

## Mapping Common ID Guidelines to Educational Psychology

Often Instructional Designers quote guidelines that they have heard being mouthed by organizational veterans. Few, however, try to understand the rationale for these theories, or connect these with the work of educational psychologists'. Here are some such guidelines and their mapping with Educational Psychologists.

1. Design curriculum to move progressively from simple to abstract: Teach addition and subtraction in the lower classes, and algebra in the higher classes
2. Design instruction such that children neither find it too easy nor too tough
3. Some children are intrinsically motivated; while others need extrinsic motivation
4. Higher education should promote independent learning, discussions and interpretations
5. Adults do not appreciate being “told” & “taught”

### Design curriculum to move progressively from simple to abstract: Teach addition and subtraction in the lower classes, and algebra in the higher classes

#### **Piaget: Stages of Cognitive Development**

According to Piaget, cognitive development unfolds as the child passes through four distinct and qualitatively different stages: the sensorimotor (18- 24 months), pre-operational (2 – 7 years), concrete operational (7 – 11 years) and formal operational stages (over 11 years). This explains why concepts that are abstract are introduced only later in schools – in the formal operational stage. This also explains why audio-visual aids and manipulatives are widely used in primary classes.

### Design instruction such that children neither find it too easy nor too tough

#### **Vygotsky: Zone of Proximal Development**

According to Vygotsky, the cognitive level at which children can independently solve certain problems is the zone of actual development. The level at which they can solve problems with support, is the zone of proximal development. If this zone is adequately stimulated by the teacher, it will take the child to the next level. In short, the problem should neither fall in the zone that is too easy nor in the zone that is too difficult.

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### Some children are intrinsically motivated; while others need extrinsic motivation

#### **Gardner: Multiple Intelligences Theory**

Dr. Howard Gardner considered the traditional notion of intelligence, based on logical and linguistic ability as far too limited. According to him, apart from logical and linguistic ability, there are other intelligences that should be taken into account when you evaluate human potential. He has identified eight such intelligences, which are: Linguistic, Logical-mathematical, Spatial, Bodily-Kinesthetic, Musical, Interpersonal, Intrapersonal and Naturalist intelligences.

A very interesting application of this theory is to model teaching and instructional design along the lines of these eight intelligences – thereby providing extrinsic motivation to those who do not have a natural flair for the subject.

### Higher education should promote independent learning, discussions and interpretations

#### **William Perry: Intellectual & Ethical Development**

According to Perry's model of intellectual and ethical development, college students progress through nine stages moving from absolute terms (right and wrong) to accepting multiple versions of the truth. These stages are: Basic Duality, Full Dualism, Early Multiplicity, Late Multiplicity, Contextual Relativism, Pre-commitment, commitment, challenges to commitment and post-commitment. These nine stages are grouped under four categories: Dualism/Received Knowledge, Multiplicity/Subjective Knowledge, Relativism/Procedural Knowledge, Commitment/Constructed Knowledge.

### Adults do not appreciate being “told” & “taught”

#### **Malcolm Knowles: Andragogy**

According to Knowles' theory of Andragogy adults learn best when the content is relevant to them and when the learning process is made experiential. Adults are mostly self-directed and do not approve of being taught. They are motivated to learn only when they perceive that the content will help them perform tasks they confront in their life situations. What's more, adult learners have a variety of experiences which need to be taken into account when you design training.

This is why it is necessary to address prior knowledge and misconceptions specially when designing material on topics, such as leadership, project management and so on.