Allowing all learners to progress

When starting CP, the learners are not all at the same level and during their first year, they will not progress at the same rate. This is an unavoidable reality.

The teacher must take these differences into account and at the same time, he (she) must be extremely careful not to 'systematically create groups of different levels which could lead implicitly to the establishment of different paths' (ministerial directives on the organization of the pedagogical cycles of primary school, January 1999).

Therefore we chose to compile in this book all the tasks which can be presented to the entire class, but which can be done at different levels, from the simplest to the most difficult, throughout the school year. As for the first learning skills on numbers, the simplest level is counting while the most difficult is calculating.

When an activity involves knowledge and know-how, the acquisition of which is essential in the class of CP, we present it many more times after its introduction (in a coloured frame). For most children, these reinforcements (in grey frames) constitute maintenance activities, whereas they can be new learning opportunities for other children. Consequently, the normal length of time during which it is 'normal' to learn can be increased.

This book has been conceived as a 'differentiated pedagogical tool'. In our opinion, this way seems better than the establishment of 'level groups' because it avoids exacerbating the differences or creating heterogeneity. Moreover, experience proves that, depending on the notions or the different periods of the school year, it is not always the same children who need more time to learn.

Teachers will also find in the *Teacher's Book* many more activities to be presented to those children who need to be helped.

An easier way to introduce subtraction

Nowadays, teaching subtraction as early as the CP is no longer a debate. The question is rather *how* to do it.

We maintain the choice made since the 1st edition of *I Learn Maths CP*, that is avoiding associating too closely the expression a – b (a minus b) with situations where a number b is subtracted from a number a and where words or expressions such as "take off", "deduct" or "how much (many) is (are) left" are used. In fact, subtraction allows us to solve problems of a very different nature : not only those situations in which we calculate what we obtain when we make a withdrawal, but also, for example, what we have to add to a value to obtain another one (*John has 17 pictures. He wants to have as many pictures as Sally who has 32 of them. How many pictures must he buy?*) . In our opinion, to let learners understand that subtraction allows us to also solve problems in which a quantity increases rather than decreases is a fundamental issue in the teaching of this arithmetic operation. Therefore, if throughout the whole year of CP, subtraction is constantly associated with situations of deducting, the second aspect of subtraction could become very difficult to understand for many learners.

Therefore, we also maintain our initial decision to introduce subtraction in a situation of unequal distribution (cf. pages 46-47 and 58-59).

Since the verb 'to give' used in this situation can also be found in problems involving addition, (for example "John has 17 pictures. Sally gives him 5 pictures…) we make sure that it does not become a sort of 'signal' inducing the learner to automatically use subtraction without thinking. This situation of unequal distribution is more 'neutral' and does not lock learners into the prototypic concept of subtraction induced by the word 'minus'. Conditions for future progress are therefore preserved.

However, for some learners, this way of introducing subtraction is not always self-evident. Accordingly we added the 'scenario' represented on pages 47 and 59 (activity D). We strongly advise the teacher to apply it in his (her) class. For example, to teach how to calculate 9 – 2, he (she) can present a cardboard card as follows:

He (she) only shows the back of the cardboard card and asks the learners to describe what he (she) actually sees. Doing so, he (she) helps them to visualize that constellation of 9 dots and to acquire a mental image corresponding to this number. With another card, he (she) masks 2 dots and says : "I have masked 2 dots. What do I see now? 9 – 2 = …, write down the result".

Experience has shown us that this 'scenario' helped the learner not only to visualize 9 – 2 but to find the result of this subtraction. Indeed, it appears to be fairly easy for a learner of CP to understand 9 – 2 in such a context. It corresponds to a situation where, after having seen 9 objects, we mask 2 of them and we try to find out how many are still visible. A learner who succeeds in visualizing the corresponding mental image easily finds the result.

Geometry activities

In this new edition, we have completely reworked the progression for geometry. It now concentrates on basic knowledge and know-how as defined in the curriculum pertaining to Cycle 2 published in 2002. In the CP, the following competences are emphasized: using a ruler and drawing a line, locating and marking cases and nodes on a grid, a brief introduction to basic shapes and using a stencil. Notions about basic three-dimensional shapes such as sides, edges and apexes will be dealt with in CE1.

To introduce many activities, we turn to two characters, Geom and Squeaky: Geom succeeds in all his tasks while Squeaky always makes three mistakes. This pedagogical approach, namely to let the learners compare before the activity, lends itself to two outcomes of the task, a correct one and a wrong one. It also helps the learners to express themselves on what should be done to have it right. It encourages them to acquire a specific vocabulary and to use the appropriate words in their approach. It helps them to anticipate and assess their results. In short, the learner knows better what to do, what not to do and how to do it.

The authors