**Generative Learning Theory**

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### How does this theory define learning?

Learning is actively **making sense** of new information. The learner is an **active actor** (Lee et al., 2008).

![Image of a brain with information entering and exiting]

As part of active sense-making new information connects and integrates with existing knowledge (Lee et al., 2008).

![Diagram showing Existing knowledge flowing into New information, then into New knowledge]

"...although a student may not understand sentences spoken to him by his teacher, it is highly likely that a student understands sentences that he generates himself."

(Wittrock, 1974, p. 182; quoted in Lee et al., 2008)

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### How does learning happen according to this theory?

Learning happens as a result of the interaction between four different components: memory, learning strategy, motivation, and new information (Lee et al., 2008).

- **Memory**
- **Learning strategy**
- **Motivation**
- **New information**

Meaningful learning happens when knowledge (such as, abstract, area-specific, and memory-based preconceptions) and experience are linked to new information (Lee et al., 2008).

For effective and efficient learning, the learner should be actively and purposefully making these links (Lee et al., 2008).

As part of being actively engaged in relating prior knowledge, the learner applies various learning strategies including: simple coding, complex coding, and integration (Lee et al., 2008).

Motivation is important to learning since without an ongoing intention to learn and engagement with the learning environment, the learner not relate new information to prior knowledge (Lee et al., 2008).

![Diagram showing the relationship between memory, learning strategy, motivation, and new information]

Based on Lee et al. (2008, p.113) figure 10.1.
How does this theory impact on the practice of instructional design?

Generative teaching aims to create a learning environment centered around the learner, and encourages the learner to be active, accountable, and responsible for their learning. In the learning environment, new information is presented as well as activities that incorporate learning strategies. The learning strategies aim to help the learner make sense of the new information by coding, organizing, and integrating it with prior knowledge (Grabowski, 2004).

Motivating strategies and activities
- Attribution of learning to the efforts of learner
- Improve learners’ self-perception as learners,
- Provide learners with control, responsibility and accountability for their learning
- Rewards and praise in ways that directly attribute learners’ effort (Grabowski, 2004)

Knowledge creating strategies and activities
- Activities that disprove misconceptions, such as, creating dissonance
- Adjusting content and activities to learner’s prior knowledge and interest
- Promoting self-monitoring of active learning
- Demonstrating tangible results from active learning (Grabowski, 2004)

Learning strategies and activities
- Activities that aim to improve learner attention skills
- Activities that aim to capture the attention and interest of the learner and draw them towards the learned material (Grabowski, 2004)

Generative activities
- Activities that organize the relationships between different components of the learned material include: “titles, headings, questions, objectives, summaries, graphs tables, and main ideas.”
- Activities that generate integrated relationships between the learned material and prior knowledge include: “demonstrations, metaphors, analogies, examples, pictures, applications, interpretations, paraphrases, inferences” (Grabowski, 2004, p. 738)

References


Lee, H. W., Lim, K. Y., & Grabowski, B. L. (2008). Generative learning: Principles and Implications for making meaning. JM Spector, MD Merrill, J. van Merrienboer, & MP Driscoll, MP (Eds.), Handbook of research on educational communications and technology, 3, 111-124.
