



Teaching Toolkit

How Students Learn 5

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Learning Styles

'Learning style' is term used to describe how a student consistently responds to and uses stimuli in the context of learning (Clarke, 2008). It focuses on the methods and styles often unconsciously employed by students to learn (Honey & Mumford, 1992). The appeal of learning styles lies in the potential that students may become more motivated to learn if they're aware of their own strengths and weaknesses as learners. Following from this, teachers responding to the strengths and weaknesses of their students will impact on levels of retention and achievement (Coffield, Moseley, Hall, & Ecclestone, 2004).



Rather than being assigned the label of a 'visual' or 'reflective' learner however, labels are designed to give an indication of an individual's location on a continuum as opposed to being pigeonholed as a particular type of learner. There are an increasing large number of theoretical learning styles models. In their comprehensive review of the area Coffield, Moseley, Hall, & Ecclestone (2004¹) identified 71 models of learning styles.

Three of the most popular models are outlined in the following tables.

Rose 1985
Visual: Learners prefer to learn with visual reinforcement such as charts and diagrams
Auditory: Learners prefer to learn by listening
Kinaesthetic: Learners prefer to learn through, moving, doing and touching

¹ See www.lsnlearning.org.uk/search/Resource-32186.aspx

Honey and Mumford 1996

Theoretical: Learners prefer to learn by reading and listening to the experts

Pragmatic: Learners like to be able to see the practical application of theory. They like to use deductive reasoning to focus on problems and they prefer situations where there is a single correct answer or solution

Reflective: Learners tend to be imaginative and emotional. They work well in group discussions

Activist: Learners are action oriented. They learn by doing

Gardner 1993

Visual/Spatial Intelligence: Puzzle building, reading, writing, understanding charts and graphs, a good sense of direction, sketching, painting, creating visual metaphors and analogies (perhaps through the visual arts), manipulating images, constructing, fixing, designing practical objects, interpreting visual images.

Verbal/Linguistic Intelligence: Listening, speaking, writing, storytelling, explaining, teaching, using humour, understanding the syntax and meaning of words, remembering information, convincing someone of their point of view, analysing language usage.

Logical/Mathematical Intelligence: Problem solving, classifying and categorising information, working with abstract concepts to figure out the relationship of each to the other, handling long chains of reason to make local progressions, doing controlled experiments, questioning and wondering about natural events, performing complex mathematical calculations, working with geometric shapes.

Bodily/Kinaesthetic Intelligence: Dancing, physical co-ordination, sports, hands on experimentation, using body language, crafts, acting, miming, using their hands to create or build, expressing emotions through the body.

Musical/Rhythmic Intelligence: Singing, whistling, playing musical instruments, recognising tonal patterns, composing music, remembering melodies, understanding the structure and rhythm of music.

Interpersonal Intelligence: Seeing things from other perspectives (dual-perspective), listening, using empathy, understanding other people's moods and feelings, counselling, co-operating with groups, noticing people's moods, motivations and intentions, communicating both verbally and non-verbally, building trust, peaceful conflict resolution, establishing positive relations with other people.

Intrapersonal Intelligence: Recognising their own strengths and weaknesses, reflecting and analysing themselves, awareness of their inner feelings, desires and dreams, evaluating their thinking patterns, reasoning with themselves, understanding their role in relationship to others.

While there is wide acceptance of the concept of learning styles, however, there is a lack of agreement on how to best measure learning styles. Coffield et al. (2004) reported that although there is a need for teaching to relate to the range of students' learning styles it, there is uncertainty over how meaningful they are in their instructional application.

They suggested that that it is more important to align the material with teaching methods. Merrill (2000) likewise stated that instructional strategies should first be determined on the basis of the type of content to be taught or the goals of the instruction and secondarily, learner styles and preferences are then used to adjust or fine-tune these fundamental learning strategies (Clarke, 2008).

Coffield, Moseley, Hall, & Ecclestone (2007) reported several significant problems with the issue of learning styles:

- An emphasis away from learning on to learner characteristics, underplaying the importance of acquiring subject knowledge and skills and obscuring the differences between learning cultures in different subjects.
- The theoretical and practical applications of many of the leading models are either under-researched in educational contexts or mired in controversy.
- Few models pass all of the 'good test' criteria of reliability and validity. Consequently one cannot use a learning styles instrument and be sure that all items are measuring what they intend to, that results will be the same if the test is taken again or that results can predict how someone might approach a learning experience in the future.
- Little good evidence to suggest that teaching influenced by the idea of learning styles has a significant effect on achievement or motivation.

Coffield, Moseley, Hall, & Ecclestone (2007) conclude that learning styles are only one small aspect of improving teaching and learning. At best awareness and integration of learning styles, in lecture design and delivery will result in a more diverse, encompassing class. At worst attention to these potentially invalid models may result in a waste of resources on behalf of the lecturer and the student, and shift pedagogic focus from learning to individual characteristics.

UCD TEACHING AND LEARNING / RESOURCES

Resources

Myers-Briggs: http://www.personalitypathways.com/type_inventory.html or
<http://haleonline.com/psych/>

David Keirsey's 'Sorter': <http://keirsey.com>

Soloman & Felder Online test: <http://www.engr.ncsu.edu/learningstyles/ilsweb.html>

Rose's VARK Online test: <http://www.vark-learn.com/english/page.asp?p=questionnaire>

Honey and Mumford's 80 item questionnaire: <http://www.peterhoney.com/>

Gardner's Multiple intelligence Inventory: <http://www.ldrc.ca/projects/miinventory/>

Problems with learning styles: <http://www.teachingexpertise.com/articles/the-problems-and-pitfalls-of-learning-styles-theories-2246>