

# TECHNOLOGICAL INNOVATIONS IN EDUCATION: THE MULTI-MEDIA PROJECTOR PARADIGM

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## Abstract

The multi-media projector or the multi screen projector is the latest and the most current projector in education in this age of information and Communication Technology (ICT). It provides for multi-screen learning unlike the overhead projector and the opaque projector which can be used only for single screen learning. This paper defines and explains the multi-media projector (M.M. Projector). It discusses its operative techniques that is, the nine-step sequence in turning on and using the Mm projector for presentation of topics; and the six-step sequence in turning off the projector. It examines its application with other electronic media such as the computer, television, VCR etc. Finally; this paper discusses the educational advantages of the MM projector. It recommended among other things that, the MM projector as a new instructional system technology should be provided to all educational institutions for multi-Screen learning.

## Introduction

In educational institutions and teacher education in particular, there are various electronic and projected media which are in use for teaching -learning effectiveness. Some of the electronic media include the radio and the television. In recent times, the age of information and communication technology (ICT), there are the computer, seminar and printer to mention but a few.

In terms of projectors there are the overhead projector, the opaque projector, slide projector and the film strip projector. Others are motion picture projectors such as 16mm, 8mm, 35mm, and 70mm projectors. These projectors are used in education for various purposes but they are generally characterized by single-screen learning. As an innovation, the Multi-Media Projector was recently introduced as an electronic medium with capabilities of multi-screen leaning. Cropper (1974). The multi-screen .details out the topic / Content or subject of learning unlike the single -screen display by the overhead projector. The MM projector with its multi-screen is a very good electronic medium for quantitative and qualitative comparisons such as:

- (i) Decay, germination and growth of seed e.g. maize;
- (li) Growth and development of mucor on a damped bread;

The MM projector is also used to show progress or change in anything from one state / condition to another; or to demonstrate changes comparably in anything from early stage to later stage. It effectively displays the development of changes in anything from one state to another in the course of causal events e.g.

- (i) Stages of life of a mosquito or butterfly: Egg - Larva - Pupa - Adult,
- (ii) Stages of preparation of Oxygen
- (iii) Diffusion between water and copper sulphate solution

The MM projector displays subject matter in **continuums** ranging from simple to complex. It is an electronic medium which came into being in this age of computer technology and should therefore be procured as an instructional systems technology and should be made available to all educational institutions.

## What is Multi-Media Projector?

The MM projector is the projector which provides for multi-screen learning. Multi-screen learning means that more than one screen or many screens are required to display projected visuals. The projected visuals (materials) may be related or not related. In multi-screen learning three or more screens are used for display but in extra - ordinary situations such as international Expositions and Conventions, twenty to twenty -four screens may be used (Sleeman; Cobun; and Rockwell, 1979).

## Operative Techniques

- (a). Turning on and using the MM projector
  - i. Retrieve from the store
  - ii. Place in a table
  - iii. Remove the lens cap
  - iv. Connect power cord and appropriate cables to the power source,
  - v. Turn **on** the projector
  - vi. Turn **on** the power switch to make the power button light blink green until pressed,
  - vii. Turn **on** to any electronic media you want to use e.g. Computer, VCR, VCD, DVD etc.
- viii Adjust the focusing control to sharpen the image on the screen

### **Adjusting the Projected Image**

This is done either by:

1. Raising the projector Height
2. Lowering the projector Height

### **Raising the Projector Height**

- i. Press the elevator button
- ii. Raise the projector to the image and to the angle for display and press the button to lock the elevator foot to its position.
- iii. Move the tilt adjustment wheel to fine-tune the display angle. You can also press the side elevator button to raise the rear side of the projector to the display angle.

### **Lowering the Projector-Height**

- i. Press the elevator button
- ii. Lower the projector
- iii. Press the button to lock the elevator foot into position

### **b. Turning off the MM Projector**

- i. Press the power button once
- ii. Press the power button again
- iii. Wait, don't hurry to pack up the projector because the cooling fan continues to operate for 90 seconds
- iv. Plug out or disconnect the power cord from the wall switch electrical board or any electrical outlet.
- v. Disconnect the power cord from the projector
- vi. Allow the projector to cool before returning it to the store

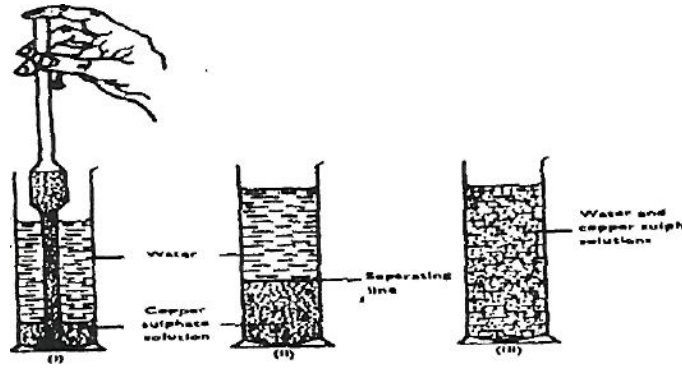
### **Applications with other Electronic Media**

The MM projector can be used with: i.

- Computer ii. Television
- iii. Video Cassette Recorder (VCR) iv. Video Disk (DVD) for sharper images. v. Tape Recorder etc.

### **Educational Advantages of Mm Projector**

1. Multi-Screen Learning  
The MM projector provides for multi-screen learning which details out the topic or content or the subject matter of learning. For the fact that, two or more screens can be used as a time, it details out the topic more than the single screen projector such as the overhead projector which laterally compresses the content. Below is a display in a multi-screen of the experiment on diffusion between water and copper sulphate solution.



Diffusion between water and copper sulphate solution

2. **Stimulates Sensory Modalities**

The MM projector enhances multi-sensory perception. It stimulates the sensory modalities namely.

- i. Eyes for sight
- ii. Ear for hearing
- iii. Nose for smelling
- iv. Tongue for testing
- v. Hand /body for touching /feeling

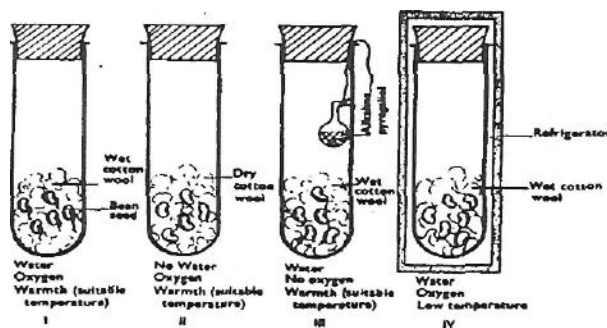
These senses, when stimulated arouse the learner, attract attention and interest; concretize learning experience and make learning relative permanent. According to Dennis (1977), these senses make for retention and transfer of knowledge.

3. **Detailed Comparative Analysis**

The mm projector is a very good electronic media for quantitative and qualitative comparisons in teaching some topics such as;

- i. Decay, germination and growth of seed;
- ii. Growth and development of mucor on damped bread.

Two or more screens of the mm projector can be used to display and teach any of the topics at a time. It can display progression in the development of the mucor from one stage to another, it displays progression from concrete to abstract, simple to complex, and specific to 'general'. It can display any subject matter on continuums ranging from simple to complex. The multi-screen below makes a comparative analysis of the experience on the conditions necessary for germination.



4. **Systematic Planning of Instruction**

It enhances systematic planning of instruction in the cognitive, Affective and Psychomotor domains. According to Briggs (1979), the multi-mediation planning sheet has two main parts

as follows:

1. Upper section (preliminary section)
2. Lower Section (learning experiences or subject-matter section). This section is made up of four parts namely:
  - a. Narrative column
  - b. Cues column
  - c. Channel columns
  - d. Channel content column

Title: Plan Sheet Objective: Audience			BY: DATE:		
			PAGE		
Narrative	CUE	Channels			Channel Content
		1	2	3	

Source: Briggs (1970)

**5. Displays both Audio and-Visual recordings**

The MM projector displays both audio and audio-visual recordings. Audio recordings are electronic recordings that produce sound only e.g. audio cassette, disks and reel tapes (Ogunmilade, 1984). Audio - visual recordings are those that produce, blend, combine or synchronise voice, sound, visions, images, graphics and pictures e.g. video cassette or audio-visual cassette. Also, it displays all photographic media that is, still pictures and motion pictures.

6. It provides multi-visual for the learner
7. It displays changes in anything in the course of causal events.
8. It displays subject-matter on continuums ranging from simple to complex, specific to general, easy to difficult and concrete to abstract.
9. It provides screen to screen feedback to the learner
10. It can be used with other electronic media such as television computer, VCR, tape recorder to mention but a few.
11. Portability: The MM projector is not bulky. It is very portable and can be carried from one classroom to another.

**Recommendations**

This paper recommends as follows

1. The multi-media projectors as a new electronic medium of instruction in this age of computer technology should be provided by the government to schools, colleges and all educational institutions.
2. Seminars and workshops should be organized for teachers on the use of the MM projector since it is new and can be used with other electronic media such as computer, TV, VCR, VCD, DVD, etc.
3. Adequate fund should be provided for its maintenance because as an electronic medium of instruction, it is amiable to repair and maintenance.
4. A standby generator should be provided to enhance its regular use.
5. A technologist/technicians should be employed to take care of it in every school, college or educational institution where it exist

**Conclusion**

The MM projector is the latest projector in Education. It is an electronic medium for multi-screen learning. Two or more screens can be used in teaching a topic unlike in the use of overhead projector which makes for single-screen learning. The MM projector uses multi-mediation planning sheet in planning for instruction. It blends combines or synchronies voice, sound, images and pictures thereby stimulating sensory modalities which enhance learning and concretize learning experiences.

**Reference**

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