

## Utility Of Instructional Materials In The Teaching Of Geography At Higher Secondary Level

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### Abstract

In the present era instructional materials in the teaching of geography at higher secondary level plays an important role due to the reason of they are like learning facilitators in the geography teaching or the subject of geography. These instructional materials make teaching learning process very effective, easy understanding and interesting. These instructional materials may be classified such as teaching through multimedia projectors, PowerPoint presentations, learning materials, educational media, learning resources, audio-visuals, etc. In this article the researcher has tried to discuss the utility of instructional materials in the teaching of geography at higher secondary level.

**KEYWORDS:** Instructional Materials, Teaching, Geography, tools and Techniques.

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### Introduction:

Instructional materials are important tools and techniques in the geography teaching-learning process. It provides and carries information to students also create interest of the students regarding geography. While teaching each topic of geography, instructional materials to be utilized and it should be specified by the concern teacher. Instructional materials include world globe, topographical maps, atlas, regalia, models, charts, photographs, pictures, etc. This is teaching - learning processes which enhance the knowledge, interest of student and also helps to enhance the quality teacher's presentation. Instructional materials means, "educational resources used to improve students' knowledge, abilities, and skills, to monitor their assimilation of information, and to contribute to their overall development and upbringing"<sup>1</sup>.

In the teaching-learning process, the following are the reasons why instructional media should be utilized.<sup>2</sup>

- i. To focus attention
  - ii. To motivate learners' interest
  - iii. To reinforce verbal and visual messages
  - iv. To elucidate verbal concepts
  - v. To save teacher's time for presentation
  - vi. To provide source of information and authority
  - vii. To provide experience not otherwise available
  - viii. To make learning more practical, exciting and lively
  - ix. For easy evaluation of the learning outcomes
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- x. To make the learning more permanent and real in the learners

### **Objectives of the research:**

While writing of this article the researcher has framed following objectives-

- i. To define the utility of instructional materials in the teaching of geography subject at higher secondary level.
- ii. To highlight various types of instructional materials in the geography teaching at higher secondary level.
- iii. To define the procedure of selection of instructional material in the geography teaching.
- iv. To define utility of the instructional media in the geography teaching.

### **Hypothesis:**

Hypothesis means tentative statement made by the researcher while doing the research work or it is also called as predictive statement made by the researcher. The researcher has framed following hypothesis –

- i. Instructional Materials provides adequate information as to the students while learning geography.
- ii. While teaching the subject of geography, there is needed to use various kinds of instructional materials for better understanding.
- iii. Selection of instructional materials in the geography is one of the important task before teacher.
- iv. The instructional methods in the geography teaching enhance the quality of the student and interest of the student.
- v. The list of the instructional materials is not limited one, it is varied subject to subject.

### **Methodology:**

Research methodology is a systematic way to solve a problem. It is a science of studying how research is to be carried out. Essentially, the procedures by which researchers go about their work of describing, explaining and predicting phenomena are called research methodology. It is also defined as the study of methods by which knowledge is gained. Its aim is to give the work plan of research<sup>3</sup>. While doing this research work the researcher has adopted doctrinal method or arm chair method and collected second hand data from various books of the imminent authors, news papers etc.

Instructional material means, 'Educational resources used to improve students' knowledge, abilities, and skills, to monitor their assimilation of information, and to contribute to their overall development and upbringing'.<sup>4</sup> The instructional media is to be effectively used during the teaching learning process, particularly in the teaching of the geography, the following steps should be followed by the presenter or teacher:

- (a) Preparation
  - (b) Presentation
  - (c) Evaluation
  - (d) Follow-up
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**(a) Preparation:** The preparation is consisting two steps as under-

- i. **Teacher's self-preparation<sup>5</sup>:** Teacher should prepare properly the media to be used before going to the classroom. The media should be previewed properly in terms of visual and audio aspects of the media. The selection should be properly done based on certain criteria that should be followed. The preparation should be effective and systematically done in consonance with the instructional presentation procedure to be followed while getting to the classroom.
- ii. **Class Preparation:** This involves both the learning environment and class preparation for the utilization of the media. The teacher should make sure that the learners are properly arranged for free movement and adequate ventilation and illumination. The media should be properly arranged for easy viewing and auditory. As much as possible all forms of noise factors should be eliminated that is, physical psychological, physiological and linguistic factors for effective teaching-learning process to take place.

**(b) Utilization of Instructional Media in the Classroom:**

In the computer-based instructional media, Davidson (1996) stated that the use of such media in geography lessons is imperative as it makes a valuable contribution to the quality of student learning. Such media can be used in several ways in geography lessons. PowerPoint, for instance, can be used to present geographical issues and data loggers for collecting weather data electronically. Reece & Walker (2001) also pointed out that it is important to use learning aids to enhance student learning experience and they stress the link between poor learning with the failure to use visual aids and similarly effective<sup>6</sup>

The use of the instructional media in the classroom by the teacher can be during the introduction, presentation and evaluation of the lesson. The media can be used continuously and sequentially according to the discretion of the teacher and learners interest while noting some points or notes. Teacher should be very careful while using instructional media in the classroom. It should not be underutilized or over utilized while delivering the lecture in the class room

**(c) Evaluation:**

Media can be used to find out if the stated objectives have been achieved or not. Therefore, the media can be utilized to determine which of the learning outcomes have been successfully acquired by the learners. This will determine the effectiveness of the media and even the success/failure of the lesson. Evaluation of teaching is also depending on critical thinking and asking questions to the learners. These skills are enable to us identify, organize and apply geographic information to the learners.<sup>7</sup>

**(d) Follow-up:**

Instructional Media can be used in giving assignment to the learners or students. It also useful to take follow-up of the students or learners. Through instructional media problem can be given to the learner on the basis of media presentation.

**Selection of Criteria for Media Utilization:**

The following factors or criteria should be considered for effective utilization of media in any teaching-learning process.

**(a) Media to be used according to the Objectives:**

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The media to be selected should be in accordance with the stated objectives in the topic or subject matter to be taught. That is, the media should facilitate the achievement rate of the objectives whether is in the area of cognitive, affective domains.

**(b) Media to be used according to the characteristics of Learners:**

The strength of the learners or population, age of the learner, ability of learner in the classroom is determines the type of media to be utilized.

For e.g. For instance, for small group or class of about 35 learners, chart, models, non-projected media can be used, while in a large class of about 400 learners, projected media like OHP, computer power point presentation, etc should be more appropriate to the learners.

**(c) Media Availability:**

The teacher should be sure if the materials to be used for the media production are available locally or are commercially produced. Or, if they are available in the school or they have to be loaned from other school or learning resources centre within the locality. Or sometimes the teacher can improvise them.

**(d) Content Accuracy:**

The information collected by teacher for teaching purpose, it should be accurate, authentic, valid, current and should be within the content of the topic to be taught.

**(e) Sophistication Level:**

This simple connotes the complication level of the media. That is, the teacher should make sure that the messages being carried by the media are within the learners' ability, comprehension, age, background, and knowledge among others. The vocabulary and visualization should be within the learners' level of understanding.

**(f) Practicability:**

The teacher should make sure that necessary facilities are available while delivering lecture through media in the classroom like electricity, battery, generator power, CD, pen drive etc. These are particularly essential for projected media. For non-projected media such as realia, or real objects, they should not be harmful or frightening to the students.

**(g) Teacher should able to use media:**

The teacher should be able to use the media selected effectively in the classroom. The teacher should properly understand the operation of the media. For example, if the teacher wants to use computer, he should know how to operate it at the response of the learners so as not to expose his ignorance.

**(h) Suitability of media:**

The media selected by the teacher should be suitable to the content of the topic to be taught by the teacher in the classroom.

**(i) Availability of fund:**

The cost of producing the instructional materials by the teacher should be taken into consideration. The availability of fund should determine the media type to be used. The cost effectiveness of the media should also be considered. For instance using power point computer projector for a class of 15 students may not be cost effective, or cost-wise like for large group of 150 students or more.

**(j) Technical Quality of the Teacher:**

The audio- visual and aspects of the media should be of good quality. The lettering should be legible, bold, simple and attractive. Appropriate colour should be used e.g. blue for water, green for vegetation etc. Avoid multiple focal messages. Let

your messages focus on simple information not on complex so as not to distract attention.

**Types of Instructional Materials to be used in the Geography Teaching:**

The following media can be selected for utilization in the teaching of geography based on the criteria afore-discussed.

**a. World Globe:**

This is one of the essential instructional media that a geography teacher should always make reference during his/her teaching. It can be used to teach topics such as the earth's spherical shape, latitude, and longitude, global land and water distribution, world continents, locations of places on the globe, rotation and revolution of the earth among others. In fact, it shows exactly how the whole world is all about since it is a three and not like the atlas map, which is two. It is however, disheartening, that geography teachers in most schools use this medium the world globe because it is not procured for the school or the teachers grossly underutilized it when it is available in the schools.

**b. Maps:**

Maps are the important tools while teaching geography by the teacher. These are '*sine qua non*' tools for the geographers. Maps are not only important to the teacher but also to the learner. They are of different types like atlas, topographical maps, aerial photographs, etc. The geography teacher is to select the one that is most appropriate and suitable for topic or content to be taught. For instance, for map reading and interpretation, topographical maps will be more appropriate, though other maps can still be consulted as supplements or compliments. For locations of places on the maps, atlas can be conveniently used. However, all these depend on the availability of these various types of maps in the school. The features shown on topographic maps may be divided into three groups<sup>8</sup>:

- 1) relief, which includes hills, valleys, mountains, etc.;
- 2) water features, including lakes, ponds and streams; and
- 3) Cultural features, man-made features like bridges, canals, buildings and roads.

**c. Models:**

These are three-dimensional media that shows the length, breadth and height of the objects. They are very useful in the teaching of geography if physical or relief features can be put into models. With the use of models, the lesson becomes real, practical and exciting because the learners can visualize, feel and observe in real life how these features exist.

**d. Charts, Diagrams and Pictures:**

Graphical text forms such as diagrams, photographs, drawings, sketches, graphs, schedules, maps, charts, tables, timelines and table are intended to communicate information in a concise format and illustrate how one piece of information is related to another. Providing students with an approach to reading graphical text helps them to become effective readers.<sup>9</sup>

These are two-dimensional media that represent a complete description of phenomenon or place. They can be used complementarily. Therefore, where pictures cannot show all the area or information require charts and diagrams can be used. They are of different types viz: single page chart, and flip chart sometimes of multiple

pages that are sequentially arranged in order of content or events to be taught. However, in using these media, certain factors should be considered by the teacher such as, the clarity, attractiveness, legibility, boldness, simplicity, balancing and the conspicuousness in the displaying of the media in the classroom situation.

**e. Real Objects:**

The geography teacher can use mineral resources samples like rocks sample, soil samples, etc. as real objects to teach in the classroom. For instance, in teaching topic like Types of Rocks samples of different rocks such as granite, limestone and marbles can be shown to the learners as examples of igneous, sedimentary and metamorphic rocks respectively. This makes learning more concrete, realistic and practical, the learning becomes more permanent in the learners.

**f. Meteorological Instruments:**

These are common weather instruments that the geographers use to measure certain climatic elements viz; rain gauge, thermometer, wind vane, anemometer, barometer and hygrometer for rainfall.<sup>10</sup>

**g. Projected Media:**

These are media that use source of power for generating them. They include, over head projector (OHP), slide projector, opaque projector and the most recent is the computer power point. In fact, these media can be used advisably to teach large class for their cost-effectiveness. Audio-visual media plays an important role in the teaching of geography subject at higher secondary level. Now many schools have qualified person in charge of the audio-visual materials while teaching geography subject.<sup>11</sup>

The University has invested heavily in modernizing classrooms and lecture halls to take advantage of instructional technology, including LCD projectors. LCD's used with a computer project an image onto a screen or blank wall - and provides more instructional flexibility in the types of content that can be used in a classroom. Classroom Support will train instructors on how to use the LCD Projectors as well as other classroom technology.<sup>12</sup>

**h. Chalkboard:**

This may be movable, fixed or portable ones. The fixed or removable chalkboard is usually found in a typical classroom; while the teacher usually produces the portable chalkboard that teacher can move around. However, chalkboard of any type is mostly used for illustration, clarity of points or concepts and to summarize the content taught. In fact, the geography teachers should mostly use the portable chalkboard for prior preparation and presentation of drawings, diagrams, maps, graphs, etc; this will save time and energy during the classroom presentation. A teacher, instructor or trainer so wishes, can be used for such straightforward expository purposes as<sup>13</sup>:

- The systematic display of virtually the entire subject matter of a lecture or taught lesson to a class.

- The display of a 'skeleton guide' to such a lecture or lesson, eg in the form of a set of section and sub-section headings.
- The display of specific items (maps, diagrams, tables, etc) during such a lecture or lesson.

**i. Printed Media:**

Printed media includes textbooks, magazines, periodical, reports, paper cuttings can be consulted or utilized by both teacher and learners in the teaching of geography.

**Conclusion**

An instructional material in the geography teaching process really plays an important role. Therefore the researcher has concluded above mentioned hypothesis positively as under-

- Instructional Materials provides adequate information as to the students while learning geography.
- While teaching the subject of geography, there is needed to use various kinds of instructional materials for better understanding.
- Selection of instructional materials in the geography is one of the important task before teacher.
- The instructional methods in the geography teaching enhance the quality of the student and interest of the student.

The effective teaching is possible through instructional materials in the subject of geography. Media provides effective communication with the learners but while selection and utilization of these media should be based on certain criteria such as learners characteristics, understanding capacity of the learners, instructional objectives, suitability, technicality, practicability, and the teacher's capability. Maps, globe, charts, models, meteorological instruments, should be used by the teacher while teaching the geography to facilitate and make teaching learning more effective and more interesting in the class room.

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