The Existence of Learning Styles: Myth or Reality

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Many educational psychologists and cognitive scientists reject the notion of learning styles. The quotes below demonstrate some of the arguments against the existence of learning styles:

- "Based on empirical evidence and philosophical argument, then, it seems wrong to suggest the existence of physiological distinctions between right and left hemisphere function. It also seems wrong to suggest that visual images and verbal thinking are anything but various exercises of imagination" (Youngblood,).

- "Student's chances for success in school may be jeopardized by teachers who use learning styles as a basis for determining methods of initial reading instruction. The idea of learning of styles is appealing, but a critical examination of this approach should cause educators to be skeptical" (Snider, 1990).

- "Ironically, the Learning Style Inventory (Dunn, Dunn, & Price, 1985), a tool designed to facilitate personalized education, may in fact undermine this process. It leads teachers to believe that they possess a body of deep, significant, personal knowledge when in fact the information provided by the inventory is fairly superficial" (Davidman, 1981).

- "You might want to discuss a very controversial source of differences in learning and cognitive styles, hemispheric specialization, or a person's preference for right-brain versus left-brain processing. According to some educators, many student have problems learning because they tend to process information using the right hemisphere of their brain, whereas the tasks of schools require mostly left-hemispheric processing. Is this true? Two basic assumptions underlying these ideas are that different abilities are completely controlled by one side of the brain or the other and that individuals favor one hemisphere over the other in processing information. In other words, they are "right-brained" or "left-brained." There is little evidence for either assumption. For people who have normal intact brains, both hemispheres are involved in all learning tasks, even if one side may be more or less involved at any given moment" (Woolfolk, 1995).

In order to understand why some educators and researchers reject the existence of learning styles, it is important to review the assumptions underlying the learning style perspective. While there are a variety of learning style approaches, they typically share four core assumptions:

- There are individual differences in learning.
- An individual's style of learning is fairly stable across time.
- An individual's style of learning is fairly stable across tasks/problems/situations.
- We can effectively measure an individual's learning style.

The fact that individual differences in learning exist (#1 above) is a primary assumption shared by educators and researchers. Perhaps the greatest amount of disagreement is with assumptions #2, 3, 4 above. The strongest view against the existence of learning styles comes from Human Information Processing (HIP) theorists. According to HIP theorists, learning style perspectives ignore the critical role that prior knowledge plays in a learning situation.
What HIP and learning style theorists share in common is their belief in the importance of recognizing individual differences and providing students with personalized instruction best suited to their individual difference. However, the two theoretical perspectives strongly disagree which individual differences are relevant and important for designing curriculum and instruction. For example, according to HIP theorists important individual differences include:

- working memory capacity
- prior knowledge
- previous practice
- metacognitive abilities
- level of expertise in a content area
- ability to inhibit irrelevant information
- level of self-efficacy
- achievement motivation factors

These individuals are situation specific and most often have an interaction with task difficulty. In contrast, the learning style approach is based on the assumption that learners have a dominant preference to learn in a certain way. According to this view, educators can (and should) identify individuals as certain "types" of learners. For example, in the Dunn, Dunn, & Price model some learners are best described as "visual learners." In a different approach, Kolb (1984) classifies some learners as "divergers" meaning they typically take in information through concrete experience and transform it through reflective observation. A third example is Howard Gardner's theory of multiple intelligence. According to Gardner (1993), individuals have innate distinctive ways of processing information. For example, according to Gardner some individuals may remember names better than faces and vice versa.

In the Dunn, Dunn, & Price, Kolb, and Gardner models it is assumed that individuals have a preference for a certain type of learning. The HIP model rejects the notion of learning typologies and focuses on the difficulty of the task and how the learner encodes, stores, and retrieves the knowledge from long term memory. To illustrate the difference, let us compare the HIP to the Dunn & Dunn model. According to Dunn, Dunn, & Price some learners can be classified as "visual learners." Hence, if a teacher were trying to teach a new concept the visual learners would learn best by having the information written on the chalkboard. In contrast, the HIP perspective would look at the amount and structure (schema) of the individual's prior knowledge of the concept. If the individual had very little prior knowledge related to the new concept, we would expect they would greatly benefit from having the information written on the chalkboard. Here the student benefits not because they are a "visual learner" rather they benefit from having the information externally stored, which does not place capacity demands on working memory.

Finally, in a review of the research on learning styles, Lynn Curry (1990) has identified the general problems associated with learning style theory:

- Confusion in definition of "styles"
- Weakness in reliability and validity of measurements
- Identification of relevant characteristics in learners and instructional settings.

In conclusion, an important question to ask is whether teachers should try to assess student's individual learning styles and provide personal instruction to match types of learners? Based on the HIP perspective, it is recommended that teachers should instead focus their energies in assessing student's prior knowledge (declarative and procedural knowledge) in specific domains. In addition, teachers should be aware of the important role that encoding, attention, motivation, and metacognition plays in all learning situations.


Youngblood, M. S. The hemispherality wagon leaves laterality station at 12:45 for art superiority land. Studies in Art Education.