

## Printout of MindLadder® Advisor

### Section B-5\*



### C-3: Projection of Virtual Relationships

This knowledge construction function orients the learner to use thinking to guide action. By collecting and transforming information, thinking generates mental products. These mental products reside in the mind. We say they exist virtually. Students must learn to project these virtual relationships so their mental products can serve as guides for actual behavior. Without this function the process of constructing knowledge may end without the knowledge being put to use. Joe worked out the solution to a complex math problem in his head without ever looking at the multiple choice options. However, once he glanced at the printed options on the paper, Joe picked first one and then another incorrect solution. At the critical moment he did not look into his mind to use the solution he had correctly thought out. He did not project the virtual relationships in his mind to guide his behavior and choice.

This communication function needs to be mediated for many learners as they develop new transformation functions. In the absence of the projection of virtual relationships students may fall back on old habits that ignore their newly formed abilities to create sound mental products. As a result their communication may not reflect the mental processing which they are able to accomplish.

For many learners the development of this knowledge construction function represents a change in attitude towards the self and the world. Even if it exists only as a virtual reality, students learn that a mentally created product can be used to inform perception, choice and behavior. The mentally created product, in a sense, overrides or supersedes what is perceived and known about the world. Students who have been passive recipients of information (see T-14) often sense, with the development of this knowledge construction function, that they are becoming active generators and producers of

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information: They are using a mentally created products to guide their work.

To mediate this knowledge construction function have students practice responding with and without stopping to use virtual relationships they have created in their minds. While artificial such exercises sensitize students to the nature of this knowledge construction function. What would your behavior look like if you responded to a quiz without relying on your thinking? What would it look like if you did? What would the cook's meal look and taste like if he didn't use his knowledge of cooking? What would a judge's rulings be like if she didn't use her knowledge of the case and the law? Have students come up with examples that demonstrate the role of this function. Students may provide examples from their own experiences. Have them discuss the significance of this function. Here is a sample of comments you may hear:

"Before I would always just pick an answer because I didn't think I could get it in any case. Now I am learning to sort of look into myself to see what I am coming up with."

"Answering without using what you have come up with is kind of a waste. It's like you have done all that thinking for nothing."

"When I answer without using my thinking I am taking a lot of chances that I don't really have to take – scary really."

As you work in the classroom help the student to stop and think by asking questions about what he knows in his mind. Cover the solutions or answers he must choose from and have him state the answer verbally before he is permitted to select a response. Have him stay focused on his mental product as you uncover the solutions. Restrain impulsivity (have the student fold his hands if necessary). With your continued guidance and mediation of a feeling of competence the student will come to rely on this knowledge construction function and use his thinking to guide his actions.