.04	-.30	-.14
Incentive values	-.11	.07	.31	.19	.09	-.40	-.09
Course attitudes	.50*	.40	.41*	.12	-.19	-.05	.16
Self-confidence	.27	.17	.02	-.37	.20	.18	-.05
L2 use anxiety	-.18	.03	.20	.32	-.37	-.27	.01
Task attitudes	.19	.38	.33	.15	-.17	-.17	-.32
☐ Multiple correlations	.67	.50	.48	.46	.56	.46	.48
WTC	.07	.18	-.25	.13	.09	.19	-.15
☐ Multiple correlations with WTC	.70	.59	.57	.46	.56	.58	.48

Table 3b: Correlations between the dependent and independent variables in the low-task-attitude subsample (N = 23; "Task" < 4, * = p<.05)

Some of the results in Table 3a and 3b were discussed in Dörnyei and Kormos (2000): In the HighS, we found highly significant correlations between the number of words and Linguistic self-confidence and between Task-attitudes and the number of turns and counter-arguments produced. In the LowS the only significant correlations that emerged were between Course-attitudes and the number of words and accuracy. As regards the multiple correlations and the role of WTC, in the HighS very high correlations were found between the composite of motivational variables and the number of words and turns. We obtained the same results when WTC was included among the multiple correlations. WTC alone also affected the number of word and turns. In the LowS there was no significant multiple correlation between the composite of motivational variables including WTC and any of the linguistic variables.

A new result of the present study is that we can see high correlations between the composite of motivational variables and complexity and the number of arguments produced in the high-task attitude sub-sample. This finding is interesting from a number of aspects. First of all, they prove our assumption that the students' attitudes toward the task also affected language variables other than the quantity-specific ones related to task engagement. Thus, in task-based research conducted in classroom setting, it seems expedient to measure students' attitude to task to exclude random variation. The data show that positive attitude to the language course resulted in more active task engagement and in increased accuracy among the participants who were not very motivated by the task itself. This is in line with Dörnyei's (2002) argument that that the complex of task motivation can better described as a composite

of multiple motivational influences related to the various actional/engagement contingencies than as a composite of trait and state motivation. In pedagogical terms this means that even if certain students do not like the language learning task they are to perform, they might still participate in it actively and use more accurate language if they have positive attitudes toward the course (i.e. the teacher, the learning materials, fellow students, etc.).

It is also interesting to observe that the pragmatic aspects of task-performance were not influenced by any of the components of motivation, except for task-attitudes in the HighS. It seems that the participants with a favourable attitude to the task were more willing to express disagreement with their partners' view than students who did not fancy the task very much. The pedagogical implications of this finding are not new for practising teachers, namely that if we want to make students actively engaged in argumentation, the task we set for them needs to be attractive.

The overall effect of motivational variables on the quantity of talk, complexity and the number of arguments produced seems to be important, as the composite of motivation measures and WTC explains between 60-77% of the variance in the HighS. This result offers evidence that motivation and WTC are powerful determinants of various aspects of task performance. The positive effect of motivation and WTC on the number of counter-arguments in the HighS is an important finding in this respect. With regard to the number of arguments and grammatical complexity, the direction of the relationship, however, is less clear, as some components of motivation have a negative, while others a positive effect, which indicates a complex interplay of the influence of the various motivational factors.

The motivational influence of the interlocutor

In order to see how the motivational basis of task performance is co-constructed by the two members of the dyad performing the activity, correlations were computed between the interlocutors' motivational variables and speaker's language output measures (see Table 4). Previous analyses indicated (Dörnyei, 2002; cf. also Table 4) that there were significant correlations between the partner's task attitude and the number of words and turns. The interlocutor's perception of the incentive values associated with L2 proficiency also affected the quantity of talk produced positively. Multiple correlations between the interlocutor's motivation and the quantity of talk were also significant, and they explained between 30% and 35% of the variance in these measures.

The results of the present study show a positive correlation between the partner's linguistic self-confidence and the number of counter-arguments produced and a negative relationship between the partner's incentive values and lexical richness. Furthermore, there is a significant positive correlation between the composite of the interlocutor's motivational components and the number of arguments the speaker produced. These findings indicate that the participants with a motivated partner engaged in the task more actively and came forward with more arguments than students with a less motivated partner. It is also interesting to observe that a linguistically confident partner could induce the participants to produce more counter-arguments, that is, to disagree more frequently. These results provide additional support for Dörnyei's (2002) arguments that task motivation is indeed co-constructed by the task participants.

	Words	Turns	Accuracy	Complexity	Lexical richness	Arguments	Counter-arguments
Integrativeness	.00	.08	.15	.05	-.27	-.04	.04
Incentive values	.31*	.35*	.19	-.17	-.31*	.13	.07
Course attitudes	.25	.41**	.03	-.18	-.08	-.13	.21
Self-confidence	.04	.20	.18	-.01	.14	-.13	.32*
L2 use anxiety	.08	.03	-.29	-.13	-.23	.10	-.19
Task attitudes	.42**	.49**	.03	-.13	-.10	.28	.01
□ Multiple correlations	.55*	.61**	.51	.35	.39	.55*	.41
WTC	-.01	.35*	-.05	0.01	-.20	.10	.15
□ Mult. corr. w/ WTC	.55	.69**	.52	.35	.42	.55	.43

Table 4: Correlations between the speaker's language measures and the interlocutor's attitudinal/ motivational measures in the whole sample (N = 44, * = p<.05; ** = p<.01)

The separation of the sample into HighS and LowS, further refines the above described results. In the HighS the effect of the partner's motivation disappeared except for lexical richness and the measure of counter-arguments. Thus, it seems that if a participant had a positive attitude to the task, the influence of the partner's motivation on the number of words, grammatical complexity and the number of arguments produced was relatively unimportant. The number of counter-arguments, however, was very strongly affected by the partner's motivation: 70% of the variance in the number of counter-arguments was explained by the interlocutor's motivation. The results suggest that a motivated partner and the participant's favourable attitude to the task (see above) were key factors in determining how willing he/she was to engage in argumentation. It is also interesting to observe that the interlocutor's motivation had a significant effect on the accuracy of the students' output in the HighS. Although there were negative correlations between certain components of the interlocutor's motivation and accuracy, the two highest values indicate a beneficial effect (the negative correlation between anxiety and accuracy indicates that participants with a less anxious partner use more accurate language).

In the LowS, we find that the partner's task and course attitudes affected the quantity of talk produced in a positive way. The number of turns was positively correlated with the partner's general motivation. The number of arguments produced was also influenced by the partner's task attitude, L2 use anxiety and the composite of motivational variables. These results point to the increased importance of the interlocutor's motivation in cases when the participants had negative attitudes to the task. It seems that an interlocutor with a positive attitude to the language course and the task could engage his/her less 'enthusiastic' partner more actively in performing a task. Thus, if one investigates the effect of the interlocutor, the filter of 'task attitude' functioned in the opposite way as in the case of the influence of the student's own motivation. If the participants' attitude to the task was negative, their own motivation had little effect on the quality and quantity of language output, instead it was the partner's motivation that played a role in the performance of the task. If on the other hand, the participants had positive attitudes to the task, it was primarily their own motivation that influenced their performance and not that of the interlocutor.

	Words	Turns	Accuracy	Comple- xity	Lexical richness	Argu- ments	Counter- arguments
Integrativeness	-.15	-.20	-.24	.29	-.08	-.22	.15
Incentive values	.11	.19	.42	-.23	-.47*	-.02	-.02
Course attitudes	.03	.35	.08	.12	-.24	-.40	.24
Self-confidence	.16	.26	-.04	-.27	.26	-.10	.53*
L2 use anxiety	-.19	-.21	-.34	.23	.44	-.15	-.38
Task attitudes	.27	.22	-.09	.06	-.09	-.08	-.12
☐ Multiple correlations	.55	.71	.76	.53	.62	.68	.83*
WTC	.01	.40	.01	-.30	-.28	-.01	.24
☐ Multiple correlations with WTC	.55	.85*	.81*	.53	.64	.68	.84*

Table 5a: Correlations between the speaker's language measures and the interlocutor's attitudinal/motivational measures in the high-task-attitude subsample (N = 19; "Task" >= 4, * = p<.05)

	Words	Turns	Accuracy	Comple- xity	Lexical richness	Argu- ments	Counter- arguments
Integrativeness	.09	.21	-.13	.01	-.33	.13	-.10
Incentive values	.37	.37	.03	-.09	-.14	.21	.05
Course attitudes	.37	.42*	.01	-.31	.09	.11	.14
Self-confidence	-.07	.16	.31	.13	.06	-.17	.11
L2 use anxiety	.37	.23	-.31	-.33	-.02	.47*	.05
Task attitudes	.58**	.69***	.05	.26	.02	.68***	.16
☐ Multiple correlations	.67	.73*	.38	.36	.39	.82**	.32
WTC	-.00	.35	-.09	.20	-.35	.22	.12
☐ Multiple correlations with WTC	.69	.75	.41	.42	.43	.82*	.34

Table 5b: Correlations between the speaker's language measures and the interlocutor's attitudinal/motivational measures in the low-task-attitude subsample (N=23; "Task"<4, * = p<.05; ** = p<.01; *** = p<.001)

Conclusion

In this study we investigated the role of motivation and some other related individual difference variables such as anxiety and willingness to communicate in oral task performance. Our research was motivated by the recent theoretical advance in the field according to which motivation does not only affect the global outcomes of learning processes but also students' performance in specific language learning tasks. In order to assess the importance of motivation in L2 task performance, we reanalysed the data collected for two

earlier projects (Dörnyei, 2002; Dörnyei and Kormos, 2000) and added five language variables that measure the quality of students' output (accuracy, complexity, lexical richness, the number of arguments and counter-arguments). We computed correlations between motivational and language variables in the whole sample as well as in two sub-groups of the participants: those who had favourable attitude to the task they had to perform and those who did not. The effect of the partner's motivation was also assessed by using a correlational design.

In general, we can conclude that it was rather the quantity of talk that was influenced by motivation and not the quality of the content produced. In other words, motivation seemed to function as a driving force that made students actively engage in a task, but it played a limited role determining the quality of the outcome. In the whole sample it was only course attitudes that had a beneficial effect on the accuracy of the participants' output. When the sample was divided into High and Low task-attitude students, we found that even if students did not like the specific task they had to perform, their accuracy increased if they had a generally positive attitude to the language course itself. The results also show that among students with low task-attitudes, those who had motivated partners performed better in terms of the number of arguments used.

Although in this study a relatively small sample was used, its results still have implications for language teaching. The main findings of this research call attention to the importance students' attitude to the language course - including the teacher, the teaching materials and the method of teaching - in determining the quality of students' performance, especially its accuracy. The results also indicated that positive course attitudes are able to compensate for students' dislike towards the particular learning task and drove them to perform better. In addition to motivating students by making the course enjoyable and appropriate for their needs, a motivated partner is also able to enhance learners' performance. In practical terms it might be beneficial to pair-up motivated students with less motivated ones when solving certain language tasks. Nevertheless, in order to confirm our assumptions, further qualitative studies investigating the role of motivation in L2 performance would need to be conducted.

References

- Bygate, Martin (1999). Quality of language and purpose of task: Patterns of learners' language on two oral communication tasks. *Language Teaching Research*, 3, 185-214.
- Bygate, Martin (2001). Effects of task repetition on the structure and control of oral language. In Martin Bygate, Peter Skehan & Merrill Swain (Eds.), *Researching pedagogic tasks: Second language learning, teaching and testing* (pp. 23-48). Harlow, England: Longman.
- Clément, Richard, Dörnyei, Zoltán, & Noels, Kimberly A. (1994). Motivation, self-confidence and group cohesion in the foreign language classroom. *Language Learning*, 44, 417-448.
- Dewaele, Jean-Marc (2000). Saisir l'insaisissable? Les mesures de longueur d'énoncés en linguistique appliquée. *International Review of Applied Linguistics*, 38, 31-47.
- Dewaele, Jean-Marc, & Pavlenko, Aneta (2003). Productivity and lexical diversity in native and non-native speech: A study of cross-cultural effects. In Vivian Cook (Ed.), *The effects of the second language on the first* (pp. 120-141). Clevedon: Multilingual Matters.
- Dörnyei, Zoltán (2000). Motivation in action: Towards a process-oriented conceptualisation of student motivation. *British Journal of Educational Psychology*, 70, 519-538.
- Dörnyei, Zoltán (2001). *Teaching and researching motivation*. Harlow: Longman.
- Dörnyei, Zoltán (2002). The motivational basis of language learning tasks. In Peter Robinson (Ed.), *Individual differences in second language acquisition* (pp. 137-158). Amsterdam: John Benjamins.
- Dörnyei, Zoltán (2003). Attitudes, orientations, and motivations in language learning: Advances in theory, research, and applications. In Zoltán Dörnyei (Ed.), *Attitudes, orientations, and motivations in language learning* (pp. 3-32). Oxford: Blackwell.
- Dörnyei, Zoltán, & Kormos, Judit (2000). The role of individual and social variables in oral task performance. *Language Teaching Research*, 4, 275-300.
- Duff, Patricia A. (1986). Another look at interlanguage talk: Taking task to task (pp. ???-???). In Richard Day (Ed.), *Talking to learn*. Rowley, Mass: Newbury House.
- Dugast, Daniel (1980). *La statistique lexicale*. Genève: Slatkine.
- Foster, Pauline, & Skehan, Peter (1996). The influence of planning on performance in task-based learning. *Studies in Second Language Acquisition*, 18, 299-324.
- Foster, Pauline, & Skehan, Peter (1999). The influence of source of planning and focus of planning on task-based performance. *Language Teaching Research*, 3(3), 215-247.
- Foster, Pauline, Tonkyn, Alan, & Wigglesworth, Gillian (2000). Measuring spoken language: A unit for all reasons. *Applied Linguistics*, 21, 354-375.
- Gardner, Robert C. (1985). *Social psychology and second language learning: The role of attitudes and motivation*. London: Edward Arnold.
- Jarvis, Scott (2002). Short texts, best-fitting curves, and new measures of lexical diversity. *Language Testing*, 19, 57-84.

- Julkunen, Kyösti (1989). Situation- and task-specific motivation in foreign-language learning and teaching. Joensuu, Finland: University of Joensuu.
- Julkunen, Kyösti (2001). Situation- and task-specific motivation in foreign language learning. In Zoltán Dörnyei & Richard Schmidt (Eds.), *Motivation and second language learning* (pp. 29-42). Honolulu, HI: University of Hawaii Press.
- MacIntyre, Peter D., Clément, Richard, Dörnyei, Zoltán, & Noels, Kimberly A. (1998). Conceptualizing willingness to communicate in a L2: A situated model of confidence and affiliation. *Modern Language Journal*, 82, 545-562.
- McCroskey, James C. & Richmond, Virginia P. (1987). Willingness to communicate. In J.C. McCroskey & J.A. Daly (Eds.), *Personality and interpersonal communication*. (pp.129-156). London: Sage.
- McCroskey, James C., & Richmond, Virginia P. (1991). Willingness to communicate: A cognitive view. In Melanie Booth-Butterfield (Ed.), *Communication, cognition and anxiety* (pp. 19-37). Newbury Park, CA: Sage.
- Németh, Nóra, & Kormos, Judit (2001). Pragmatic aspects of task performance: The case of argumentation. *Language Teaching Research*, 4, 213-240.
- Richards, Brian (1987). Type/token ratios: What do they really tell us? *Journal of Child Language*, 14, 201-209.
- Robinson, Peter (1995). Task complexity and second language narrative discourse. *Language Learning*, 45, 99-140.
- Robinson, Peter (2001). Task complexity, task difficulty, and task production: Exploring interactions in a componential framework. *Applied Linguistics*, 22, 27-57.
- Schiffrin, Deborah (1985). Everyday argument: The organization of diversity in talk. In Teun A. van Dijk (Ed.), *Handbook of discourse analysis Vol 3*. (pp. 35-46). London: Academic Press.
- Schumann, John H. (1998). *The neurobiology of affect in language*. Blackwell: Oxford.
- Skehan, Peter (1998a). *A cognitive approach to language learning*. Oxford: Oxford University Press.
- Skehan, Peter (1998b). Processing perspectives to second language development, instruction, performance and assessment. *Working Papers in Applied Linguistics* (Thames Valley University, London), 4, 70-88.
- Skehan, Peter, & Foster, Pauline (1997). Task type and task processing conditions as influences on foreign language performance. *Language Teaching Research*, 1, 185-211.
- Skehan, Peter. & Foster, Pauline. (2001). Cognition and tasks. In P. Robinson (Ed.), *Cognition and second language instruction* (pp. 183-205). Cambridge: Cambridge University Press.
- Swain, Merrill (1985). Communicative competence: Some roles of comprehensible input and comprehensible output in its development. In Susan Gass & Carolyn Madden (Eds.), *Input in second language acquisition* (pp. 235-253). Rowley, Mass: Newbury House.
- Swain, Merrill, & Lapkin, Sharon (2001). Focus on form through collaborative dialogue: exploring task effects. In Martin Bygate, Peter Skehan & Merrill Swain (Eds.), *Researching*

pedagogic tasks. *Second language learning, teaching and testing* (pp. 99-118). Harlow, England: Longman.

Toulmin, Stephen (1958). *The uses of argument*. Cambridge: Cambridge University Press.

Tremblay, Paul F., Goldberg, Michelle P., & Gardner, Robert C. (1995). Trait and state motivation and the acquisition of Hebrew vocabulary. *Canadian Journal of Behavioural Science*, 27, 356-370.

Ushioda, Ema (1996). *Learner autonomy 5: The role of motivation*. Dublin: Authentik.

Varghese, Susheela Abraham, & Abraham, Sunita Anne (1998). Undergraduates arguing a case. *Journal of Second Language Writing*, 7, 287-306.

Appendix 1: The task used in the study

You are a member of the school student committee. Your school wants to participate in the district's social life and asks students to offer their help. The following possible options have been suggested:

- Delivering lunch to elderly people in the district
- Publishing a local newsletter
- Helping out in the library
- Providing tourist information
- Performing for children in the kindergarten
- Collecting newspaper/wastepaper
- Feeding birds
- Maintaining the park
- Performing for elderly people
- Organising sports events

First, look at the list alone for three minutes and choose 5 activities you would find interesting or useful. Put them on these lines in the order of your preference.

- 1 _____
- 2 _____
- 3 _____
- 4 _____
- 5 _____

Second, compare your list with your partner's. The lists are probably different. Your task is to find the best compromise with your partner and prepare a final list of 3 activities you together will recommend to the school management.

- 1 _____
- 2 _____
- 3 _____

You have 10 minutes to convince your partner about your ideas. Make sure you give reasons but remember that you **MUST** come to an agreement on the best proposal.

Appendix 2: The motivation questionnaire used in the study

[All the items are six-point Likert scales, with the scales ranging from 'Strongly disagree' to 'Strongly agree'.]

1. Sometimes I feel that language learning is a burden for me.
2. I would like to get to know as many Americans as possible.
3. I am sure that I'll be able to learn English.
4. English is the most important language in the world today.
5. I think I have a fairly good language aptitude.
6. I wish we had more English classes at school.
7. When I have to speak in English classes, I often lose confidence.
8. I like to work hard.
9. Unfortunately, I am not too good at learning English.
10. I would rather spend time on subjects other than English.
11. I am pleased with my current level of English.
12. I would like to spend a lot of energy learning English in the future.
13. I am not too interested in the English classes.
14. English people are modern and open-minded.
15. Learning English often causes me a feeling of success.
16. I like the way the Americans behave.
17. In my parents' view, English is not a very important school subject.
18. I would be pleased to be able to master an intermediate level of English.
19. I really like the English language.
20. I generally feel uneasy when I have to speak English.
21. We learn things in the English classes that will be useful in the future.
22. Learning English is one of the most important activities for me.
23. I rarely do more work than what is absolutely necessary.
24. I would like to get to an advanced level in English.
25. I don't mind it if I have to speak English with somebody.
26. I am satisfied with the work I do in English classes.
27. I easily give up the hard-to-reach goals.
28. I like the English classes.
29. I would like to get to know many English people.

Why is English important/unimportant for you? Learning English is important to me ...

30. ... because I may need it later (work, further education).
31. ... in order to become more educated.
32. ... because I would like to spend some time abroad.
33. ... so that I can read English language books, magazines and newspapers.
34. ... because I would like to get to know the culture and art of its speakers.
35. ... because I can get to know many people from all over the world through it.
36. ... because one cannot achieve any kind of success without it.
37. ... in order to be able to get to know the life of English speaking people better.
38. ... because I would like to make foreign friends.
39. ... in order to understand English speaking films, videos and TV programmes.
40. ... because it might be useful during my travels.
41. ... in order to be able to understand the lyrics of English songs.

Finally, what do you think of the tasks used in our research?

42. I have found the tasks useful from a language learning point of view.
43. I have found the tasks hard.
44. I liked the tasks.
45. I could do my language proficiency justice when doing the tasks.