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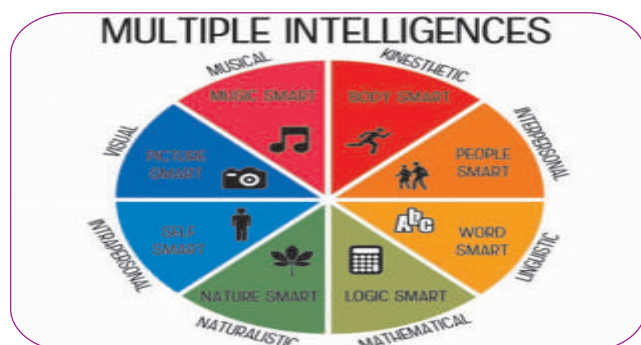
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APPLICATION OF MULTIPLE INTELLIGENCE IN THE UNIT

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ABSTRACT :

Multiple Intelligences (MI) is a theory given by DR. Howard Gardner. There are 9 intelligences which are present in all the individuals in more or less quantities. But it should be purposefully integrated in day to day teaching and learning activities. Such application of Multiple Intelligences can be done in various ways. Present paper discusses about the application of Multiple Intelligences for classroom teaching of Environmental Education.

KEYWORDS : Multiple Intelligences, Teaching, Learning.

1.1 INTRODUCTION

Preparation of MI based lesson plan is a step wise procedure which has to be completed with great care. It is quite a difficult task for the teacher to arrange the activities under all intelligences. But once the lesson plans are made , it is very easy and interesting to implement.

1.2 MI BASED LESSON PLANS:

The researcher has developed the MI - based Teaching programme on selected units of Environmental Education of std. XI.

1.3 SELECTION OF UNITS:

The units were selected before developing the programme. The text book comprises of 4 units. But as there was a time restriction, 3 units were selected. The programme was prepared 22 teaching days i.e. 44 clock hours (2 hours per week taken in continuation on a single day) and 3 units could be completed within this time. The units selected are as follows.

| UNITS | CHAPTERS |
|----------|--|
| UNIT I | Human beings and Environment |
| | Population and Environment |
| UNIT II | Environment and Development |
| | Social Factors and Development |
| | Role of Society in Development Process |
| UNIT III | Energy : Pattern of use |
| | Conventional and non - Conventional Energy Sources |
| | Energy utilization and Conservation |

1.4 Content

For selecting the content of the programme, the textbook prescribed by Maharashtra State Board of Secondary and Higher Secondary Education for Environment Education named "Towards Sustainable Development" was used. In addition to this, use of Internet, newspapers, magazines like "Vanrai", various books on Environment Education including "Green Reader", "Vidyan Patrika" were used. This helped the researcher to gain recent and detailed information about the topics.

While developing the programme, the researcher tried to include as many activities as possible related to 8 intelligences.

1.5 Development of Activities

While preparing the programme, all 8 intelligences (Verbal/Linguistic, Logical/Mathematical, Visual/Spatial, Bodily/Kinesthetic, Musical, Intrapersonal, Interpersonal, and Naturalistic) were kept in mind. Activities were planned in such a way that each lesson will include activities related to all 8 types of intelligences. The research done by the guide, Ranade, (2004) helped a lot in planning of different activities. Also a checklist

list prepared by her was used to plan the activities.

Also a slide show presentation was prepared with every lesson plan. Slideshow enabled the researcher to incorporate aspects related to various intelligences. The activities included as per the intelligence in whole program are displayed in the table.

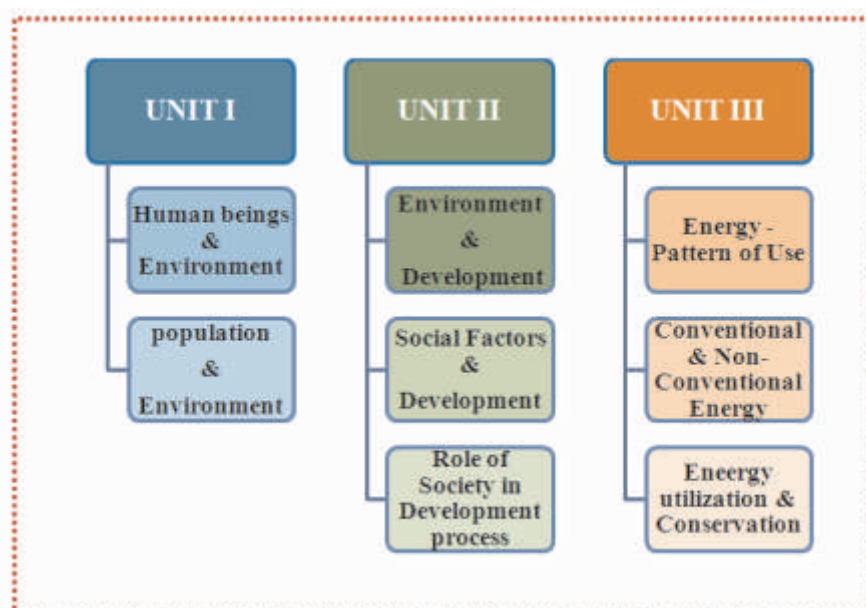
| INTELLIGENCE | ACTIVITY |
|----------------------|--|
| Verbal/Linguistics | Quotation, Joke, Analogy, Use of Mnemonics paper cutting, meanings of words, stories |
| Logical/Mathematical | Classifying, listing things in environment, reading the diagram, Venn diagram, Arrange R's in proper manner, equation of development, categorization, Comparison of USA and India, Arranging in descending order, Use of logical questions |
| Visual/Spatial | Use of black board, Graphic organizer, Slide show, showing pictures of famous people like Medha Patkar, Anil Kakodkar, Malthus, use of visuals to show jokes, graphs etc, diagrammatic representation |
| Musical | Playing music, singing poem in a tune. |
| Bodily/Kinesthetic | Acting based on given directions, passing the parcel street play, circle game for carrying capacity |
| Intra personal | Belief in the quotation, Frame your own definition, KWL Technique, Asking questions to yourselves when you buy anything. |
| Interpersonal | Discussion, Pair and share, group activities Making a portfolio in groups. |
| Naturalistic | Taking a class outside the classroom Festivals in relation to environmental significance |

1.6 Application of MI in the Unit

At first the content analysis was done. The extra and necessary information related to the topic was collected. In order to apply MI theory in practice, intelligence stimulating activities appropriate to the content were decided. It is difficult to classify single activity into single intelligence as a single activity may stimulate more than one intelligence. In 3 units, there were 8 chapters. For every chapter, the activities were planned. The researcher tried to incorporate all the 8 intelligences in all the chapters.

1.7 Illustrations of the Lesson plans

MI based lesson plans is a new concept. For each unit and sub-unit, activities based on 8 intelligences are planned. The whole programme with the content analysis is as follow:



The details of intelligence wise activities for the unit “Human Beings and Environment” are described below.

A) Verbal / Linguistic Intelligence: Following activities were planned to stimulate Verbal / Linguistic Intelligence.

1) The lesson was started by showing a quotation-

Man did not weave the web of life - he is merely a strand in it.

Whatever he does to the web, he does to himself.

Students were given a chance to read the quotation aloud. Also meaning of the quotation was asked. This quotation was used to explain that man is one of the strands of environment i.e. one of the dimensions of the environment. Hence he should not harm the environment.

2) Meaning and origin of the word - “lithosphere” was asked and told to students.

3) We won't have a society if we destroy the environment. This quotation was used to describe social dimension of environment. Students were asked to raise their hands for if they believe/not in this statement.

4) Use of mnemonic- ‘SWAP-CLAD’ for roles played by man. This helped students to remember different roles. The vowel ‘A’ was added to make the word.

5) “Discussions with grandparents about traditional customs practices and culture especially those in relation to environment.” Students were asked to write an essay based on the discussion.

B) Logical/mathematical Intelligence

1) Listing and classifying things in environment & writing on BB - At first students were asked to list down different things in environment and then were told to classify into physical and biological environment.

2) Relationship between Hydrosphere, Biosphere, Atmosphere, and Lithosphere - A Venn diagram was shown to students and was told to specify the position of Hydrosphere, Biosphere, Atmosphere and Lithosphere.

3) Classification of benefits community based conservation into direct and indirect – Here the benefits were displayed together and students were asked to classify them.

4) Telling Environmental significance of the festivals: Different festivals names like Nagpanchami, Narali Pournima, Diwali, Makar Sankranti and Holi were written on the chits. A student has to pick the chit & act. Other students were told to identify the festival. Also they were asked to tell the environmental significance of the festivals. This game is called “Dumb Charades”.

C) Visual/Spatial Intelligence:

1) Graph showing % of gases in the atmosphere was shown.

2) Slide show was prepared showing roles of human beings like Worshiper, Sacred Species, Learners, Protectors, Discoverers and Conservators in environment.

D) Bodily Kinesthetic Intelligence:

1) Getting up from a place to write on BB and raising hands: In the whole lesson, students were given a chance to make some movements.

2) Select a chit and act to identify Festivals

E) Musical Intelligence:

1) A music based on Panchamahabhutas was played.

F) Intra personal Intelligence:

1) Human beings and life OR Conservation of nature: Students were told to choose one to get them know about view of western philosophy.

2) We won't have a society if we destroy the environment: Whether student believe or not were asked.

G) Interpersonal Intelligence:

1) Pair and Share activities for discussing roles of human beings and dimensions of environment. Students discussed the roles as Learners and Discoverers in pairs first and with the teacher.

H) Naturalistic Intelligence:

1) Students told environmental significance of festivals.

1.8 CONCLUSION:

In this way the lessons are planned so that all the intelligences are stimulated while teaching and Learning. One activity may stimulate more than one intelligence. Also the activities cater to all the students. So students' do not get bored because their dominant intelligence is also stimulated.

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