

## Chapter II

### Tasks and Task Complexity

#### 2.1 Introduction

The first chapter in this dissertation helped us understand how production works. A series of psycholinguistic models of L1 and L2 production were outlined, and the processes of attention and memory were described in order to explain their contribution to comprehension, production, and learning. In the last part of the chapter, production was discussed in the light of theories that emphasize its potential for second language acquisition.

However, Chapter I dealt with language production in general, as devoid of any context in which it habitually takes place. Few references were made as to how oral production works in instructional contexts, where it may be encouraged so as to practice the use of a specific structure or function, establish some form-meaning connection, promote fluency or accuracy, or express opinions about an issue. In addition to that, the concept of task was mentioned as it is used in the cognitive psychology field and not in its pedagogical or research sense, which will be the main ways in which it will be used in this chapter. Also, it was seen that production and development are mediated by attention and memory, but we did not discuss their interplay with other dimensions that affect processing, such as the cognitive complexity of tasks, and their effects on performance and development.

The aim of this second chapter is, therefore, threefold. One goal will be to define the construct of task in both its everyday meaning and in the context of language learning. Another objective will be to analyze the concept of Task Complexity as born from the need to grade and sequence tasks in instructional contexts. In the last part of the chapter, two models of Task Complexity will be compared, and the predictions advanced by those models regarding the effects of its manipulation on production will be outlined. Thus, this chapter will attempt to answer the following questions:

- i) What is a task?
- ii) What is Task Complexity?
- iii) How can Task Complexity affect production?

## **2.2 Definitions of task**

In the SLA field, a number of definitions of tasks (Bachman & Parmler, 1996; Breen, 1987; Bygate, 2001; Long, 1985, 2000; Nunan, 1989; Prahbu, 1987; Skehan, 1998; Swales, 1990; Willis, 1996) have been provided by different authors and from multiple perspectives. Following Bygate (2001), a distinction among real-world tasks and pedagogic tasks will be made here. Although in this study tasks are used for research purposes to collect information from L2 speakers, in this section pedagogic tasks as used by teaching practitioners and tasks from a psychological perspective will also be analyzed.

### 2.2.1 Real-world tasks

Michael Long (1985. p. 19) provides a definition of task in its everyday meaning:

“a piece of work undertaken for oneself or for others, freely or for some reward. Thus, examples of task include painting a fence, making an airline reservation, borrowing a library book, taking a driving test, typing a letter, weighing a patient, sorting letters, taking a hotel reservation, writing a cheque, finding a street destination and helping someone across a road. In other words, by ‘task’ is meant a hundred and one things people do in everyday life, at work, at play, and in between. Tasks are the things people will tell you they do if you ask them, and they are not applied linguists.”

It is in this sense that the concept of task was used in Chapter I when discussing human skills performance models. To Long’s definition, Crookes’ (1986, p. 32) suggestion that the category task has a psychological reality can be added:

“It has been shown that the category ‘task’, as used by researchers generally, is widely applicable and has psychological reality. Much, if not most, of human activity, whether in employment or in the classroom can be seen a series of tasks – some having a communicative aspect, others not”.

Elaborating on one of the tasks in Long’s example, a rather simple task in which language is not involved would be painting a fence. In order to carry out the

task, some kind of brush, paint, sand paper, and a fence are required. The steps include gathering materials, sanding the wood, giving it a couple of coats, and letting it dry. The goal is to make the fence look nicer, and the task has a tangible outcome (that we can see). Language would not necessarily be required for this task. In Gilabert (forthcoming) an example of a complex task in which language is required was provided: interviewing a source in the domain of journalism (See Figure 9 below). This would include a number of steps or sub-tasks such as gathering information about the source, contacting the source, documenting the interview, making arrangements for the interview, interviewing the source, and writing the transcript or an article based on the interview.

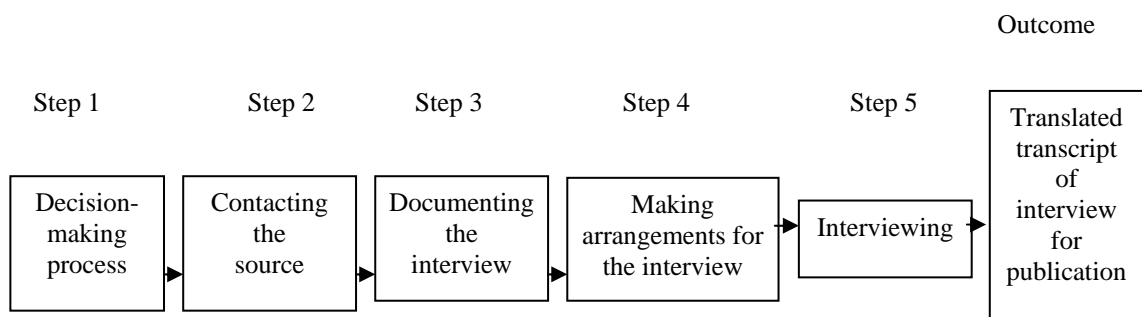


Figure 9. Example of a complex task.

It should be made clear that these are what Long (1985) refers to as target tasks and they do not correspond exactly to the kind of tasks that are used in an instructional context, which is what we now turn to.

### **2.2.2 Pedagogic tasks**

As far as pedagogic tasks are concerned, Skehan takes a task-based instruction perspective to define task and bases his definition on those previously advanced by Candlin (1987), Nunan (1989), and Long (1989). Skehan (1998, p. 95) identifies a series of defining traits most researchers would agree on when conceptualizing a task:

“a task is an activity in which meaning is primary; there is some kind of communication problem to solve; there is some sort of relationship to comparable real-world activities; task completion has some priority; the assessment of the task is in terms of outcome”.

According to Bygate (2001), however, Skehan’s definition is not quite complete. Apart from the ideas of the primacy of meaning, the existence of an objective, and the possibility of assessment, there is the fact that tasks are susceptible to pedagogic intervention, be it brief or extended, as well as the idea that tasks can be influenced by learner choice and can be potentially reinterpreted by learners.

Following Candlin (1987), Swales' (1990, p. 75) adds two more traits to the definition of task:

"The idea that tasks are 'differentiated' and 'sequenceable' is clearly valuable. The fact that tasks can be seen to have beginnings, middles and ends provides an orientation for learners against the often opaque background of a course or syllabus: in addition they provide objectives for learners and establish 'landmarks of achievement' (Hutchinson & Waters, 1987, p. 11). Tasks are clearly 'sequenceable' both in practice and theory, although there currently exist considerable doubts as to the validity of the criteria by which tasks can be ordered."

Swales' last statement touches on one of the core questions this study will try to answer, that is, the question of what criteria are valid to sequence tasks in a reasoned way. One last aspect that will be further discussed below is Long and Crookes' (1992) claim that tasks of this kind provide the grounds for acquisitional processes to operate.

Tasks can also be manipulated for different empirical purposes and to test different theoretical constructs in both classroom and experimental settings. In this way, researchers usually propose a series of operationalizations that may affect either their internal structure, their interactional design, or the conditions under which they are performed in order to test and measure their effects' on learners' comprehension, production, or learning.

### 2.2.3 Problems with task definition

Bygate (2001, p. 12) states that further traits should be added to the definition of research-oriented tasks depending on whether they are carried out from a teaching, learning, or assessment perspective. If defined from a teaching perspective, tasks are relatable to pedagogic decision making, and they elicit data which may be the basis of research. From a learning perspective, they are related to learner choice and learning processes. If seen from an assessment perspective, a task should provide data for measuring learners' performance.

Although most researchers would agree on the basic components of a task as mentioned in the previous section, the definition of task is not without problems. Firstly, as Bygate (2001, p. 12) points out, tasks may have a static, controllable nature if used for research, and they may include more dynamic and extended qualities if they are used for teaching purposes. That is why they point out that it may be necessary to clarify the definition of task under different circumstances. Secondly, although most researchers and practitioners would agree that tasks must be goal-oriented, who determines the goals is not so clear. Authors like Breen and Candlin (1980) would say the goals are explored and negotiated collectively between learners and teachers; Long (2000b) would say the goals are set up by the needs analysis; while Skehan (1998, Skehan & Foster, 2001) says that a needs analysis is not always possible, which suggests a need for teachers' or syllabus designers' unilateral decisions. Thirdly, although most researchers would support

the idea that tasks need to be sequenced in a principled way, the criteria proposed to sequence them vary considerably, and further research is needed that will inform the pedagogic sequencing of tasks.

In this particular study, narrative tasks are manipulated along their level of complexity for the collection of oral production data. A task is seen as a differentiated goal-oriented process, with a number of steps, which draws on a series of cognitive and communicative procedures, and that has a defined outcome. Additionally, tasks are sequenceable and can be subject to pedagogical intervention. Apart from its pedagogic dimension, tasks can be manipulated for empirical enquiry, which will be the case in this dissertation.

### **2.3 Interactionist and information-processing research into task features**

Although this will be the specific subject of the next chapter, the issue of research into task features will be briefly outlined here since it can help us approach the concept of Task Complexity. Basically, two different agendas have inspired research into task features. The first one is an interactionist perspective which has been concerned with establishing what modifications can be applied to tasks in order for them to generate specific conversational episodes which, generally, have been regarded as negotiation of meaning. Research tasks have been manipulated along the flow of information during interaction (Aston, 1986; Brown & Yule, 1983; Gass and Varonis, 1985; Long, 1981; Oliver, 1995; Pica & Doughty, 1988, Yule &



McDonald, 1990); their opened-ended or closed outcomes (Bley-Vroman, 1983; Long, 1989; Rahimpour, 1997); the convergence or divergence of goals (Duff, 1986); the optional or required exchange of information gap (Doughty and Pica, 1986); pair and group work arrangements (Doughty, 1986; Long, 1990); and split versus shared information among participants (Newton & Kennedy, 1996; Pica & Doughty, 1988). These studies, which have been numerous since the mid 80's and throughout the 90's, have been particularly interested in whether task design can lead to interactive production episodes that have been referred to as clarification requests, confirmation checks, and comprehension checks. These episodes have been claimed to lead to second language acquisition (Long, 1985, 2000a). Apart from their interest in negotiation of meaning during production, in these kinds of studies researchers have also looked into the consequences of task manipulation on the amount of production and the level of participation of learners.

From an information-processing perspective concerned with performance, questions have been asked as to how task manipulation can lead to differentials in the areas of fluency, complexity, and accuracy. They have investigated the effects of task on production along their degree of familiarity (Bygate, 1999, 2001; Foster & Skehan, 1996; Plough & Gass, 1993; Robinson, 2001a); their number of elements (Kuiken & Vedder, 2004; Robinson, 2001a); single and dual task performance (Niwa, 2000); the pre-task and on-line planning time allotted to them (Crookes, 1989; Ellis, 1987; Foster & Skehan, 1996; Mehnert, 1998; Ortega, 1999; Skehan & Foster, 1997; Wigglesworth, 1997; Yuan & Ellis, 2003); and their degree of complexity along

displaced, past time reference (Iwashita et al. 2001; Robinson, 1995a; Rahimpour, 1997). These studies, which also started in the 80's but have been especially prolific from the mid 90's onwards, have been concerned with how a balanced performance in the three areas of production can potentially lead to more effective language use and acquisition, as well as with how such information can be used to make sequencing decisions in syllabus design (See Table 7 below).

Table 7

*Studies concerned with interactional and cognitive-processing task features.*

<b>INTERACTIONAL FEATURES</b>	<b>Studies</b>	<b>COGNITIVE PROCESSING FEATURES</b>	<b>Studies</b>
<b>One-way vs. two-way</b>	Brown and Yule, 1983 Long, 1980, 1981 Gass and Varonis, 1985 Aston, 1986 Pica and Doughty, 1988 Yule and McDonald, 1990 Oliver, 1995)	<b>Task familiarity</b>	Plough and Gass, 1993 Foster and Skehan, 1996 Bygate, 1999, 2001 Robinson, 2001
		<b>Number of elements</b>	Robinson, 2001 Kuiken and Vedder, 2004
<b>Open vs. closed</b>	Long, 1989 Loschky and Bley-Vroman (1993) Rahimpour (1997)	<b>Single vs. dual task</b>	Niwa, 2000
		<b>Planning time</b>	Ellis, 1987 Crookes, 1989 Foster and Skehan, 1996 Skehan and Foster, 1997 Wigglesworth, 1997 Mehnert, 1998 Ortega, 1999 Yuan and Ellis, 2003
<b>Convergent vs. divergent</b>	Duff, 1986		
<b>Required vs. optional information exchange</b>	Doughty and Pica, 1986		
<b>Split vs. shared information</b>	Pica and Doughty, 1988 Newton and Kennedy, 1996	<b>Here-and-Now/ There-and-Then</b>	Robinson, 1995 Rahimpour, 1997 Iwashita et al., 2001

## 2.4 The concept of Task Complexity as a criterion for grading tasks

So far the first question that was posed at the beginning of the chapter has been dealt with. We now move on to analyze the concept of Task Complexity which is central to the main objectives of this study. As we will see throughout this section, the concept of Task Complexity was born from the need to establish criteria for sequencing tasks in a syllabus from easy/simple to difficult/complex in a reasoned way that will foster interlanguage development. Rather than looking at the linguistic features of language activities, syllabi that have used tasks as their units have focused on task design in order to find out how tasks impose cognitive demands on learners<sup>1</sup>.

One of the first attempts at sequencing tasks from simple to complex was advanced by Brown et al. (1984). They distinguished among three different types of tasks which they presented as ranging from easy to difficult. The first type, static tasks, was proposed as the easiest type. In this kind of tasks, all the information to be exchanged is presented to the speaker in the materials for carrying out the task (e.g. a map task in which the speaker has to give directions to the listener). The second type, dynamic tasks, also present the speaker with all the information in stimulus materials, but the tasks can present problems. In such tasks, characters, events, and activities change, and this change forces the speaker to fully describe the stimulus material, and be explicit, discriminating, and consistent in his or her use of

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<sup>1</sup> The choice of units for syllabus design is the specific subject of the next chapter.

language (e.g. a story in a comic strip in which characters appear and disappear or change places and behaviors). The last type, abstract tasks, is the most difficult one since the stimulus material does not contain the content to be communicated. It involves making reference to abstract concepts, establishing connections between ideas, and providing reasons for certain statements or behaviors (e.g. an opinion task in which learners must choose the most suitable candidate for a scholarship out of a closed list of candidate descriptions). Figure 10 shows an example of tasks arranged in ascending difficulty as suggested by Brown et al. (1984):

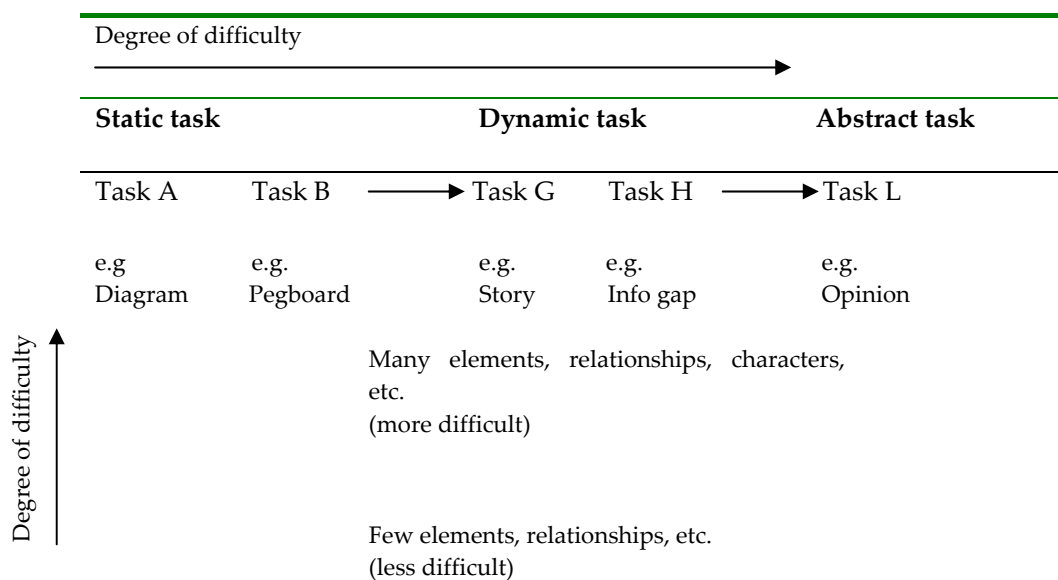


Figure 10. Tasks of ascending difficulty (Brown et al., 1984, p. 64).

Beyond their static/dynamic quality and their degree of abstractness, each task type can be made more difficult by increasing the number of elements and the relationships among them. Brown et al. (1984, p. 64) provide an example of a task in

which one speaker must narrate a story to a listener: "Thus a story which involves four female characters interacting is more difficult to describe than one involving only one female and one male character. A story which involves several changes of scene, or flashbacks to earlier events in time, is more difficult than a story which occurs at a single time and location."

Another proposal for sequencing tasks in a syllabus comes from the "Bangalore Communicative Teaching Project" in India<sup>2</sup>, in which Prabhu (1987, p. 47) suggested the grading of tasks according to a number of criteria which he described as "rough measures of cognitive complexity." The first criterion involves the amount of information to be transacted, and postulates that the larger the amount of information (e.g. a few rules as opposed to many rules in rule-based tasks) the more difficult the task is. A second criterion has to do with the 'amount' of reasoning needed. The greater the number of steps involved in the deduction, inference, or calculation towards the outcome, the more difficult the task can be expected to be. Thirdly, Prabhu suggested the degree of precision as another criterion, suggesting that the less precise the terms needed to express an idea the easier the task is. Fourthly, familiarity with the purposes and constraints of the kind involved in the task makes tasks easier, which implies that learners' knowledge of the words can make tasks more or less difficult for them. Finally, Prabhu (1987, p. 48) stated that: "working with concepts is more difficult than working with the

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<sup>2</sup> The Bangalore project took place from 1974 through 1984, with the support of the British Council.

names of objects or actions”, thus suggesting the degree of abstractness can make tasks easier or more difficult (See Figure 11 below).

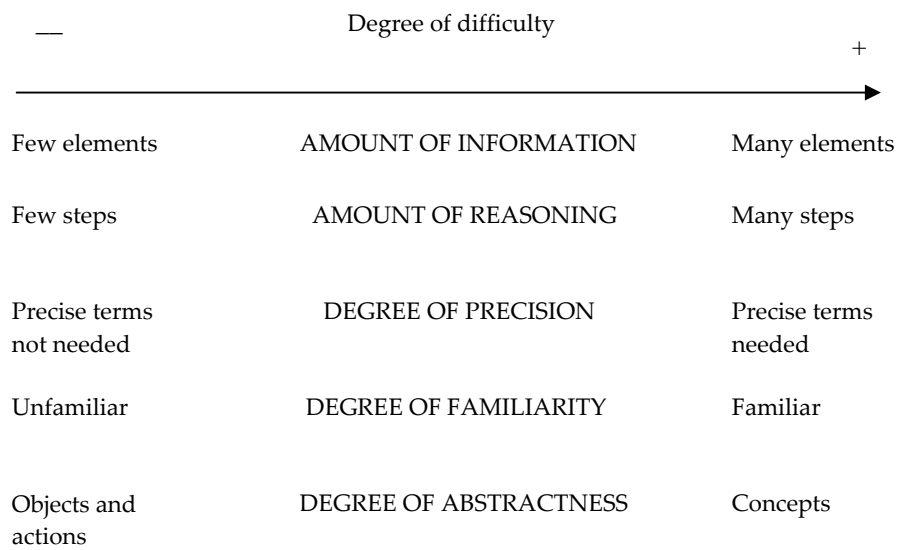


Figure 11. Criteria suggested by Prabhu (1987, p. 47) to determine Task Complexity.

Long (1985) suggested pedagogic tasks should be the units of syllabus design<sup>3</sup> and their selection and design should follow the identification of real target tasks<sup>4</sup>. The information retrieved from target tasks should inform the design of pedagogic tasks, which, organized from more simple versions to more difficult ones, prepare learners for the performance of highly complex target tasks.

<sup>3</sup> As we will see in Chapter III, task as a unit of syllabus design is only one among many available options, and it is not the most widely accepted one

<sup>4</sup> For an example of a real-world target task refer back to Section 2.2.1

Hence, Long (1990, p. 35) said:

“Especially in the early stages, they are usually simpler approximations to the target tasks that have motivated their selection, not just linguistically, but also in terms of the substantive content of the task, the number of steps the learners have to take, the options they have to choose from, etc.”

In this sense, in Gilabert (forthcoming) I suggested that if tasks are to be sequenced in a task-based syllabus according to increasing complexity, obtaining information during needs analysis such as the number of elements involved in each task, the number of steps involved in their performance, their degree of displaced, past time reference, the time allotted to their preparation, or the reasoning demands of each task is particularly important.

#### **2.4.1 Skehan’s model of task difficulty**

Skehan’s conception of task-based learning comes from a communicative approach to language teaching (Brumfit, 1984; Widdowson, 1972) which has been concerned, among other issues, with how task and syllabus design can contribute to interlanguage development. In Skehan’s view (1998; Skehan & Foster, 2001), both task manipulation and sequencing for syllabus design should be based not just on intuitions about difficulty but on empirical findings.

For Skehan & Foster (2001, p. 196):

“Task difficulty has to do with the amount of attention the task demands from the participants. Difficult tasks require more attention than easy tasks”.

Having evidence of the effects of task demands on production can be used to direct learners’ efforts toward different areas of performance separately or simultaneously. In addition to that, if links are established between production and acquisition, research evidence can be used to manipulate tasks to maximize the effectiveness of language learning.

Skehan (1998; Skehan & Foster, 2001) suggests a three-way distinction of difficulty, to which learner factors can also be added:

Table 8

*Skehan’s model of task difficulty, based on Skehan (1998).*

<b>Code complexity</b>	<b>Cognitive complexity</b>	<b>Communicative stress</b>	<b>Learner factors</b>
Linguistic complexity and variety	Cognitive familiarity	Time pressure	Learner’s intelligence
Vocabulary load and variety	Familiarity of topic	Scale	Breadth of imagination
	Familiarity of discourse genre	Number of participants	Personal experience
	Familiarity of task	Length of text used	
	Cognitive processing	Modality	
	Information organization	Stakes	
	Amount of computation	Opportunity for control	
	Clarity of information		
	Sufficiency of information		



He suggests that information should be collected regarding the effects of task manipulation on the areas of fluency, accuracy, and complexity. He takes linguistic complexity to be a 'surrogate' of learners' willingness to stretch their interlanguage by experimenting with more difficult forms and by trying out more elaborate language. In his view, the information obtained from the manipulation of task features can be used to establish longer-term pedagogic goals in which both meaning and form can be attended to, and in which interlanguage development can be integrated into fluent performance. Regarding sequencing, Skehan & Foster (2001, p. 193-194) propose that:

“the individual task has to be located, in a principled way, in longer-term instructional sequences which seek to promote balanced development, such that improvement in one area will be consolidated by improvements in others.”

Skehan and Foster, however, make no specific suggestions as to which dimension should be used for making prospective sequencing decisions. Their starting point is language instruction, which in their view should foster a balanced improvement in the three areas of production. Information about how fluency, complexity, and accuracy as affected by increasing task demands should be used to arrange individual tasks in a principled way in a long-term instructional sequence, which will promote such balanced development. However, Skehan and Foster's 'principled way' is in need of further exploration.

## 2.4.2 Robinsons' model of Task Complexity

As we have seen so far, Task Complexity is the result of the preoccupation with grading and sequencing tasks in a principled way in a task-based syllabus. Acknowledging the rich research tradition in the interactive dimension of tasks, Robinson has shifted the focus to the cognitive processes involved in task production. Robinson (2001a, p. 28) says that:

“task complexity is the result of the attentional, memory, reasoning, and other information processing demands imposed by the structure of the task on the language learner. These differences in information processing demands, resulting from design characteristics, are relatively fixed and invariant”.

Robinson proposes a three-dimensional model (see Table 9 below) that distinguishes between three different types of factors:

Table 9

*Robinson's model of Task Complexity, based on Robinson (2001a; 2001b; 2003a; forthcoming).*

<b>Cognitive factors</b>	<b>Interactive factors</b>	<b>Difficulty factors</b>
Task complexity	Task conditions	Task difficulty
a) resource directing	a) participation variables	a) affective variables
e.g., +/- few elements	e.g., one way/two way	e.g., motivation
+/- Here-and-Now	convergent/divergent	anxiety
+/- no reasoning demands	open/closed	confidence
b) resource dispersing	b) participant variables	b) ability variables
e.g., +/- planning	e.g., gender	e.g., aptitude
+/- single task	familiarity	proficiency
+/- prior knowledge	power/solidarity	intelligence

Robinson's (2001a; 2001b; 2003a; forthcoming) Cognition Hypothesis provides a rationale for designing tasks and organizing them into a coherent program that will lead to better performance and development. For Robinson (2003a, p. 56) Task Complexity "refers to the intrinsic cognitive demands of the task", and it can be manipulated during task design along resource-directing and resource-dispersing dimensions (See Table 9 on previous page). Task Complexity accounts for *within* participant variation. By task difficulty Robinson understands what learners bring to the task, and suggests that differentials in ability variables (e.g. working memory capacity) affect learners' perception of the task with consequences for performance and learning (e.g. a learner with low proficiency may find a task so hard that he or she cannot produce or learn anything from it). Task difficulty accounts for *between* participant variation. Finally, task conditions have to do with how information is distributed and flows among participants (e.g. a one-way task in which information is held by only one of the participants in a pair who communicates it the other participant or a two-way one in which information is equally shared by both participants who must interact in order to accomplish the task objectives).

In Robinson's view, Task Complexity should be the sole basis for making prospective sequencing decisions, since task conditions (participation and participant variables) and task difficulty (affective and ability variables) cannot be predicted before a course starts and can therefore only inform on-line decisions. In his view, task performance conditions are determined by a needs analysis. Information about the effects of Task Complexity on production should help

syllabus designers to organize pedagogic tasks from simple to complex so that they progressively approximate real world target tasks. According to Robinson (2001, p. 301), increasing the cognitive complexity of tasks “will facilitate the ‘means’ of language learning, and therefore lead to a transition in the learner’s knowledge states.”

In my view, the criteria for designing tasks and organizing them into a coherent syllabus advanced by Skehan and Robinson have a number of advantages as compared to other models in which the design of units (e.g. linguistic units) and their organization into a syllabus have been left relatively undefined<sup>5</sup>. Hence, the two models that have been briefly presented propose tasks as units of syllabus and classroom practice in consonance with findings from second language acquisition research. As I see it, research into task design has been theoretically motivated by constructs and findings from the fields of psycholinguistics, cognitive psychology, and second language acquisition, fields it has fed on and from which it has been enriched. Secondly, although further research into task features is needed, some task characteristics have been thoroughly researched, and their operationalization is based on strong empirical evidence. Thirdly, manipulation of tasks in experimental settings can be easily adapted to pedagogic settings. The experimental operationalization and manipulation of different task features can be easily transferred to pedagogic contexts in order to achieve specific effects on production and, possibly, learning. In the fourth place, findings obtained from task-based

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<sup>5</sup> See Section 3.2.5 for other criteria for sequencing units in a syllabus.

research on production and acquisition lend themselves to not just task-based syllabus construction but also to other approaches such as process or content-based teaching.

By looking at different proposals for grading and sequencing tasks, the second question in this chapter has been addressed. For the remainder of this study, the term Task Complexity will be used to refer to both Skehan's and Robinson's construct.

### **2.4.3 Task Complexity, attention, and effects on production**

The two lines of research that we have just seen hold different views about what the effects of cognitive demands have on performance. As we saw in Section 2.4.1, Skehan (Skehan & Foster, 2001, p. 196) understands difficulty as "the amount of attention the task demands from the participants." Skehan's view of how the three areas of production interact during performance springs from a limited-capacity view of attention in which more difficult tasks demand more attention than easy tasks, and such higher demands for attention have specific consequences for performance. Skehan bases his predictions on a limited-capacity conception of attention, such as the ones we saw in Chapter I, which suggests that when task demands are high, attention can only be allocated to certain aspects of performance to the detriment of others. Skehan's conception of attention resembles the models of early selection and limited capacity we saw in Chapter I (See sections 1.5.1.1 and

1.5.1.3), like the one advanced by Kahneman's (1973) in which there is a single volume of attention that 'runs out' of resources. Of the three dimensions of performance, Skehan believes that complexity and accuracy are in competition for attention, a statement that he has supported with evidence from a number of studies on pre-task planning<sup>6</sup>.

Robinson (2001a; 2001b; 2003a; forthcoming), however, has a contrasting view regarding cognitive complexity. He proposes that attention, as suggested by models such as Wickens' (1989), can draw on multiple resources and that manipulating Task Complexity by increasing the cognitive demands of tasks can lead to simultaneous improvement of accuracy and complexity. In his view, then, differentials in performance may be better explained by concepts such as interference and confusion rather than by limited resources (See Section 1.5.1.3). Robinson distinguishes between resource-directing and resource-dispersing dimensions. Manipulating Task Complexity along the first group of task variables (+/- elements, +/- here-and-now, +/- reasoning demands) directs attention to a wide range of functional and linguistic requirements. Increasing complexity along resource-dispersing dimensions (+/- planning time, +/- prior knowledge, +/- single task) reduces attentional and memory resources with negative consequences for production, a position which is in agreement with Skehan's. Despite such negative consequences, progressively increasing complexity along resource-dispersing

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<sup>6</sup> These studies are reviewed in the next chapter.

variables is also important in order to approximate the complexity conditions under which real-world tasks are performed.

Beyond different conceptions about how the different dimensions of performance compete for attention, Robinson (2001b; 2003a; forthcoming) has advanced a series of hypotheses regarding how different levels of complexity influence performance. Hence, for monologic tasks, Robinson has suggested that increasing complexity along resource-directing variables will have as a consequence greater dysfluency but higher complexity and accuracy. The predictions for monologic tasks are based on a number of assumptions.

Firstly, increasing Task Complexity increases the functional demands of tasks which, as a consequence, has the potential to influence syntacticization of the L2, that is, its linguistic complexity. This prediction by Robinson is motivated by a number of acquisitional arguments: i) Givon's (1985) idea that greater functional complexity in syntax tends to cause greater structural complexity, a situation that can be achieved by increasing the cognitive demands of tasks along what Robinson refers to as resource-directing complexity variables; ii) Klein and Perdue's (1992) and Perdue's (1993) suggestion that the communicative demands of discourse activities, which can be increased along Robinson's proposed complexity dimension, force learners to move beyond 'basic learner variety' and therefore push acquisition; iii) Rohdenburg's (2002) claim that in cognitively more complex environments the more explicit lexico-grammatical options will be used.

Secondly, increasing Task Complexity increases communicative demands of tasks which in turn triggers higher levels of accuracy. For Robinson, gradually increasing the cognitive complexity of tasks along resource-directing variables has the potential to draw learners' attention to the way certain concepts are grammaticized in the L2. Following Talmy (2000), he suggests that as demands are made higher, learners may gear their attention towards the similarities and differences in the way closed-class items (e.g. prepositions) structure certain concepts (e.g. time or motion). Complementing this argument is the fact that for such cognitive comparison of the overlap or divergence between L1 and L2 form-meaning mappings to take place, tasks must be kept simple along resource-dispersing variables, since otherwise attention may not be efficiently allocated to enable such comparison.

Thirdly, increasing communicative and cognitive demands forces learners to push production, stretch interlanguage, and destabilize fossilized forms. In Robinson's view (2003a, p. 65), this can be achieved by "pedagogic interventions which manipulate the design characteristics of tasks, and the sequence in which they are presented to learners, so as to increase their functional and conceptual demands, so prompting learners from the use of 'elementary devices to more complex ones'.

For interactive tasks, Robinson predicts more dysfluent but more active and interactive speech, with more negotiation of meaning episodes, in which language



or ideas need to be clarified and comprehension checked. In his view, however, such interaction may mitigate attempts at using structurally complex language.

The description of the predictions for the effects of Task Complexity on production has been an attempt at answering the third question that was posed at the beginning of the chapter, and has also set forth the groundwork for the motivations, questions, and hypotheses advanced by this study.

## **2.5 Motivation for this study**

This research investigates the impact of increasing Task Complexity along planning time and Here-and-Now dimensions simultaneously, and it is primarily motivated by three facts. Firstly, evidence is needed that will test the claims made by the models of Task Complexity we have just examined, especially when they have opposite views about how performance is affected by attention. Secondly, and in connection to the first statement, this research is motivated by Robinson's (2001, p. 308) claim that more evidence is needed regarding the synergistic effects of manipulating complexity simultaneously along resource-depleting and resource-directing dimensions. A third reason behind this research is the need to bring together explanations of L2 production processes, views of attention and memory, and integrate them into an account of how Task Complexity affects performance.

## 2.5 Summary of Chapter II

Chapter II has tackled the concept of Task Complexity which is crucial to this study. It began by approaching the definition of task, which was first presented in its everyday meaning and, then, as it is interpreted in language learning contexts. The emergence of the construct of Task Complexity was reviewed by considering a series of intuitive criteria as to how to grade and sequence tasks. This was followed by the examination of models of Task Complexity which have been advanced from an information-processing perspective. It was seen that Skehan's model suggests a distinction between code complexity, cognitive complexity, communicative stress, and learner factors. Robinson's model proposed a distinction between cognitive complexity factors, interactive factors, and difficulty factors. We also saw that Robinson suggests that cognitive complexity variables should be used to make prospective decisions about sequencing tasks from simple to more complex versions in a syllabus. It was seen that Skehan's and Robinson's idea about attention differ, which as a consequence generates different predictions about how manipulating complexity affects performance. While Skehan suggests that accuracy and complexity are in competition for attention if tasks demands are increased (e.g. along planning time), Robinson, whose models subsumes Skehan's predictions in the case of resource-dispersing variables, suggests that accuracy and complexity may be attended to simultaneously as long as tasks are made more complex along

resource-directing variables, such as the number of elements, their level of reasoning, and their degree of displaced, past time reference.

The next chapter, Chapter III, reviews an array of options in syllabus design as well as the findings related to some of the variables mentioned in this chapter. It will be seen that different approaches to language teaching have determined the choice of units of syllabus design and their sequencing. Each option in syllabus design, in turn, conveys the way in which the language is to be taught, used, and acquired in instructional contexts. It will be also seen that the task-based approach to language teaching has generated extensive research into task features from both interactionist and information-processing perspectives. A number of studies of features which are not directly related to the experiment in this study but which have laid the groundwork for it will be reviewed. The studies of the two task features that are directly relevant to the experiment in this dissertation (i.e. Planning Time and +/-Here-and-Now) will be extensively reviewed in Chapter IV.

