

DO WE KNOW HOW THEY LEARN?

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Abstract

Every individual has his/her own style of learning, whatever be the age of the learner. Many studies have been conducted on learning style and related aspects. This snap study was undertaken to study the learning style of students pursuing higher education. Also, efforts were made to observe the learning outcomes focused by the teachers and the methods used by them for teaching. It is very astonishing as also alarming to find that in spite of having known the consequences, teachers are bound to follow the age old method of lecturing in the classrooms. In this paper, a view of the learning preferences of such learners has been depicted vis-à-vis the learning outcomes prioritized by teachers. Some recommendations have also been suggested so as to cater to the divergent learning needs of students even while following the lecture method for instruction.

INTRODUCTION

Understanding how students learn is very essential for any teacher or instructor. This would certainly reduce the efforts to learning as also prevent students from cramming the various concepts and theories. Though the concept of learning style is not very new, yet it has not been able to gain the attention of many. Knowing the learners' style of learning and then guiding them would facilitate learning as also quicken the process, be it any kind of learning. Once the learning style is ascertained, teachers need to match their teaching strategies suiting the particular style.

Every individual has a specific preference or style to learn something; individuals perceive and process information in different ways – learning style refers to such preference or differences. It has been defined as “the composite of characteristic cognitive, affective and psychomotor factors that serve as relatively stable indicators of how a learner perceives,

interacts with and responds to the learning environment” (Keefe, 1979).

In this study, an attempt is made to observe the learning preferences of a group of students and the teaching strategies used by teachers teaching these students. The findings are very alarming depicting a wide gap between the teaching strategies used and learning style of learners.

RELATED WORK

Quite a good amount of research efforts has been put in this dimension. Reiff (1992) claims that learning styles influence how students learn, how teachers teach, and how they interact. Coffield et. al. (2004) performed a theoretical analysis and evaluation of learning styles and identified 69 learning styles and their dichotomies, of which 13 considered to be non-derivatives of other learning styles.

Some of the very important dimensions of

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learning style investigated by them are listed below:

- ◆ Visual vs Verbal
- ◆ Holist vs Serialist (Pask, 1976) or Holist vs Analytic (Riding and Rayner, 1998)
- ◆ Pragmatist vs Theorist
- ◆ Reflector vs Activist
- ◆ Logical vs Mnemonic strategy (Goldman, 1972),

All of which could be correlated with the three phenomena of deep processing, shallow processing and strategic phenomenon, as observed by Marton (1988).

On this basis, specialists in this field have tried to identify learners with different learning styles as certain "types" of learners. For instance, Kolb (1984) classified some learners as 'divergers' meaning they typically take in information through concrete experience and transform it through reflective observation. Gardner (1993) also, in his theory of multiple intelligence, has tried to identify individuals based on their innate distinctive ways of processing information.

Tobias (1990) found from her studies that students whose learning styles are compatible with the teaching style of a course instructor tend to retain information longer, apply it more effectively, and have more positives post-course attitudes towards the subject than do their counterparts who experience learning/teaching mismatches.

Regarding learning style of college students, researches (Montgomery, 1995) have shown that such students are generally active, sensing, visual, sequential learners as opposed to reflective, intuitive, verbal and global.

SAMPLE

The sample consisted of 25 students

undergoing Diploma course in the branch of Mechanical Engineering belonging to second and third semesters.

Also interviewed were eight teachers teaching these students.

TOOL USED

The instrument used was a downloaded version of the "Index of Learning Styles", used to assess preference on four dimensions (active/reflective, sensing/intuitive, visual/verbal and sequential / global) of learning style model designed by Richard M. Felder and Barbara A. Soloman of North Carolina State University.

The students were interviewed along with the teachers.

Also assessed were the teaching strategies used by teachers vis-à-vis the level of learning focused by them.

FINDINGS

On analyzing the learning style inventory, the students were found to be distributed on the four dimensions as shown in Fig. 1. Fig. 1 shows that the majority of the students prefer active, sensing, visual and sequential styles of learning.

The study further indicated that the students preferred the concrete situations and activities. This was quite opposed to the teaching strategies used by teachers, the one mostly used being the lecture method. All the teachers felt that "lecture" was the indispensable method to be used in the classrooms and very rarely had they included short discussions in between their lectures. They opined that other methods would take more time in covering the content and the syllabus would be left incomplete and, as such, they had no other option. This traditional methods used by the teachers focused on the lowermost level of learning, i.e., "recalling the learnt information". However, the learning outcomes emphasized by the teachers through their teaching mostly centered on the

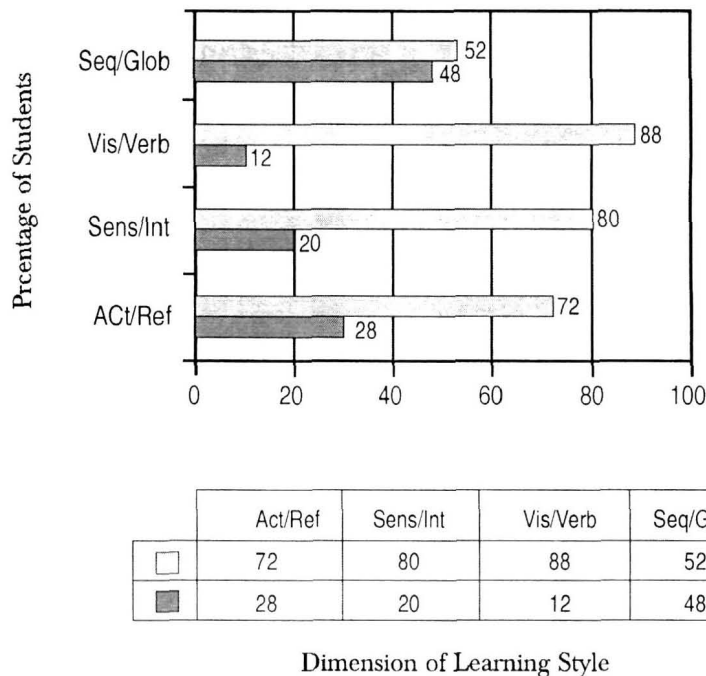


Fig. 1. : Learning Preferences of Students

lower order skills. Table 1 will clarify it further.

Learning Outcomes	Priority
Evaluation	0.1%
Synthesis	0.6%
Analysis	1.1%
Application	2.2%
Comprehension	22%
Recall	74%

Fig. 2: Teachers' Priority to Learning Outcomes

As responded by the teachers, it is encouraging to find that at least some of the teachers give place to short discussions, though not very regularly. This would break down the monotony of lecture method along with developing higher-order thinking in the learners.

IMPLICATIONS

Many a times, it has been observed that teachers teach in the way they had been taught. In making such an effort, it is seen that they encourage students for abstract conceptualization, while many of them may be oriented towards receiving concrete experiences or evidences. Sometimes they choose the approach in which they understand or learn better. This may be because of the reason that they have no orientation towards the pedagogical aspects of teaching-learning. "Research supports the concept that most teachers teach the way they learn" (Stitt-Gohdes, 2001).

It has been observed that most often we take care of the cognitive level of the learners but seldom look into the fact as to how they learn. If we can fit in both the cognitive levels and their learning styles, we may think of an adaptive learning system.

Teachers can think of incorporating a few of the commonly prevalent techniques in their lectures as under.

- Demonstrations will take care of the students who believe in concrete evidences and prefer to learn actively.
- Lecture followed by short discussions can trigger ideas into intuitive minds. Also such learners, who require time to think before speaking out their minds, will be encouraged.
- Short questions in between the lecturers would help develop their skills of thinking and communication.
- Lecture mixed with buzz group sessions would take care of the innovative minds
- Lecture followed by short quiz will encourage the logical and analytical minds.
- To make room for the preferences of sequential learners the lecture may be divided into discrete segments, one leading to the next. This transition should be gradual and sequential. Lurching from one topic to another makes it difficult for students to assimilate and retain the material (Dubrow and Wilkinson, 1984).
- For easier topics, short notes may be supplied to the class, based on which, the students have to come prepared and then, a group discussion may be conducted. Besides preparing independent learner, this would also help build their self-confidence.
- To cater to the needs of visual learners, auditory and visual support will prove fruitful, if added to lectures.

Whatever be the method or techniques adopted for teaching, it should facilitates learning. It is wise enough for a teacher not to lecture for the entire period as, after a certain

span of time, students start losing their concentration. The average student's attention span is between ten and twenty minutes (Penner, 1984). Indeed, it is the creative ability of the teacher to think of several devices and ways so as to suit the learning preferences of the learners.

As agreed upon by the teachers, discussions certainly would bring in a variety in the lectures delivered by them. This would take care of the active learners who severely lack interest in the one-way lecture method. Besides, researches have shown that discussions certainly encourage thinking at a higher level, at least above the level of comprehension. Bligh et.al (1975) found that lecture methods were not inferior to discussion methods where knowledge of information was the criterion, but discussions tended to be superior where tests of higher-order thinking and measurements of attitude change were the criteria. Same has been reported by McKeachie, et. al., (1986) – “in those experiments involving retention of information after the end of a course, measures of transfer of knowledge to new situation, or measures of problem solving, thinking, attitude change, or motivation for further learning”, the results favour discussion methods over lecture.

CONCLUSION

All the above implications suggest that a bit of thought is required by the practicing teachers. They have to emphasize more on the quality of the products produced by the system than quantifying the course content.

Teacher should decide beforehand the learning outcomes with the help of learners. This will help select the appropriate content as well as the strategy to be adopted to deliver that content. They will also serve as the bases for final assessment of learning. In this way, the instructional method(s) selected would be consistent with the learning outcomes, besides accommodating the diverse learning styles of the students. Knowledge of learning outcomes

will help the students exploit greater opportunities to learn in their preferred style. Evaluation system has to be revamped to judge exactly what the students have learnt and not simply what they can recall after rote memorization.

Above all, the awareness of ones learning style can foster greater responsibility in a learner towards own learning. In the same line, further studies may be taken up as listed below –

- The impact of communication skill of teachers on learning style of students
- The effect of learning style on the interest of learner for a particular subject/discipline of study
- How learning style can lead to developing metacognitive skills in learners
- The effect of learning outcomes on the teaching strategy used by a teacher.

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