

# Pupils Learning Preferences and Interest Development in learning

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## Abstract.

This paper presents an overview of the extent pupils learning preference and interest development influences their learning in schools. Interest is refers to an individual's relatively enduring psychological predisposition (preference) to re-engage in particular classes of objects, available evidence indicates that, there are many factors that could impede the child effective learning at this level. Therefore, one of the most important uses of preference learning is that it makes it easy for teachers to incorporate them into their teaching. Most of the identified preferences are active, sensing, visual and sequential in which children take in information. The importance of interest in education where highlighted, and how interest can be develop in school. The implication of this study reveals that, learning preference has an influence on pupils learning in school.

**Key words:** learning preference, interest development.

## 1. Introduction

The concept of learning preference plays a key role in everyday learning of a child that is because they have a unique way of processing information. Educationalist today have been on increase examining ways in the formation of learners' personal identities by stimulating their development into active members of the society (Willemse , Lunenberg and Korthagen 2005). Through, the idea of giving learners control over rudiments of their tutoring has been popular among educators for decades. One reason for advanced for learner control is that learners know their own instructional needs best and hence are individually qualified to tailor their instruction. Such control can help pupils become independent learners and can help to develop their self-determination. In most cases, they are usually designed with program that will match with their preference in school. This implies that individuals differ in regard to what mode of instruction or study is most effective for them. Scholars, who promote the learning preferences approach to learning, agree that effective instruction can only be undertaken if the learner's learning preferences are diagnosed and the instruction is tailored accordingly (Pashler, McDaniel, Rohrer, & Bjork, 2008). Different studies have identified various determinants of learner's satisfaction and effective learning of basic science. Wang (2003), therefore suggest that learning becomes a social activity that involves interaction with the teacher and among pupils.

Accordingly, learning preference refers to the ability of learners to perceive and process information in learning situations. Reid (1995), learning preference refers to a person's "natural, habitual and preferred way" of assimilating new information. This implies that individuals differ in regard to what mode of instruction or study is most effective for them. It is described as a set of factors, behaviours and attitudes that facilitate learning for an individual in a given situation. It is the ability of learners to perceive and process information in learning situations. It relates to the general tendency towards a particular learning approach for receiving, organizing, and processing information in order to make decisions and to form values (North Carolina Department of Public Instruction, 1999).

Learning preference is also seen as the way each learner perceives and processes new information for storage and retrieval. It is classified and identifies in many different ways, they are overall patterns that provide direction to learning and teaching in order to help all children learn, such approaches include the following, conceptualized three major learning approaches to classify students, namely "deep", "surface" and "achieving". A deep approach to learning is characterized by intrinsic motivation, engagement with the subject matter, and the desire to know everything about a given topic. On the other hand, children who opt for a surface approach to learning are not interested in the task per se, but aim at learning the minimum amount of material required to pass. Finally, achieving approaches to learning are characterized by students' goal-oriented study strategies; consequently, achieving oriented students are pragmatic and inspired by results (Duff, 2003; Duff, Boyle, & Dunleavy, 2004). These approaches are subsumed under active and reflective, sensing and intuitive, visual and verbal as well as sequential and global preference. Therefore the teacher may need to understand how such preference work during the teaching process. Meanwhile in most cases, it is very rare to find all the three of these learning preference approaches in a class. But at times may seem possible to do this through thoughtful planning and preparation of teaching and learning activities. The learning preferences approach has gained significant mileage despite the lack of experimental evidence to support the utility of this approach. Flemming (2001-2011) described four major learning preferences as follows:

- **Visual learners:** students who prefer information to be presented on the whiteboard, flip charts, walls, graphics, pictures, colours. Probably creative and may use different colours and diagrams in their notebooks.
- **Aural (or oral)/auditory learners/ verbal:** Prefer to sit back and listen. Do not make a lot of notes, but most times find it useful to record lectures for later playbacks and reference.
- **Read/write learners:** prefer to read the information for them and take a lot of notes. These learners benefit from given access to additional relevant information through handouts and guided readings.
- **Kinesthetic (or tactile) learners:** these learners cannot sit still for long and like to fiddle with things. Prefer to be actively involved in their learning and thus would benefit from active learning strategies in class. A number of learners are indeed, multimodal, with more than one preferred style of learning in addition to using different learning styles for different components of the same subject.

Learning preference are “characteristic cognitive, affective, and psychological behaviors that serve as relatively stable indicators of how learners perceive, interact with, and respond to the learning environment”. Terrell (2002) identified the dimensions of learning preference as learning which have received less attention from researchers this includes:

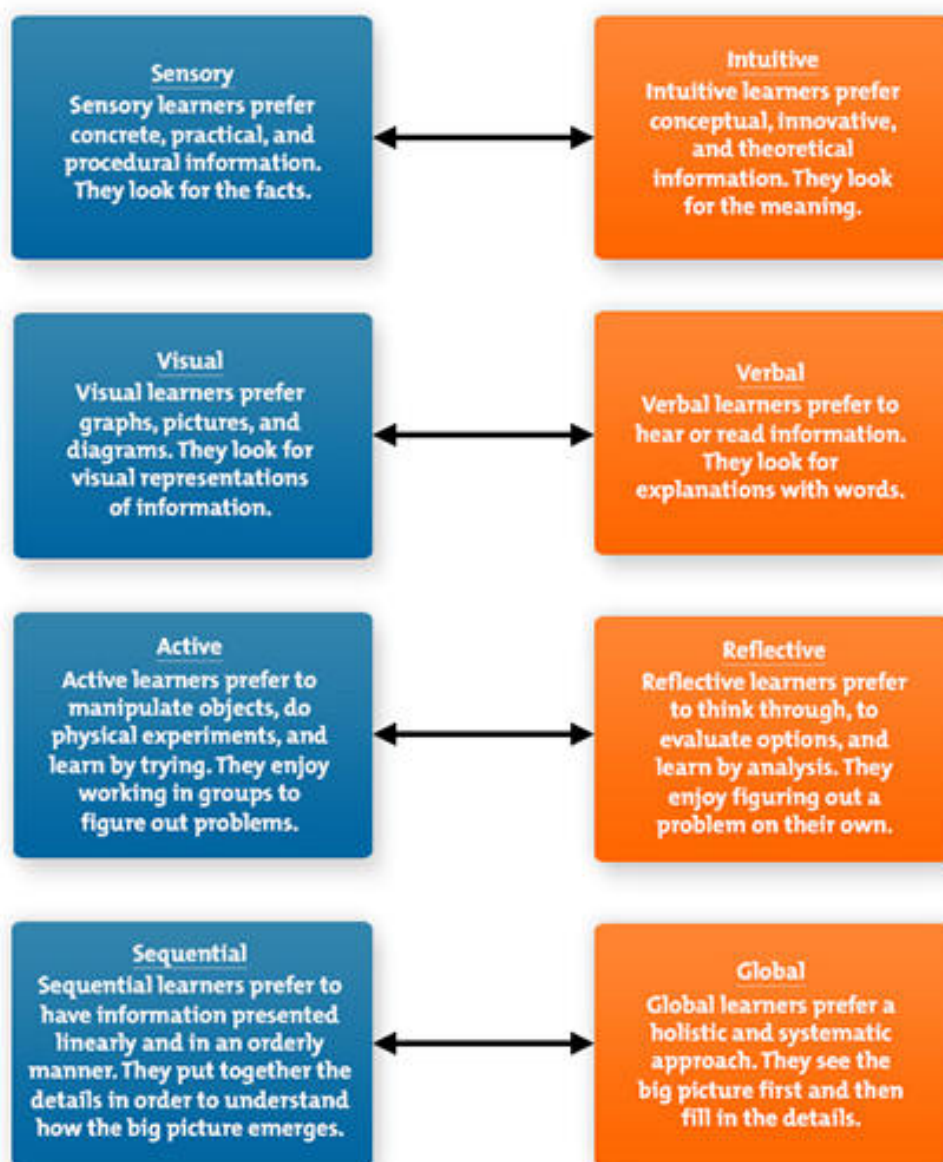
✚ Active vs. reflective; (Allow both experiential engagement learning and time for evaluation and analysis as well as observation)

✚ Sensing vs. intuitive (Provide both hard facts and general concepts, such as concrete experience, information through sense, memories, ideas, or direct perception).

✚ Visual vs. verbal; ( Incorporate both visual and verbal cues like pictures, diagrams, sounds, spoken words etc.) and

✚ Sequential vs. global (Provide detail in a structured way, as well as the big picture). ie logical progression and holistic in nature.

According to Felder and Silverman (1988), active learners retain and understand information best by doing something "active" with it, such as discussing or applying the information or explaining it to others. Reflective learners, on the other hand, prefer to think about information quietly first and to work alone. Omrod (2008) suggest that most of the children seems to learn better when information is presented through words (verbal learners), whereas others seem to learn better when it is presented in the form of pictures (visual learners). Courses with theories and abstract concepts might be more favorable to reflective learners whereas courses requiring hands–on exercises and/or projects might be more satisfying to those with an active learning style. The sensing/intuitive style relates to the preference for information selection. Sensing learners would be good at learning facts and concepts, whereas intuitive learners would prefer discovering possibilities and relationships. Regarding visual styles, visual learners are more likely to process information by seeing images, such as pictures, diagrams, and graphs. On the other hand, verbal learners prefer to process information in words, by reading or listening. Relative to distance education, research has shown that visual learners prefer online collaboration while verbal learners prefer FTF (Becker and Dwyer, 1998). Some students are comfortable with theories and abstractions; others feel much more at home with facts and observable phenomena; some prefer active learning and others lean toward introspection; some prefer visual presentation of information and others prefer verbal explanations. One learning style is neither preferable nor inferior to another, but is simply different, with different characteristic strengths and weaknesses.

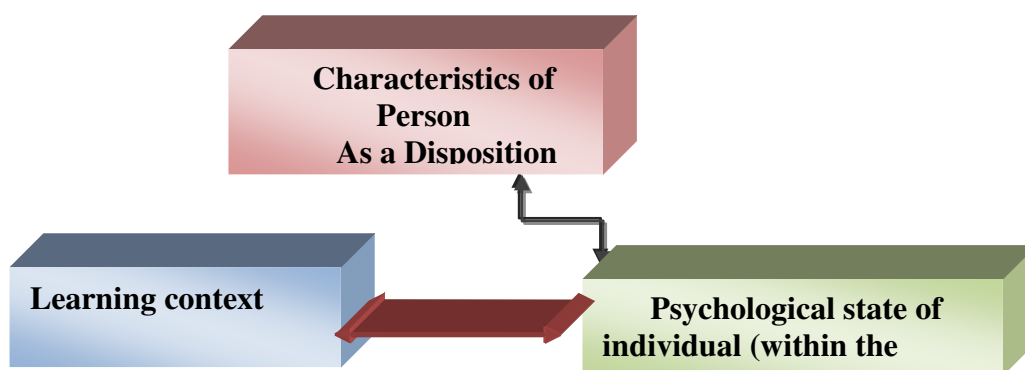


**Figure 2: Index of learning preference (Felder revised in 2002)**

The model implies that, once the child knows where his or her preferences lie on each of these dimensions in learning, he can begin to stretch beyond those preferences and develop a more balanced interest to learning. So these dimensions seems to be a continuum with one learning preference on the far left and the other on the far right as seen in fig 2. Curry (1987) suggests that there is a relationship among learning preference, strategies, and outcomes of pupils. Adding that, there is a need for more research examining constructs that emphasized in both cognitive and motivational models of learning. For instance, a kinesthetic learner most times seems to benefit more in traditional classroom at secondary school level than others. Their cognitive models of learning provide information regarding 'how' students develop an understanding of classroom academic tasks through the use of cognitive resources and tools, whereas models of motivation like, expectancy theory, incentive theory, humanistic, hygiene theory etc, provide an understanding of the 'why' of student choice level of activity and effort, and persistence at classroom academic tasks. Therefore, cognitive or motivations alone cannot account for the different aspects of students learning. In classroom environment, both cognitive and motivational factors operate simultaneously, so both types of constructs are needed to be examined in the school setting. With respect to cognitive factors, research has shown that what students learn is significantly affected by their learning preference. Students have different learning style preferences for taking in and processing information, (Felder, 1988. Learning style is not just ability, but rather a preference, and is facilitated by the individual's perceptual

and sensory strengths (Taylor, 1997). Learning preference and Interests have been identified as two important constructs that influence students' engagement and accomplishment in learning (Chen & Shen, 2004). Children have different levels of being motivated, different attitudes to learning, and different responses to specific classroom environments and instructional practices. The more thoroughly instructors understand the differences, the better chance they have of meeting the diverse learning needs of all of their students. In order to help all children learn, we need to teach to as many of these preferences as possible.

Interest in this study is seen as a psychological state or dispositional characteristic of an individual. The concept of interest plays a predominant role in everyday-thinking as well as in the professional considerations of teachers about the learners or individual difference in learning and achievement. Individual interest refers to an individual's relatively enduring psychological predisposition (preference) to re-engage in particular classes of objects, events, or ideas over time and is content specific (Hidi & Harackiewicz, 2000; Hidi & Renninger, 2006). In essence, individual interest develops slowly and tends to be long-lasting and is considered to be relatively stable. Interest, on the other hand, has been found to play a key role in influencing student learning behaviour and intention to participate in the future (Chen, 2001). From literatures, interest emerges from individual interactions with his or her environment (Oerter, 1995). Meaning it is characterized by their learning motive (why pupils learn), and learning strategy (how they learn). It represents a specific relationship between the developing person and some content of his or her life-space. Interest is demonstrated by affective as well as cognitive components that could be associated with positive emotional experience and personal relevance and readiness to be engage with high level effort. It mostly understood as a phenomenon that emerges from an individual's interaction with his or her environment (Hidi & Renninger, 2006). Interest is of two types, namely the situational interest and interest emanating from curiosity. Situational interest may be tied very specific contents and not just only structural features. Although individual interest is triggered by an individual's psychological predisposition and situational interest by environmental stimuli, Hidi (1990) points out that individual interest and situational interest are not dichotomous phenomena that occur in isolation. On the contrary, both types of interest tend to interact and influence each other's' development. That implies that, it may last longer than simple arouse and may develop into personal interest (Hidi and Berndorff 1998). Further illustration is seen in the figure 1.



**Adopted from Hidi and Berndorff 1998.**

Fig 1. Reveals the three approaches to concept of interest as use in the study. The first approach reveals that interest is a personal trait or disposition, which means it tend to have a long lasting preference for certain topic that will be presented. The second aspect is that interest is seen as specific psychological state rather than just only the personal disposition of the child to learn the concept. They focus on the cognitive and affective state as well as process the actual interest. Furthermore, it is important to realize that research on individual interest is mainly concerned with the objective side of the individual relationship with the content. Babalola (2011) study shows learning preference influence on interest in science ( $t = -10.027, P < 0.05$ ), Schiefele, Krapp, and Winteler (1992) reveals that interest and academic achievement of student have often use as a correlational study approach. The relationship then seems to be a function of Gender, Age, school type and subject. Though interest is the main motivating factor of learning, teachers still do not have a clear understanding of its potential role in the development of learner's personality (Chen& Daprst, 2002). Teachers usually think that learners either have or do not have interest, and it is impossible to state how to facilitate its growth and development, especially for learners without learning motivation (Ennis, Cothran, & Davidson (1997).

Furthermore, constructivist learning theory says that all human knowledge is constructed from a base of prior knowledge and meaning from an interaction between their experiences and their ideas. Children are not blank slate that knowledge cannot be imparted without the child making sense of it according to his or her current conceptions (learning preference). Therefore children learn best when they are allowed to construct a personal understanding based on experiencing things and reflecting on those experiences. It involves learning by doing what they are interested on to derive their own knowledge and meaning. This means that, constructivist theory creates an environments where children can actively construct their own knowledge, rather than depending on the teacher's explanation. Even though interest has been known as an important variable for learning, some teachers still do not have a clear understanding of their potential role in helping children develop interest in most of their teaching subjects especially in sciences. Teachers also tend to think that children either have or do not have interest, and may not recognize that they could potentially stimulate and enhance the growth and development of students' academic interest particularly for those students who are uninterested and disengaged in learning. It is on this note that the researcher investigated the extent to which learning preference influences pupil's interest development in basic science.

## **2. Development of Individual Interests**

Development of interest is related to the change in their content depending on the age of an individual. That is, in dissimilar life periods, age graded tasks have to be tackled. Interests may shift according to the changes of life tasks. The development of interests, however, has to take into account the whole range of goals a person strives for. It is argued here that interests most likely develop as hobbies that take place outside school. The development of an interest can be described as an expansion in the level of stored knowledge (Renninger, 1990). As a matter of fact, it is an increase of discrepancy and integration in the structure of the person and object of relationship (Fink, 1991, Krapp, 2002) that is, interests grow with age and may decline over the years. Hoffmann (2002) observed that, loss of interest in school matters is particularly severe when a child makes transition to secondary school. Also, that an individual interest develops only if the type of activities involves in, is pleasant and highly appreciated as to contributes to their personal goals of study. Krapp (2003) added that in most cases, "there are close interrelations between a person's formation of individual interests and the development of his or her self.

Interest development is conceived as taking place within the process whereby a person finds out who they are and who they want to be. It is argued that, in the course of solving life tasks, persons have to aim at personal goals in different life areas. Interests can develop in those fields in which persons are active, including those that serve general needs, for instance, relaxing, body care, or eating, notably fields that are considered to be self-initiated. In the classroom it is possible to motivate learners by activating multiple ways of meaning-making through the use of tasks relating to the different intelligences of the individuals. Besides, there is a central axiom of the position that states that a person's actions are a product of development and at the same time drive and stimulate development (unknown author). Individuals are seen as attaining the competence and readiness to shape their own growth. Development is described by considering those concepts by which the growing person represents and constructs their own past, present, and future. In interest development, cognitive-rational processes play an important role, for example in deciding on studying any subject and professional careers. Hofer (2010) observed that, an individual with any of the learning preference interest evolves if the individual continues or resumes an interaction with an object of potential interest. A potential interest is any interaction between a person and the environment that may or may not turn into an individual interest.

According to Hidi and Renninger (2006), three factors contribute to the development of interest, this include, knowledge, positive emotion, and personal value. As individuals learn more about a topic, they become more skilled and knowledgeable. An increase in knowledge can bring about positive affect as individuals feel more competent and skilled through task engagement, therefore any of the reserved interaction that a person displays in their daily life, like when in the classroom learning environment, contribute to the development of interest.

## **3. Situational Interest Development and Learning**

From an educational perspective, students come into the learning environment with a wide array of individual interests. Situational interest is the affective reaction activated by specific or appealing stimuli in the environment. A situational interest, thus, represents a more immediate affective reaction that may or may not last (Hidi, 1990, 2000). Research indicates that situational interest can be enhanced through the manipulation or the modification of certain aspects of the learning environment and contextual factors such as teaching strategies, task presentation, and structuring of learning experiences. Situational interest, therefore, is a viable medium that can be harnessed by teachers to motivate the unmotivated and disengaged learners to learn (Subramaniam2009). He also opine that, Teachers do have control of the learning environment and could potentially modify or

manipulate the learning environment to make it more situational interesting to influence student engagement and learning and subsequently impact the development of individual interest in the subject. Such interest is interpreted as a relatively stable tendency to occupy oneself with an object of attention.

According to Krapp (2002), situational interest, manifests itself in curiosity and may take the form of excitement but is merely a temporary and transitory state. Therefore whenever situational interest arises among the student depends on the situational evidence as well as their individual factors. Situational interest, on the other hand, refers to the affective reaction triggered in the moment by stimuli in the environment which may have a short-term effect, and may marginally influence an individual's knowledge and values. It is evoked by specific or appealing features in the environment and has the potential to generate a true state of interest (Hidi, 1990; Hidi & Anderson, 1992). Although individual interest is triggered by an individual's psychological predisposition and situational interest by environmental stimuli, Hidi (1990) points out that individual interest and situational interest are not dichotomous phenomena that occur in isolation. On the contrary, both types of interest tend to interact and influence each other's' development in the subject he/she learned in school. Situational interest, therefore, offers an alternative to individualization of interest to study. Meanwhile, creating a learning environment that evokes or triggers situational interest of the child, plays an important role in the development of individual interest to learning any subject (Hidi and Anderson's 1992).

Furthermore, situational interest can be enhanced through the modification of certain aspects of the learning environment and contextual factors such as teaching strategies, task presentation, and structuring of learning experiences (Chen, 1996; Chen & Darst, 2001). Hidi & Renninger (2006) in Harackiewicz and Hulleman (2010) have recently outlined ways of interest development detailing the conditions under which situational interest can be transformed over time into individual interest. Their approach contains an element of classic Lewinian social psychology in that interest develops as a function of both the individual and the situation around them. That is the level of interaction between the child's subjects could determine their interest development, including the personal characteristics' and social activities.

#### **4. Educational Implication**

The need for learning preference is likely to help teachers to identify their way of teaching and the way the student learn. Visual learners could be seen to be good in terms of drawing of objects, map, events in history or draw scientific process, watch videos, use highlights, circle words, underline, take notes make list. Auditory learners may be good at using word association, record lectures, listened to videos, group discussions, taping notes etc. Kinesthetic, at this stage, learners may study in short blocks, attend laboratory. Classes, take field trips, visit museums etc Vaishnav (2013). Students may improve their academic level of interest and strengthen the weaken areas of studies, teachers may find out own preferred learning style which often becomes predominant learning preference for students best learning of basic science. Several studies have share out with the relationship that existed between interest of students, subjects, schools and other displays in science and other subjects. The school subject at this stage is seen as an important moderator that reveals the level of student involvement in learning

#### **5. Conclusion**

To conclude this paper, it has been summarized that, children are characterized by different learning preference, preferentially focusing on different types of information and tending to operate on perceived information in different ways. Given the role that interest plays in determining the quality of learning preference children adopt, some children are comfortable with theories and abstractions of learning, while others feel much more at home with facts and observable phenomena; some prefer active learning and others lean toward introspection, some prefer visual presentation of information and others prefer verbal explanations. With situational interest, teachers are willing to potentially contribute to the development of student's interest by engaging them in their different learning ability.

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