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ABSTRACT

The literature and theories of the role of self-assessment in the metacognitive development of children with learning handicaps is reviewed. Self-assessment is seen to be a prerequisite for metacognitive growth. The literature on purposes of self-assessment and ways to assess a student's actual use of self-assessment indicates that learning handicapped students tend to be passive learners; that self-report to determine students' self-assessment abilities is unreliable; that the use of rating scales for pre-judging by the student is included among methods of assessing students' self-assessment; that self-assessment can be inferred from student comments about difficulty level, and that specific self-assessment includes giving students devices to self-assess during a task. The literature suggests that self-assessment has different types including "sizing up" the task before beginning, gauging one's skill and likelihood of success before beginning, assessment during task performance, self-judging about the decisions in the self-assessment, and self-monitoring as the on-going watching of one's self. A theory of metacognition is described which includes the three parameters of person variables (such as age, sex, developmental skills, self-esteem), task variables (such as meaningfulness, task format, level of complexity), and strategy variables (specific strategy knowledge,, relational strategy knowledge, and metamemory). (DB)

SELF-ASSESSMENT IN STUDENTS WITH LEARNING HANDICAPS

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Self-Assessment in Students With Learning Handicaps

Self-assessment is required as part of any learning act. In order to be good learners, students must look at how they are performing tasks, make judgements about that performance, and use those judgements to make any alterations in the way they are doing things. There is an increasing amount of evidence showing that lags in self-assessment are important elements which differentiate children who have learning handicaps.

While this kind of assessment of one's own performance is often described as being integral to metacognition in learning experiences, it is also the part that has been less investigated. Metacognition itself has been described as "thinking about thinking" (Jacobs and Paris, 1987). Metacognition has two broad elements: knowledge and awareness of one's cognition, and regulation of cognition (i.e. executive control) (Brown and Palinscar, 1982). One can find numerous studies and references in regard to the second element, but the first--self-assessment--has received less attention even though, logically speaking, it is the prior skill.

Fundamentals of Self-Assessment

Purposes of self-assessment, and ways to assess student's actual use of self-assessment, have been presented in earlier papers (Miller, 1986; Miller and Turner, 1987). What has been shown in those papers has been:

-Students with learning handicaps--particularly the Learning Disabled--have been referred to as being "inactive" or "passive" learners, evidencing "learned helplessness," or showing a "production deficit" (i.e. having ability, but not applying it). Standard teaching techniques still put most of the decision-making responsibilities on the teacher. In order to assure independence in learning, judgements and decisions must be given to the students.

-The difficulty of finding ways to guage students' self-assessment abilities. The demonstrated unreliability of self-report indicates that one simply cannot go to the student and ask about self-assessment.

-A variety of ways to assess students' self-assessment has included: rating scales--having the student rate self and comparing this to an adult's rating. These have shown lack of accuracy and reliability in most studies, though some use with adult retarded has been shown. They have been recommended as a good starting place for conversing with the student about abilities.

-Another technique is pre-judging--having the student assay a task and state probable success. This has been useful with arithmetic problems or nonsense-word

recognition--items which are short, concrete, and easily scored.

-Inferred self-assessment is demonstrated when the student is engaged in a task and then comments about the task and its difficulty level. Studies with such a technique have shown utility for teaching using advance organizers.

-Specific self-assessment includes giving the student a device to rate self on during a task. While this cannot be used with all tasks, this has been useful to show differences between subgroups and differences in success related to the task's level of complexity.

-Although research data are limited, there is some evidence that increasing the student's accuracy in self-assessment brings a corresponding increase in achievement.

Further, self-asssessment appears to come in stages; it can be sub-divided into self-assessment of particular types (Miller, 1987):

-Task assessing refers to "sizing up" the task before beginning in and making judgements about the best ways to approach the task and what kinds of skills to bring to the task.

-Pre-assessing includes guaging one's own skill level and the liklihood of success one will have on the task before actually beginning it.

-Self-assessment, then, is the actual assessments one makes of performance during the task itself.

-Self-judging refers to the judgements and decisions one makes about the self-assessment. If I am doing this right, or if I am doing this wrong, what alterations do I need to make in what I am doing? What alternatives do I have?

-Self-monitoring is the on-going watching of one's self to see if one is continuing to apply the procedures decided upon in the self-judgement.

What Is the Theory?

An often-heard comment by critics of the metacognitive approach is the lack of theory or framework for understanding metacognition. In one of the first such commentaries, Whitehurst (1981), for instance, related it as a "loose and fuzzy construct" (p. 62), and there are dangers in attempting to use it as a direct explanatory variable when its use really is so undefined or, as in an example he gives, is simply circular reasoning. Models of theories have not arisen in response to this. The closest that comes to a model or paradigm, at least in references by others, is that given by Flavell and Wellman (1977). This postulates three kinds of variables which can affect metacognitive ability. These have been described, and contributed to by others, to include:

Person Variables

-Age

-Sex

-A "learning self concept" related to pictures of self as a learner in different learning tasks

-General self esteem

-Developmental skills (Baker, 1982)

-Approach-to-task (Bos and Filip, 1982; Hagen, Barclay, and Newman, 1982)

-Reliance on others (Paris and Oka, 1986)

Task Variables

-Meaningfulness, familiarity with the task

-Situational variables

-Task format

-Level of complexity

-Presentation format (e.g. written vs. oral)

Strategy Variables (listed by Borkowski and Kurtz, 1987)

-Specific strategy knowledge

-Relational strategy knowledge

-General strategy knowledge

-Metamemory (metacognitive) Acquisition Procedures.

To put this into a theoretical paradigm, one can diagram this as a cube, with the three faces being the variables of Person, Task, and Strategy variables. Such a figure depicts, much clearer than even the original exposition, the kinds of relations and interactions which

must be central to any kind of theoretical position regarding the role of metacognition in learning.

If such a figure is construed as depicting elements of metacognition, then it must also be considered in elaborating on any part of the metacognitive model. That is, in fact, the case when focusing on the self-assessment aspects. Overlaying all of this cube, in a kind of fourth "face," are the specific steps of self-assessment listed above (Miller, 1987). The applicability of this model is demonstrated when considering examples of individual children and comparing them one to another.

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A PARADIGM OF VARIABLES AFFECTING METACOGNITION