

## Exploring the Relationship between Cognitive Style and Learning Style with Academic Achievement of Elementary School Learners

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### Abstract:

Learning at standard lessons is a important time because it lays a basis for destiny learning. Yet, the standard success continues to be a miles reached goal. Although many variables had been recognized that hinders the low fulfillment amongst newbie at this stage. In an try to discover how studying patterns and cognitive patterns have an effect on the studying and nature of courting those patterns have with the fulfillment of learners. The records from the studies shows that there's a hyperlink among cognitive fashion and gaining knowledge of fashion which additionally determines the success of learners. The consequences from the statistics suggest that the novices having subject dependents and subject independents (cognitive style) have extraordinary gaining knowledge of styles. Since, the learner's differs of their cognitive style, consequently if an try is made to become aware of them will enhance the learning. It is likewise argued that through supplementing the curriculum transaction with the notice of cognitive and mastering styles, the lecturers can assist their newcomers to attain the preferred mastering levels.

**Keywords:** Learning, elementary classes, learners, cognitive style, curriculum transaction, learning styles, data

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The development of the kingdom relies upon the highbrow ability of its citizens. Therefore, it is necessary to identify the talents in our children and to provide them suitable opportunities, which will enable them to develop their potentialities in the direction of higher achievement

Each infant is specific in phrases of his inherent nature, wishes and inborn potentialities. According to Jordan (1973), "How to learn" is also by itself something that has to be internalized though it is rarely taught in the school. A teacher needs to understand the process of individual learning In the method interplay people are interacting with the surroundings i.e., uniquely processing the facts and require a completely unique surroundings for learning. So, the relative problem of facilitating situations to assist people to optimize their gaining knowledge of ought to be considered even as organizing such interactions.

Learning is a in the main cognitive activity; it's miles possibly to be motivated via way of means of the forms of beginners which they select at the same time as they learn. Descriptions of cognitive

style, notes McFadden, include: a consistent pattern of behavior within a range of individual variability (Cornet, 1983); a student's consistent way of responding to and using stimuli in a learning environment (Claxton & Ralston, 1978); how individuals process information and prefer to learn (Garity, 1985); the way individuals organize information and experiences (Laschinger & Boss, 1984); a person's characteristic style of acquiring and using information (Haynsake, 1981) and; an expression of psychological differentiation within characteristic modes of information processing (Witkin & Goodenough, 1971, 1981).

A cognitive fashion is one of the dimensions wherein an person differs. It is conceptualized as facts processing behavior that broaden in concord with underlying personality characteristics. Cognitive style appear in a form of stable preferences, attitudes or habitual strategies which categorize a person's mode of perceiving, remembering, thinking and problem solving. Learning fashion is a effective offshoot of cognitive fashion. Learning fashion is described

because the approaches that scholars private characteristics, which include their desires and preferences, Dunn says gaining knowledge of patterns consist of “a aggregate of physical, physiological, emotional and massive factors which impacts the approaches character receive, shop and use expertise or ability“.

Thelen (1954) changed into the primary to apply the time period getting toknow style.

Learning fashion researches have conceptualized and described mastering fashion in range of methods a few considered it as bi-dimensional concept(Witkin, 1959; Kogan 1963) whilst others perceived it as a multidimensional concept (Dunn and Dunn, 1978; keefe, 1979). Schmeck (1977) defined learning style as a predisposition on the part of learner to adopt a particular strategy regardless of specific demands of learning tasks, Schmeck defines learning strategy as r pattern information processing on continuum, one extreme being shallow Vs repetitive processing and other deep Vs elaborate processing, shallow processors tend to remember symbol used in communication and elaborate processors do more than just remembering; they classify, analyze and synthesize information.

Although there was loads paintings has been achieved on this area, little interest has been afforded to the interplay among cognitive patterns and mastering patterns. The most pressing need is to learn more about the learning styles of students from various cultural backgrounds. Changing demographics portend an even more diverse student body in the future and instruments that take cultural differences into account need to be developed. Research is wanted to light up the connections and interplay among style, developmental stage, disciplinary perspectives, and epistemology. A higher expertise of the hyperlink among them could offer a useful framework for analyzing coaching methodologies, the position of studying in person development, and the usage of the disciplines to promote more complex and integrative thinking

Although, Piaget has taken a rigid stand that child passes through all stages of intellectual development on the other hand social psychologists have given contradictory remarks

by saying that the child can skip the stage and go on to the next stage if the environment is stimulating. If the learners are taught through instructional methods or resources in those conditions of learning that complement their styles; then they can master the identical information or skills, this helps in optimizing learning and achievement.

The gift take a look at has attempted discover whether or not there may be any dating that exists among cognitive dimensions and student’s function studying patterns in phrases of environmental, emotional, sociological, and physiological stimuli and also how they both affect the academic achievement. This gift have a look at will display the emotional, sociological, bodily and environmental desires of studying of subject independence and subject dependent.

### **Objectives of the Study**

1. To identify the cognitive styles of the learners.
2. To identify the learning styles of field independent learners.
3. To identify the learning styles of field dependent learners.
4. To find the relationship between learning styles and cognitive styles with respect to academic achievement.

### **Hypotheses 1.**

There is no significant relationship between learning styles and cognitive styles of field independent with respect to academic achievement. 2. There is no significant relationship between learning styles and cognitive styles of field dependent with respect to academic achievement.

### **Methodology of the Study**

#### **(A) Population:**

The population included elementary school learners from VIII standard from public schools in Tamilnadu. The newcomers from this elegance had been selected due to the fact this degree is the onset of adolescence, the preference to emerge as unbiased emerge as more potent at this degree. Researches have proven that because the age progresses the getting to know fashion and cognitive fashion of the kid additionally

modifications with coming in touch with The diverse impacts of their existence at this age. Beyond this stage, the cognitive fashion starts off evolved to concretize and additionally at this age, novices are constantly operating closer to obtaining a specific cognitive and mastering fashion.

### **B) Sample:**

Selection of the sample involved a two stage sampling procedure. Stage I: Selection of the Classes The newcomers of every phase of fashionable VIII were selected for the study.

### **Stage II:**

Identification of Field Independent and Field Dependent Learners studying in standard VIII were the respondents of the study. After the selection of the class, the Group Embedded Figure Test (GEFT) had been administered to the students of each section of standard VIII for the selection of the sample.

To make individual raw scores on GEFT comparable, they have been converted to Z- score and distributed on a stained scale. The stained scale is an 'identical area' conversion when it comes to Z-rankings that run 1- nine alongside the baseline of a regular possibility curve constituting a scale wherein each unit is 0.05. Field independents Z- scores varied between 1.25 to 1.75 and above have been placed in stanines 7-9 where as Field dependent scored between -1.25 to 1.75 and below and have been placed in stanines 1-3. The final sample of 160 (80 field independents and 80 field dependents) have been selected after taking 35% from each group of field independents and field dependents of each class.

Description of the tools of the research Two learning styles inventories for Assessing learning style (i) Learner's responses developed by Dunn, Dunn and Price. The LSI includes one hundred statements which are classified as components and elements. here are total Twenty two elements which have been classified under four aspects: (i) Environmental (ii) Emotional (iii) Sociological (iv) Physical. The co- efficient of correlation ranged between 0.60 -0.80 for 18 elements. (ii) Teacher's perceptions of learning style

preferences of the learners developed by Judy W. Wood (1990). The stock is a tick list comprising 36 statements that are looking for teacher's responses in 'True' or 'False' shape for every statement. . The studying fashion stock intends to evaluate learner's technique to new studying situations, typical studying patterns and studying modalities of the learners. Learner's Approach to New Learning Situation: Learners are categorized as adventures, panderers and drifters on the idea of mastering traits for the technique to new mastering situation.

Description of the equipment of the research (A) Two mastering patterns inventories for Assessing mastering style (i) Learner's responses evolved through Dunn, Dunn and Price. The LSI includes one hundred statements which are classified as components and elements. here are total Twenty two elements which have been classified under four aspects: (i) Environmental (ii) Emotional (iii) Sociological (iv) Physical. The co-efficient of correlation ranged between 0.60 -0.80 for 18 elements. (ii) Teacher's perceptions of learning style preferences of the learners developed by Judy W. Wood (1990). The stock is a tick list comprising 36 statements that are looking for teacher's responses in 'True' or 'False' shape for every statement. . The studying fashion stock intends to evaluate learner's technique to new studying situations, typical studying patterns and studying modalities of the learners. Learner's Approach to New Learning Situation: Learners are categorized as adventures, panderers and drifters on the idea of mastering traits for the technique to new mastering situation.

Overall Learning Style: This thing of the getting to know fashion stock yields statistics on newcomers being independent, collaborative or dependent. Learning modalities: Three perceptual modalities had been recognized with the aid of using the writer of LSI and are referred as perceptual styles. Visual, Auditory and Tactile – Kinesthetic.

(A) For assessing the cognitive ability of the learners, the Group embedded Figure Test was used. The reliability estimate of 0.80 for both males and females was found by the Spearman -Brown prophecy.

## **RESULTS AND DISCUSSION**

Learner's perception on their learning styles Group profiles of studying fashion possibilities of area independents and area dependents display variations withinside the responses if their percent frequencies at the leaning fashion inventory. The learning style preferences of field independents and field dependents have been interpreted under three subheadings: physico-environmental social-emotional and perceptual preferences.

### **(a) Physical-Environmental Preferences**

Stimuli reflecting degree, depth or first-rate of noise degree depth or first- rate of light, temperature versions and fixtures layout or seating association constitutes getting to know surroundings round learner. Need of intake and/or mobility and time of the day indicate the physiological implications of learners. Interpretation of physico- environmental preferences of learners intends to provide information to the individual learner and his/her parents for creating flexible environment for learning. Field independent's desire for noise stage shows that they are able to forget about heritage sound like conversation, radio, and tv much better than field dependents. This implies field independents can concentrate better with noise in their surroundings; perhaps noise prevents the feeling of loneliness.

The gift look at indicated a distinction among subject independents and subject dependents as regards their options for mild and temperature even as learning. Findings have also indicated that high percentage of field dependents over field independents differs in their preferences to seating design. Investigators have indicated that field independents prefer formal or conventional classroom furniture where as field dependent preferred informant environment i.e. sitting on floor, carpet, rug, bed etc. This contributes to their persistence level. Therefore, for analyzing at domestic mother and father want to be furnished statistics concerning the seating layout want for his or her ward. It may also have a monetary implications or area troubles each colleges and at home.

Field independents choose to analyze greater with

out often want of consumption of meals, while field dependents choose to take meals whilst learning. The need for intake supplements energy expended or relaxes tension experienced. Field dependent preferences for intake may be due to the reason that learning is a stressful experience for them. Intake may be a distraction for them resulting low level of persistence, elements to reduce anxiety level.

The study revealed that field independents need for mobility than dependents. The field independents revealed low preference for intake and more preference for mobility over field dependents. This implies field independents look for an activity involving whole body or kinesthetic experiences. These reviews may also assist them to study better. Field independents revealed more preference for morning over field dependents. Morning seem to be an indicative of preference for bright light motivation, responsibility, mobility or activity. On the other hand field dependents have indicated the preference for late mornings. Thus, matching time preferences for field dependent and field independents is important for learning.

**(B) Socio-emotional preferences** Motivation (internal and external), persistence in studying, responsibility towards academic learning and need for structure or freedom to experience reflects emotionality or learner's. Social affiliation for peers, adults (parents and teachers) or in combination creates a learning environment to achieve. Information regarding socio- emotional preferences seems to serve as useful-indicators for providing classroom and home environment.

Field independents show self-motivation more than field dependent this means they are intelligally motivated. Field independents are not peer- oriented as their other classmates which imply that. They prefer to work alone. The field independents do not prefer parent figure motivation and have a low preference for teacher figure motivation over field dependents, which implies that field independents are more responsible learner with high preference for motivation implies that it may be probable effect of preference for the want of adult motivation or as a direction for work since they are less responsible.

Field independents found out better endurance degree than discipline based even as learning. It

indicates greater possibility of high achievers completing their assignment; it helps them to complete their task given to them. Field independents being more persistent shoulder responsibility or their own learning and complete their task to their best of their ability with little guidance as they have a longer attention span. On the other hand, the field dependent has low preference for persistence implying higher level of motivation.

Field independents have shown higher responsibility as compared to field dependent. Thus, motivation persistence and responsibility are interlined with each other. The field dependent are less persistent, coupled with low sense of responsibility and need continuous direction or supervision by teachers. Need for structure have shown much difference regarding their preference. The field dependent's need more structured situation than field independents. Teachers have a necessary implication for providing structured situations and proper guidelines for field dependent.

None of the field independents have shown preference for the presence of authority figure corroborating the findings suggesting lesser preference for extrinsic motivation and higher self-motivation. While the field dependent have shown preference for the presence of authority figure indicating that field dependent prefers to learn with authority figure, desperately need a teacher or a responsible adult who provide structure, control, encouragement and correct directional instructional material. Marked differences have been shown in the higher preferences of learning in varied ways among field independents than field dependent. It highlights the need for the need variety of activity for learning.

**(b) Perceptual preferences** The field independents has shown higher preferences for auditory and visual style over field dependent indicating that they can understand the verbal instructions much better than field dependent. None, of the field dependent have chosen kinesthetic and tactile learning modality. It implies that field dependent prefers passivity; field independents need involvement on many energetic activities dynamically. Perceptual modality is an important factor for learning and an individual's way of perceiving stimuli, processing information, acquiring knowledge and responding to the learning environment. Hence, there is a need to develop activities and resources for tactile-kinesthetic in

addition to auditory visual mode of learning. Insight into perceptual preferences of learners intends to set guidelines for complementary methodology, material resources and multi-sensory packages for effective instructions.

Learning Style Preferences Profile from Teacher's Perception Teacher's assessment of learning style preferences of their students is relevant to understand whether teacher knows the LS of their students, identified as field independents and field dependents. Three-way categorization of the LSI by Judy W. Wood is intended to assess learning style preferences of learners on the entire three aspects i.e. learner's approach to new learning situation, overall learning style and learning modalities.

To eliminate chance of teacher's prejudice ignorance of learning style preference of learners, observations of three teachers teaching three different subjects (Maths, Science and Social Studies) to the same students have been sought on LSI for teachers. The teachers have been asked to indicate whether each observation held 'true' or 'false' for that learner by means of a tick mark in the given column. The inventory is accompanied with an aspect wise recording sheet. The category with maximum tick marks indicates the student's learning style; a student may exhibit a combination of styles. The scores have been analyzed as cumulative opinion of teachers on the inventory. Percentage analysis has been used to study teacher's perception of learners. The category indicating maximum score shows the most preferred and that with minimum score the least preferred in the order of learning style preferences of learners.

**(a) Profile of Learning Style Preferences of Field Independents** Field independents have ability to cope with noise with conventional seating arrangements; prefer morning to learn. They need mobility but like eating after finishing studying. They are motivated, persistent and responsible learners. As regards learner's approach to new learning situations, teachers identified field independents as adventurers who have to analyse the situation and respond in a reflective manner. Preferences for visual and kinesthetic learning indicate their ability to observe and probe in to learning situations. The overall learning styles of field independents have been identified as independent seem to have ability to modify and make use of appropriate approaches towards

learning as and when required. This may result by striking the balance between the emotional needs of extrinsic and intrinsic motivation. It also implies that they do not follow the same rules but always look for new ways to deal with the problems.

High level of persistence and owing responsibility of their learning independently. All these characteristics clustered together to help field independents in learning. The independents function better in an instructional environment that provided options or alternatives for understanding concepts and acquiring knowledge. Field independents are perceptually strong. It seems field independent have the ability to use the unitary, visual and tactile-kinesthetic modalities to learn better. Hence, environment distraction of sound and noise do not affect their learning.

(a) Profile of Learning Style of Field Dependent  
Field dependent, prefer quite and causal seating arrangements and late morning for learning; they need to eat something when they are studying. They are much less motivated, much less chronic and much less responsible; are peer-orientated and want the presence of authority figure; additionally calls for discern and instructor motivation. Teachers perceived them as drifters with regards to new learning situations. They have a lower self-motivation. Their inability to complete their assignment suggest their shorter span of attention while learning, dislike for noise in the learning environment is also a cause for their short attention span. Field dependents are dependents of their typical getting to know fashion indicating the want for social association for to learn. Peer-orientation of field dependent suggests their inability to work alone and need for group strategies for learning. They show preference for adult and figure motivation. Need for structure seems to be related to working with authoritative adults, direction and frequent reinforcement for continued performance either from peers from adults suggests their dependent overall learning style. Teachers have perceived as tactile-kinesthetic learner as area independents and area established might also additionally have aggregate of techniques for use in getting to know situation. Relationship Between Learning style and cognitive style with academic achievement Since the correlation coefficient has between the academic achievement and the field independents was found

to be 0.687. Therefore, it can be concluded that the field independent students can show the better performance. When the co relational analysis was carried out between the academic achievement of the field dependent students, it was found that the value of the correlation coefficient was found to be positive but it was not significant. After analysis, the correlational coefficient was found to be positive for both the groups but found to be significant only for the field independents. This implies even supposing the' groups (discipline independents and discipline dependent) perceives the topics otherwise and undertake almost contrasting gaining knowledge of style, there is a slight difference which comes in the academic achievement. But still to enhance learner and to make the understanding optimum, the learning conditions should be provided to the learners.

## CONCLUSION

The quality of the inputs determines the quality of human resources of the nation. The students are the inputs of the educational process and teachers need to face the challenge of individual differences amongst the learners. Meaningful analysis of mastering fashion choices among the sphere independents and subject dependents; a cautious implementation and well suited remedies might show capability of an character mastering. Application of learning style in classrooms would be an effective tool for effective instruction. It will also help in institutional planning. It also helps in making the learners to become ponderers, collaborative and independent in learning.