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Jonathan E. Taylor
Troy University

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Cognitive Enrichment Advantage: Applications for an Interdisciplinary Approach to Adult Learning

Jonathan E. Taylor, Troy University, USA

Abstract: *The author proposes that Cognitive Enrichment Advantage (CEA), an approach to mediated learning, may be a strongly beneficial approach in many adult education endeavors and can be successfully adapted to adult learning contexts. Three specific areas in which CEA may be particularly helpful are adult basic education (ABE), Emancipatory education, and workforce development/training. There is some overlap in the ways in which each of these three areas could benefit from the CEA approach but all three domains within adult education could benefit from a closer examination of the overlapping concepts and relevant applications.*

This paper will briefly introduce the Cognitive Enrichment Advantage (CEA) teaching approach and illuminate relevant applications of that approach in adult learning contexts, including adult basic education and literacy, emancipatory education, and workforce development and training. This interdisciplinary approach to adult learning blends elements of adult education, critical theory, cognitive psychology, and educational psychology in an attempt to integrate educational knowledge from multiple fields and promote learning environments more conducive to adults.

CEA: A Brief Overview and History

Cognitive Enrichment Advantage (CEA) is a metastrategic, comprehensive teaching approach designed to help students, particularly underachieving students, “learn how to learn” (Greenberg, 2000, p. 2). Based in part on Vygotsky’s work (1978), but primarily on Feuerstein’s (Feuerstein, Rand, Hoffman, and Miller, 1980) Instrumental Enrichment (IE) and Mediated Learning Environments (MLE), CEA is a specific approach to mediated learning. Mediated learning experiences (Feuerstein et al., 1980) transform content so that the content transcends its position in space and time and facilitates in the learner an enhanced propensity to organize and use that content in future situations. In other words, mediated learning frames the learning experience in such a way that it becomes more relevant to the learner in a wider range of life circumstances. Through mediated learning, “...the existence of sets of strategies and repertoires that permit the [learner] to efficiently use [learning experiences] has considerable bearing upon cognitive development” (Feuerstein et al., p. 16).

As an approach to mediated learning, CEA facilitates explicit knowledge in students of twelve cognitive processes, designed to help them think effectively, and eight affective-motivational approaches to learning that assist them in becoming independent and interdependent learners (Greenberg, 2000). These twelve building blocks of thinking and eight tools of learning are included in Tables 1 and 2 respectively.

CEA (formally known as COGNET) is unique in many ways but the most significant characteristics that cause it to stand out from other approaches, including even many metacognitive approaches are (a) its “mediated approach to connecting school learning to the

real world,” (b) its “fundamental methods taught to children on how to learn,” and (c) “the enabling way in which assistance is provided” (Greenberg, 1992, p. 5). A seven-year study of schools using the CEA model was reviewed in 1995 by the Education Department’s National Diffusion Network Performance Effectiveness Panel, and CEA was awarded the panels approval as an educational program of demonstrated effectiveness (Greenberg, 2000). CEA is most often used to address underachieving or at-risk learners but has also been used successfully with gifted learners who are also often at-risk of not achieving the fullest potential (Greenberg, 1993).

Table 1

Building Blocks of Thinking

BUILDING BLOCKS FOR APPROACHING THE LEARNING EXPERIENCE	
1. Exploration	To search systematically for information needed in the learning experience
2. Planning	To prepare and use an organized approach in the learning experience
3. Expression	To communicate thoughts and actions carefully in the learning experience
BUILDING BLOCKS FOR MAKING MEANING OF THE LEARNING EXPERIENCE	
4. Working Memory	To use memory processes effectively
5. Making Comparisons	To discover similarities and differences automatically among some parts of the learning experience
6. Getting the Main Idea	To identify the basic thought that holds related ideas together
7. Thought Integration	To combine pieces of information into a complete thought and hold on to them while needed
8. Connecting Events	To find relationships among past, present, and future learning experiences automatically
BUILDING BLOCKS FOR CONFIRMING THE LEARNING EXPERIENCE	
9. Precision and Accuracy	To know there is a need to understand words and concepts and use them correctly and to seek information automatically when the need arises

10. Space and Time Concepts	To understand and use information about space and time that is important in almost all learning
11. Selective Attention	To choose between relevant and irrelevant information and to focus on the information needed in the learning experience
12. Problem Identification	To experience a sense of imbalance automatically and define its cause when something interferes with successful learning

Greenberg (2000). Printed with permission of the author.

The Practice of CEA

The process of using CEA in an adult learning classroom requires a shift in focus from merely what is being learned to how it is being learned, and, more specifically, how the learning experience can be most relevant to each of the individual learners. “Learning skills cannot be memorized; they must be experienced. As educators, our role is to be facilitators and mediators in order for the awareness, articulation, and continued application of the skills of learning to occur” (Fisher, 2001, p. 58). CEA practitioners require the learner to be aware at all times of the specific components of the learning process. Learners are encouraged to engage in metastrategic learning in which they are able to identify specific areas of difficulty rather than attributing learning difficulties to the learning experience at large. In the following paragraphs, three elements of CEA will be addressed in terms of practice. Those elements are (a) engaging in mediated conversations with learners, (b) facilitating the adoption of common learning terminology and metastrategies, and (c) bridging newly learned information and skills with the individual learner’s personal life.

From the perspective of one adult learning domain in which CEA has been implemented (identified in the next section), Fisher (2001) explains that lessons begin with teachers having conversations with [adult] students. This is done by “asking questions rather than giving answers,” and helping to “unfold from the student the strengths he brings to the experience” (p. 59). When such conversations are engaged in, “...students begin to articulate the connection between themselves and what they are trying to learn” (p. 59). There is support for these types of medational interactions and their role in the formation of effective learning behaviors (Greenberg, Woodside, and Brasil, 1994).

The focus on adopting a common learning terminology with students, something that is done by familiarizing learners with the twelve building blocks of thinking and the eight tools of learning, allows learners to understand the process by which they come to learn something in addition to the content itself. In this sense, learning becomes heuristic in nature. By being able to identify which of the building blocks and/or tools he or she is using (or having difficulty with), the learner is empowered both to overcome possible difficulties as well as to develop strategies for future learning. This process begins with a built-in learning component that introduces the twelve building blocks and eight tools to the learner. These components are often displayed in a prominent place in the classroom on posters or other media. Additionally, Greenberg (2000) has developed a series of “minilessons” that can be worked into learning experiences along with the

specifically intended learning content. Some adaptation would need to be made for adult learners but the conceptual content of the minilessons could be very useful to learners of any age.

Bridging is a technique used to facilitate in learners the ability to apply knowledge from one situation to another (Greenberg, 2000). This is done by having the learner create a “principle” such as an if-then statement to demonstrate the connection between the present learning situation and other outside life situations (2000, p. 22). The consistent use of these bridging principles, used pervasively throughout the learning experience facilitates the increased ability of learners to see the relevance of the learning content as well as the utility of the learning process for future life experiences.

For a full explanation of the CEA approach, readers should consult the CEA handbook (Greenberg, 2000). While the present limited overview of the CEA approach cannot fully inform the reader, it should serve to provide an adequate basis for identifying some potential domains of adult learning in which CEA might be useful.

Adult Basic Education

From the perspective of a correctional service literacy scholar, Fisher (2001) claims that “to achieve the higher standard of literacy defined by IALS and UNESCO ...correctional educators will need to nurture [learner’s] curiosity, guide their knowledge of how to learn, encourage their inner motivation, and assist their ability to learn independently and interdependently” (p. 58). Quigley (1997) identifies the mismatch between formal education and the learner’s life experiences and includes this among the reasons that learners resist literacy education. CEA is designed “to prevent poverty, cultural alienation, and/or learning disabilities from becoming barriers to learning (Fisher, 2001, p.61). In keeping with this premise, the Correctional Service of Canada (CSC) adopted CEA over a decade ago in the Prairies Region as the approved teaching method for correctional education literacy programs (2001).

ABE and Literacy educational efforts could benefit from CEA particularly since it was designed specifically for disadvantaged learners and those socially and/or culturally marginalized. Since this teaching approach builds learning skills in learners rather than simply conveying content, those engaged in ABE and literacy education could benefit from these less traditional approaches in which “[CEA] classrooms are laboratories for learning, not stages for right answers” (Greenberg, 1992, p. 4).

Table 2
Tools of Learning

TOOLS FOR UNDERSTANDING FEELINGS WITHIN THE LEARNING EXPERIENCE	
1. Inner Meaning	To seek deep, personal value in learning experiences that energizes thinking and behavior and leads to greater commitment and success
2. Feeling of Challenge	To energize learning in new and complex experiences by focusing on the learning

	process rather than fear and anxiety about a possible unsuccessful product
3. Awareness of Self-Change	To recognize and understand feelings related to personal growth and to learn to expect and welcome change and development
4. Feeling of Competence	To energize feelings, thoughts, and behavior by developing beliefs about being capable of learning and doing something effectively

**TOOLS FOR MOTIVATING BEHAVIOR
WITHIN THE LEARNING EXPERIENCE**

5. Self-Regulation	To reflect on thoughts and actions as they occur to energize, sustain, and direct behavior toward successful learning and doing
6. Goal Orientation	To take purposeful action in consistently setting, seeking, and reaching personal objectives
7. Self-Development	To appreciate special qualities in everyone and to enhance personal potential
8. Sharing Behavior	To energize life and learning for everyone by sharing thoughts and actions through effective interdependent learning skills

Greenberg (2000). Printed with permission of the author.

Emancipative Education

Many adult educators have referenced the cultural alienation that occurs in educational systems that are designed largely to promote the status quo (Cunningham, 2000; Giroux, 2001). Those engaged in critical pedagogy will be well served by a teaching approach that has at its base the belief that knowledge is socially constructed and that individual and collective cultures are important enough to the learning process that a “[mediated learning environment (MLE)] is, therefore, a group-supported behavior, which is generated by a primary need of human societies to preserve their cultural continuity” (Feuerstein, 1980, p. 20). Adults, like those in primary and secondary school, may suffer because “[academic] failure is located in the individual, with no consideration of the role of institutional or social factors” (Field and Olafson, 1999, p.73). To attend to and mediate the cultural needs of learners is essential.

Workforce Development/Training

Those in workforce development and training contexts will benefit from an approach which facilitates and nurtures a metacognitive *and* metastrategic skill set, because learning in the

workplace is survival and “a barrier to learning is thus a barrier to survival” (Salaman and Butler, 1990, p. 84). Being better equipped to learn fluidly and continuously in a more effective way would aid in the constant adaptation that is required in the ever-changing and dynamic workplace environment.

Salaman and Butler (1990) in a discussion of learning resistance, claim that workplace learners often may resist learning new information because it conflicts with what they have already learned from the workplace environment. In these cases, these authors contend that such learners are resisting because of how well they have learned in the workplace environment, not how poorly. In such situations, it is the information itself that is being rejected rather than learning itself. CEA works with learners to facilitate the ability to make connections between new learning and circumstances outside the immediate learning environment. Not only allowing, but encouraging that such connections be made, can act in a powerful way to engage learners in the process. Likewise, acknowledging the expertise and experience of the adult learner is in keeping with much of the foundational literature of the adult education field (Knowles, 1980; Tough, 1971). The ability of CEA to foster the learner’s ability to connect training to multiple situations and domains, while at the same time engendering a sense of community and “voice” in employee learners, makes it a valuable training approach for the workplace.

Implications for Adult Use of CEA

While there has been some debate over the years as to whether or not there is a distinction in the way adults learn from the way children learn, (Beder, 1989; Rogers and Illeris, 2003), the acceptance, and at times, the assumption that adults do, indeed, learn differently than children, has led to a false dichotomy in which all programs designed for child learners are dismissed summarily from the adult learning context. The point here is not to challenge the notion that adults learn differently in many instances, but to challenge the dichotomous thinking that causes adult educators to so often “write off” learning methods designed for elementary and secondary school children. While some of the traditional approaches of childhood education systems have come to be viewed as ineffective for the adult learner, it is possible that some of these same programs are also ineffective for child learners. Many different non-traditional approaches have been introduced into the public school system in an effort to enhance learning, and each of these approaches should be closely examined and considered as possible methods for effective adult education. The Cognitive Enrichment Advantage is one such program that may, with some adaptation, prove to have a high degree of utility for the adult learner.

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