

# Paradigm Shift in Science Teaching and Learning

# Paradigm shift in Sciences..

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- A paradigm shift, a term propounded by the American physicist and philosopher **Thomas Kuhn**, which means a **fundamental change** in the basic concepts and experimental practices of a **scientific** discipline.

# The Paradigm shift

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- **Old paradigm - Teaching Paradigm**
  - An institutions is to provide teaching.
- **New paradigm - Learning Paradigm**
  - An institution is to produce learning.

# Paradigm shift from teaching to learning - the objectives

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## The teaching paradigm

- Gives instruction
- Transfer of information from teacher to student.
- Tells what to learn.
- To reach to all students.

## The learning paradigm

- Evolves learning
- Construction of knowledge by the student.
- Creates an environment of learning.
- To let all student learn by themselves.

# Indicators of paradigm shift shift..

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## The teaching paradigm

- Curriculum expansion
- Numbers of resources
- Enrollment
- Quality of the faculty, their teaching

## The learning paradigm

- Learning styles expansion.
- Quality of resources
- Increased efficiency.
- Quality of the students, their learning

# Paradigm Shift in Teaching learning strategies

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## The teaching paradigm

- Fixed time, learning same
- Student learns as the teacher proceeds in parts.
- Fixed place
- Separated in subjects

## The learning paradigm

- No fixed time learning varies
- Students learns holistically.
- No fixed place
- Interdisciplinary.

# Paradigm Shift in Teaching learning tasks

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## The teaching paradigm

- Completes syllabus
- Summative Assessment
- Internal evaluations
- Subjective assessment
- Success with certification

## The learning paradigm

- Covers successful learning
- Every step itself is assessment.
- External evaluations possible.
- Objective assessment
- Success with certification with skills.

# Paradigm Shift in Learning theories of Sciences

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## The teaching paradigm

- Knowledge is acquired
- Uni-directional learning
- No imagination or Controlled imagination
- Teacher centered
- Controlled Nurturing

## The learning paradigm

- Knowledge is self generated
- Multidirectional learning.
- Imaginative and intuitive learning.
- Learner centered.
- Free nurturing

# Paradigm shift in the roles of the teacher in teaching and learning Science

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## The teaching paradigm

- Teacher teaches
- Teacher teaches and student learns separately
- Transfers information
- Independent work

## The learning paradigm

- Teacher designs
- Both learn simultaneously and cooperatively.
- Develop competencies
- Team work

# Paradigm shift in the roles of the student in learning Science

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## The teaching paradigm

- Student is passive
- Develops Individual learning bases
- Receives information
- Learns Individualized work

## The learning paradigm

- Student is active
- Develops Group learning bases
- Constructs new knowledge
- Learns Team work

“

A teacher , who establishes rapport with the taught, becomes one of them, learns more from them than he teaches them. He who learns nothing from his disciples is, in my opinion, worthless.

”

Mahatma Gandhi (Sevak, 15 February 1942)

**THANK YOU**

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