

CHAPTER 1

PLANNING PROCESS

1 INTRODUCTION: PLANNING IN WRITING

When they have to write a text, writers have generally to think, to anticipate, to foresee what they will write. This anticipation can involve the content (what has to be told) as well as the linguistic form (how to tell it) of the text. It is besides common to think that the longer and/or more intensive this reflection activity will be, the easier to write and the higher the quality of the text will be. Consequently, this text will not need any important modifications or corrections afterwards.

1.1 Planning: a general cognitive activity involved in text writing

‘Thinking before acting’ is not specific for text writing. Classically defined by Miller, Galanter and Pribram (1960) as ‘Planning’, this activity is a very general process that underlies every human task oriented by a goal, and which allows someone to differ in time every complex task, that cannot be simultaneously achieved because of human processing limited capacities. Planning can thus be considered as a high level cognitive skill or as a mental activity driven by memory (Cf. Akyürek, 1992: 103). Thus, planning does not simply consist of selecting plans or information stored in Long Term Memory but this activity can be more precisely defined as containing deliberate start up strategic procedures and practical goals. The planning process, conceived as ‘*the schematisation of a complex situation that has to be solved*’ (Hoc, 1987: 37, our translation), appears to be the most effective strategy to process different complex cognitive tasks and, in this way, it is involved in most cognitive activities.

In the case of verbal production, the Planning process is conceived as a ‘main determiner’ (Scardamalia and Bereiter, 1985). This process is costly in cognitive resources (Bock, 1982; Kellogg, 1996) and could take, in a specific situation, two thirds of the total production time (Gould, 1980). Within text writing activity, this type of processing can be found within each writing level, from the elaboration of a text plan to the elaboration of a graphic transcription plan. But more specifically, different kinds of planning can be distinguished (Barritt and Kroll, 1978; Hayes and Nash, 1996; Kaufer, Hayes and Flower, 1986). Hence, an important difference has to be made between planning of processes (that would consist of ordering the execution of different writing processes in a strategic way), and planning of contents (that would consist of delimiting, in organising and in adapting – according to the audience – the plan of the text – Cf. Piolat, 1987).

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1.2 Different planning activities in text writing

Flower and Hayes (1980, 1981b) have distinguished different kinds of planning activities by describing three types of processing that would underlie the elaboration of plans of different natures, dedicated to different activities (*Cf.* Figure 8). Thus, for the authors, there are three plans: a Plan To Do, a Plan To Say, and a Plan To Compose.

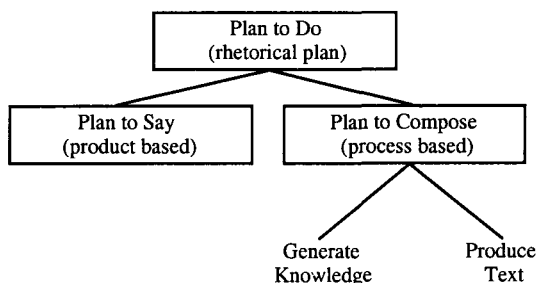


Figure 8: Different plans involved in writing activity, adapted from Flower and Hayes (1980). Copyright © 1980 by Lawrence Erlbaum Associates. Adapted with permission.

The Plan To Do, that could also be called 'Rhetorical Plan', permits the management of pragmatic constraints during the writing activity. It includes writer's and reader's characteristics, as well as the general topic of the text. The Plan To Say is a content plan (or a 'Declarative plan') that represents a summarised and simplified version, or an abstraction, of the whole set of information that will be translated in the text. The Plan To Say can be considered as the plan of the text. The Plan To Compose is not a content plan but rather a process plan (*Cf.* Espéret, 1989, for a discussion the differences between process and content plan). It determines the order in which the different writing processes and sub-processes will appear (as a 'Procedural plan'). This plan enables the transformation of domain knowledge (*i.e.*, for the authors, 'Generate Knowledge': generating and organising) as well as the linguistic translation of the semantic content ('Produce Text').

Inspired by Flower and Hayes' (1980) conception, Hayes and Nash (1996: 43-45) have recently improved such a categorisation of the different planning types involved in writing activity, by differentiating the nature of representations concerned by each kind of planning (for instance, content, non content or text representations). According to Hayes and Nash, planning in text writing could be decomposed into a hierarchical set, regrouping different types of 'sub-planning' activities (*Cf.* Figure 9). To describe planning in writing firstly requires distinguishing the planning of processing and writing main goals (Process Planning) from the textual and linguistic planning (Text Planning). While the first one is focused on the writer and the strategy to comprehend and execute the task, the second one is centred on what is being

written, that is to say the text content, its form and its awaiting impact upon the addressee.

Furthermore, according to Hayes and Nash (1996), the Text Planning is shared into an Abstract Planning and a Language Planning. The first one generates ideas, without specifying the language to be used. The second one is involved in the production of a grammatically and syntactically correct text. This last type of planning generally corresponds, in writing models, to the formulating stage (Cf. Hayes & Flower, 1980; Chapter 2). Finally, the Abstract Planning can be divided into two parts. The Planning allows solving rhetorical problems – the evaluation of the appropriateness between the text, the addressee and the writer's goal. The Content Planning generates a simplified version of information to be expressed. These two kinds of Abstract Planning could respectively correspond to the 'Planning to Do' and the 'Planning to Say' sub-processes as defined by Flower and Hayes (1981b).

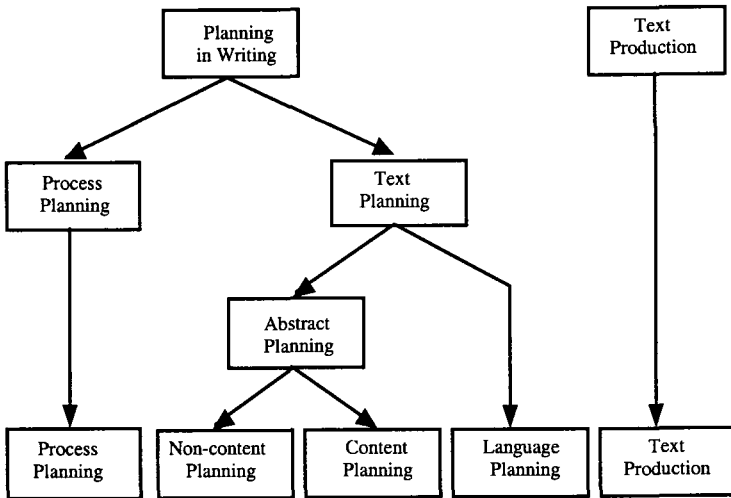


Figure 9: Taxonomy of different types of writing planning, adapted from Hayes and Nash (1996). Copyright © 1996 by Lawrence Erlbaum Associates. Adapted with permission.

These various kinds of planning can equally be characterised by the nature of the related mental operations. Hayes and Nash (1996) distinguish three kinds of processing involved in planning: 'Planning by Abstraction', 'Planning by Analogy' and 'Planning by Modeling'. Planning by Abstraction, consisting of manipulating and ordering abstract concepts, would be more particularly involved in the case of Content Planning – drafting an abstract content of the future text, independently of the translation modalities of this content. Planning by Analogy allows generalising knowledge involved in a specific activity, resulting in a similar or a close activity. This kind of process would be used, in writing activity, each time that a text schema or a previous text plan can be adapted and used to write a new text. Hence, the ge-

neric application of a narrative schema, in the case of narrative text writing, can be a good example of Planning by Analogy, which is equally involved in content planning and economically replaces the Planning by Abstraction. Planning by Modelling can be distinguished from Planning by Abstraction in the sense that the first one does not focus on gists or abstract ideas – like plan text content – but takes into account the entire set of information needed to execute a given task. According to Hayes and Nash (1996), this mode of planning could occur during the linguistic formulation stage, when a sentence or a clause can be entirely and mentally planned before its graphomotoric execution.

1.3 Planning to elaborate the plan of the text

The various definitions presented above seem to be a good demonstration of the fact that planning, in writing activity, is a very complex notion and rests on various mental operations, bearing on various representations. However, in general writing models, the concept of planning is mainly used to account for a 'preparatory thought' (Hayes and Nash, 1996), allowing the elaboration of a text plan (Hayes and Flower 1980; Hayes and Flower, 1986; Hayes and Nash, 1996). The plan, elaborated during planning processing, globally depends on:

- both topic and objective of the production (*i.e.*, to write a text to distract, to inform, to explain...),
- the addressee (*i.e.*, to write a text for a known or unknown reader, for a friend, for a professor, *etc.*; Cf. Caccamise, 1987; Ransdell & Levy, 1994; Rubin & Piché, 1979),
- the text type (*i.e.*, to write a text in order to explain, to describe, to argue, *etc.*; Cf. Cooper & Matsushashi, 1983; Martlew, 1983) and,
- knowledge available in Long Term Memory, as a function of the expertise level concerning the domain knowledge of the text (Cf. Kellogg, 1987a; Martlew, 1983; Voss, Vesonder, & Spilich, 1980).

In the initial model of Hayes and Flower (1980), this process, simply labelled 'Planning' is introduced as one of the three main processes in writing activity (with Translating and Reviewing processes). According to Hayes and Nash's (1996) taxonomy, this planning process, dedicated to the content, could be ensured by a mode of Planning by Abstraction. Planning process, as described by Hayes and Flower (1980), is central in the organising of text content and in the processing of content coherence. More precisely, according to the authors, the main role of Planning process is to establish a writing plan by using (1) domain knowledge retrieved from Long Term Memory and (2) information available in the Task Environment. If this writing plan has not been previously stored in the writer's memory (Stored Writing Plans and, for Hayes, 1996, Planning by Analogy), it must be entirely produced by means of three sub-processes: (1) Generating knowledge from Long Term Memory, (2) Organising this knowledge into a writing plan, and (3) Goal Setting – establishing criteria to test the appropriateness between the written text and the communicative goals.

The functioning of such a Content Planning process has been differently conceived and formalised in the main models of verbal production. Here, the description of content planning is globally guided by the organisation of the Planning process as defined in Hayes and Flower's (1980) model. Thus, we will first detail the functioning of Generating and Organising sub-processes, before considering, through Goal Setting sub-process, the nature and the role of pragmatic processes during planning.

2 THE GENERATING SUB-PROCESS

2.1 *Definition of the Generating sub-process*

The sub-process labelled 'Generating' by Hayes and Flower (1980), consists of retrieving domain knowledge units from Long Term Memory and organising them into a writing plan (Cf. General Introduction). A memory probe (according to the classical definition of Raaijmakers & Shiffrin, 1981), initially elaborated on the basis of a writing instruction (defining the topic, the type of text and the audience), would retrieve a first knowledge unit, serving in turn as a probe to retrieve the following unit, and so on. The initial probe would trigger off a 'chain reaction', ending in a final product comparable to an associative chain of units (Cf. Figure 10).

During this sub-process of domain knowledge retrieving, a processing operation, called 'Evaluate Retrieved Element', may interrupt this associative chain if contents retrieved are not suitable regarding, for example, the theme of text. In this case, if the writer's objective is to generate contents, some new memory probes are elaborated instead of the inappropriate probes. Finally, it is interesting to notice that the Generating sub-process is not only dedicated to the mental content recovery but also involves an operation named 'Consider Notes' that evaluates the possibility to linguistically translate the knowledge unit *via* an operation labelled 'Write Note'.

If we now consider this last point, the functioning of the Generating sub-process, as conceived by Hayes and Flower (1980), is relatively similar to that described by Bereiter and Scardamalia (1987), in the framework of the Knowledge Telling Strategy generally adopted by younger and/or less skilled writers (Cf. General Introduction, page 7).

According to Bereiter and Scardamalia (1987), the content generation process within the Knowledge Telling strategy is ensured by an iterative set (like a routine) composed by three operations (Cf. Figure 2, page 7) called 'Construct Memory Probe', 'Retrieve content from memory using probes' and 'Run test of Appropriateness'. Globally, these operations, under the control of the text theme and genre, respectively underlie: (1) the elaboration of memory probes, (2) the effective retrieving of domain knowledge units, before (3) the relevant evaluation of these units.

As in Hayes and Flower's (1980) model, a first knowledge unit would be initially retrieved, *via* a memory probe, elaborated on the basis of minimal cues constituted by the text theme and genre. This first retrieved unit would contribute to the elaboration of new memory probes allowing the retrieving of another unit, strongly connected to the previous one. This chained retrieval, more precisely defined than in Hayes and Flower's (1980) model, would obey, according to Bereiter and Scar-

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