

Study of Learning styles in relation to locus of control intelligence and self-efficacy of School students

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ABSTRACT - Goal of the education is to bring specific or desired changes in the behavior of an individual. It largely depends upon many factors which influence the whole teaching-learning process. Psychology is said scientific in this regard when it studies all the experiences and learning outcomes of the student's pin-pointedly. All the theories and disciplines in psychology are concerned with the individual's development including personality development and learning advancement. Learning is a lifelong process. There are many factors which directly or indirectly influence learning. It includes individual motivation, corporate context, learning context and style, intelligence, personality of both teacher as well as learner, recognition of knowledge and role of instructors and learners. The learner should aware of his or her cognitive abilities or intelligence, attitudes towards his/her own capabilities and his controlling power on these abilities. Reward and punishment also affects path of learning.

Keywords: self-efficacy, locus, intelligence, learning style

I. INTRODUCTION

LEARNING STYLE

Learning styles are not concerned with what learners learn but it concerns 'how learner learns'. It plays a very important role in life of students – with their achievement, attitude etc. Psychology states that each person is unique. Every student has his own strength & weaknesses. We say that each student has different learning Style. Some students like to work with concrete facts, experiments & some students like to learn with abstract ideas (symbols, theory etc).

The term or concept of learning style came in existence in psychology in 1930's. A lot of research work is conducted on learning styles leading to various theories on learning styles have been put forward. It is related with the mode of instructions that are best suited for the learner. The concept of learning style has gained influence in last three decades.

Definition of Learning Style:

According to Keefe (1987), "Learning style has been defined as a consistent way of functioning that reflects the underlying causes of learning behavior. Learning style is both a characteristic which indicates how a student learns

and likes to learn, as well as instructional strategy informing the cognition, context and content of learning. Previous studies have reported that students' learning performance could be improved if proper learning style dimensions could be taken into consideration when developing any learning or instructional process. The term learning styles refers to the view that different people learn information in different ways.

Gregor (1979) defined learning style as distinctive and observable behaviors that provide clues about the mediation abilities of individuals. People through their characteristic sets of behavior 'tell' us how their minds relate to the world and, therefore, how they learn.

Keefe (1979) explained this term as the characteristic cognitive, affective, and psychomotor behaviors that serve as relatively stable indicators of how learners perceive, interact with, and respond to the learning environment.

Schmeck defined learning strategy as the activity of learner that he/she uses in rote memorization. Rita and Kenneth Dunn describe learning style as reaction of an individual during concentration on new academia knowledge or skill to each of 21 elements.

Various conducted researches show that performance of an individual or output of learning is affected by the manner opted for learning situation.

Characteristics of learning style:

As discussed earlier learning style is not a single concept. It includes various elements. These elements are characteristics of learning style. A teacher can easily access the learning style of their students by either giving them Questionnaire of learning style or mere by observing them conducting various activities and their involvement in them. Rita and Kenneth Dunn (1993) defined learning style as, "the way in which each learner begins to concentrate, process and retain new and difficult information". According to them, the five categories define strength and performances of individual:

- Environmental
- Emotional
- Sociological

- Physical
- Psychological.

Types of learning style:

Dr. Neil Fleming had identified the following categories of learning style in

1980s.

1. Visual: In this type of learning style one learns when exposed to visual elements like pictures, images and spatial organization of elements.
2. Auditors: In this type of learning style one learns when exposed to audio elements like music, sound, rhyme, rhythm, speaking or listening.
3. Reading/Writing: In this form of learning one learns when provided with reading or writing material.
4. Kinesthetic: In this type of learning one learns by moving body, making use of hands, using sense of touch, or some other physical activity like drawing.

Various researches show that there are mainly three styles of learning:

1. Visual Learners

- Learn easily when exposed to written instructions.
- Remember information what they read or see.
- Enjoy and prefer visual learning aids.
- Learn through observations of others.

2. Auditory Learners

- Need to hear information to retain it
- Prefer verbal instructions over written materials
- Remember information through verbal repetition
- Prefer to discuss ideas aloud in order to further process information
- Enjoy group discussions and activities

3. Kinesthetic learners:

- Learn through experiences.
- Learn by participation in activities.
- Loves recreating situations.
- Learn through practical and active participation.
- Teaching strategies for different learning styles:

Strategies for Visual Learners:

1. Provide visual materials for learning.

2. Make available detailed reading material, handouts and information brochure.
3. Demonstration and practical classes.
4. Provide them more opportunities to observe.
5. They are distracted by noise. Maintain the noise free environment.
6. Strategies for Auditory Learners:
7. Rephrasing: Give stress over important points.
8. Discussion & invitation.
9. Aloud & repeated instructions.
10. Interactive sessions.

Opportunities should be developed for expression & free conversation with staff or social workers etc.

Strategies for Kinesthetic Learners:

1. Involvement in activities.
2. Role play method for a particular scenario.
3. Learning by doing.
4. Experimental method. Provide interactive assignments.

Learn through direct experiences.

Importance of Learning Style:

Robert Sternberg, Professor at Yale University states that styles of learning are also as important as intellectual ability to an individual. According to him, if a teacher ignores thinking or learning style of his students, then his teaching-learning process became ineffective. Also, difference in learning ability is not due to the differences in ability rather the mode of receiving by the student.

According to Stenberg, "Most people are flexible in use of different learning styles and can adapt with varying degrees of success to different learning situations. Most people have a preferred way to learn. Some learn best by listening, some have to observe every step, while others have to do it to learn it".

On the basis of above discussion, it is concluded that an individual need all the three strategies i.e. visual, auditory and kinesthetic. There is no doubt that an individual may be better in any of the learning strategy but we must find out the best strategy to get maximum output.

1.2 LOCUS OF CONTROL (LOC):

Locus of control is an important concept in the field of psychology. It is derived from Latin word 'Place' or 'Location'. Locus of control is the extent to which people believe they have control over the outcome of the events in their lives, put forward by Julian B. Rotter in 1954.

Locus of control is of two types- Internal LOC and External LOC. If a person has a belief that he has full control over the outcomes of events in his life then he possesses Internal locus of control and if a person holds outside factors responsible for the outcome of events then he possesses External locus of control. For example, a student after seeing the result praises or blames his own efforts, he possesses internal locus of control. If a student after seeing the result blames external forces like teacher, evaluator or exam, possesses external locus of control.

Locus of control has added variety in the field of research in education and psychology. It has added new horizons in the field of health psychology & clinical psychology also. There is a continuous debate on the issue of locus of control if global measures of it will prove more helpful or useful in practical application. There is a need to discriminate locus of control from self-efficacy and attribution style.

According to psychologist, Julian Rotter, "The locus of control is a dimension of personality; it helps to explain one's traits and behavior".

According to thesaurus dictionary, locus of control is the oretical construct designed to assess a person's perceived control over his or her own behavior. The person with internal locus feels in control of events while with external locus feels that others have that control.

Self-evaluation has four dimensions namely locus of control, neuroticism, self-efficacy and self-esteem. Judge, Locke and Durham in 1977 gave the concept of self-evaluation. Further this concept of self-evaluation lead to some other work outcomes like job satisfaction. According to Judge et. al. (2002), same and single factor was measured by the concept of locus of control, neuroticism, self-efficacy and self-esteem.

Normally people are categorized in two categories based on their belief over the outcomes of the events in their life as Internal or External locus of control. It has shifting features as it can be modified through experiences. It is nothing but the assessment of the extent to which a person holds himself responsible for the events and hence can be controlled or modified or the environment or some other factors like luck for the happening events in his life.

Rotter (1966) in his social learning theory of Rotter, defined Internal-external locus of control as an enforcement that is perceived by the subject as following some action of

his own but not being entirely contingent upon his action, then, in our culture, it is typically perceived as the result of luck, chance, fate, as under the control of powerful others, or as unpredictable because of the great complexity of the forces surrounding him. When the event is interpreted in this way by an individual, we have labeled this a belief in external control.

Internal and External Locus of Control

Locus of Control can be described as, "The extent to which people believe they have power over events in their lives." A person with internal locus of control believes that he has the ability to control or change the events and their outcomes in his life on the other hand a person with external locus of control holds external forces responsible for everything that happens to his life. Some other angle, it is possible to scale down radiated electricity from both base stations and terminals, making huge MIMO a contender for green communications as well [29].

- solution. There are no expansions in fading due to increased autonomous copies no less than single, thereby increasing the liableness as well as high signal efficiency.

II. RELATED WORK

Mutua Meshack Nzesei (2015) studied, "A Correlation Study between Learning Styles and Academic Achievement among Secondary school Students in Kenya." The aims of the present study are to, "determine the relationship between learning style and academic achievement among secondary school students in Kenya". The study objectives were to: (a) identify the learning style preference among secondary school students; (b) determine the academic achievement levels of the students; and (c) determine the relationship between learning style and academic achievement of the students by gender. The sampling applied was purposive. The data collection instrument was the Barsch Learning Style Inventory (BLSI). This was used to identify the learning style preference among the students based on Visual (V), Auditory (A) and Kinaesthetic (K) modalities. The instrument has a reliability of 0.862. The findings indicate that majority of the students are tri-modal learners, followed by Bi-modal (VA) learners and thirdly by unit-modal (V) learners. The least preferred learning style is the single kinaesthetic modality which was preferred by only 2 female students. There is no significant difference in learning style preference among male and female students and among high and low academic achievement groups. There is strong positive and statistically significant relationship between learning styles and academic

achievement for the tri-modal learners, and among male and female students.”

Murat (2016) investigated, “The differences in the teaching anxiety of pre-service teachers in mathematics according to their Learning Style preferences. “Learning styles of the respondents in terms of divergent, convergent, assimilator and facilitator was determined by the LST. “Mathematics teaching anxiety level” of these participants was determined by the MATAS. The findings confirmed that there exists a significant difference in the “mathematics teaching anxiety “between the three types of the learners such as facilitator, accommodator and divergent and between the convergent learner. The findings seemed to favor the convergent learners. It is further to revealed that convergent learners were found to have less “mathematics teaching anxiety” in comparison to all the rest types of the learners whereas the divergent types of learners were found to possess the highest level of “mathematics teaching anxiety.” K. Kanthi Kumar et.al [2]. This research focuses to enhance the SLM-PTS system with the development of the novel phase weighting strategy for regressive population. In controlling the difficulty ratio possessed by traditional SLM-PTS, this strategy further ensures reduction of PAPR in OFDM system. Simulation as well as experimental test demonstrates that the suggested approach is able to significantly reduce the difficulty ratio.

Ariz Naqvi and Farah Naqvi (2017) made an attempt to evaluate, “The Study on Learning Styles, Gender and Academic Performance of Post Graduate Management Students in India.” The research revealed, “The management courses in higher education have experienced a rapid increase in the number of female students in the past decade. A number of factors were found attributing to the cause including some major social and educational factors. These factors are well studied by the scholars in the past. However, there is still considerable gap in the literature pertaining to the relationship between learning styles and gender differences in the context of management education. This paper focuses on management education using Experiential Learning Theory (ELT) and explores the effects of learning styles and gender on the performance scores of undergraduate students in three successive academic years. Results of the study indicate that the distribution of learning style type preference of the chosen sample of students was more concentrated towards assimilating and converging styles. Further results also indicate non-significant difference of learning style and gender in all groups. The performance scores of males were found higher in Finance and Marketing disciplines, whereas scores of females were higher in Human Resource and International Business disciplines irrespective of non-consistency in all the groups. The study concludes that instructors should use a learning strategy matching with the

style of each learner in different majors of management opted by the students.”

A close review of these studies throws light into the fact that learning styles do exist in individuals at varied levels just as how intelligence differs from individual to individual. It has also been observed that learning style of an individual has a direct influence on his academic performance. It is therefore essential that teachers should develop appropriate learning experience to cater to the learning style of the students and thus empower them.

2.1 STUDIES RELATED TO LOCUS OF CONTROL

Lauren R. Matricard (2006) studied “Locus of control and risk behavior among college students.” The aim of this investigation to examine the relationship between the intensity of participating in risk behavior and the both type of locos of control i.e. external or internal of the college student. The sample for this study was taken a total of thirty-two undergraduate college students studying in Rowan University. Out of 32 students, 8 were male and 24 were female students. “Rotter's Internal-External Locus of Control Scale “was adopted in order to examine their internal vs. external attribution for the consequences of his or her behavior. “National College Health Risk Behavior Survey (NCHRS)” was the tool employed in order to determine the degree of their risk behavior in the subjects. “A demographic questionnaire” was also selected by the investigator. The regression analyzed were also made which declared that locus of control and the risk behavior scores do not statistically found significant yet when the surveys related with risk behavior were conducted and scored, there came some notable observations. Most of the respondents were found comparatively high in dealing of use of alcohol and sexual behavior in spite of their locus of control. The researcher concluded, “Scores of loci of control and risk behavior were not correlated, thus no relationship between a person’s locus of control and amount of participation in risk behavior can be confirmed.”

Angela C. Roddenberry (2007) conducted a study, “Locus of Control and Self-Efficacy: Potential Mediators of Stress, Illness, and Utilization of Health Services in College Students.” The present work studied, “The mediating effects of self-efficacy and locus of control in the relationship between stress, psychological and physical symptoms, and the utilization of health services in college students. “The findings showed that stress and the symptoms were found positively correlated. External type of locus of control was found positively correlated with the symptoms and the stress whereas Self-Efficacy was found negatively correlated with symptoms and stress. “Structural equation modeling “was adopted by the investigator to evaluate two distinct models.

The relationships between stress and symptoms and utilization of health services and symptoms were evaluated by the first model. The path revealed that direct relationships exists but the data did not significantly suit to this model. "The mediational effects of locus of control and self-efficacy on the relationship between stress and symptoms" were evaluated by the second model. The path coefficients of this model were found consistent having a moderate impact on locus of control in the relationship between symptoms and stress. Here also the data did not support the model when tested for full mediation. The study concluded that in the mediation the relationship between stress and illness, locus can play a crucial role. The findings further give its suggestions which can be beneficial for the future research work. The results also tested the significant mediators of the link between stress and illness. The research finally provided its implications laying emphasis on decreasing costs in health care sector and providing better physical and mental health services.

Simin Bozorgi, (2009) studied "On the Relationship between Locus of Control and the Grade Point Average of the Iranian Azad University EFL Students." The investigation was conducted to examine whether locus of control really influenced the language achievement of the students. It was presupposed that the locus of control of these students significantly affected their GPA's. This research work aimed to evaluate the effects of learners' major and proficiency level on their achievement level in language. The sample for the present study consisted of 198 freshman, sophomore and students (senior as well as junior) concerned with majoring in English like Translation, literature or TEFL in various branches such as Karaj, Zanjan, Takestan and Bandar Abbas of Islamic Azad University. "The Rotter's (1966) locus of control personality test" was adopted. It was classed as LOC (internal) n=78 and LOC (external) n= 120. These students had opted for common courses and there were given exams at the end of the semester. Their previous term GPAs and the existing term GPAs were obtained as well as compared. "Three sets of Mixed between-within subjects' analysis of variance (SPANOVA)" was used to analyze the data in order to check the study major, language proficiency and locus of control as an independent variable. The findings confirmed language proficiency as the most significant factor as indicators of GPA achievement. The study does not claim major of study and locus of control as indicators of GPA achievement. It added that advanced proficiency students have low scores in their GPAs. The researcher stated, "The factors such as locus of control and/or major of study, if at all, interacted with proficiency only at the advanced proficiency level." The last null hypothesis was rejected whereas 1st and the 2nd hypotheses were not rejected.

Bethany L. Ridling (2010) conducted a study on "Insight and Locus of Control as related to Aggression in

Individuals with Severe Mental Illness (SMI)." The study explained that the subjects having intense or severe type of mental illness (SMI) are often seen as typically aggressive whereas the investigation has confirmed that most of these individuals do not listed in the categories of aggressive. However, their possibility to become aggressive whether verbal and/or physically, largely depends upon the intense evaluation of the factors differentiating low-aggressors from the high-aggressors. The present investigation examined, "the relationship between insight, locus of control, and aggression in individuals with SMI. Forty-four participants with SMI were included. "The respondents in this study were put in different groups in accordance with their historical accounts of aggressive behavior. "A linear discriminate function analysis" was implemented. Neuro-cognitive working was compelled into the classification equation in order to control for the possible impacts of the neuro-cognitive damage on aggression. The variables like observation and the locus of control were listed in the 2nd block. The findings did not support to have a significant discriminative functioning. The variables "The insight and locus of control" seemed incapable to accurately discriminate a significant number of respondents into their earlier located classifications. It is further revealed that locus of control and insight are not found statistically significant correlated with aggression. The findings also suggested that there are a multitude of other variables which leads to the aggressive behaviors.

Nejat Basim, (2010) conducted a study on "The Relationship of Locus of Control in Individual Behavior with the Perception of Role Conflict and Role Ambiguity: An Investigation in the Public Sector." This research work intends to

study the, "the relationship of locus of control in individual behavior with role conflict and role ambiguity in the workplace environment." The sample for the present study was selected as 153 workers from a major public-sector organization. This investigation has made an attempt to study if role ambiguity and perceived role conflict differ or not in terms of individual's internal locus of control external locus of control. The data was analyzed with the help of t-test and correlation methods. The study claimed that there exists a statically significant difference between the individuals' perceived role ambiguity and their external and internal type of locus of control whereas no significant difference was noted in terms of the perceived role conflict. The researcher further added that locus of control; role ambiguity and role conflict were assessed as significantly correlated. The study suggested its most significant implication in connection with managerial practices that persons having internal type of locus of control with high role ambiguity will be crucial for employment in the jobs.

Majid Barzegar (2011) studied, "The Relationship between Learning Style, locus of control and academic Achievement in Iranian students." The purpose behind this study is to analyze the relationship between academic achievement of the students and the learning styles. These seven hundred students were belonged to the Islamic Azad University Marvdast branch. "Kolb Learning-style questionnaire" and "the Rotter Internal-External Locus of Control Scale" were the research tools were adopted by the researcher. "Correlation index, multiple regression, independent t and analysis of variance" were the research techniques employed in order to analyze the data. The findings of the study claimed that learning style and the academic achievement of the students were not significantly correlated. There found no significant difference between the scores of learning styles of male and female students.

Rana Ozen Kutanis (2011) made a research on "The Effects of Locus of Control on Learning Performance: A Case of an Academic Organization". The present investigation focused to analyze the effect of the locus of control on the learning achievements or performances of the students. This study had designed a theoretical frame which included the facts of both type of locus of control i.e. internal or external under the theoretical account of learning performance and organizational behavior in order to attain the goal of this study. "Quantitative research method" was adopted in this investigation considering the scope and the quality of research problem. All the students who remain persistent to higher studies were considered as the scope of this research. There was not raised the need to include the extra sample as the population of this research was apt for investigation. The standardized survey techniques were employed in order to collect the data. Rotter's (1966) "The Scale of Internal-External Locus of Control" and Gungor's (2006) "Learning Scale" were the tools selected to examine the locus of control and the learning style of the participants. "Descriptive statistics techniques" and "Multiple Regression Analyses" by using SPSS program were employee to evaluate the collected data. The findings of this study confirmed that students having internal locus of control gave high learning performances. These students were found more proactive and influential during their learning process. On the contrary, the students having external locus of control were found more passive and reactive during their learning process. In addition to these findings, it was also found that there exist some differences between the learning factors and the demographic groups of the students.

III CONCLUSION

Learning styles are not concerned with what learners learn but it concerns 'how learner learns'. It plays a very important role in life of students – with their achievement, attitude etc.

Psychology states that each person is unique. Every student has his own strength & weaknesses. We say that each student has different learning Style. Some students like to work with concrete facts, experiments & some students like to learn with abstract ideas (symbols, theory etc). The term or concept of learning style came in existence in psychology in 1930's. A lot of research work is conducted on learning styles, as a result various learning Styles have been put forward. It is related with the mode of instructions that are best suited for the learner. In recent decades, the concept of learning style has steadily gained influence. simulated VOS as well as antenna failure did not get stronger is partly because the fixed-point word duration for the signal might need one or more bits and partly because 16-QAM is more prone to errors than smaller constellations of signals.

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