

The Learning Style USD1000 Challenge: A Review

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Abstract: It is a norm that every opinion or theory has two sides of its coin; one that sings praises of its significance, and the other that tramples and undermines its existence. The learning styles too do not portray all-praises and significances alone. There have been many researches conducted related to debunking the myth of learning styles. Hence, this paper is interested to look into how learning styles are viewed as myth in the first place. Besides, researchers too are still negotiating with the fact that if learning styles have any crucial role in a successful classroom teaching and learning process. Thus, this paper acts as a review of the myth of learning styles and also some works that have been projected to debunk the myth for the betterment of classroom environment and learning.

Keywords: Learning Styles, Myth, Significance

1. Introduction

The education system served for the Gen Y is heavily learner centered. In line with this, it is indeed vital to identify the students' learning styles to cater and accommodate to their learning preferences. Not only the identification of learning styles can increase their motivation, it can also project better achievement in their studies. Nevertheless, learning styles vary according to learners. Certain teaching styles may seem unattractive to some learners and thus, the full potential of the learners is untapped. Besides, numerous researches on learning styles have been conducted to look into the different ways of learning, which highlights the significance of identifying learning styles. Besides, students who are conscious of their learning styles should be able to plan their strategies in order to make most of their learning journey. In short, awareness on the significance of identifying one's learning styles to create more meaningful and effective learning strategies is vital, or in other words, to be a perfect learner.

However, there is always another side of a coin. There are claims that belittle the importance of learning styles. This review looked into the claim made by Will Thalheimer in 2006. His vivid affront towards learning styles is depicted below:

The Challenge posed by Will Thalheimer (2006):

I will give **\$1000 (US dollars)** to the first person or group **who can prove that taking learning styles** into account in designing instruction **can produce meaningful learning benefits**.

I've been suspicious about the learning-styles bandwagon for many years. The learning-style argument has gone something like this: If instructional designers know the learning style of their learners, they can develop material specifically to help those learners, and such extra efforts are worth the trouble.

I have my doubts, but am open to being proven wrong.

Here's the criteria for my Learning-Styles Instructional-Design Challenge:

1. The learning program must diagnose learners' learning styles. It must then provide

different learning materials/experiences to those who have different styles.

2. The learning program must be compared against a similar program that does not differentiate the material based on learning styles.
3. The programs must be of similar quality and provide similar information. The only thing that should vary is the learning-styles manipulation.
4. The comparison between the two versions (the learning-style version and the non-learning-style version) must be fair, valid, and reliable. At least 70 learners must be randomly assigned to the two groups (with at least 35 minimum in each group completing the experience). The two programs must have approximately the same running time. For example, the time required by the learning-style program to diagnose learning styles can be used by the non-learning-styles program to deliver learning. The median learning time for the programs must be no shorter than 25 minutes.
5. Learners must be adults involved in a formal workplace training program delivered through a computer program (e-learning or CBT) without a live instructor. This requirement is to ensure the reproducibility of the effects, as instructor-led training cannot be precisely reproduced.
6. The learning-style program must be created in an instructional-development shop that is dedicated to creating learning programs for real-world use. Programs developed only for research purposes are excluded. My claim is that real-world instructional design is unlikely to be able to utilize learning styles to create learning gains.
7. The results must be assessed in a manner that is relatively authentic--at a minimum level learners should be asked to make scenario-based decisions or perform activities that simulate the real-world performance the program teaches them to accomplish. Assessments that only ask for information at the knowledge level (e.g., definitions, terminology, labels) are NOT acceptable. The final assessment must be delayed at least one week after the end of the training. The same final assessment must be used for both groups. It must fairly assess the whole learning experience.
8. The magnitude of the difference in results between the learning-style program and the non-learning-style program must be at least 10%. (In other words, the average of the learning-styles scores subtracted by the average of the non-learning-styles scores must be more than 10% of the non-learning-styles scores). So for example, if the non-learning-styles average is 50, then the learning-styles score must be equal to 55 or more. This magnitude is to ensure that the learning-styles program produces meaningful benefits. 10% is not too much to ask.
9. The results must be statistically significant at the $p < .05$ level. Appropriate statistical procedures must be used to gauge the reliability of the results. Cohen's *d* effect size should be equal to .4 or more (a small to medium effect size according to Cohen, 1992).
10. The learning-style program cannot cost more than twice as much as the non-learning-style program to develop, nor can it take more than twice as long to develop. I want to be generous here.
11. The results can be documented by unbiased parties.

To reiterate, **the challenge** is this:

Can an e-learning program that utilizes learning-style information outperform an e-learning program that doesn't utilize such information by 10% or more on a realistic test of learning, even it is allowed to cost up to twice as much to build?

Source: Thalheimer, W. (2006)

2. The Concepts of Learning Styles

Hence, with the challenge posed, this paper looked into the eminent features of learning styles that should respond to the challenge. Furthermore, researchers since the last millennium have actively conducted researches, studies, and experiments to contribute questionnaires,

methods, theories, and inventions to better comprehend learning styles and learning strategies. Dave Kolb coined the term "learning style" to explain that each of us have a preference for receiving and processing information (Delahoussaye, 2002). Gone are the days where the educators stand behind the rostrum to deliver lectures. Today, similar to schools, the universities too have adopted the approach that leans against the idea of learner centered. Thus, identifying one's learning style(s) is presumed of utmost important for better learning experience.

Kolb's (1984) learning style theory, which is known as Experiential Learning Theory (ELT), has become the focus of many studies done on the topic. According to Kolb (41), learning style refers to "the process whereby knowledge is created through the transformation of experience" resulted from the combination of what the learners grasp and transform from their experience. It emphasizes on the vital role one's experience is playing in one's learning process, of which Cassidy (2004) described as, an intellectual approach by an individual in the processing of information. The theory proposes a learning cycle with (1) experience as its base, followed by (2) reflection, and (3) action - from which, (4) a concrete experience for reflection is formed. Further description of the learning styles is portrayed in Figure 1.

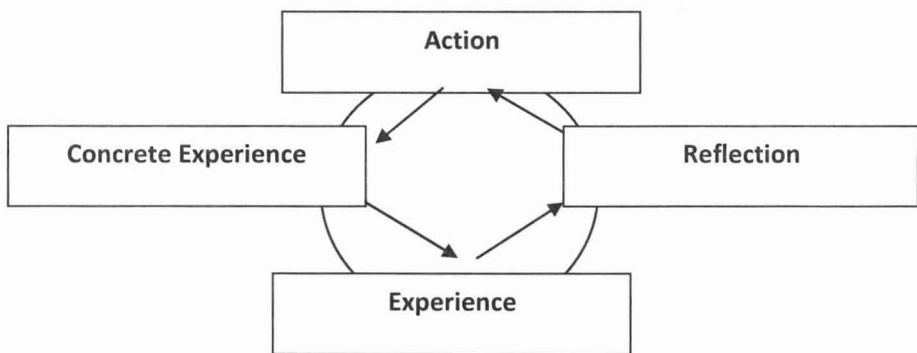


Fig. 1 Four Learning Phases in Kolb's Experiential Learning Theory (revised from Kolb, 1999, p.4)

In ELT, learners are categorized based on the 4 learning styles namely 1) accommodating, 2) diverging, 3) converging and 4) assimilating learners. Table 1 below describes the learners according to the four categories of learning styles as proposed by Kolb's ELT:

Table 1. Description of learners according to the four categories of learning styles, as proposed by Kolb's ELT.

LEARNING STYLES	DESCRIPTION OF LEARNERS
Accommodating	Perceive through concrete experience Process by active experimentation Like to do things Willing to take risks Enjoy finding out new ideas Solve problems using trial-and-error method Need others for information Prefer group work in doing assignment, setting goals, testing various approaches etc.
Diverging	Perceive through concrete experience Process by reflective observation

	Imaginative and emotional
	Able to synthesize observations to generate new ideas
	Solve problems unsystematically and creatively
	Listen to and accept others' critiques
Converging	Perceive through active conceptualization
	Process by active experimentation
	Logical, pragmatic and unemotional in problem solving
	Organized
	Prefer to experiment with new ideas etc.
Assimilating	Perceive through active conceptualization
	Process by reflective observation
	Symbolical
	Concern more with abstract conception
	Prefer readings, lectures and analytical models

Based on Table 1, it seems that the categories listed would be able to ease an educator to devise his/her lesson based on the learners' preferred learning style. Applying these on three groups of design students, Demirbas and Demirkan (2007) found that a majority of students were either assimilating or converging learners, regardless of gender. The students' performance between the groups did not show significant difference except in design courses in which converging students showed a significantly different performance compared to their diverging counterparts.

In addition, Grasha's (1996) learning styles are divided into 6 categories which are competitive, collaborative, dependent, independent, avoidant and participant. Based on this categorization, Dinçol et al. (2011) studied the effect of the matching between students' learning styles and teaching styles of their instructors and found that the matching had no significant effect on students' success. This according to them was in line with other researchers like Uzuntiryaki (2007), Karatas (2004), Tucker (1998) and Demirci (2009) (as cited in Dinçol et al, 2011). Hence, it can be seen that this approach to teaching has been employed among many countries for the purpose of better perceived learning. It is indeed significantly vital to conduct teaching activities that cater to the students' preferences. According to Siti Hamin (2003), instructors should identify the students' learning preference before deciding the types of activities to be conducted in the classroom. She further added that this is vital as students come from different backgrounds and diverse cultures, thus when their learning differences is not properly tackled, the students will tend to experience frustration, which leads to demotivated students. In other words, identifying the students' learning styles turns them to perfect learners.

3. The Verdict

The learning styles have been proven by many researchers of not only the advantages, but also some cases of insignificances. It is definitely easier to carry out the teaching and learning process in a class with additional information related to learners' learning styles to cater to the students' ease of learning a subject matter. On top of that, the present educational environment focuses on learner centered activities and teaching methods. Thus, if one ignores the learners' preferred styles of learning, it would be a painstaking class for both the educator and the learners, as instead of grasping gist from the teaching, the learners may be slapped with boredom or they may face trouble digesting what the educator is imposing on them. Hence, in this review, the researchers believe that identifying learners' learning styles is definitely vital, at least it helps in conducting a more meaningful class for the benefit of both parties involved in the teaching and learning process.

In addition, as a final say, the verdict given by Will Thalheimer (2006) was: **\$1,000 says it just doesn't happen in the real-world of instructional design. \$1,000 says we ought to stop wasting millions trying to cater to this phantom curse**, which can be further argued

for the sake of the betterment of the educational process and classroom practice, whereby students are the main concern, as far as the education industry is concerned. Therefore, more studies have to be conducted and this study is hoped to present a suitable platform to look into the advantages of learning styles. In short, although there are researches that happen to contradict, as far as we are concerned, learning styles do matter.

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