

Brain research gives us a fuller understanding of memory, problem solving and early foundations of learning



**Implications for education:**

Brains are unique  
Emotions affect learning  
Water and nutrition are essential  
Brain needs social stimulation



**1. Learning requires the active participation of the student**

This capitalizes on the **natural curiosity** of the students  
Providing **meaningful experiences** physically, emotionally and intellectually engages the students

This engagement transforms the activity to **understanding**  
Engagement happens when the activity has **value** and **meaning** for the student

**To be engaging teachers should provide:**

- Experiences using all senses
- A varieties of materials
- Physical activities
- Varied reading
- Personal experiences of the students

**A. Learning Through Play**

Engages the child's whole being  
They project into realm of possibilities  
While playing they develop and refine understanding

**Three main kinds of play:**

- Exploratory:** problem solving, serious manipulation
- Imaginative:** freedom fun starts symbolic thinking
- Symbolic:** play with language (jokes) numeracy (play money) and literacy (pretend reading and writing)

**B. Learning through representing**

This is more than reflecting the mind of the learner; it **activates the learning process**

When trying to communicate what is in their mind through what they do, say or make, they create understanding



**C. Learning through Reflection**

Through group reflection critical thinking skills are taught

**Metacognition**

Know what one knows, what one doesn't know and what one needs to know to complete a task  
This develops gradually  
**Self-regulation**  
Plan, monitor success and correct errors  
This may appear earlier than reflection



Being exposed to many ways of representing gives insight into own learning processes (page 35 has examples)



**Reflection develops as a process**

1. Discussion
  2. Inner speech shifts knowledge from unconscious to conscious realm
- Talking out loud helps to learn more effectively  
Self evaluation guides thinking and learning strategies for students