

Exercise: 1

Introduction

Teaching is not merely imparting or transmitting information verbally, if it is done in this way, then the process becomes 'preaching' especially at school level. Teaching requires a complete or satisfactory level of involvement of both the teachers and the students to help the latter assimilate knowledge. To make the students completely involved in the process of learning, the teacher needs various supplementary materials or additional materials such as charts, flash cards, models, film-shows, activities and these are called teaching or instructional Materials. The application of these supplementary materials makes teaching and learning effective and result oriented.

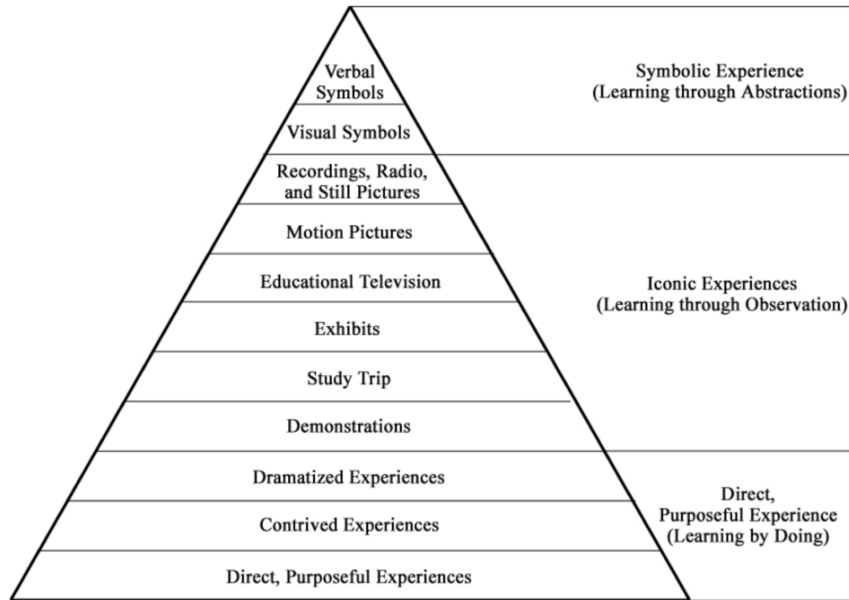
“Any supplementary material which is used by the teacher to make the teaching and learning interesting, participatory, joyful, motivating, easy to understand, and helps in achieving the objectives effectively is called as teaching or instructional materials”.

Edgar Dale's Cone of Experience in Teaching and Learning

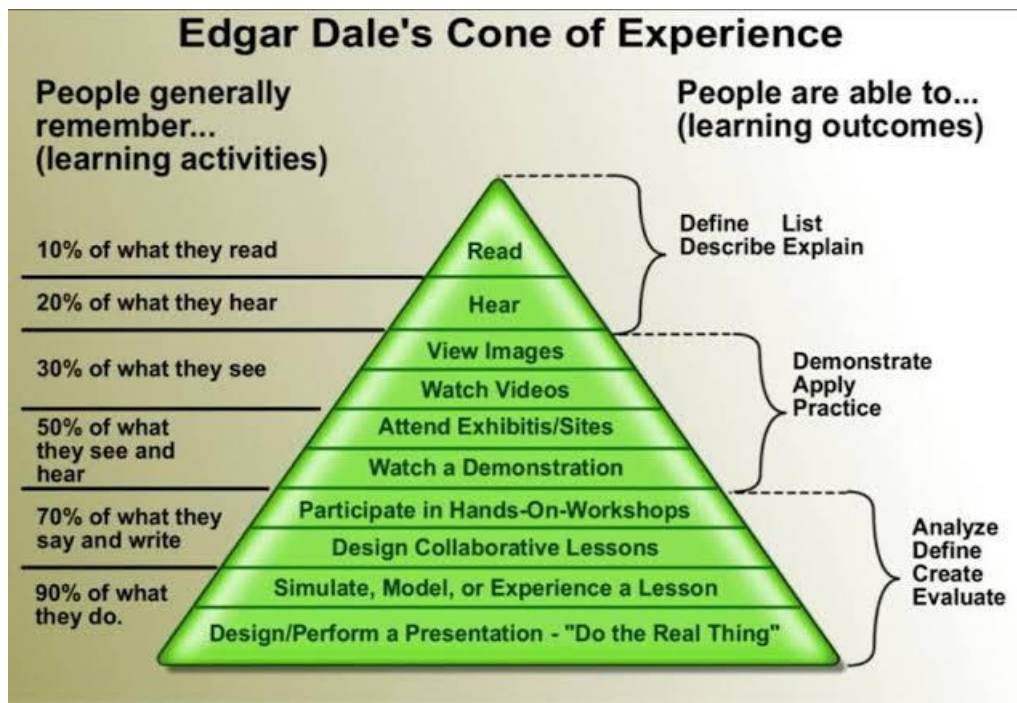
Edgar Dale's Cone of Experience, also known as the Learning Pyramid, is a visual representation of the effectiveness of various teaching methods in terms of retention rates. Developed by Edgar Dale in 1946, the model illustrates the hierarchy of learning experiences from the most abstract to the most concrete.

Dale integrated Bruner's (1966) three modes of learning into the Cone by categorizing learning experiences into three modes:

- 1) Enactive (i.e., learning by doing)
- 2) Iconic (i.e., learning through observation)
- 3) Symbolic experience (i.e., learning through abstraction).



The main purpose of the Cone of Experience is to help the teacher identify and select the right audiovisual mediums and resources for teacher training initiatives. The model of the Cone of Experience, there are percentages of learning retention for each level.



According to Dale's Cone of Experience the base of the cone is characterized by more concrete experiences, such as direct experiences (real-life experiences), contrived experiences (Interactive models), and dramatic participation (role plays). A direct purposeful experience represents reality or the closest things to real, everyday life. The common theme among these levels is learners are "doing." The middle of the cone is slightly more abstract and is characterized by learners realistic.

Importance of Instructional materials in Teacher Training

- ✓ **Diverse Learning Styles:** Catering to different learning styles (visual, auditory, kinesthetic) by using a variety of materials.
- ✓ **Engagement:** Keeping learners engaged and motivated through interactive and hands-on materials.
- ✓ **Reinforcement:** Reinforcing concepts through multiple forms of media and repetition.
- ✓ **Accessibility:** Providing accessible materials to all learners, including those with disabilities.
- ✓ **Real-World Connections:** Making learning relevant by using real-world examples and community resources.
- ✓ **Skill Development:** Facilitating the development of various skills, including critical thinking, problem-solving, and practical application.

Types of Instructional Material

Instructional materials are essential tools in teacher training, helping to convey content effectively, engage learners, and facilitate the acquisition of skills and knowledge. These materials can be classified into several categories based on their characteristics and usage.

1. Print Materials

Textbooks: Comprehensive coverage of subject matter, often with exercises and questions.

Workbooks: Provide practice exercises and activities to reinforce learning.

Manuals: Detailed guidelines and procedures, often used for practical tasks.

Handouts: Concise information sheets used to supplement lessons.

Journals and Articles: Current research and developments in education.

2. Visual Materials

Charts and Posters: Visual representations of information, such as timelines, diagrams, and flowcharts.

Flash cards: Flash card is a set of cards bearing information, as words or numbers, on either or both sides, used in classroom drills or in private study. One writes a question on a card and an answer overleaf.

Photographs and Illustrations: Enhance understanding through visual examples.

Maps: This pre-supposes the invariable uses of maps at every possible opportunity by the teacher in the classroom, and the possession of individual atlases by the pupils. 1. Relief maps (regional and the world) 2. Historical maps. 3. Distribution Maps

Models: Three-dimensional representations of objects or concepts.

3. Audio Materials

Audio Tapes: Records of talks on interesting science topics by eminent scholars can be easily reproduced in the classroom. Ex: Audio versions of lectures, interviews, and discussions.

Podcasts: Regularly updated audio content on various educational topics.

Audio Books: Narrations of textbooks or other relevant literature.

DVD/CD: DVD ("digital versatile disc" or "digital video disc") is a digital optical storage format and the medium can store any kind of digital data and is widely used for software and other computer files as well as video programs watched using DVD players.

4. Audio visual Materials

Television: When teachers use educational television programs during class, the relationship between teachers and student changes. Usually the status quo of the classroom is the teacher imparts knowledge while students absorb the information.

Videos and DVDs: Visual and auditory representation of content, such as documentaries, tutorials, and educational films.

Slideshows: Sequential images or slides, often accompanied by narration or text.

5. Multimedia

Arguably, it is believed that visual data has a greater impact on learning and memorizing than plain text. Therefore, images, graphics, animation, pictures, slides, documentaries, etc., have a greater appeal than a plain textbook. Using multimedia and Internet provides an opportunity for children to gain knowledge about a particular subject in depth.

6. Digital and Interactive Materials

E-books: Digital versions of textbooks and other reading materials.

Interactive Whiteboards: Digital boards that allow interaction with content through touch or stylus. An interactive white board is an instructional tool that allows computer images to be displayed onto a board using a digital projector. This type of tool promotes creative teaching and motivates students into absorbing information.

6. Manipulative and Hands-on Materials

Laboratory Equipment: Tools and devices for conducting experiments.

Educational Kits: Pre-assembled kits for hands-on activities and experiments.

Games and Puzzles: Engaging tools for learning through play and problem-solving.

Models:

A model may be defined as a replica of an object as it is or in a reduced or in an enlarged form. Models can afford a substitute for most of the geographic remains. They give a vivid impression of the real.

A model is a recognizable representation of a real thing three dimensionally, that is height, width and depth is felt as reality.

Types of models

1. Solid models: It is the replica of an original thing made with suitable material like clay, plaster of Paris, wood, iron etc. to show internal parts of the things. Ex: globe, clay model of human and animal.

2. Working models: These models are either actual working things or their miniature replicas. For illustrating an operation. Ex: a motor, a generator.

3. Sand models: It is made by using sand, clay, saw dust, ex: a tribal village, a forest area.

ICT Resources

Radio:

Educational broadcasts are typically designed for educational purposes, familiarizing the instructional process by substituting the classroom instruction, specifying the evaluation methods, creating awareness about the educational opportunities. Radio is an aural instructional aid which is now

gaining importance. Besides being a mass media communication it also plays a major role in importing instruction to school children.

Internet

Information and Communication are the two basic uses of the Internet. Information available on websites can be updated or modified at any time and for any number of times, which helps in learning and better understanding. The students can benefit from the sea of knowledge on the Internet. Student may “Search” on the World Wide Web for preprints and reprints of articles for discussion bulletin boards on specialized topics. There is an enormous amount of resources on the internet that the teacher can use to help teach students to learn.

Community Resources:

(Collect the content based on your Major Pedagogy Subject for following topic)

Lab:

Club:

Exhibition:

Field Trip:

Exercise: 2

*(This is the model format for Exercise -2)

S. No	Date	Lesson Plan topic	Teaching Resources	Learning Resources	Learning Experience
1.	27.07.2024	Electric Charge	Chart, Flow Chart, A-V aids Models	To teach about electric charge, subatomic particles and type of charge	The student learnt about the subatomic particles in atom and type of charge
2.					
3.					
4.					
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24.					
25.					

Exercise: 3

*(This is the model format for exercise-3)

Lesson plan -1

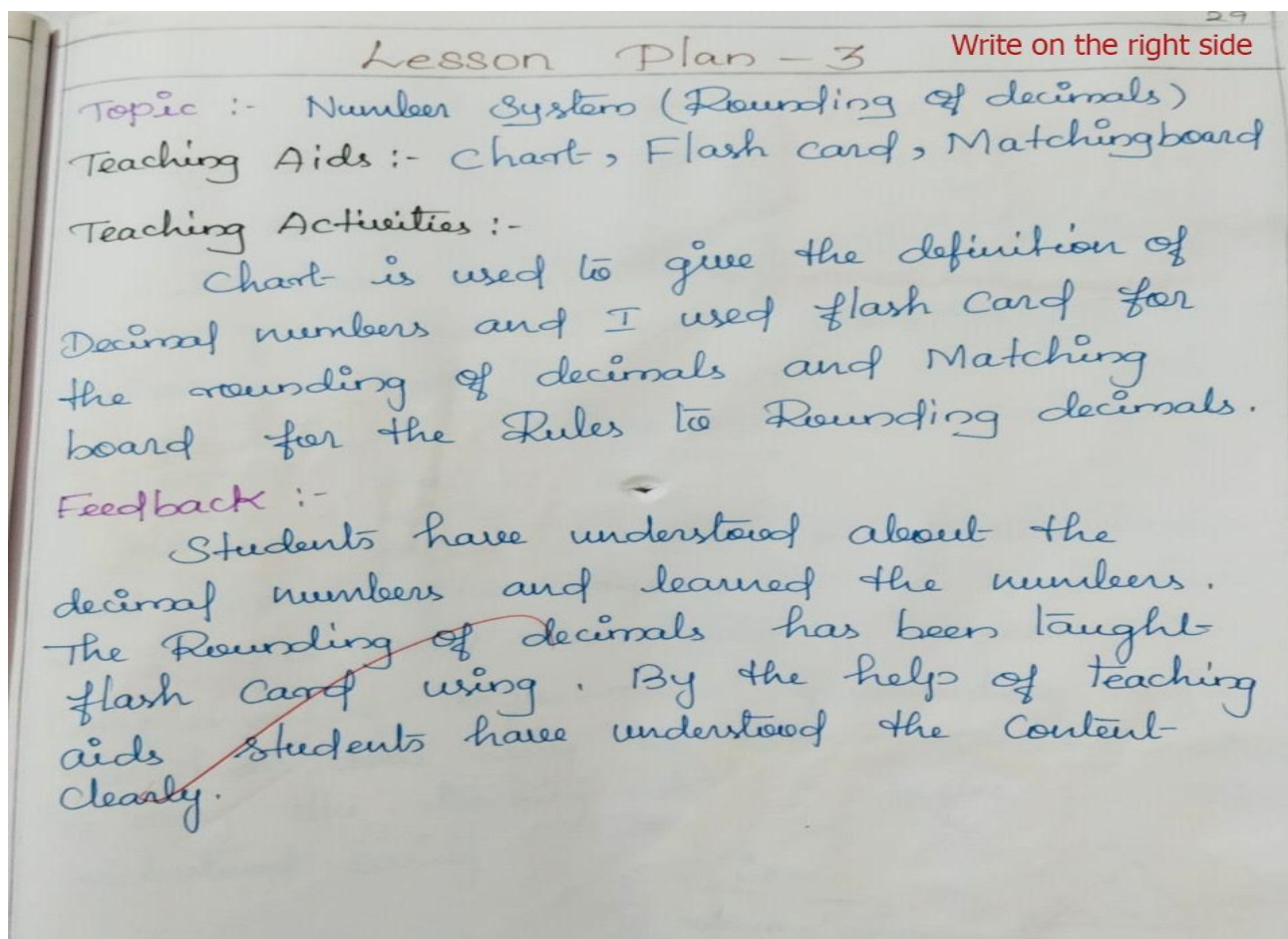
Date:

Topic: Electric Charge

Instructional Material: Chart, Flow Chart, model, A-v aids

Teaching experience: I used different kinds of teaching aids to explain the different types of charges. I used PowerPoint to explain about subatomic particles in atom.

Feed back: The students were active and enthusiastic throughout the class. The students understood the types of charges with suitable example through the various teaching aids shown in the class.



Paste on the Left Side

Decimals are one of the types of numbers, which has a whole number and the fractional part separated by a decimal

2867
nearest
whole
number

52.6583
upto 2
decimal
places

Decimal Number	
• Digit < 5	Underline digit same
• Digit ≥ 5	Add 1 to digit
• After Rounding of	Ignore all digits