

Digital Video production for enhancing retention of learning among adult trainees of KVKs



A. K. Bhalerao

S. paul

A. K. Singha

P.C. Jat

R. Bordoloi

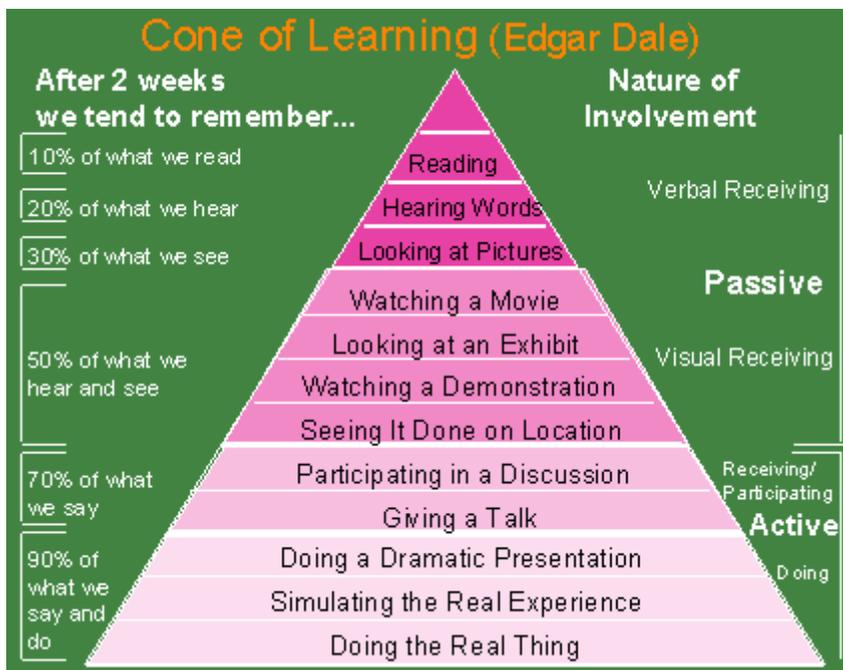
A. K. Gogoi



**Zonal Project Directorate, Zone-III
Indian Council of Agricultural Research
Umiam, Meghalaya – 793 103**

Prologue:

Digital videos are becoming popular in all the spheres of learning. Such kind of scientifically informative videos can be a powerful tool for adult education. When used effectively it can fascinate an audience, tug emotions, maintain attention, and contextualize scenario-based learning. The multimedia can stimulate more than one sense at a time which is crucial for maintaining concentration of learner. Use of audio visual aid in learning enhances attention getting and attention holding of learners. Education experts say that use of multimedia encourages deep reflective thinking and information retention capacity of learner. As per the findings with respect to **andragogy**, average adult attention span is between 15 and 20 minutes. Afterwards, an individual's focus must be rejuvenated either through rest or by changing activities.



(Fig. 1.1 Cone of Experience)

Edgar Dales' cone of experience also explains that use of audio-visual tools increases the retention of learning.

One of the prime mandates of Farm Science Centre (KVKs) is imparting vocational training to farmers, farm women and rural youth. In North East region also 76 KVKs are imparting need based vocational and capacity building training to adult clients

throughout the year. In this context, Digital video presentation during training programmes can be a precious foundation of instructional variation as it helps to confine the attention and imagination of learners. Learning takes place by diverse ways in different individuals such as, **Visual learners** are stimulated by images, **auditory learners** are inspired by sound, and **kinesthetic learners** through touching, feeling and experiencing.

In trainings programmes conducted by KVK learning is not only aimed at improving an individual's intellectual and analytical capabilities but also to provoke learners with a sensory as well as emotional experience. Therefore, with effective implementation, Digital videos can stimulate the senses to create a learning environment where new information systematically impacts an audience and wisdom is more successfully retained.

What is Digital Video?

Digital video refers to the capturing, manipulation, and storage of moving images that can be displaced on computer screens (The Lycos Tech Glossary, 1999). This requires that the moving images be digitally handled by the computer. Digital video is a type of digital recording system that works by using a digital rather than an analog video signal.

Need to integrate Digital videos with Training Programmes in KVKs?

Digital video are becoming more popular and accessible through the various media technology innovations which enable users to capture, manipulate and store video data in efficient and inexpensive ways. With the increasingly efficient compression formats and easiness of integrating videos in web pages, more people are able to enjoy producing and publishing movies in the digital world. Scientific staff in KVKs can prepare quality driven and productive digital videos to attract more trainees, to sustain interest of trainees, to increase learning and retention among trainees and also to trainer can give learning material in the format of video to revive learning.

1. **Easy to manipulate:** digital videos are easy to handle and process as per the need of viewers. Editing is easier and faster with a digital video. Editor can separate sound from image track which enables editing one without affecting the other.

2. **Storage of digital data is easier:** Maintain the quality of a digital video is easier job and anyone can perform it. The amount of wear and tear of data is significantly less. Secondly, a digital video can be copied over and over without losing its original information.

3. **Easier to synchronization with Internet:** A digital video can be sent via the Internet to countless end users without having to make a copy for every viewer. Digital videos are very easy to store, retrieve, and publish.

4. **Compression of data simplified:** reducing file size by eliminating unnecessary data for reconstruction purposes is very simplified process in terms of Digital video. Various types of compression and conversion formats are developed to store digital data as per the need of user. Some well known formats for saving digital videos are MPEG (Moving Picture Experts Group), MPEG-1, MPEG-2, MPEG-3, MPEG-4, AVI (Audio Video Interlaced), MOV etc.

5. **Integrating digital video into a Web Page:** Integration of digital videos with web page is easy. It enables uploading of videos on the websites to educate learners. Video on websites enhances the amount of magnetism and reliability which attracts more number of visitors.

How to Make a Video:

In the process of digital video production one need to understand the process of video generation which is given below in three stages;

STAGE-1: Pre-Production: *Planning the video and gathering all needful resources.*

- Planning is the most important step in digital video production. The ability to plan videos is a skill that takes time to develop therefore regular practice is recommended.
- One must estimate the approximate length of the final video to be produced
- Assessment of number of shots required along with narration i.e. talk.

Key Terminologies

- **Shot:** a shot is basically from when cameraman press record button until he stops recording.
- **Frame:** The frame is the picture you see in the viewfinder or any screen
- **Pan:** Side-to-side camera movement.
- **Tilt:** Up-and-down camera movement.
- **Zoom:** In-and-out camera movement (i.e. closer and more distant).
- **Iris (Exposure):** The opening which lets light into the camera. A wider iris means more light and a brighter picture.
- **White balance:** Adjusting the colours until they look natural and consistent.
- **Shutter:** Analogous to the shutter in a still camera.

- Gathering and sequencing all relevant and required pictures in suitable format
- What music or other background sounds will be added to the video.
- A script or storyboard as per the need of video.
- Softwares for conversion may be for input or output.

STAGE-2: Production: *Practical Camera work and sound recording.*

- Camera work involves a range of skills from recognising the potential for a good shot to knowing how to use the technical controls of camera.
- Vision and sound are equally important in most video, so knowledge and practice of capturing good sound as well as good pictures is highly required.
- Take a video camera/DSLR camera/camera with HD recording feature and install it on tripod.
- Camera work should be steady, in focus, well-exposed and well-framed.
- When everything is right take shots (video recording or still photos)

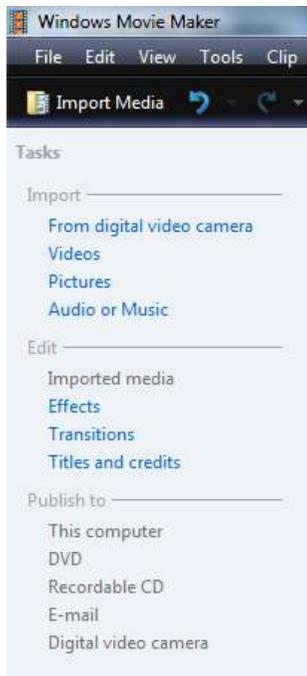
STAGE-3: Post-Production: *Editing and/or encoding the finished video.*

Video editing is the process of manipulating and rearranging video shots to create a new work. Editing of recorded video is generally done for removing unwanted footage, arranging desired footage in the correct order, adding music, titles, transitions and possibly other effects and converting (encoding) into the correct format(s). Steps involved in video editing are as follows;

- Remove unwanted footage: remove blur, extra, unnecessary and noisy portion
- Choose the best footage: choose the best and relevant part as per the need of video

Key Terminologies

- **Shutter:** Analogous to the shutter in a still camera.
- **Transition:** The manner in which any two shots are joined together is called the transition.
- **Compressors & Codecs:** Software or firmware used to compress and decompress digital video to reduce size.
- **Encoding:** The process of converting digital video into a particular format, Ex. saving a video project in MPEG-2 format for DVD distribution.
- **Layering:** Adding multiple layers of superimposed video.



- Create a flow: arrange the chosen video clips in one story like sequence
- Add transition effects, graphics, music, animations, titles etc. in a finalised video track
- Adjust finalised video track with the talk or narration with perfect synchronization
- Alter the style, pace or mood of the video for extra value addition (delicate skill)
- Produce the video or create a movie in desired format.

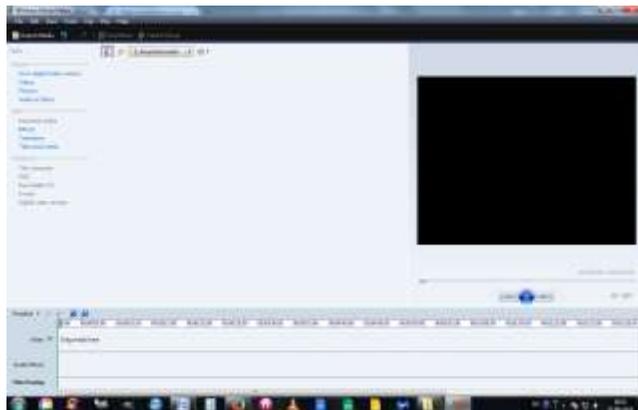


Fig. 1.1 home screen of WMM 6.0

In the third stage, we need any purchased or open source video editing and movie producing software. Generally **WINDOWS MOVIE MAKER** is recommended software for non professionals and beginners as it is simple and easy to use. The steps to use Windows Movie Maker are as follows;

- i. Install suitable version of WMM on your desktop. WMM version 6.0 is best of beginners.
- ii. Open the WMM and get familiar with all functions like Import, Edit, Publish to, Timeline, story board, split etc.
- iii. Load all the video footages, recorded clips, relevant photographs, music tracks /narration and material downloaded from internet, etc. in one folder on your desktop
- iv. Get videos, pictures and audio files on home screen of WMM by importing them from folder on desktop.

- v. Drag the videos, pictures, and music you want to use from the contents area to the storyboard/timeline in sequence. Everything that appears on the storyboard/timeline will be in your final movie.
- vi. Trim and arrange items on the storyboard/timeline. One can move clips from one spot to another, split clips, or combine clips as per the flow of video.
- vii. Add suitable Titles and credits on video track. Title at the beginning of movie tells viewers about your movie, such as when, where, and what happened. Credits at the end of movie to tell the world who created and starred in this video.
- viii. To make final movie look nice when one video or picture ends and another begins to play, add transitions between pictures, videos, and titles on the storyboard. Insert appropriate transition as per the flow and mood of movie.
- ix. Finally, add some special effects to videos and pictures on the storyboard that'll give your movie the appearance as per need of viewers.
- x. Add a narration to tell story in your own words. One can incorporate a ready audio track also to tell story or relevant information.
- xi. Once everything is finalised and all pieces of video, picture and audio file works finely then project is ready to publish.
- xii. Publish project as movie in the most appropriate format and share with your clients. KVK personnel can show such kind of movies in trainings or upload on KVK website so that anyone can see the video to get information.

Such kind of scientifically made digital videos can be used by KVK staff as potential learning material in various on campus and off campus training programmes. Training organisers can publish theme based CDs or DVDs of such videos for distribution among trainees. These disks can be used by farmers to educate other farmers as part of community learning. Properly compressed digital videos uploaded on website of KVK which can be downloaded by clients in their smart phones as and when required. The possibilities of using potential of digital video presentations are enormous and this advanced information sharing tool can definitely bring more impact among rural farming communities.

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