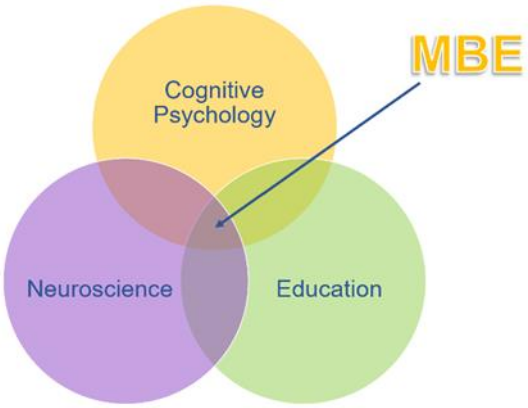
Engineered Systems and Solutions

Mind, Brain and Education (MBE) Training

Background

The nuclear industry continues to experience significant pressure to reduce costs, yet the safe and efficient operation of nuclear power plants requires well-trained, highly competent staff. Research evidence from Mind, Brain and Education (MBE) science can improve the efficiency of nuclear industry training practices; but, instructors and instructional designers must first understand these findings to align content and instruction with how people learn most effectively and efficiently.



MBE Science.

Description

MBE Science is an empirical research-based discipline at the intersection of psychology (how we think), neuroscience (how brain biology works), and education (how we learn). A major objective of MBE Science is to confirm best-practices in education using scientific evidence from cognitive psychology and neuroscience. This confirmation can then be used to improve teaching practices. MBE concepts can be applied to face-to-face classroom training, hands-on laboratory or simulator training, and e-learning or computer-based training (CBT) programs

Westinghouse continues to implement advanced research-based applications of MBE Science to enhance the student learning experience in our own training courses. We welcome the opportunity to improve nuclear industry training efficiency by teaching utility instructor staffs this emerging, evidence-based approach

Westinghouse offers several options for MBE instructor training, certification, and consulting services to address a wide range of customer needs. The Westinghouse MBE education options include:

One (1) day MBE Instructor Workshop:

The one (1) day MBE Workshop introduces MBE Science and offers several easy to implement MBE techniques that participants can immediately employ in their courses and provides the research basis for each

Five (5) day MBE Instructor Training (MBE Certification):

The five (5) day MBE Instructor Training course gives a deeper and broader view of MBE strategies and research evidence that allows for a comprehensive instructor development program to significantly impact utility training practices

Bi-Monthly Instructor Community of Practice Presentations (every other month):

Following both the workshop and course, instructors can engage in a continuing education Community of Practice which keeps them aware of the latest research evidence in MBE Science and what it means for teaching and learning practices. Virtual presentations are provided to the Community of Practice by a Westinghouse MBE Expert Instructor who has extensive formal education in Mind, Brain, and Education Science

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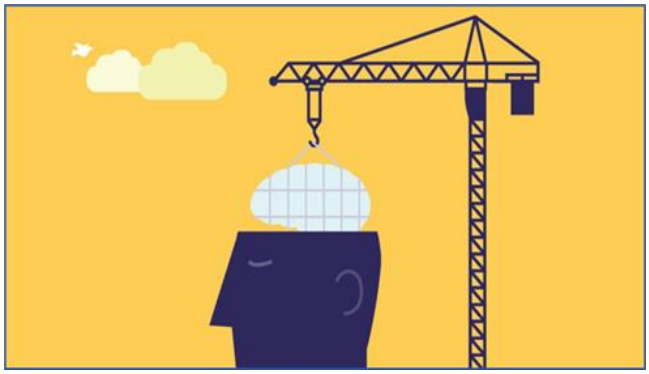
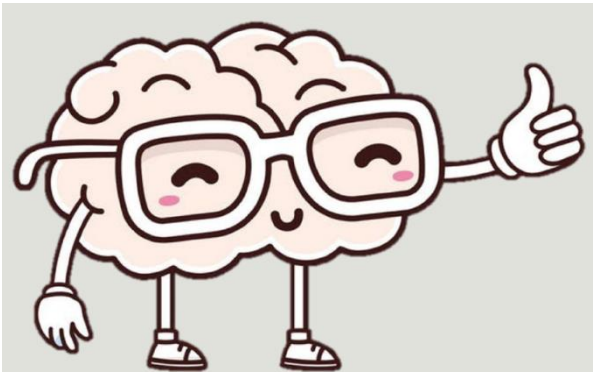
MBE Certified Instructor Requalification:

At the conclusion of the five (5) day course, each successful student will receive a Westinghouse Certification. Annual MBE Instructor Requalification is achieved through participation in the virtual presentations provided to the Community of Practice.



Metacognitive Instruction for Industry Students:

Metacognition is an awareness of one's own thought processes and learning. This awareness, however, can be flawed leading students to use ineffective learning strategies. Westinghouse provides simple instruction on common metacognitive flaws and more effective learning techniques to replace those that are less effective. Teaching nuclear industry students research-based learning strategies can produce improved learning outcomes and better performance on the job. This instruction can be provided virtually or face-to-face, and can be integrated into customer training programs such as operations training.



MBE Technical Consulting:

Westinghouse offers MBE Technical Consulting services to evaluate and improve training materials, course design, and instructional practices. Technical Consulting relieves utility training staff of evaluating their own practices and allows the industry to leverage Westinghouse's expertise with implementing MBE research in nuclear industry training.

Benefits

Research studies using MBE techniques demonstrate improved student learning outcomes and more efficient use of training time. Improved efficiency in all areas of plant operations is essential for the continued health of the nuclear industry. MBE techniques can provide the means to reduce training costs while producing equal or improved learning outcomes when compared to traditional instruction techniques.

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Experience

Westinghouse has more than 60 years of experience in training personnel in accordance with the high standards of the nuclear industry, including expertise in the application of teaching and learning techniques from the field of MBE Science.

Westinghouse Electric Company
1000 Westinghouse Drive
Cranberry Township, PA 16066

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