Chapter 7

Procedural Texts Written by Children

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The chapter analyses the characteristics of procedural knowledge, in order to explain its acquisition from a developmental point of view, and most important, to better understand how to manage procedural texts. This acquisition is explained in terms of the proceduralization in acquiring expertise at the performance level, on the one hand and representational redescription (Karmiloff-Smith, 1992) at the communication level, oral or written, on the other. The prior analysis flows toward the difficulties children encounter when they explore a procedural text, which are summarized as follows: the combination of linguistic and graphic modes of representation to deal with the temporal sequence of actions and to describe the spatial information of the device; the correct segmentation of the information following the main actions to be executed; the adaptation of the content of the text to the needs of the audience and, finally, the organization of the text in separate chunks of information (for example by means of numeration). These difficulties about children’s productions can become important guidelines in the professional training of novice writers of technical documents since they may help to understand the difficulties they may encounter when they have to write procedural documents at their workplace.

A chapter on child development research may seem a little out-of-place in a book devoted to professional documents. Children are rarely asked to produce or interpret guidelines, recipes or instructions, except in play contexts (for instance, when they need to understand or explain the workings of a toy or an object in a science museum). Nevertheless, we believe that an analysis of their ability to produce procedural texts may shed light on the performance of adults in tasks of this kind, and thus help to improve the quality of written documents in the workplace. This is so for two reasons. First, if we know how a skill develops, we will be better placed to understand the form it takes in adults; indeed, developmental analysis can broaden our understanding of the nature of a skill and help us to identify the main difficulties it has to overcome in order to reach its final, mature form. Second, data from research on children’s production

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of procedural texts can be an important source of information for the design of instructional
settings that help children and young adults to acquire expertise in writing procedural texts.

The chapter is structured in four sections. The first compares the main characteristics of
procedural texts and other text types. The second presents a developmental analysis of the
acquisition of procedural knowledge as opposed to other types of knowledge. In the third sec-
tion we discuss research conducted on the development of procedural text production and
comment on our own empirical data concerning the production of procedural texts by chil-
dren. In the last section we discuss some of the issues raised in the developmental literature
that are relevant to improving the production of written documents in the workplace.

1 Characteristics of Procedural Texts

The main purpose of professional documents is to help people to understand or carry out a
task. Regardless of the type of text considered (guidelines, recipes, directions for use, etc.),
the central feature of documents of this kind is the description of a procedure: a sequence
of actions related to the accomplishment of a goal. Indeed, this is the main function of a
procedural text (Ganier & Barcenilla, this volume). Like narrative texts, procedural texts
are concerned with temporality; however, while the essence of narrative texts (i.e. a story)
(Hudson & Shapiro, 1991) is to describe a sequence of events chronologically, the essence
of procedural texts is to describe a sequence of actions in order. One of the main difficulties
facing both genres is to adequately represent the temporal dimension using the formal features
of writing. But procedural and narrative texts differ in other aspects. An important one is that
procedural texts are directed to guide and regulate people’s actions in order to reach a specific
goal, whereas narrative texts describe chronological events but have no practical objective.
Procedural texts need to describe the type of actions and their sequence very precisely, a
restriction that is not imposed on narrative texts.

On the other hand, narrative texts are also often contrasted to informational texts
(Chapman, 1995; Donovan, 2001; Freedman, 1993; Kamberelis, 1999; Tower, 2003). The lat-
ter are organized around a topic and aim to describe its features. Informational texts focus
on the characteristics of the topic in question and do not need a temporal dimension. The
difficulty, in this case, is to exhaustively and accurately represent the different aspects of the
topic and to relate these aspects to each other in a coherent way. Procedural texts also require
an accurate description of the actions involved. In this way, procedural texts are similar to
informational texts and indeed share some common features with narrative and instructional
texts. Like narrative texts, they have to integrate the temporal dimension involved in a sequence
of actions. Like informational texts, they need to communicate the relevant aspects of the
situation in great detail (in this case, the kind of action to be reproduced).

2 Developmental Issues in the Acquisition of Procedural Knowledge

The goal of this chapter is to understand how children set about the task of producing a pro-
cedural text, as a way to identify some of the difficulties in producing professional documents.
To do so we must first analyse the cognitive processes involved in the acquisition of a procedure