



Learning Styles: An Introspection into the major influential aspects on the learning process

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ABSTRACT

Learning can be perceived as a wonderful experience for people of all ages. Basically, the notion of learning style defined how people learned on the basis of their strengths, preferences, motivation and learning environment. Several researches have shown the emergence of different learning styles since 1970s, to retain as well as process information and most of them were criticised. Mostly, the approach to learning is based on a combination of strengths and preferences. Educationalist and psychologists have discovered many learning style models to improve the learning process. But the learning style chosen by an individual do not remain constant and keeps changing according to the situation, topic and person. Still, the models can boost up the learning process despite the drawbacks. This paper tries to explore the influential aspects affecting the learning style of an individual and the major criticisms related to the models of learning style.

Keywords: Learning style, Learning preference, Learning outcome

1. Introduction

The term 'learning style' is usually used to describe the means by which the learners collect, analyse, comprehend and register a piece of information in the mind. Basically, an individual will have a set of preferences for understanding, organising, representing and recalling an information. These preferences decide their learning style. During each stage of life, an individual will choose or prefer their own interests and styles that would suit them. Obviously, they will have a learning style that would accommodate their capabilities

Learning style of a learner will get modified according to their learning requirements. The data that would be already existing in the mind would be evaluated against the new data and then interpreted. The way a learner interprets the new information would decide whether the new data is required or not. The choice of the style for learning could be assumed as designed by the learners themselves which would depend on the factors that are helpful in comprehending the learning material. This would be helpful to develop a clear mental map that would be influenced by the learning style. Such modified forms or combinations of learning might prove helpful to achieve success in a learning situation.

2. Literature Review

Bostrom and Lassen (2006) identified that those who could identify their learning style would be able to define their own progress. Their ability to take full control of learning would lead them towards self-efficacy. This self-efficacy could be achieved by understanding their success and failure that happened previously, their observation of the learning behaviours of others, analysing persuasion from others and subsequent emotional arousal.

Cassidy (2004) mentioned three primary concepts that would make up the framework of learning styles, namely information processing, instructional preference and learning strategies. According to Cassidy, information processing referred to the intellectual ability of a person to understand the information process and instructional preference described the preferred learning environment for an individual.

Constantinidou and Baker (2002) found out the importance of physiological basis of the learning styles. But they have not considered them as constant throughout life. The experiment of the authors on the pictorial presentation proved to be advantageous for all adults tested in a simple item-recall task.

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especially for those with a strong preference for verbal processing. Here, high or low learning-style preference for imagery was not taken into account. Gilakjani and Ahmadi (2011) suggested that understanding a learning style helps the learners to know how to learn. This would make them more autonomous and accountable for their learning; enable them to increase their confidence in the learning process and lessen the control of the teachers over the learners. Thus, learners become the centre of the learning process and control their learning while teachers act as facilitators.

Naimie et. al. (2010) indicated that the dominant learning style of the students were active, sensing and global. Whereas, the frequent learning style of the teachers were active, sensing, visual and an equal combination of global and sequential at the last dimension. The authors deduced that the students showed a positive attitude and higher attainment while their teachers accommodated their needs and preferences

Peacock (2001) proposed a balanced style for teachers to adjust to various learning styles as incongruence between learning style and teaching style could lead to learning failure, demotivation and frustration. He discovered from his study conducted with EFL teachers and EFL students that the teachers preferred auditory, kinesthetic and group styles while the students preferred auditory and kinesthetic style. When the teachers disliked individual and tactile styles, the students disliked group and individual styles. An incongruence was noticed concerning auditory and group styles.

Tuan (2011) opined on the necessity of matching a teaching style of teacher with that of the learning style of the students. Matching of styles became more relevant while dealing with new or low-level students during their early stages of learning. There are chances that these students get frustrated and become dropouts. So, mismatching needs to be treated with caution. Sometimes, mismatching would help the learners to experience new methods of learning, accommodate new ways of thinking and reflect on their own styles.

3. Factors affecting the learning styles

Learning styles are individualistic in nature. Each of them would have their own ways of identifying and processing information. The factors that could help to focus or concentrate in learning would be different for each individual. The most appropriate learning style that suits an individual to give the best result or output will be different from others. Thus, the method appropriate for a group of students would be ineffective for other group of students who could learn more easily with yet another approach (McKeachie 1995).

Learning style could influence the way in which an individual respond to a stimulus from an environment. The manner in which each learner respond towards environmental stimuli is different. Thus, learner differences could affect the learning style which in effect could have impact on the corresponding responses. According to Loo (2004) competence was based upon the capability to act in response to various learning situations by successfully making use of each style.

Learners usually respond to a learning situation when they are aware of their necessities for that learning material. The capacity of brain to store information for a long duration and for quick access will eventually develop by modifying the learning style. This would make the learning process easier and helps in attaining subject competence. According to Dunn and Dunn (1986) the concentration level of a learner, their mental processes, internalization and retention of new and difficult information stem from their specific learning style.

Learning environment of an individual can play a significant role in determining the level of achievement attained by the learner. Subsequently, the way a learner interprets meaning from the environment will be different from another learner. The convenient learning environment for a learner will not be convenient for another learner. Learners who have different learning style behave differently while they perceive, interact and respond to the learning environment (Junko 1998).

Learners use various means to accommodate to their learning environment. Generally, the approach of the learner towards learning would be facilitated by the sensory channels, the types of intelligence, the hemispheric dominance and the psychological aspects of perception that are involved in processing the information. The affinity towards particular style would be governed by biological characteristics that are influenced by external factors such as culture, personal experience and development (Chermahini & Ghanbari 2013).

Learners in general make use of different learning styles to internalise the learning material. The learning process is expected to enable the person to improve learning, acquire new information and apply those acquired information in new situations. Hence, learning styles are expected to play an important role in deciding the success and effectiveness of learning. Apparently, the outcome of a learning style would be best represented as the achievement of the learner. According to Soyulu and Akkoyunlu (2002) different learning styles have significant impact on the achievements of the learner. The preference for a learning style probably plays an integral role in deciding the achievement of the learners. The affinity of a learner towards certain learning style would be governed by traits that are inherited or acquired. Such traits would influence the learner while choosing a learning style suitable for a particular learning environment. Thus, learning style could be understood as combination of cognitive, affective, social and physiological factors that could serve as indicators for learner's perception, interaction with, and response to the learning environment (Keefe 1979).

4. Major influential models of learning style

4.1. David Kolb's experiential Learning

David Kolb's model states that an individual learns continuously and in due course they build up particular strengths which would equip them with individual preferences (Kolb 1984). These preferences were described by David Kolb as learning styles: accommodating, converging, diverging and

assimilating. Kolb perceived accommodators as those who were keen to learn from their real experiences; convergers as those who would deal better with abstract ideas but liked to come up with concrete results; divergers as those who inclined to use personal experiences and practical ideas to formulate theories and assimilators as those who could extend their understanding of abstract concepts to develop new theories of their own.

4.2. Honey and Mumford's learning styles

In 1986, Peter Honey and Alan Mumford developed upon Kolb's model on the aspect of learning, by observing how learning could be used in practice, especially at work (Honey & Mumford 1992). Thus, they identified four new learning styles – activist, pragmatist, reflector and theorist, the terms that are used to describe a person. According to Honey and Mumford, activists were those who learned by doing; pragmatists were those who learned when they perceived that their learning could be put into practice in the real world; reflectors were those who learned by observing others and theorists were those who learned by understanding the theory behind something.

4.3. Anthony Gregorc's mind styles

Anthony Gregorc looked into details on the thinking process and how that affected the learning process. So, Gregorc's mind styles depicted two continuums – perceptual preference and ordering preference (Gregorc 1984). Perceptual preference referred to the preference to grasp or perceive an information. The perceptual qualities were either concrete or abstract. Ordering qualities were either sequential (linear) or random (non-linear). These four preferred styles of Gregorc's model were created by the two intersecting continuums which created quadrants. The quadrants are the four combinations of perceptual qualities and ordering abilities based on dominance – concrete sequential (CS), concrete random (CR), abstract random (AR) and abstract sequential (AS).

4.4. Visual, Auditory and Kinesthetic learners (VAK)

In 1979, Walter Burke Barbe, the educational psychologist and his colleagues proposed three modalities of learning – visual, auditory and kinesthetic to provide an easy method to explain and understand learning styles (Barbe et. al. 1979). VAK learners use three main sensory receivers to find out the dominant or preferred learning style of an individual. Mostly, the learners used all the three methods to receive information. But, only one or more of the receiving styles would be normally dominant. This preferred style defined the most suitable way for a person to learn a new piece of information. But this style may not be the same for all the tasks. Some people would have mixed and uniformly balanced blend of three styles. Often, a learner may incline towards one style of learning for one task and a combination of others for another task. Neil Fleming extended VAK to VARK by including reading/writing as a modality.

4.5. The learning styles task force

The National Association of Secondary School Principals (NASSP) came up with a research task force in the 1980s (Keefe 1985). They proposed the additional factors that would affect an individual's ability to learn – the mode in which study was organised, levels of motivation and the time of day while learning took place. Thus, learning styles were categorised under three sections – cognitive, affective and physiological. Cognitive style comprised of preferred ways of perception, organisation, and retention. Affective styles encompassed the motivational dimensions of the learning personality. Physiological style referred to the bodily states or predispositions. NASSP task force emphasised that the styles were hypothetical constructs which would help to explain the learning/teaching process.

4.6. The index of learning styles

In 1980s, Dr. Richard Felder and Barbara Soloman of North Carolina State University developed the index of learning styles, an online to assess preferences on four dimensions of a learning style model (Felder & Solomon, 1999). This is one of the popular assessments to determine style or preferences. This model has questionnaire with 44 questions of two choices. The result of the questionnaire created a profile that would indicate the preferences of the learner under four sections - sensory/intuitive, visual/verbal, active/reflective and sequential/global. Thus, the learning style profile indicated the probable strengths and possible tendencies that would lead to challenges in learning.

5. Strategies to improve learning style

- 5.1. Analyse the big frame and choose the best learning style that suits well.
- 5.2. Acknowledge individual differences while choosing an effective learning style.
- 5.3. Improve on weaknesses by putting in rigorous practice for that particular aspect.
- 5.4. Scaffold other learners by engaging them in the learning process by a varied approach.
- 5.5. Find out strengths and identify the most suitable style that gives the best result.
- 5.6. Accept uniqueness of the learner and the subject they handle while choosing a learning style

6. Major Criticisms

- 6.1. Some psychologists claim that the preference of a person could be expressed or found out from their behaviour pattern. But it seems unsure whether all of them are exact reflection of mental representations. They may or may not be an apt reflection of the brain's work.
6. 2. Some psychologists and neuroscientists have questioned the scientific basis for the theories on learning styles. Some has found the idea on as not sensible. For some, the idea is weak. For others, the idea lacks validity. Some others claim that terminologies are confusing.

- 6.3. Some researches claim that the learning style of a person is likely to vary in different situations and change over time. So, it is hardly possible to find out the learning style of a person that would remain throughout his or her lifetime. Such an attempt would lead to failure.
- 6.4. Certain studies identified that the assessed preference for learning style may vary from the learning style put into practice as the style that is preferred might vary from the style that they would enjoy. So, the assessed strength may vary from the practiced style.
- 6.5. Some educational psychologists refuted the idea of matching teaching style with the learning style as this idea encouraged the teachers on teaching the intellectual strength of the students discarding their weaknesses.

7. Conclusion

Achievements of a learner depend upon their unique learning styles. Learner's expectation of an improved learning outcome could be a reason behind choosing a particular style for learning. To understand the effectiveness of the learning style of an individual, an assessment on the improvement in learning outcome would be helpful. This might also be useful in revealing the advantages as well as disadvantages of the style adopted by the learners to process information. Consequently, one has to be very cautious while choosing a particular learning style.

Learning style of an individual is observed to vary as they mature in life. Modified forms or combinations of learning are found to be helpful in achieving success in a learning situation. Thus, an individual can have a mix of their preferred learning styles. Influence of culture and personal experience can be expected to play a major role in changing the learning style of an individual. Still, these learning styles are expected to guide the way they learn in their life. Still, the validity of learning styles has not been supported scientifically. But they prove to be very useful in many learning situations.

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