

## **Learning Styles**

### **Contents**

Introduction

KOLB 's Learning Style Inventory

Learning Style Dimensions

Implications for Instruction

## Introduction

According to Behavioral theories , learning occurs as a result of the bond between the stimulus and response. For cognitive theorists it is a change in the cognitive structure of a person. Social Constructivists would argue that learning is a social process. When We try to explain learning only using selected theories of learning such as Gestalt, Discovery Learning and Meaningful Learning theories we might expect every one to take the same path to experience success in learning However, we must not forget that an integration of the theories will be useful for teachers to understand how learning occurs. Therefore, a broader view of learning is emerging that each person processes information or approaches learning in many different ways as each comes with unique characteristics as human beings.

Think about how you learn new concepts introduced in this subject. Some of you may learn by comparing with the concepts that you have already learned. . Some of you may need concrete evidence to learn these new concepts. . Others may need to observe how others apply those concepts in different situations. Some of you may prefer to do more practical activities, which will help you learn more effectively. Different people will have different preferences or different learning styles. Learners consistently employ these styles when they learn something or process information. As you continue reading think about which style you prefer.

Look at the following web sites to know more about learning styles...

<http://www.cyg.net/~jblackmo/diglib/styl-a.html>

### Learning Styles Bibliography

Birkey, Richard C., and Joseph J. Rodman. 1995. *Adult Learning Styles and Preference for Technology Programs*.  
<http://www2.nu.edu/nuri/llconf/conf1995/birkey.html>:National University Research Institute.

Cranton, Patricia. 1992. *Working with Adult Learners*. Toronto: Wall & Emerson. (pp. 13-15 and 40-63.)

Dewar, Tammy. 1996. *Adult Learning Online*.  
<http://www.cybercorp.net/~tammy/lo/oned2.html>

Hartman, Virginia F. 1995. Teaching and learning style preferences: Transitions through technology. *VCCA Journal* 9, no. 2 Summer: 18-20.  
<http://www.so.cc.va.us/vcca/hart1.htm>

Kearsley, Greg. 1996. *Andragogy (M. Knowles)*. Washington DC: George Washington University. <http://gwis2.circ.gwu.edu:80/~kearsley/knowles.html>

---. 1996. *Cognitive/Learning Styles*. Washington DC: George Washington University. <http://gwis2.circ.gwu.edu:80/~kearsley/styles.html>

Knowles, M.S. 1970. *The Modern Practice of Adult Education: Andragogy vs. Pedagogy*. New York: Association Press.

Leadership Project. 1995. *Adult Learning Principles & Practice*. Toronto: Sheridan College. <http://www.sheridanc.on.ca/wwwtst/AS/LeadershipProject/adultlearn.html>

Litzinger, Mary Ellen, and Bonnie Osif. 1993. Accommodating diverse learning styles: Designing instruction for electronic information sources. In *What is Good Instruction Now? Library Instruction for the 90s*. ed. Linda Shirato. Ann Arbor, MI: Pierian Press.

Schroeder, Charles C. 1996. *New Students--New Learning Styles*.  
<http://www.virtualschool.edu/mon/Academia/KierseyLearningStyles.html>

Winters, Elaine. 1995. *Seven Styles of Learning: The Part they Play When Developing Interactivity*. <http://www.bena.com/ewinters/styles.html>

### **Resources on Approaches to Learning**

<http://www.ecom.unimelb.edu.au/tluwww/workingPapers/fostDeepLearn.htm>

A learning style has been defined as an individual's characteristic method of responding to and processing learning events as he or she experiences them (Krahe 1993. p17)

Litzinger & Osif describe Learning Styles as ‘ the different ways of which children and adults learn’ (1992, 73). They see that each of us will develop a preferred and consistent set of approaches to learning. As they explain there are several processes involved in this approach.

1. cognition - how one acquires knowledge
2. conceptualization - how one processes information - looking for connections
3. affective - people's motivation, decision making styles, values and emotional preferences

A number people have tried to identify the ranges of learning styles in more detail and Kolb is one of the best known and his thinking is outlined below.

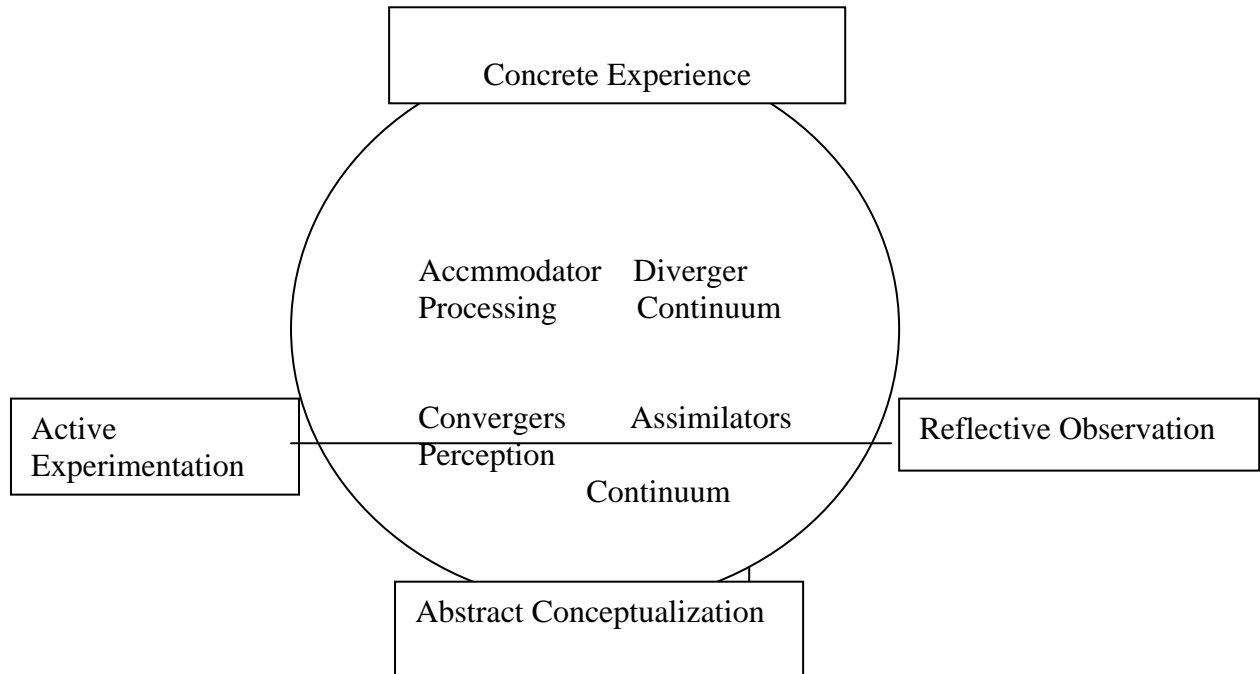
*What do you know about your learners' learning styles?*

- Learning styles have been categorized in many different ways.
- If teachers know about the learning styles of students they will be able to organize the teaching-learning process to provide more meaningful experiences to each and every student in their classrooms and help them in achieving success in their study programmes. This is not to support the idea that teachers should consider individual differences of each and every student in her/his class. If you are aware that students have varying learning styles it will give you some general idea how to proceed with your student group. It will also help the teacher for the allocation of learning activities to students. The importance of learning styles to students is discussed in detail at the end of this lesson.

### **KOLB's Learning Style Inventory**

David Kolb has been a leading theorist of adult learning for several decades. According to Kolb, individuals develop learning styles that emphasize some learning abilities over others. Kolb's model has four steps and two dimensions. If we only fell along one dimension we would have one of four learning styles explained below. Some explain this as a process of information that has four steps. For teachers it is important to consider this when designing a class session or a learning activity. By including all four types of activities all learners preferences are used and learners also learn how to learn in different ways even though that may not be their first preference. The model begins with concrete experiences (sensing).

**Figure 1**  
**Kolb Learning Styles**  
 ( Diagram from Litzinger and Osif 1992, 79)



***Feeling or sensing- (Concrete experience)***

This represents a receptive experienced based approach to learning that relies on feelings based judgments. These learners generally find theoretical approaches to be unhelpful and prefer to treat each situation as a unique case. They learn from specific examples from which they can be involved. Theoretical readings are not always helpful to them while group work and peer feedback often lead to success. Concrete experience is explained as laboratory experience, field work, observations etc.

***Watching- (Reflective Observation)***

These individuals rely heavily on careful observation in making judgments. They watch how others do things or develop observations about their own experience. They prefer learning situations such as lectures and brain storming sessions that allow the role of impartial objective observers. They prefer teachers to be a task master as well as a guide for these students.

### ***Thinking (Abstract generalization or conceptualization)***

These individuals tend to be more oriented towards things and symbols and less towards other people. They create theories to explain observations. They are frustrated by, and gain little from unstructured discovery learning approaches such as exercises and stimulations. Case studies, theoretical readings and reflective thinking exercises help this learner.

### ***Doing (Active experimentation)***

They learn best when they engage in projects, problem solving, games, self-directed work assignments or small group discussions. They dislike passive learning situations such as lectures.. They want to touch and see everything and determine their own criteria for the relevance of the materials. Please refer to additional reading material to get more information about the Kolb Learning Style inventory. .

Although Kolb thought of these learning styles as a continuum that one moves through overtime usually people come to prefer and rely on one style above the others. Figure 1 illustrates Kolb's learning styles..

## **Gardner's Multiple Intelligence**

Multiple Intelligence theory suggests that

1. all of us use seven or more intelligences in the process of learning (learning styles)Look at Essential Reading 3 to find more about Gardner's Multiple intelligence
2. all those intelligences are to be given equal importance
3. all intelligences can be taught, nurtured and strengthened
4. everyone learns in different ways at different rates for different reasons
5. stronger intelligences to be used to awaken and strengthen weaker ones

Styles identified by Gardner

1. plays with words ( verbal/linguistic)
2. plays with questions (Logical/Mathematical)
3. plays with pictures (Visual/ Spatial)
4. plays with music (Music/Erythematic)
5. plays with moving (Body/ Kinesthetic)

6. plays with socializing (Interpersonal)

7. Plays alone (Intrapersonal)

We use each of these styles when learning but we tend to prefer a small number of methods.

## Learning Style Dimensions

The following are based on two dimensions and represent a more complex model of learning styles. They include the following learning styles.

### *Convergers (Pragmatist)*

“How can I apply this in practice?” This is the type of question **convergers** may ask. They are action oriented and pay attention to what??? They acquire knowledge by thinking/analyzing and then practically applying the new ideas and concepts (doing experiments in laboratories, field work the way things actually happen. Convergers deal with things rather than people. A teaching learning situation where people get more opportunities for hands on experience, activities that apply skills, peer feedback is encouraged. The Teacher should act as a facilitator to provide those opportunities for students to become a self-directed learner.

Things they do well	Things they should watch for
<ul style="list-style-type: none"><li>• Find practical applications for ideas and concepts</li><li>• Employ situations where there is a single best answer to a question or problem</li><li>• Deal well with technical issues</li><li>• Place high value on applying newly learned information and techniques</li></ul>	<ul style="list-style-type: none"><li>• Are impatient and looking at situations from a variety of perspectives</li><li>• Are too active and would benefit from taking time to listen to other's ideas</li><li>• Judge information too quickly sometimes before trying it out</li><li>• Underestimate the impact people's values and emotions have on the way systems actually work</li></ul>

### ***Divergers (Reflector)***

“How can I see things as a whole?” This is the type of question that **divergers** may ask. They like to watch rather than do. They acquire knowledge through intuition. They like to learn using reflective observations and concrete experience and they possess the ability to integrate effectively information into meaningful wholes. Their imaginative ability is the greatest strength. They have broad cultural interests and tend to specialize in the arts and humanities. They are interested in people and emotional elements and a teaching – learning situation with lectures where plenty of time for reflection is encouraged. The teacher should provide organized information to help them to identify wholes. If you put forward new theories to them they will be able to see the possible conclusions and applications.

Things they do well	Things they should watch for
<ul style="list-style-type: none"><li>• View situation from many perspectives</li><li>• Enjoy brainstorming</li><li>• Are effective observers</li><li>• Gather wider variety of information</li></ul>	<ul style="list-style-type: none"><li>• Spend too much time reflecting and not enough time experimenting with new ideas</li><li>• Avoid trial and error learning</li><li>• Overlook the quantitative and technical aspects of situations</li><li>• Wants to make the perfect decision even though none may exist</li></ul>

### ***Accommodators (Activist)***

“How can I do this ?” This is the type of question that accommodators will ask. They try to see the value in thinking things before acting. They like to learn using concrete experience and active experimentation. They try to apply theories to special circumstances and they will discard theory if the facts do not fit. Their greatest strength is their ability for getting things done and becoming fully involved in new experiences. They are capable in adapting to specific immediate circumstances. **Accommodators** approach problems in an intuitive, trial-and-error manner and they obtain information from other people rather than through their own analytic abilities.

Opportunities should be provided for practicing skills, problem solving, small group discussions and peer feedback. The teacher should be a model of a professional leaving the learner to determine her/his own criteria.

Things they do well	Things they should watch for
<ul style="list-style-type: none"> <li>• Involve themselves readily in new experiences</li> <li>• Are willing to experiment and risk trying out new concepts</li> <li>• Are adept at improving when their plans do not seem to work</li> <li>• Focus on application of their learning (how they can use it)</li> </ul>	<ul style="list-style-type: none"> <li>• Don't always try to take the time needed truly to learn from the results of their learning experiments</li> <li>• Scrap their plans at the earliest signs of difficulty</li> <li>• Are too active in their learning and would benefit taking a more reflective role</li> </ul>

### ***Assimilator (Theorist)***

**“How** does this relate to that?” This type of question is the main focus of **assimilators**. They are often more concerned with abstract concepts and less interested with people and practical applications of knowledge. Assimilators learn by thinking, analyzing and then planning and reflecting. Assimilators will test the theories, try them out and integrate them into other own practice. They prefer to learn by case studies, reading theory and thinking alone. The ability to create theoretical models and reason inductively is the assimilator's greatest strength.

Things they do well	Things they should watch for
<ul style="list-style-type: none"> <li>• Create theories and predict how they will work</li> <li>• Analyze issues and are effective in finding flaws in their designs</li> <li>• Apply data logic to situations</li> <li>• Are effective at seeing relationships between seemingly unrelated bits of information</li> </ul>	<ul style="list-style-type: none"> <li>• Overly reliant on quantitative data and under values people's data</li> <li>• Overly cautious about experimenting with untried data</li> <li>• Resist taking an active role in learning</li> <li>• Prefer more reflective role</li> </ul>

Honey and Mumford (1986) have developed a questionnaire that asks people whether they agree or disagree with 80 statements such as these:

- Quiet, thoughtful people tend to make me uneasy.
- I like to relate my actions to a general principle.
- I steer clear of subjective or ambiguous topics.
- I am careful not to jump to conclusions too quickly.
- On balance I do the listening rather than the talking.
- What matters most is whether something works in practice.
- Most times I believe the end justifies the means.

(Adapted from Honey and Mumford, 1986)

By analyzing answers Honey and Mumford determined the strength of respondents' preferences for each of the four styles they have identified (related to Kolb's 'learning cycle' -- Kolb, 1984). Few people are likely to **favour** one style to the exclusion of all others, but it is common for one to predominate in a person's learning, with the others being used less often or not at all. None of the styles is inherently superior to the others. All are of value in different contexts.

Teachers too, of course, have their own preferred teaching and learning styles.

## Implications for Instruction

### What do you need to know about your learners?

The short answer is anything you might use to help them enjoy the most productive and satisfying learning experience. Knowledge about learning styles of your learners may help you in the following ways.

- In helping learners decide how they want the teaching approaches to be organized
- In designing a course and preparing learning materials that relate to their approaches to learning
- In selecting existing resources that they may find relevant for teaching-learning
- In providing support in a humane and responsive way once learners have begun on their studies
- In fine-tuning the course/lessons to suit the approaches of different learners as they work through it
- *Derek Rowntree* suggests the following procedures to fit with different learning styles.
  - novel and participatory enough for the activists
  - intellectually rigorous enough for the theorists
  - practical enough for the pragmatists
  - leisurely enough for the reflectors?

The following Table will also help you in the identification of teaching methods that will suit different learning styles of students.

### How people with different learning styles respond to various activities

Learning style	Responds well to:	Responds poorly to:
ACTIVIST 'Here, let me do that'	New problems, being thrown in at the deepened, teamwork	Passive learning, solitary work, theory, precise instructions
THEORIST 'Yes, but how do you justify it?'	Interesting concepts, structured situations, opportunities to question and probe	Lack of apparent context or purpose, ambiguity and uncertainty, doubts about validity

PRAGMATIST 'So long as it works'	Relevance to real problems, immediate chance to try things out, experts they can emulate	Abstract theory, lack of practice or clear guidelines, no obvious benefit from learning
REFLECTOR 'I need time to consider that'	Thinking things through, painstaking research, detached observation	Being forced into the limelight, acting without planning, time pressures

(Adapted from Honey and Mumford, 1986)

As with conceptions of learning, you may also plan to help your learners acquire new learning styles. To do so might make them more flexible and effective as learners. This would lower yet more barriers between them and what they might learn. But can we be certain enough about what approaches they already favour and what new ones they might most usefully acquire? You might like to compare two chapters in Lockwood (1995, name of the book chapters 6 and 8) for two intriguingly different approaches to understanding how learners view and engage with learning.

“How instructional strategies can accommodate different learning styles” If you want to know more about this refer to Wang (1996). Look at the reference list for more information.

## References

- Cantor, J. (1992). Delivering instruction to adult learners, Toronto:Wall Emerson.
- Kolb, D.A. (1985) Learning Style Inventory, Boston, MA:McBer & Co.
- Litzinger, M. E. & Bonnie, O. (1993). Accommodating diverse learning styles, designing
- Biggs, J., (1979) Individual differences in study processes and the quality of learning outcomes. Higher Education, 8, pp.381-394
- Biggs, J., (1987a) Student approaches to Learning and Studying. Australian Council for Educational Research, Hawthorn, Vic.
- Biggs, J., (1989) Approaches to Enhancement of Tertiary Teaching. Higher Education Research and Development, Vol 8, No. 1, pp. 7-25
- Entwhistle, N. and Ramsden, P., (1983) Understanding Student Learning. London: Croom Helm.
- Entwhistle, N. and Tait, H., (1990) Approaches to learning, evaluations of teaching and preferences for contrasting academic environments. Higher Education 19 : pp. 169-194.
- Hounsell, D., (1984) Understanding teaching and teaching for understanding in Marton, F., Hounsell, D., Entwhistle, N., (eds) The experience of learning . Edinburgh: Scottish Academic Press. pp189-210
- Pask, B., (1976) Styles and strategies of learning. *British Journal of Educational Psychology*, 46(2): pp.128-148.
- Ramsden, P., (1992) Learning to teach in higher education. London, Routledge.