Metacognition refers to the ability of learners to be aware of and monitor their learning processes (Peters 2000). Although related, cognition and metacognition differ: cognitive skills are those needed to perform a task whereas metacognitive skills are necessary to understand how it was performed (Rivers 2001; Schraw 1998). Metacognitive skills are generally divided into two types: self-assessment (the ability to assess one’s own cognition) and self-management (the ability to manage one’s further cognitive development) (Rivers 2001). Successful adult learners employ a range of metacognitive skills and effective teachers of adults attend to the development of these skills. This Alert describes some of the trends related to metacognitive skills for adult learners and provides a list of resources for further information.

Trends in the literature on metacognition can be grouped around the two types of metacognitive skills. Literature on self-assessment deals with the importance of learners being able to assess their knowledge and abilities. Research indicates that learners who are skilled in metacognitive self-assessment and, therefore, aware of their abilities are more strategic and perform better than those who are unaware (Rivers 2001; Schraw and Dennison 1994). Examples of instruments for assessing metacognitive skills can be found in Mokhtari and Sheorey (2002) and Schraw and Dennison (1994). The use of such instruments can help learners to incorporate strategies that will improve metacognition (Mokhtari and Sheorey 2002).

Most of the literature on metacognition in adult learning is related to the area of self-management skills. The role of instructors in enhancing learner cognition is stressed in much of the material on self-management. Teachers who are aware of their own metacognitive functioning tend to play a more significant role in helping learners develop skills in metacognition (Sternberg 1998). Suggestions for instructors can be found in several sources including Cromley (2000); Field (1999); Language Australia (2000); Saunders, Batson, and Saunders (2000); and Schraw (1998). Helping adult learners improve their self-management skills through the use of specific techniques is the subject of some articles. Daley (2002), for example, describes how she used concept mapping to help adult learners become more aware of and understand their learning processes. Kuiper (2002) used self-regulated learning strategies to help nurses improve their metacognition so that they could function more effectively in practice.

A subset of the trend of developing self-management skills in metacognition is the relationship between metacognition and constructivist learning theory. Constructivist teaching and learning theory is an approach to learning that “locates cognition and understanding within the individual” (Daley 2002, p. 21). Daley (ibid.), Kuiper (2002), and Peters (2000) all point out how use of constructivist learning with its emphasis on self-reflection and knowledge construction can contribute to the development of skills in metacognition.

Resources


Developed for adult educators who teach in General Educational Development classrooms or for teacher trainers, this book contains 18 fact sheets on learning and thinking, each about 10 pages long. The fact sheets incorporate learning methods based on cognitive research and a set of short lesson ideas based on the findings.


TV411, a national television series aimed at learners in adult basic education, is based on several beliefs about adult learning including the constructivist approach, metacognitive awareness, affective dimension of learning, and social theories of learning. Helping adults manage their own learning using metacognitive skills is emphasized in the series.


Concept maps created by adult students were scored and students were interviewed. Use of the maps helped students develop thinking skills, promoted growth in understanding their learning processes, and fostered understanding of knowledge construction.


Adults who have limited experience with reading are candidates for being trained in metacognitive reading strategies. Strategies and techniques described in this paper can be used by teachers across the curriculum to enhance the reading skills of adults learners. Research that supports the teaching of metacognitive strategies is reviewed briefly.

Justice, E. M., and Dornan, T. M. “Metacognitive Differences between Traditional-Age and Nontraditional-Age College Students.” Adult Education Quarterly 51, no. 3 (May 2001): 236-249.

Aspects of metacognition and motivation that may distinguish the learning processes of adults in higher education from those of traditional-age students were investigated. Older students reported more use of two higher-level study strategies: generation of constructive information and hyperprocessing.


Using a comparative descriptive design, self-regulated learning strategies were used to enhance metacognitive critical thinking abilities. The data suggested that nursing education and practice consider using self-regulated learning prompts with new graduates to promote thinking strategies.


The difference between successful learners and those who are less effective may lie in understanding strategies and behaviors that enable them to acquire new information and skills. This information sheet synthesizes some of the current findings on adult learning processes and discusses their importance to adult education programs.
Adult learners in higher education can be coached to reflect on their internal thought processes and develop metacognitive skills that can be used to consciously manage their own learning. A process used to develop and assess metacognition is described using the example of writing.


The Survey of Reading Strategies (SORS), an instrument designed to measure adolescent and adult ESL students’ metacognitive awareness and perceived use of reading strategies while reading academic materials, is described. Guidance is provided for using the SORS as a means of raising learner awareness of reading strategies and practical suggestions for improved practices in developmental reading instruction are included. The complete survey is included.


Metacognitive strategies support individual development and make learning transparent to the learner. Techniques such as modeling, coaching, scaffolding, fading, reflecting, and exploring are essential to maintain and improve the ability to learn throughout life.


Constructivism is congruent with adult learning theory and has potential for the development of metacognitive skills that are an important facet of active and self-directed learning. Metacognitive skills enable students to develop as independent learners by enabling them to become self-managers and appraisers of their own thinking and learning.


Research in cognition has shown that expert learners in diverse fields approach new learning tasks differently than novice learners. Self-directed learning behaviors of adult third-language learners were analyzed using qualitative data. All learners regularly assessed their progress, learning styles, strategy preferences, and conflicts with teaching styles and with the behaviors of other learners.


A study focusing on the relationship between instructional strategies and learners’ reported meta-skill attainment in an adult education context found that clusters of instructional activity (i.e., andragogy, assessment, curriculum, faith) tended to function together in relation to learners’ reported meta-skill attainment, with the area of curriculum most strongly correlated with reported attainment of all metaskills. The instructional strategies in the curriculum area focused on clear and understandable content, taught in a learner-centered, collaborative context.


Two aspects of metacognition, knowledge of cognition and regulation of cognition, are described, including their relationship to domain-specific knowledge and cognitive abilities. The following instructional strategies for promoting the construction and acquisition of metacognitive awareness are discussed: promoting general awareness, improving self-knowledge and regulatory skills, and promoting learning environments that are conducive to the construction and use of metacognition.

Schraw, G., and Dennison, R. S. “Assessing Metacognitive Awareness.” Contemporary Educational Psychology 19, no. 4 (October 1994): 460-475.

A 52-item inventory was constructed to measure the metacognitive awareness of adults. Items were classified into eight subcomponents under categories of knowledge and regulation of cognition. Implications for assessment were identified.


Linking theory to practice, this book presents a comprehensive description of the idea of learning how to learn in adulthood. The theoretical bases are covered in part one, with part two focusing on developing learning skills and understanding. The third section provides guidelines for providing training in learning how to learn.


Metacognition is an important part of human abilities that are, in turn, forms of developing expertise. Metacognition can be understood as one part of the abilities that lead to student expertise.

This project has been funded at least in part with Federal funds from the U.S. Department of Education under Contract No. ED-99-CO-0013. The content of this publication does not necessarily reflect the views or policies of the U.S. Department of Education nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government. Trends and Issues Alerts may be freely reproduced and are available at <http://ericacve.org/tia.asp>.