

Matching Training Methods with Learning Styles

Paresh C. Mohanty¹, Dr. Madhusmita Dash²

¹Research Scholar, SOA University, Bhubaneswar, Odisha,

²Assistant Professor, SOA University, Bhubaneswar, Odisha

Abstract -The focus of any attempt at knowledge enhancement, Skill formation and behavioral modification is the learner. Research has proved that learners have their unique way of learning. That is why the trainer should acquire information about the learners' style of learning and adjust the training modules and methods accordingly, to maximize the outcome in a training program. This study is an attempt to understand a synergy between learning styles of the learners and training methods followed by the trainers. A study was made with 202 branch heads of a micro finance organization whose learning style was identifies through VARK Questionnaire and the result was analyzed. The outcome confirmed that people have variations in their learning preferences. Simultaneously the feedback received from the participants revealed that people are not rigid on their learning preferences. This paper has analyzed major learning theories and the learning preferences of people and applied them to the study.

Keywords: Learning, Learning Styles, Training, Trainer, Learner

I. INTRODUCTION

Learning styles of learners is a matter of systematic study since last five decades. The essence of the studies is that , every individual has his preferred way of learning compared to others . Trainers should be conscious of Lerner's styles and try to transfer knowledge, skill etc. through learners preferred modes to maximize learning. From the initial research on the relationship between memory and oral/visual learning (Dunn et.al.1975) the study moved to different cognitive styles and strategies that determine a learner's mode of receiving , remembering , thinking and problem solving (Messick , 1976) . In later date David A. Kolb(1984) , Honey & Mumford (1986) , Gregorc (1985),Dunn et. al.(1989) Fleming (1995) , Witkin (1962) and many others made studies and provided models proving learning style preferences of learners .

This paper examines some of the prominent researchers on learning style of learners. The study made on 202 branch heads of a microfinance organization is also analyzed to prove that rigid learning styles are a myth, people can adapt to styles beyond their preferred learning modes.

II. OBJECTIVE AND METHODOLOGY

The objective of the paper is to scan through various studies on learning styles and to be aware of various learning preferences of trainees. That will help a trainer to customize the training program to get maximum output. In this research 202 branch heads of a microfinance organization

were given the VARK(Visual ; Auditory ; Reading/Writing; Kinaesthetic) questionnaire to be filled and the result was in favor of different learning preferences. Simultaneously a feedback sheet on the training program revealed that people can change their learning preferences in case of need.

III. LITERATURE REVIEW

Although its origin has been traced back to several decades, research in the area of learning style has been active for the last five decades. Till 2005 a total of 1876 entries appeared in Experiential Learning Theory Bibliography by Alice Kolb and David A. Kolb . This paper takes few major researchers in this area to prove the importance of learning style of people.

Kolb's Experimental Learning Model (ELM)

Perhaps the most quoted authority on learning style is David A. Kolb. Kolb theorizes that an individual's learning style is based on that person's preferred modes of learning. A mode of learning is the individual's orientation towards gathering and processing information during learning. Kolb proposed four basic models of experiential learning.

1. Concrete Experience (CE): An intuitive preference for learning through direct experience, emphasizing interpersonal relations and feeling as opposed to thinking.
2. Abstract Conceptualization (AC): A preference for learning by thinking about an issue on theoretical terms.
3. Reflective Observation (RO): A preference to learn by watching and examining different points of view to achieve an understanding.
4. Active Experimentation (AE) : A preference for learning something by actually doing it and judging its practical value.

Out of the four preferences, Kolb identified four learning styles:

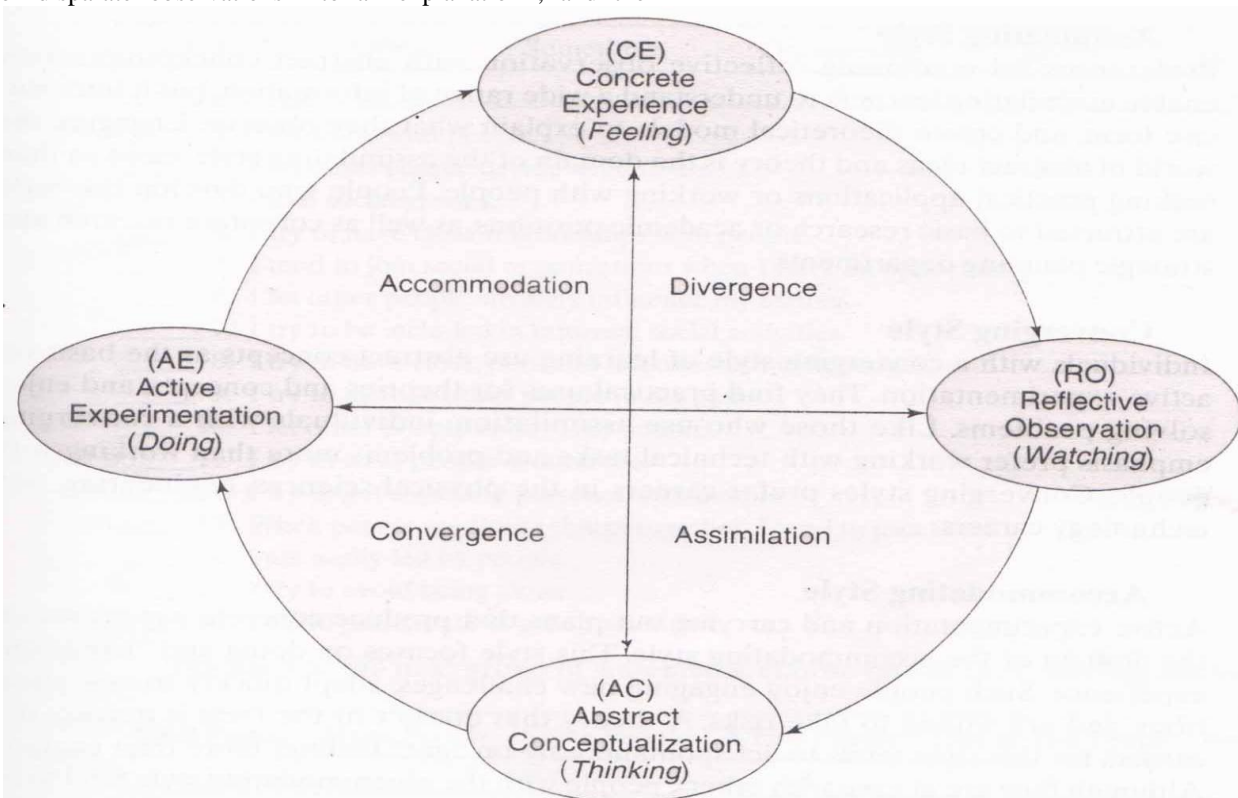
1. Convergent: A combination of abstract conceptualization and active experimentation (thinking and doing). They find practical uses for theories and concepts and enjoy solving problems. Individuals with converging emphasis prefer working with technical tasks and problems more than working with people.

2. Divergent: A combination of concrete experience and reflective observation (feeling and watching), emphasizing imagination, an awareness of values, and the ability to generate alternative courses of action. The Divergent tends to be highly imaginative, excels at brainstorming, likes to gather information and likes group involvement in generation of creative ideas.

3. Assimilation: A combination of abstract conceptualization and reflective observation (thinking and watching) that stresses inductive reasoning, the integration of disparate observations into an explanation, and the

creation of theoretical models. They understand a wide range of information, put it into concise form and create theoretical models to explain what they observe.

4. Accommodative: A combination of concrete experience and active experimentation (feeling and doing), this style is usually demonstrated by accomplishment, executing plans and involvement in new experiences. They love to have hands-on experience. They learn by doing.



Source: David A. Kolb, "Management and the Learning Process," *California Management Review* 18 (Spring 1976), pp. 21-31.

Measurement

Originally developed as a 9 item self report scale (Kolb 1976) the revised Learning Style Inventory (LSI) (Kolb, 1985) is a 12-item self-report questionnaire. LSI scores reflect an individual's relative emphasis on the four learning orientations and enable categorization according to the corresponding learning style.

Limitations

Despite popularity of Kolb's model, studies examining the psychometric properties of the LSI have raised concerns regarding its reliability and validity (Geller, 1979) (Geiger, Boyle, & Pinto, 1992); Newstead, 1992) Kolb's emphasis on experimental learning and the developmental nature of learning suggests a potential for change in style (

Rayner & Riding, 1997). But studies conducted on this by several academicians have found inaccurate results (Veers, Sims and Locklear, 1991; Loo 1997)

Honey and Mumford's

Honey and Mumford's (1992) description and measurement of learning style are grounded in Kolb's experiential learning model. But they created their own version to suit middle or senior managers in business. Two variations were created to the original model to address the business environment. They renamed the stages as having an experience, reviewing the experience, concluding from the experience and planning the next step. The Learning Style questionnaire (LSQ) was developed for use with management trainees and has been proposed as an

alternative to Kolb’s LSI . The four learning styles measured by LSQ are: activist (Kolb’s active experimentation) ; reflector (Kolb’s reflective observation) ; theorist (Kolb’s abstract conceptualization) and pragmatist (Kolb’s concrete experience)

Measurement

The LSQ is an 80 item self-report inventory based on Kolb’s ELM but developed specifically for use in industry and management.

Honey and Mumford Learning Style	Characteristic	Activities
Activist	Learn by doing and participation	<ul style="list-style-type: none"> • brainstorming • problem solving • group discussion • puzzles • competition • role-play
Reflector	Learn by watching others	<ul style="list-style-type: none"> • models • statistics • stories • quotes • background information • applying theories
Theorist	Learn by understanding theory very clearly	<ul style="list-style-type: none"> • time to think about how to apply learning in reality • case studies • problem solving • discussion (Rose, 1987)
Pragmatist	Learn through practical tips and techniques from experienced person	<ul style="list-style-type: none"> • paired discussion • self analysis questionnaires • personality questionnaires • time out • observing activities • feedback from others • coaching • interview (Cano-Garcia& Hughes(2000)

(source – Jawahitha Sarabdeen ; IBIMA Publishing 2013)

Limitations

Diff and Duffy (2002) with their 388 samples examined the questionnaire with undergraduate students and concluded that LSQ is not an alternative to LSI (Kolb). The LSQ have only modest levels of internal consistency (ranging from 0.52 to 0.73 for the four style subscales).

Gregorc

Gregorc (1982) described four distinctive and observable behaviors : abstract, concrete, random and sequential tendencies . A combination of these tenancies is indicative of individual style. These tendencies are , Gregorc believes, reflective of inborn predispositions but individuals need to be capable of functioning outside their natural style. Four learning styles are identified :

Concrete Sequential – direct , step-by-step , orderly, sensory based learning

Concrete random – featuring trial and error , intuitive and independent approaches to learning

Abstract sequential – featuring analytic, logical approaches and a preference for verbal instruction

Abstract random- featuring a preference for holistic, visual , experiential and unstructured learning.

Measurement

The Style Delineator is a 40-item self report inventory involving the rank ordering of sets of words. The format is similar to that of Kolb’s (1976) LSI and it has been suggested that observation and interviews should be used alongside the instrument to assist in the identification of learning style and preferences (DE Bello, 1990)

Fleming

One of the most widely used learning style is Fleming's VARK (1995) . VARK stands for Visual ; Auditory; Reading / Writing and Kinesthetic . This questionnaire focuses on gaining more students attention because of better match between teaching and learning styles.

Visual learners prefer to think in pictures. They have preferences for visual aids like diagrams and handouts. They live to draw and scribble and have good sense of color matching.

Auditory learners tend to learn through lectures and discussions. They learn best with sounds and music.

Reading/writing preference learners prefer the collection of information from printed words. and

Kinesthetic learners learn through experiences. They like physical exercise and generate ideas while doing them.

Witkin's Model

Witkin (1962) model divides learners on the basis of their preference for learning in isolation (field-independence) or learning in integration (field-dependence) . Field-independent learners are characterized as operating with an internal frame of reference, intrinsically motivated with self-directed goals, structuring their own learning, and defining their own study strategies. Field- independent learners on the other hand are characterized as relying more on an external frame of reference, are extrinsically motivated, respond better to clearly defined performance goals, have a need for structuring and guidance from the instructor, and a desire to interact with other learners.

For measurement, Embedded Figures Test (EFT) involving the disembodiment of a shape from its surrounding field have been used.

But Witkin's model is criticized by Griffiths & Sheen, (1992) on the ground that to generalize performance on perceptual tasks to personality and social behavior is an over extension of the theory. Arthur & Day (1991) found it a measure of ability as oppose to style and therefore is of little value in the field of cognitive style.

Rationale

Learning style is the behavioral approach to learning experience and they are influential in the learning and achievement of learners (O' conner, 1998) . Understanding learning style mean:

1. The students will be able to diagnose the need of learning process.

2. The trainer will be able to consider as the foundation for better action.

3. It is possible to build strategies for accommodating learning styles.

4. It will allow preparing student involvement in learning process.

5. It will allow the students to group as per their learning preferences (Kolb, 1984)

According to Bostrom and Lassen (2006) those who can identify their learning style will be able to define their own progress . Taking full control of learning will lead to self-efficacy .

The learning theories are practicable and easy to use and test. For example Yazici (2005) conducted a survey among 140 students of operational management to assess team learning performance, role play assignment, discussion of important operational management concept, computer assignment and comprehensive projects were used as learning style inventory to determine learning style. The finding suggests that students are collaborative learners and collaborative orientation encourages participation and increase team performance.

Yazici (2005) proposed that teachers should adopt various and suitable teaching style . Teaching style comprises of needs , beliefs, and behaviors that are displayed in a classroom. They can be categorized into five types:

1. Expert – in this style the expert passes knowledge and skill to the students
2. Formal authority- where the status among the students due to knowledge and role as a faculty member sets rules and structures to students.
3. Personal model- in this model main instructor normally oversees guides and directs the students.
4. Facilitator- the instructor is working with the students on consulting basis asking questions, exploring options and providing alternatives.
5. Delegator – the instructor only available as a resource person. This style will develop the students as autonomous learners (Yazici , 2005)

Despite the weaknesses and criticism, the learning styles are widely researched and can be used by both learners and trainers to maximize learning outcome.

Survey Analysis

The VARK questionnaire used to study the learning preferences of 202 learners found that 72 are kinaesthetic, 58 are readers/writer, 30 are auditory and 42 are visual learners .

But the question is , if in a training program out of the 25 participants , 9 are auditory , 8 are visual , and the other 8 are of kinesthetic , how a trainer will approach ? Our experience and research papers say that learners will move beyond their preferred learning styles if the condition created in the training program is conducive to their learning appetite.

“I hear and I forget. I see and I remember. I do and I understand”. This quote said by Confucius is frequently used in training and development segment to prove how people learn. Though the statement is valuable modern research on learning suggest that a more convincing statement can be: “ I understand best when I hear , see and do.”(Robbins , 2011)

The lecture method continues to be the most popular method of teaching. It's a proven effective means for increasing student awareness and understanding of concepts. As such, it probably should be part of any comprehensive system for learning. To say that only auditory learners will love it is not the truth. It has been proved that a good presentation on lecture method can induce any learner to learn.

Nearly 2000 studies on learning styles research has generated two major implications : one for individual learners and one for organizations (Kolb A. & Kolb D.A. 2005). For individuals , strengthening their non-dominant learning abilities will increase their adaptive flexibility and facilitate learning in a wider variety of experience. Learning Styles are dynamic, not fixed , and people should allocate time to expand lesser used capabilities . People with balanced learning profiles (i.e. relative equal score on all dimensions) are more adaptively flexible learners (Mainemelis C.,Boyatzis R. & Kolb D.A. 2002)

At the organization level leaders need to value and draw on the differing capabilities of people with diverse learning styles. Many managers tend to be strongest on the accommodative style of learning , focused on active experimentation and concrete experience . Managers with an accommodating style tend to make fewer references from data and are less consistent in their actions than, say, researchers with the assimilating style . Collectively Kolb's four styles are complimentary and all are needed to optimize performance throughout an organization.

The 202 participants have revealed that in a training program the acceptability of the trainer induces them to show interest in the program and in the process learning takes place. A trainer they want to interact with should have the following behavior:

- He should be genuinely interested in participants.
- Should not be arrogant, should make them feel as a facilitator.

- Should have command on the topic and seems to be innovative.
- Should combine various training methods like- lecture, role-play , PPT, video, games, exercises that is realistic and generates interest to learn.
- Should explain the objective in clear terms and follow the objective in every session.
- Should have the capacity to enhance participants' learning appetite

This proves that though people have their preferred mode of learning and they love to acquire knowledge through it, they are ready to try other modes if that generates interest in them. This can be possible if the trainer is acceptable to them because of his amiable behavior.

CONCLUSION

Learning styles is not a myth, they are facts. People have their preferred mode of learning, that is ,not every learner learns in the same way or that one style is preferable to other. There are those who try to see a word when spelling while auditory learners might experience it as a sound and tactical learners would need to write it down to test how right it seems. Similarly concentration and memory levels differ; some sees faces but forgetting names, while others remember names but cannot visualize faces. Thus several prominent authors have made great research to segregate learners; some have developed teaching styles that could match various learners' styles. They have rightly urged the trainers to use various training methods and develop modules that suits to the learning styles of trainees. Thousands of surveys are made to confirm the findings of the researchers. But the other part is that learners having preference for a style can be persuaded to try and understand other styles if they are induced to realize the benefits of learning from those styles. This survey carried out has conformed both the above mentioned truths.

REFERENCES

- [1] Arthur, W. & Day , D.V. (1991) Examination of the construct validity of alternative measures of field dependence/independence . *Perceptual and Motor skills*, 72, 851-859
- [2] Bostrom, L. & Lassen, L.M.(2006) “ Unravelling Learning, Learning Styles, Learning Strategies and Meta-cognition “ , *Education & Training*, 48 (2/3) , 178-189
- [3] Duff , A., & Duffy , T. (2002) Psychometric properties of Honey and Mumford's Learning Styles Questionnaire. *Personality and individual differences* , 33 , 147-163
- [4] Dunn,R. & Dunn, K.(1999) “ The Complete Guide to Learning Styles in Service System”, *Allyn & Bacon*
- [5] Fleming , N.D.(1995) “I'm Different ; Not Dumb. Modes of Presentation (VARK) in the Tertiary Classroom “ in Zelman , A.(ed)
- [6] Geiger , M.A. , Boyle , E.J. & Pinto J. (1992) , A factor analysis of Kolb's Revised Learning Styles Inventory , *Educational & Psychological Measurement* , 52 , 753-759
- [7] Geller , L. (1979) Reliability of the Learning Style Inventory , *Psychology Reports*, 44, 555-561

- [8] Gregorc, A.F.(1985). Inside Styles : Beyond the Basics, *Gregorc Associates*, Columbia, CT
- [9] Griffiths, R.T. & Sheen, R. (1992) Disembedded figures in landscape : A reappraisal of L2 research on field dependence /independence . *Applied Linguistics*, 13, 133-148
- [10] Honey ,P. & Mumford, A. (1986) “ The manual of Learning Styles , *Peter Honey* , Berkshire
- [11] Kolb D.A. (1984) *Experiential Learning* , Prentice Hall, Englewood Cliffs, NJ.
- [12] Kolb D.A.(1976) “ Management and the Learning Process”, *California Management Review*, Vol. 18, pp21-31
- [13] Mainemelis C., Boyatzis R. & Kolb D.A. (2002) , “ Learning Styles and Adaptive Flexibility ; Testing Experiential Learning Theory “ *Management Learning* , vol.33 pp 5-33
- [14] Messick , S.(1976) *Personal Styles and Educational Options ” Individuality in Learning. Jossey Bass* , San Francisco.
- [15] Newstead , S.E. (1992) , A study of two “quick & easy “ methods of assessing individual differences in student learning. *British Journal of Educational Psychology*, 62, 299-312
- [16] O’Conner, T. (1998)” Using Learning Styles to Adapt Technology for Higher Education”, (onlineRayner , S. & Riding , R. (1997) Towards a categorization of cognitive styles and learning styles. *Educational Psychology* , 17, 5-27
- [17] Robbins S.P. & Hunsakar P.L. (2011) , *Training in Interpersonal Skills* , PHI Learning Pvt. Ltd. New Delhi PP. 18-20
- [18] Sarabdeen J.(2013) , “ Learning Styles and Training Methods “, *Communications of IBIMA* vol. 2013, article ID311167, 9 pages
- [19] Veers, J. G. III , Sims, R.R. & Locklear , T.S. (1991) Improving the reliability of Kolb’s Revised Learning Style Inventory , *Educational & Psychological Measurement* , 51, 143-150
- [20] Witkin , H.A. (1962), *Psychological Differentiation : Studies of development*. New York: Wiley.
- [21] Yazici , H.J. (2005) “A Study of Collaborative Learning Styles and Team Learning Performance,” *Education and Training* , 47 (3) , 216-229.