NON – FORMAL APPROACHES IN PHYSICAL SCIENCE TEACHING

- Non-formal learning includes various structured learning situations which do not either have the level of curriculum, syllabus, accreditation and certification associated with 'formal learning', but have more structure than that associated with 'informal learning', which typically take place naturally and spontaneously as part of other activities.

Characteristics

Learning may take place in a variety of locations.

Relevance to the needs of disadvantaged groups

Concern with specific categories of person.

A Focus on clearly defined purpose

Flexibility in organisation and methods

Goals/objectives

- Provides functional literacy and continuing education for adults and youths who have not had a formal education or did not complete their primary education.
- Provide functional and remedial education for the young people who did not complete their secondary education.
- Provide education to different categories of graduates to improve the basic knowledge and skills.
- Provide in-service, on-the-job, vocational and professional training to different categories of workers and professionals to improve their skills.
- Give adult citizens of different parts of the country necessary aesthetic, cultural and civic education for public enlightenment.

Informal Education

The truly lifelong process whereby every individual acquires attitudes, values, skills and knowledge from daily experience and the educative influences and resources in his or her environment - from family and neighbors, from work and play, from the market place, the library and the mass media.

Non-Formal Education

- Non-Formal Education is more learner centered Learners can leave anytime they are not motivated. NFE tends to emphasize a cafeteria curriculum (options, choices) rather than the prescribed, sequential curriculum found in schools.
- In NFE human relationships are more informal (roles of teachers and students are less rigid and often switch) NFE focuses on practical skills and knowledge Overall NFE has a lower level of structure (and therefore more flexibility) than schools.
- Non-Formal Education Trainer and learners are at the same level, there are no disproportions between trainer and learner, Learning is a constant process on either side. The best teachers / trainers teach people rather than subjects. The comparison of aspects connected with conducting the educational process in the case of formal organization
- Non-Formal Education Trainer Process crucial Content - basic role Methods of education – mixed, open, non-formal Styles of communication different styles dependent on situation Values - democratic Trainer - non -formal Way of choosing topics assessment of needs and inclusion of participants to some extent in the planning process
- Examples of Non-Formal Education Literacy and basic education for adults and young people Political and Trade Union education, 'Catching-up' programmes for school drop outs, Pre-school education for young children, Education through NGO’s - Health Education, Literacy, Gender Education
- Learning Opportunities All three types of education provide powerful learning opportunities. The most effective teacher is one who allows and helps learning to take place during situations which fit all three types of education.

Science club

Introduction

 The scientific and technological advancement of today is a long forward journey form stone age. Each individual has his our interests talents and abilities. Even a progressive syllabus fails tocat to the needs of each science educators, now a days are found to exhibit growing interest and means of stimulating group participation and mobilizing interest in learning science organizing science clubs is one among such activities. Thorough activities of a science club, learning of science becomes joyful.

Objectives of science club

 To develop a general interest in science

 To inculcate scientific attitude and provide opportunities for training in scientific method

 To develop interest in scientific hobbies

 To develop habits of exploration and creative faculties

 To encourage individual and group activities

 To develop in children a sense of healthy competition

 To make the students and public science minded

 To stimulate active participation and initiative among students in learning process

 To keep the students in touch with the recent advances in science

 To provide challenging opportunities to the gifted 11/15/2015

- Organisation of science club A properly organised science club will be a valuable aid to teaching science and also means of motivating the children for learning science • Science club is run by the students for the students, the science teacher is the pivot of all activities • Science teacher can explain the importance and benefit of organising science club and can arouse enthusiasm among students • Science club should have its own constitution • Should

be general body and executive body • Principal should be the patron and science teacher should be the sponsors

- Executive members are chosen from the student members (President, vice president, secretary, treasurer, librarian, publicity officer, etc) The executive committee has to chalk out programmes The activities of the club should be taken by the students Should be regular meetings, discussions, planning, feedback etc

- Activities of science club
  1. Organizing lectures, debates, seminars, symposia etc.
  2. Holding science exhibition and fair
  3. Celebrating birth days of eminent scientist
  4. Participating in science fairs
  5. Conducting visual programmes of s scientific interest
  6. Arranging visit to places of scientific interest
  7. Preparing of charts, postures, models etc
  8. Developing school garden
  9.Displaying science news
  10.Improvising and preparing hand-made apparatus
  11.General reading of scientific literature
  12.Rendering school services in health and sanitation
  13.Visiting other science clubs
  14.conducting essay competition on scientific problems
  15.Managing a first aid squad
  16.Participating in scientific hobbies-Preparation of soaps, ink ,candle matches, toys, bleaching powder, nail polish, chalk etc.
  17.Helping the community by way of demonstration on health and hygiene, improvement of agriculture, eradication of superstitious belief etc.
  18.Celebrating science days
  19.Maintaining a bulletin board
  20. Publishing school science magazine
  21.Preparing science albums
  22.Conducting science related projects
  23.Conducting science quiz competitions
  24.Organizing creativity works on science

25.Preparing still/Working models on science topics

- Problem solving Problem solving is a scientific method in which the leaner applies his ability, previously acquired knowledge and experiences to new situations and challenges. It analyses the current problem and situation in multiple ways, generates solutions determines a practical solution and applies it It fosters creative thinking ability It develops comprehension power It develops communication competence it facilitates more involvement of pupils it develops pupils ability to analyse and synthesis it dollops pupils convincing power.

- ACTIVITIES OF THE SCIENCE CLUB- DEVELOPMENT OF PSYCHOMOTOR SKILLS
  • Science club gives a great impetus to science learning. The environment and facilities, a science club provides are most congenial for the expression of pupil talents.
  • Individuals differ on their interests, abilities and skill. It may not be possible to cater for individual needs in a routine science programme. But a science club in the place where the people can engage in their individual interests. It provides an opportunity to the pupils to express their creative abilities in the field of science and encourage development of new ideas.
  • The important difference between the science club activities and the classroom activities is that the class work is formal and the pupils are asked to do something, where as a club is informal and the pupils are free to choose their activities. In a science club the pupils work not to satisfy their teacher but themselves. A science club provides freedom, whereas in a class the pupils have to conform to a strict system.

Field trips and excursions

Introduction

• Field trip and excursion are interchangeably used in literature.

• An excursion is a school journey involving any organized travel made by teachers and students primarily with an educational motive in mind.

• Field trips are organized visit of teachers and students to immediate or distant places to enrich learning experience and to further instructional purpose of regular classroom activities.

Need and importance

• To help bridge the gap between education and hands on experience.

• Development of social skills of the learner

• Plenty of opportunities to incorporate the field trip experience back into classroom activity after returning to school.

• The kids can instill the lessons garnered on the field trip through

Values of field trip and excursion

• Gives first hand experiences

• Supplements and enriches classroom teaching

• Creates spirit of scientific enquiry

• Gives training in observation

• Stimulates interest in nature and learning

• Correlates the school life with the outside world

• Provide opportunities for utilizing community resources

• Gives relief from the routine classroom work • Develop qualities like leadership, co-operation,good public relation,self confidence etc.

• Provides opportunities for bringing out talents and tastes

The 5 steps in the conduct of field trips are:

1. Planning 2. Preparation 3. Execution 4. Follow-up 5. Evaluation

Organizing a field trip

• Stages involved in the completion of a field trip:

1. A felt need

2. Selecting a suitable place and securing the permission from the resource centre

3. Listing out specific objectives

4. planning and preparation

5. Conducting the actual field trip of excursion

6. Consolidating the results and taking up follow up activities

Science quizzes

- It is on the most important co curricular activity. It is a progrmme where the reflective answers for the questions are given.
- In school should conduct science quiz programme every year to foster the scientific knowledge.

Importance

→ To develop the spirit of participation
→ To encourages the students for wider reading
→ To develop the cooperation
→ To explore the knowledge
→ To develop the sense of searching and inquiry.
→ To Know about the development of science in the different fields.
→ It helps recognition of the Bright and talent students.
→ It brings the outside world comes in the four wall of the school.

Organization of science quiz.

The science quiz in a school must be conducted with a proper planning in the following steps.

- → Venue and date of the quiz.
- → Identifying the areas of quiz items.
- → constructing the quiz questions to be put in different rounds.
- → reviewing and selecting the quiz items
- → Identifying the quiz master and scorer.
- → Giving wide publicity with medias like newspaper, pamphlets, invitation cards etc.,
- → Conducting procedure, rules, and regulations.
- → Prize distribution.

THANK YOU