SYLLABUS

# The Enhancement
# Of Children's Structural Cognitive Modifiability

Number of Credits 3 45 contact hours

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## I. Description

The primary goal of education is to stretch the mind, to increase each person's ability to keep on learning on one's own. This goal requires that educators understand theories of the nature and development of human abilities. They need to adopt a conceptual framework that explains the development of the important tools of learning and thinking and recognizes the propensity of all humans to acquire such tools. It also requires that teachers acquire a technology for the application of such theory in the classroom, integrate these practices in the school curriculum, and assess their effectiveness.

This course will focus on the Feuerstein/Vygotsky theoretical model of Mediated Learning: Feuerstein's elaborate cognitive map; and his best empirically supported program, known as Feuerstein's Instrumental Enrichment (FIE).

Texts:

Feuerstein, R. (2004). Feuerstein's Instrumental Enrichment. Glencoe (IL): International Renewal Institute, Inc.

Other handout readings as assigned.

## II. Objectives

During the course students will:

A. Become acquainted with theories of human cognitive development.

B. Become familiar with research on human cognitive development.

C. Be able to plan for classroom use of samples of the teaching materials or "instruments" of FIE, which will include student strategies for acquiring and applying the strategies of: organization, orientation, comparison, analysis, synthesis, creating precise instructions, time relationships, hierarchies, and logic.

D. Be able to apply the transfer mechanism.

E. Be able to identify, analyze, and evaluate cognitive processes

F. Be able to analyze tasks according to the cognitive processes they require, according to the Cognitive Map.

G. Demonstrate the verbal behaviors needed to encourage students' metacognitive behavior.

H. Be able to analyze teaching in terms of MLE criteria.

I. Construct and peer-teach model lessons using FIE instruments.

## III. Content Outline

A. The theory of Structural Cognitive Modifiability and survey of the research on human cognitive modifiability

Three characteristics of human structural cognitive modifiability will be discussed from both theoretical (Gestalt and constructivist) research and applied points of view. Those include:

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| Permanence | - endurance across time and space |
| Persuasiveness | - part affects whole and vice-versa |
| Centrality | - self-perpetuating, self-regulating |

B. Cognitive Developmental and Learning Models

Socio-cultural theories (Vygotsky, Feuerstein) will be compared with the Piagetian model and the behavioral models of cognitive development. The implications for classroom teaching will be discussed.

C. The Multidimensional and Multifaceted Nature of Cognition

Five classification models of intellective abilities will be reviewed. Those include Thurstone, Guilford, Gardner, Steinberg, and Feuerstein. The discussion will include the theoretical, empirical, and applied aspects of these models.

D. Feuerstein's Analysis of Cognitive Functions (emphasis will include functions at the input, elaboration, and output phases).

Cognitive functions concerning the quality and quantity of data gathered by an individual in an attempt to solve problems that will be analyzed. These include: perceptual problems, impulsivity, impaired spatial and temporal orientation, lack of need for precision, deficient organization, and more.

E. Analysis and Hands-on Experience with samples of the Instruments of FIE:

F. Develop and practice techniques for the remediation of learners who have challenges with any of the specific cognitive strategies represented by the 5 instruments explicated in this course.

## IV. Evaluation

This course is an intensive, practical graduate course for professional Development.

The following standards apply to all assignments and participation in this course:

Participation in classroom discussions and exercises should demonstrate the acquisition of the course content.

The required papers should demonstrate a high level of integration and reflection.

The portfolio samples should demonstrate the acquisition of skills that are targeted by this course.

**V. Assignments**

Students will be responsible for the following assignments:

1. Read, summarize, critique, and present to the rest of the class a review of one of the books or three of the articles listed in the bibliography.

2. Prepare a lesson plan which utilizes one of the instruments explained in this course, including topic, objective, activities, materials, adaptations for special-needs learners, and assessment techniques; teach the lesson to the rest of the class; after feedback, include the lesson as part of a professional portfolio.

3. Write two short papers (3-4 pages double-spaced, plus references) on the application of Feuerstein theory to the classroom, and on the analysis of a videotape of a classroom episode using Instrumental Enrichment according to the 3 different phases of the Feuerstein Cognitive Map.

4. Write one long paper (12-15 pages double-spaced, plus references) on the integration of all of the instruments explicated in this course in relation to the subject matter for which you are responsible in the classroom where you teach.

**Bibliography**


Books

Baron, J.B. & Sternberg, R.J. (Eds.) (1987). Teaching thinking skills: Theory and practice. New York: Freeman.

Cormier, S.M. & Hagman, J.D. (Eds.) (1987). Transfer of training. San Diego, CA: Academic Press.

Costa, A. (Ed.) (2001). Developing minds, 3rd edition. Alexandria, VA: Association for Supervision and Curriculum Development.

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Skuy, M. and Mentis, M. (1999). Bridging learning in and out of the classroom. Chicago: Pearson/Skylight.

Books,(cntd.)

Tan, O. and Seng, A. (Eds.) (2005). Enhancing cognitive functions. Singapore: McGraw-Hill.

Vygotsky, L.S. (1986). Thought and language (Rev. ed.). Cambridge, MA: MIT Press.

Journal Articles

Belmont, J.M. (1989). Cognitive strategies and strategic learning: The socio-instructional approach. American Psychologist, 44 (2), 142-148.

Beker, J. (1989). On the nature of modifying environments: A preview. Child and Youth Care Quarterly ,18(3), 159-160.

Bransford, J., Sherwood, D.R., Vye, N., & Reisner, J. (1986). Teaching thinking and problem-solving. American Psychologist. 41, 1078-1089.

Bruner, J. (1987). Life as narrative. Social Research, 54, 11-32.

Ferrara, R.A., Brown, A.L., & Campione, J.C. (1986). Children's learning and transfer of inductive reasoning rules: Studies of proximal development. Child Development,57, 1987-1999.

Kaufman, R. and Burden, R. (2004). Peer tutoring between young adults with several complex learning difficulties: The effects of mediation training with Feuerstein's Instrumental Enrichment programme. European Journal of Psychology and Education, 19 (1), 107-117.

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Perkins, D., & Solomon, M.G. (1986). Teaching for transfer. Educational Leadership, 46 (1), 22-32.

Phye, G (1990). Inductive problem-solving: Schema inducement and memory-based transfer. Journal of Educational Psychology, 82 (4), 426-431.

Susan, L.M. (1992). Training 101. Training and Development, June.

VLS (2002). Cleveland High Schools rock in math: Increased test scores lead to program expansion. New Explorer, I (2), 1, published by Virtual Learning Systems.

**Course Schedule:**

Session 1—Overview of the need for critical thinking and cognitive development

Review of the theories of cognitive development, with emphasis on Piaget, Vygotsky, and Bruner; key concepts

Distribution of materials

Session 2—The theory and characteristics of mediated learned experience; the purposes and techniques of metacognition in the classroom

The history of cognitive mediation in cultural contexts

Strategy 1—projecting virtual relationships and being organized

READ: Feuerstein, chapters 1 and 2

Session 3-- Criteria for selection of a thinking-strategies program for the classroom

The Cognitive Map, with emphasis on phases of cognitive functions

Strategy 2—orientation in personal and geographic space

READ: Feuerstein, chapters 3.4. 5

Session 4—Planning a cognitive-education learning episode
Integration of cognitive strategies into the regular subject matter of the curriculum
Strategy 3—comparison
Developing model lessons and teaching them
DUE: First Short Paper

Session 5—Sharing of First Short Papers
Strategies 4 and 5—Analysis and Creating Instructions
READ: Feuerstein, chapter 6 and pp. 125-275

Session 6—Strategy 6—Understanding Absurdity
Developing and sharing model lesson plans
Sharing book and article critiques
DUE: Critiques of Readings from Bibliography

Session 7-- Strategy 7—Categorization and its pre-requisites
Applications to all subject matter of the curriculum
READ: Feuerstein, pp. 175-193

Session 8—Strategies 8 and 9—Temporal relations and Progressions
Developing and sharing model lessons
Viewing of videotape showing mediation in action
READ: Feuerstein, pp. 193-238

Session 9-- Strategy 10—Understanding Hierarchies
Developing and sharing model lessons
DUE: Critique of videotape

Session 10—Strategies 11 and 12—application of Logic
Developing and sharing model lessons
READ: Feuerstein, 248-256

Session 11—Sharing Second Short Papers
Reviewing cognitive strategies
DUE: Second Short Paper

Session 12—Strategy 13—Synthesis

Understanding how this strategy incorporates all others

World-wide research studies on cognitive mediation

READ: Feuerstein, pp. 239-248; chapter 8

Session 13—The role of teacher education; how teaching changes as a result of cognitive education

Evaluating student progress in the acquisition of cognitive strategies: unique methods

READ: Feuerstein, chapters 9 and 10

Session 14—Overview of cognitive education

Sharing term papers

Course evaluation

DUE: Final Paper