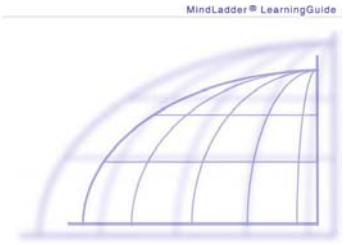

Printout of MindLadder® Advisor Section B-5•

T-18: Lexic Operations

The MindLadder model is designed to catalyze the ability of schooling to achieve its objectives. As such the development of strong academic skills is among the foremost aims of MindLadder (see also T-19). To develop the lexic operations educators and students together discover and examine the contribution of the knowledge construction functions within each of the language arts. A more detailed description of the lexic operations is available in the Advisor section on Extended Definition: T-18. An example of the connection between the functions and the language arts is provided here for the area of reading.

Reading: The mental act of reading requires the use of knowledge construction functions in addition to Verbal Tools and Concepts (R-6, C-6). Reading, for example, draws on Attention (R-2), Traces, Symbols and Signs (R-5) and Strategies for Inferential Thinking (T-16). Research has shown that phonemic awareness, phonics instruction, word recognition, reading fluency and comprehension all contribute essential components to the development of reading proficiency. Knowledge construction functions operate within each of these components. For example, in order to develop phonemic awareness, the following functions are particularly important:

Attention (R-2)
Precision-and-Accuracy (R-9)
Use of Cues (T-3)
Comparative Behavior (T-9) and
Rule Seeking (T-25)

Attention (R-2), Precision and Accuracy (R-9) and Use of Cues (T-3) are important due to the need to identify even minute differences in a word's form. These three functions underlie many of the tasks that are used to develop phonological awareness such as phoneme blending,

counting, deletion, segmentation, sound isolation and rhyming. Comparative behavior and rule seeking are needed to identify the specific nature of phonological patterns and the rules that govern their use.

The development of Reading Fluency, on the other hand, calls for the following knowledge construction functions:

Rapidity and Precision (P-1)
Attention and Persistence (P-2)
Automatization (P-3) and
Self-Regulation and Autonomy (C-10)

The first three are functions that pertain to the development of specific aspects of the learner's performance (a list of the performance functions is available in section A-2 of the Advisor). Self-Regulation and Autonomy (C-10) is needed to for the learner to monitor and regulate reading fluency on her own.

Many students who experience difficulties acquiring reading proficiency have received considerable instruction using programs that stress the five component areas of reading from phonemic awareness to comprehension. However, children need knowledge construction functions in order to master and integrate the component areas that contribute to reading proficiency. In the absence of the development of the knowledge construction functions students may benefit little from reading programs. MindLadder does not replace reading programs. Quite to the contrary, MindLadder is designed to ensure that the prerequisite knowledge construction functions are in place for reading programs to succeed.

For example, when developing the knowledge construction function of sequencing (T-10) teachers help students to discover the critical role this function plays when they scan the letters that make up words and sentences. When they develop the function of mental representations (T-7) teachers and students can explore the process of meaning making that occurs in reading. Once again, more detailed information about all of the lexic operations is available under T-18 in the Extended Definition section of the Advisor.

> *A comment on the phonics vs. whole language debate*. As much as possible proficient readers rely on contextual knowledge to generate and eliminate hypotheses as they read. As such they rely on a meaning-based or semantic approach. It's a fast way to proceed. Proficient readers

switch to decode individual words when they are unable to eliminate uncertainty using context.

Evidence for the reliance upon contextual knowledge is consistent with a whole language preference among proficient readers. The weight of the available observations, however, suggest that poor readers attempt to rely even more on contextual knowledge than do skilled readers. For the poorer readers the attempt to rely on higher level semantic processes may be compensatory in nature, i.e. it may be a reaction to difficulties that poorer readers experience with the decoding of the phonological structure of words. This supports the view of educators who stress the need to teach phonics.

The evidence from MindLadder theory and the dynamic assessment of students with reading difficulties support an approach that pays close attention to both the phonological and the semantic aspects of language: Phonological as well as syntactic skills are needed to resolve uncertainties within words, sentences and paragraphs when meaning-based, or semantic, approaches fail to yield dependable interpretations.

The development of lexic operations enables students to bring a growing mastery of the knowledge construction process to bear on reading, writing, listening and speaking: The lexic operations integrate and make visible the contributions of the knowledge construction functions that support the language arts.