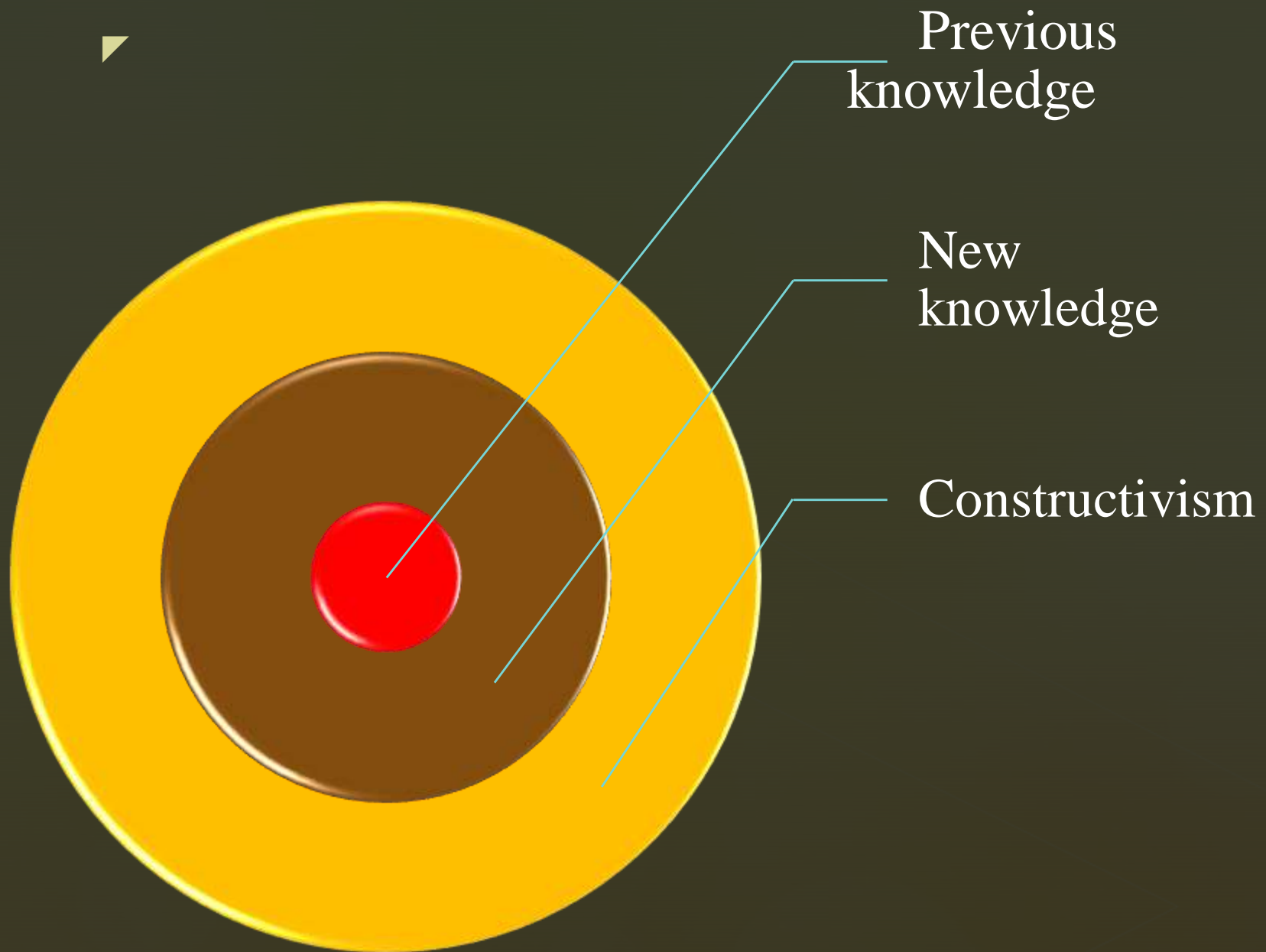**TEACHING AND LEARNING**

Constructivism unit 3

**K.Ruba  AP  JJCE**

# CONSTRUCTIVISM

➢ Is based on the idea that people actively construct or make their own knowledge

➢ Use their previous knowledge as a foundation and build on it with new things that they learn

# Principles of Constructivism

**1** Knowledge is constructed

✓ This is the basic  principle in constructivism

■ knowledge is built up on other knowledge

■ Previous knowledge

■ Experience

■ Beliefs

■ Insights

Are all important foundations for their continued learning

**2** People learn to learn , as they learn

- Learning involves constructing meaning and systems of meaning

Each thing we learn gives us a better understanding of other things in the future

**3** Learning is an Active process

➤ Learning involves sensory input to construct meaning

➤ It's not therefore a PASSIVE ACTIVITY

➤ Need to engage in they are actively involved in their own learning and development. Student engage in

   ➤ DISCUSSIONS

   ➤ READING

   ➤ ACTIVITES  and etc..

**4** Learning is a SOCIAL Activity

- Learning is directly associated to our connection with other people

- Our teachers, our family, or peers, and our acquaintances impact our learning.

**5** Learning is CONTEXTUAL

- We learn in ways connected to things we already know and what we believe and more .

- The things we learn and the points we tend to remember are connected to the things going on around us.

**6** Knowledge is personal.

- Constructivism is based on your own experiences and beliefs, knowledge becomes a personal affair.

- Each person will have their own prior knowledge and experiences to bring to the table. So the way and things people learn and gain from education will all be very different.

**7** Learning exists in the mind.

- Engaging the mind is key to successful learning. Learning needs to involve activities for the minds, not just our hands.

- Mental experiences are needed for retaining knowledge.

**8** Motivation is key to learning

- Educators need to have ways to engage and motivate learners to activate their minds and help them be excited about education.

- Without motivation, it's difficult for learners to reach into their past experience and make connections for new learning.

# Nature of Constructivist learner

- Acquiring knowledge is not only acquisition of information

- It is process of knowledge construction which involves examining the received information , using one's own experience, understanding their meanings and transforming them as knowledge

- Teaching is helping to construct their knowledge

- Learning is fully responsible for his/her learning

- Learner gets involved actively

- The Students are the center of attention , not the teacher

- Children are placed in groups , they work together to find meaning

- Each student takes on a different objective or part of the assignment or project

- They become "Experts" on their subject

# Role of Teacher in Constructivist Classroom

- Teacher frequently ask open-ended questions in the classroom and patiently waits for students to answer

- Teacher give much importance to students higher order thinking and logical reasoning

- Provides opportunities to students to interact among themselves

- He encourages students to share their experiences among themselves

- He emphasizes inquiry-based learning

- Teacher gives more importance to problem-solving approach in learning

# Pedagogical Approaches to Constructivism

- Learning is the process of connecting what we learn now , with what we already know

- Before teaching the teacher should test the prior knowledge of the students

- Based on it ' teacher should set his teaching activities. Facilitating students to construct their knowledge using what are being taught now

- Teacher should relate the lesson with day to day life concept

- Then only, students will learn the subject content of the lesson meaningfully

- Student should know about social/cultural context

- They should directly participate in social activities and collaborative learning

# Pedagogical Approaches to Constructivism

- Experimentation

- Field trips

- Inquiry-based learning

- Problem  solving

- Brain storming strategy

- Talking about Project-based teaching or learning

- Jigsaw

- Discussion method

- Procedural facilitations for writing

- Cognitive direction

- Reflective teaching

- Online learning

# Traditional  vs constructivist

## Traditional

- Students work primarily alone

- Curriculum presented part to whole

- Emphasis on basic skills

- Teachers provide information for students

- Students viewed as blank slate

- Teachers seek correct answers to validate

## Constructivist

- Students work primarily in group

- Curriculum presented whole to part

- Emphasis on the big concept

- Teachers facilitate learning

- Students are viewed as thinkers

- Teachers encourage reasoning  to validate answers

# Types of constructivism

Constructivism

Cognitive

Social

Radical
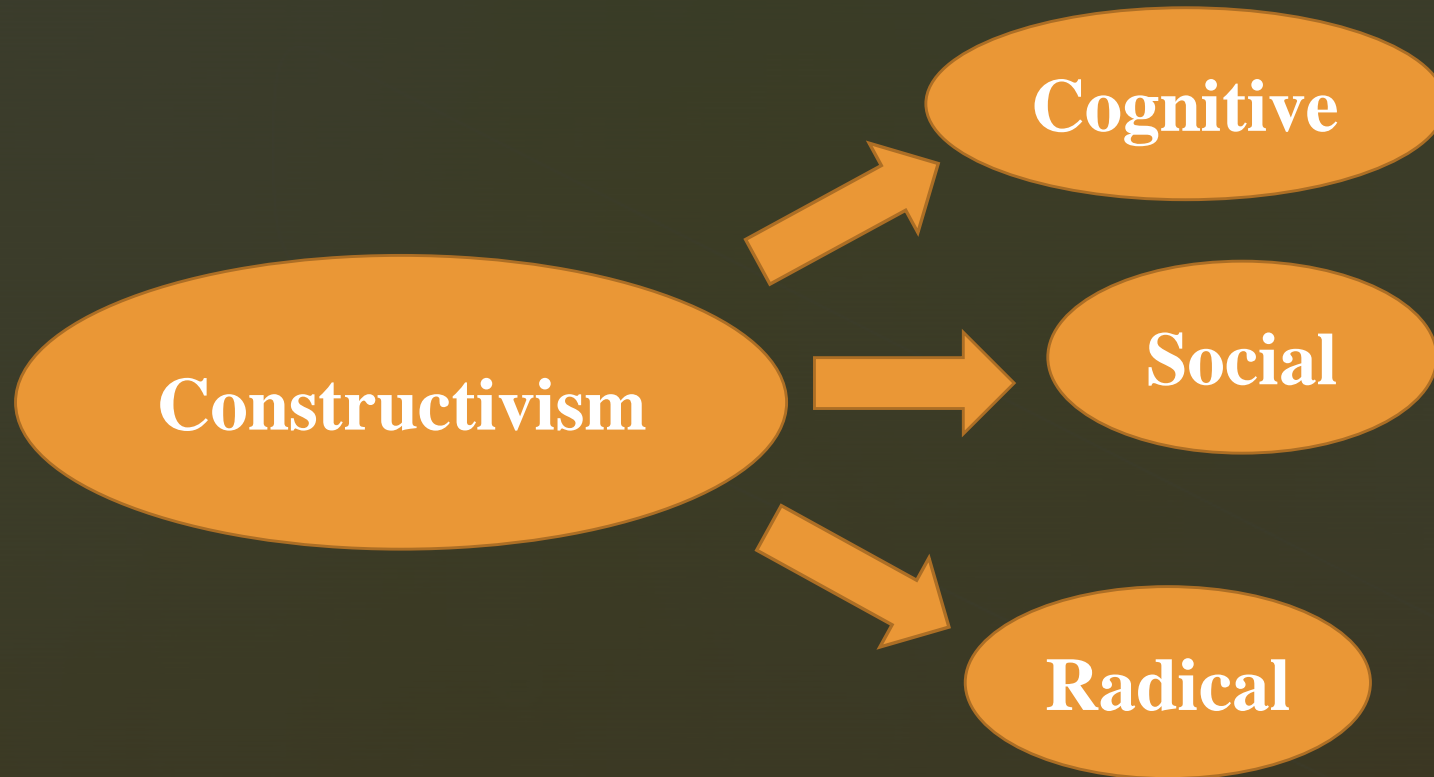
# Cognitive constructivism

- Cognitive constructivism comes from the work of Jean Piaget and his research on cognitive development in children.
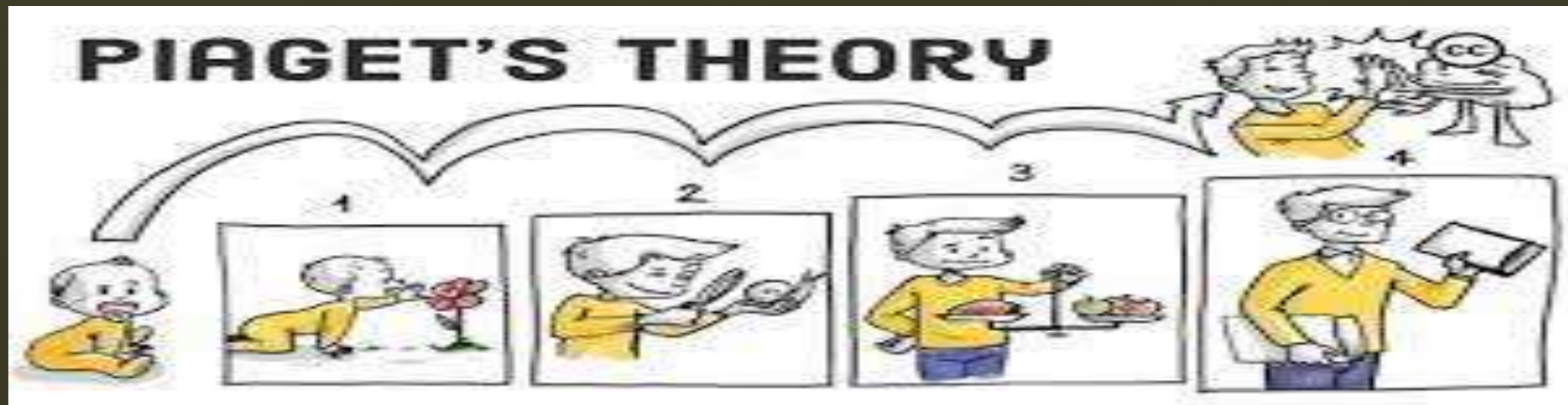
# Social constructivism

- Social constructivism focuses on the collaborative nature of learning. Knowledge develops from how people interact with each other, their culture, and society at large.

- Social constructivism comes from Lev Vygotsky, and is closely connected to cognitive constructivism with the added element of societal and peer influence.

# Vygotsky's Theory

- **Lev Vygotsky (1896-1934)**

- **Russian psychologist**

- **All learning is social -**Knowledge is always socially constructed

- **Culture shapes our learning & cognitive development**

- Learning is both social and culturally based and tied to the situation where it was learned

- Process of development is dependent on social interaction and that social learning actually leads by cognitive development

**ZPD**

- **Zone of Proximal Development (ZPD)**

**MKO**

- **More Knowledgable Other (MKO)**

# Zone of Proximal Development (ZPD).

- The difference between what a child can do independently and what the child needs help from a more knowledgeable person to do is the

**Zone of Proximal Development**

ZPD

MKO

◈ Zone of Proximal Development (ZPD).

The difference between what a child can do independently and what the child needs help from a more knowledgeable person.
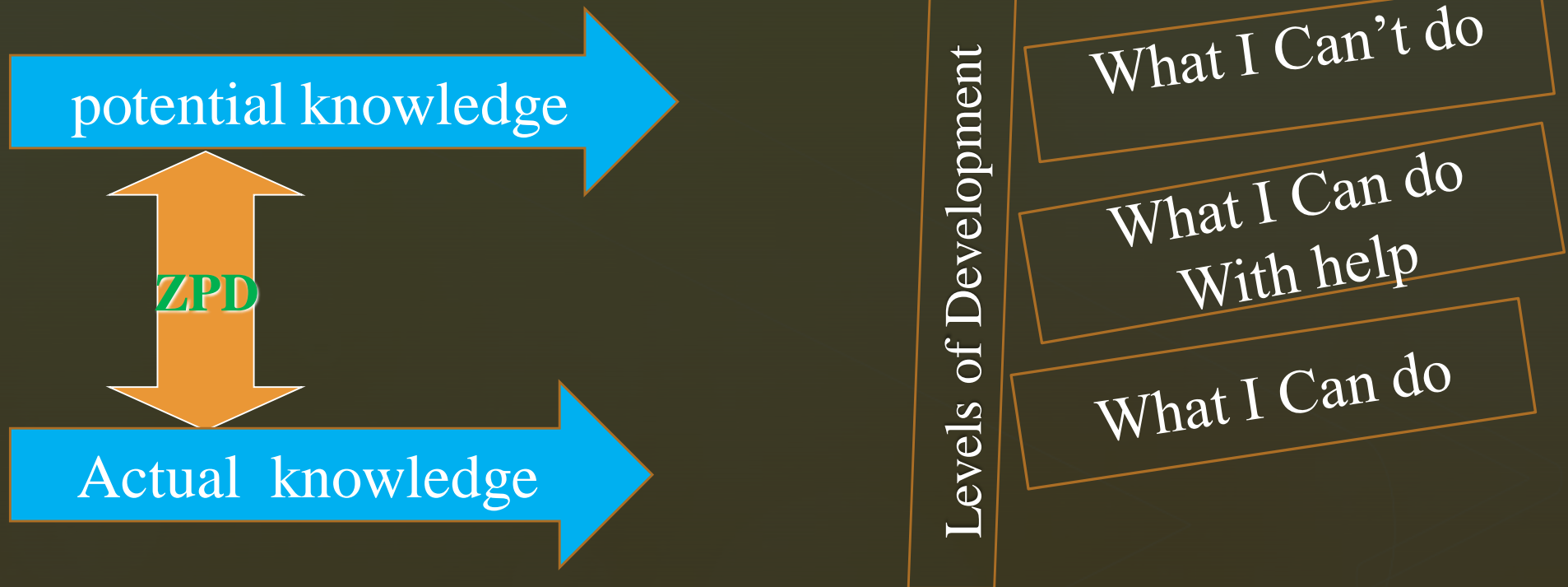
Zone of Proximal Development

The more knowledgeable other (MKO) this person can be anyone—a coach, a teacher, another student (of any age), or even a computer.

# Zone of Proximal Development (ZPD

- Distance  Between Actual  and Potential Knowledge

# More Knowledgeable Other (MKO)

- Is somewhat self-explanatory; it refers to anyone who has better understanding or a higher ability level than the learner , with respect to a particular task , process, or concept.

- The MKO is normally thought of as being a teacher, trainer , or older adult, but the MKO could also peers, a younger person , or even computers.

- *Scaffolding* – guidance or structure the more knowledgeable other provides to help the learner perform tasks in his/her ZPD

- Examples of scaffolding in school:
  - Teacher , Parents, Peers, Friends
  - Outlines, guidelines, checklist
  - Hints, guiding questions, reminders
  - Strategies, plans
  - Modeling, demonstrating
  - Tools: calculator, technology
  - Feedback
  - Attempts to focus attention and motivate

Language is important tool

Private speech (self talk)

Collaborative problem solving

Reciprocal teaching

# Vygotsky's theory differs from that of Piaget in a number of important ways:

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# Radical constructivism

- Radical constructivism is very different from cognitive and social constructivism. It focuses on the idea that learners and the knowledge they construct tell us nothing real, only help us function in **our environment**. The overall idea is that knowledge is invented, not discovered. The things we bring to the table make it impossible for us to have truth, only interpretations of knowledge.

- This theory was developed by Ernst von Glasersfeld in 1974.

# 5 E's of constructivism

- The 5 E's are a great way to define and model constructivism in your lesson plans.

- **Engage:** Students encounter and identify the task by asking questions and making connections to learning from the past and present.

- **Explore**: Students work together to become directly involved with the task.

- **Explain**: Students begin to communicate and discuss what they have learned and how it has effected their work with the help of a facilitator (you, the teacher).

- **Elaborate**: Students expand on what they have learned and make connections to other ideas and concepts.

- **Evaluate**: The evaluation process should be on-going. The teacher uses this step as a process to identify if the students are on track and understanding the concepts.

# Why is Constructivism the best Framework?

**Constructivism Enhances Knowledge**

**Constructivism is Practical**

**Constructivism is Holistic**

**Constructivism is Inclusive**

**Constructivism is Effective**

Student-centered teaching means inverting the traditional teacher-centered understanding of the *learning* process and putting *students* at the **centre of the learning process**

**Note:** In the *teacher-centered classroom*, *teachers* are the primary source for knowledge.

# Learner- centered approach ,Students choose

**What they will learn?**

**How they will learn ?**

**How they will assess their own learning ?**

# Definition of learner centered

- **Kelly:** Child centered should take into account

✓ **the needs**,

✓ **growth** &

✓ **interest of the learner**

# Important Features

- **Structure** – to promote personality development , free expression of one's own ideas.

- **Objective** – Based on need , interest & developmental stage of students

- **Contents** – selected on basis of needs, ability to learn , age aptitude and previous experiences, Rote learning is not encouraged

- **Teaching & Learning** - Active interaction between teacher & student

- Methods – Field trips , lab experiments , project-direct learning . Audio visual , radio & television programs , newspaper , magazines ' textbooks

- **Instruction materials** – All available sources is used as materials

- **Role of teacher** – as facilitator

# Characteristics of learner centered learning

1. Teaching and learning is **personalized**.
   a) It is gives interest, aspirations to individual students.
   b) Teachers have the option of structuring the learning environment that suits them and their students.
   c) Teachers make the optimal use of the facilities available to them.
2. They have learn the **knowledge** and **skills**.
3. Students have the **flexibility** to learn .
4. Learners learn "**Anytime**" and "**Anywhere**".
   a) Students give opportunities to learn their own way.
5. Students need to have a **clear idea**.
6. Instructions must be easy to **understand** and **comprehensive**.
   a) When students evaluate their own work it will help them mastery over the subjects.
   b) Students working in group they involved more in activities because there are opportunities for discussion and assisting peer students.
7. Students can work on various activities to their own **needs** and **interests**.
8. Learning centered adaptable **instructional tool**.

# Benefits of Student-Centered Learning

1. Permits opportunities to connect the content to real life
2. Provides opportunities for higher order thinking as opposed to passive listening
3. Promotes greater student-faculty and student-student interaction
4. Increases student retention
5. Improve student's self esteem
6. Provides for improvement of social interaction skills, greater acceptance of others, and a greater sense of "community" in the class
7. Encourages alternative forms of assessment
8. Encourages innovation in both teaching and student involvement

Centered & relaxed

Perfect role model

Nurtures inspiration

Catalyst for change

Effective delegator

Good Listener

Subtle facilitator

Creates a joyful & conducive atmosphere

A Heartful Teacher

# LIMITATIONS

- Not mature enough to know their needs

- Essential content and values may not find a place in the curriculum

- Needs of students may widely very

- Content may lack of continuity

| ELEMENTS | TEACHER-CENTERED | STUDENT-CENTERED |
|---|---|---|
| KNOWLEDGE | Transmitted from Instruction | Constructed by Students |
| STUDENT PARTICIPATION | Passive | Active |
| ROLE OF LECTURER | Leader/Authority | Facilitator/Partner in Learning |
| ROLE OF ASSESSMENT | Few Tests, Mainly for Grading | Many Tests, for Ongoing Feedback |
| EMPHASIS | Learning Correct Answers | Developing Deeper Understanding |
| ASSESSMENT METHOD | One-Dimensional Testing | Multidimensional Testing |
| ACADEMIC CULTURE | Competitive, Individualistic | Collaborative, Supportive |
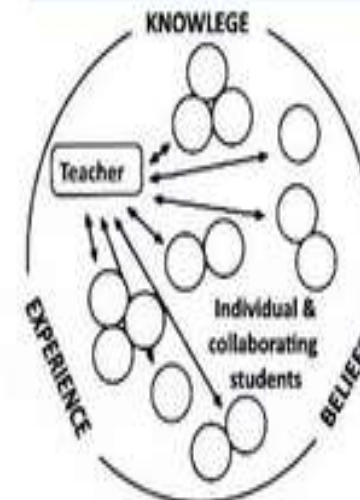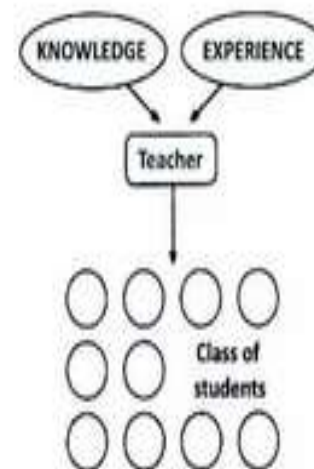
# Difference....

| Teacher centred learning | Student centred learning |
|---|---|
| No individual accountability | Individual accountability |
| Responsible for oneself | Responsible for each other |
| Very passive | Very active |
| Follow the course profile | Select and divide the lesson for group work |
| Try to keep the students in their own seats | Arrange the classroom and assign the work |
| Provide detailed information | Facilitator of learning |

# THANK YOU