PEDAGOGY 1 : MATHEMATICS

1.] Explain Suchman's enquiry model and Five E-Model.

Inquiry Training Model by Richard Sechman :

* A model of teaching is a plan or pattern that can be used to shape curriculum, to design instructional materials and to guide instruction in the classroom and other settings.

* Joyce and Weil (1980) searched the variety of strategies developed by different learning theorists and philosophes and designed more than 20 models of teaching.

* Information Processing models emphasize the Information processing capability of students and ways they can improve thier ability to master information.

* Models under this category are Inquiry training model, Inductive thinking model, Concept Attainment model, Advance organise model.

Inquiry Training Model :

* It comes under Information processing family.

Inquiry means series of Questions asked to find out truth about perplexing situation or event.

* Richard Suchman believed that Man by nature is an inquiring creature and by birth he engages in a continuous process of enquiry with the environment and his relations.

* Suchman belives that individuals confronted with a puzzling situation are motivated to enquire, find solutions and pursue meaning in it.

* They naturally seek to understand what they encounter.

* In order to understand puzzling situation people encouraged for higher order thinking

How Inquiry is Generated?

Perplexing Situation

↓

Questions arise in our mind

↓

Asking Questions

↓

Writing Answers

↓

Learning

Inquiry Process:

* Suchman defines Inquiry as a natural inborn process, the pursuit of some kind of new meaning or experience.
* The free, open and self directed learning
* He refers it as freedom and autonomy to pursue one's our goals, freedom to transact with one's environment and freedom to test one's our influences.

Model for Inherent Motivational Factors in Inquiry

Encounter → Organiser → Meaning

The Process of generation of new meaning:

* Encounter is simply some form of sensory contact with environment.
* It is through the use of Organiser that we can make our encounter meaningful.
* An Organiser is simply whatever an individual knows and which enables him to connect an encounter into a meaning.
* Meaning is assimilation of a new encounter within the framework of ones preexisting.
* The model establishes the relationship between

encountering and organising in the process of generating meaning.

FIVE E-MODEL OF TEACHING:

1. Engage
2. Explore
3. Explain
4. Expand / Elaborate
5. Evaluate

(a) Engage:

This stage assess the previous knowledge of the learner and helps them become engaged in a new concept through the use of short activities that promote curiosity and elicit prior knowledge.

(b) Explore:

Learners are guided to explore and find answers for the issues raised during the engage stage

(c) Explain:

Here students are provided with opportunity to explain thier understanding of thier experiences from the explore phase.

(d) Expand / Elaborate:

This phase challenges students to extend thier understanding / skills to practice them.

(e) Evaluate:

Instructional model encourages students to assess thier understanding and abilities and provide opportunities for the teacher to evaluate student progress toward achieving the learning objectives for the activity

2.] How do you organise a state level mathematics exhibition in your school? Prepare a list of exhibits for a mathematics fair.

INTRODUCTION:

My school name is "Jawaharlal Nehru". This year being elaborated as year of Mathematics, "Jawaharlal Nehru Mathematics Exhibition for children".

In order to ensure the widest possible participation and involvment of students and teachers in the programme, NCERT organises exhibition in two phases. In the first phase, exhibition are held in each and every state and union territory from the district, to the state level.

Why Mathematics Exhibition?

* Mathematics is an integral part of our daily lives.
* To help the pupils to understand this Math exhibition are organised at the schools

Objectives of Mathematics Exhibition:

* To build different mathematical skills and concepts
* To show the interconnection and interdependency of different subjects with mathematics.
* To help students learn best when presented with a concept they can manipulate and visualise
* To build the confidence of the students in their math skills.
* To add the fun element to the teaching learning process.
* To enhance the team spirit.

Importance of Mathematics Exhibition:

1. Mathematics fairs can help talent to surface and foster mathematical gifts in learners. They provide challenging opportunities to the gifted children.

2. Exhibition help students to express themselves through attractive models. The demonstration value of models makes them more appealing.

3. Mathematics fairs are also effective in bringing desired changes in average / even slow learners.

4. The students, who lost interest in mathematics due to its abstract nature, change thier attitude after understanding the concepts in a concrete way.

5. while preparing and working with models, they come very close to teachers which help them to participate in the learning process more actively.

6. There is every chance of getting appreciation from visitors and teachers, which in turn inspires them to think and work with self-confidence.

7. Students show interest in Mathematics

MATH FAIR:

A Math fair is an exhibit of items that relate to mathematics. Students may select to write and biography of a famous mathematician, to explain a theory, to solve a problem using a formula. Stud

may even invent a game using different mathematical concepts.

GETTING STARTED :

Each student must select a topic. Below is a list of topics. Students must decide on how to develop thier topics. They may do a written report that must be displayed.

The Report :

This is the research ; the student must find out as much as possible about thier topics. Students should make use the School's literacy and regional litera

The Exhibit Design :

The display must be free standing. No part of t project may be placed on the floor.

Use large poster boards or exhibit boards. The dimensions must not exceed 5ft. wide by 5ft. high

Oral Presentation :

The Presentation should be lucid, articulate, interesting. The students must be knowledgeable and convincing.

MATH FAIR TOPICS:

1. Famous Mathematician
2. Ratio and proportion
3. Women Mathematician
4. Percents
5. Pythagorean Theorem
6. Proability
7. Graphing Estimating
8. Triangles
9. Geomentry
10 How to measure area

Planning of Mathematics Fair:

During planning the following aspects, should be Considered.

(a) objectivity and aims of the fair

(b) Scope of the fair

(c) Procedure

(d) Financing

(e) Place, Time and education

(f) other factors and facility.