

17 - Concrete operational stage

Concrete operational stage:

© SPMM Course transformed into a different shape or structure. E.g. 1 litre of water remains the same 1 liter irrespective of whether it is present in a half full 2 litre bottle or two complete 500ml bottles. Concept of compensation refers to the fact that magnification in one dimension and reduction in another dimension can nullify each other's effect. Reversibility refers to the ability of mentally calculating and understanding that what is done can be undone without loss of material.

- Egocentrism: This does NOT refer to self-centredness or selfish attitude. It refers to the restricted ability of viewing the world from a single point of view at this developmental stage. This was demonstrated using the Mountains task where a child at this age group could not say what a person would see from other side of the desk when only one side of a toy mountain was visible from each view.
- Semiotic function: Signifiers are symbols and signs that represent or stand for something else. For example, drawing a matchstick man. Thus signifiers represent a meaning, serving semiotic function. This is vital for developing play activities.
- Syncretic thought: Links neighbouring objects and events on the basis of common instances e.g. red square with red sphere with blue sphere with blue cube etc.

Concrete operational stage: Conservation of liquid develops around 6 years, followed by conservation of length, count, weight and volume (around 11 to 12 years) in a vertical decalage fashion (i.e. not parallel but one by one development of these abilities). Note that if the same question about quantity is asked before and after manipulation of materials in front of a child, the child answers differently for the second question as he/she interprets that the question is asked twice as the answer given was wrong in the first instance. If the pre-transformation question is dropped, the conservational ability could be demonstrated at earlier stages. Also using an external 'accident' such as naughty teddy that disturbs a heap of coins, conservation could be demonstrated earlier than what Piaget thought.

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