

# 66. Learning styles and effective teaching in Engineering Education in India

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## Abstract

There is a two types of education system, first one is knowledge-based education system and exam-based education system. Education in India is exam-based education system. This article briefly discusses different types of learning styles and identified teaching practices that should meet the needs of students learning styles.

## 1. Introduction

Engineering is an application of physics and mathematics to solve technical problem economically includes design, analysis, optimization synthesis and evaluation. Nowadays learning style in engineering students are different, in the digital world online learners also increase. Based on the different learning styles of students, faculties are need to self-improvement and identified students learning styles. But now a day's available time for the faculties for self-improvement have gone downed due to more clerical work. [2]

## **2. The factors affecting the education of engineering students in India**

There is many reasons for affecting the education of engineering students in India some of them are, many students come from rural area and lack in communication skills, many students join engineering due to the compel by parents, relatives, neighbors, and friends. Recently students writing skills, reading skills, learning skills are comes down. Students are preparing for his exam only on neck at the moment.

## **3. Learning styles**

### **3.1. Visual learner**

Visual learner is an important in the area of engineering education, visual learners are used tools for learning are graphs, diagrams, flowchart, animations, etc., the unique characteristics of visual learners are They can remember what they need rather than what they hear Ask a lot of questions to clear doubts They prefer work alone rather than in groups

### **3.2. Verbal learner**

In the verbal style learning they prefer written and oral explanation. some methods of verbal learning are Serial learning -serial learning is memorizing a list of words in a particular order Paired-associate learning-Lists a stimulus and response item together.

### 3.3. Sensing learner

Learn with concepts and procedures and find how to apply the concept in the real work, sensing learners best when given facts and procedure.

### 3.4. Intuitive learner

Intuitive learners mainly focus imagine model, conceptual work, theory. Intuitive learners are much more memorization.

### 3.5. Active learner

Active learners are study in groups and explain different topics to each other. They deliver in loud voice.

### 3.6. Reflective learner

Reflective learners learn by thinking about information. They prefer to think things through and understand things before acting.

### 3.7. Sequential learner

Sequential learners prefer to organizing information in a linear, orderly fashion. They learn in **logically sequenced steps and work with information in an organized and systematic way.**

### **3.8. Global learner**

Global learners prefer to organize information more holistically and in a seemingly random manner without seeing connections. They often appear scattered and disorganized in their thinking yet often arrive at a creative or correct end product.

## **4. Effective Teaching Method**

The aim of teaching is simple and straight to make students learn possible easier and more enjoyable. Good teaching means meaningful learning, skills, attitude. In order to make a desirable change in learners. The goal of teaching is to help students learn. Good teaching will make students to think critically and discover new information. Some teaching learning methods to motivate students are collaborative learning [4], blended learning and project- based learning etc.,

Teaching styles for the visual learners are to show some graphs, diagrams, power point presentation by projector for the students in the class room. The teaching styles for the verbal learners are lecture, reading, discussion. The teaching styles for the sensing learners are given some case studies of technical facts. The teaching styles for the intuitive learners are given more theoretical notes and conceptual work. For active learners' students participate and presents a seminar topic in front of the team. The teaching styles for the reflective learners are watch and listen so video lectures are more preferable.

Some key points to effective teaching in class rooms are

- ❖ Begin and end with a summary of teaching
- ❖ Avoid reading lesson plan
- ❖ Be flexible
- ❖ Move around the class room
- ❖ Pay attention to the struggling students
- ❖ Pay attention to the most successful students

## **Conclusion**

Now a day's students are feeling bored in the traditional teaching and power point presentation and also feel bored with continuous teaching in the class room different learning style students are present so change the teaching style in the class room is required.

## **Reference**

1. R.M. Felder and L.K. Silverman, "Learning and Teaching Styles in Engineering Education," Engr. Education, 78(7), 674-681 (1988).
2. S. Surenderkumar, K.M.Priya, "Strategies to Improve Engineering Education and Teaching- Learning Pedagogy in India" International Research Journal of Engineering and Technology (IRJET), Volume: 04 Issue: 08, Aug -2017

3. Demirel, Yaşar, "Teaching Engineering Courses with Workbooks" (2004). Chemical and Biomolecular Engineering News Releases. 13.
4. Chris Fellin, Aigerim Galyamova, Lorraine Hossain and Rachel Putnik "Motivation and Focus in Collaborative Learning" SC 297C Learning Sciences Group Project.
5. "Innovative Practices In Technical Education Institutions" pages 277 – 287, All India Council for Technical Education, New Delhi.