Measuring Effectiveness of Educational Videos

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Introduction

Video has been extremely popular in the entertainment field, but introduced only recently in education due to its cost effectiveness and reach (Williams et al, 1998). However unless these videos are produced properly and displayed in suitable environment they would not have the desired impact. (Gros, 2003; Beaudin et al, 1996). Further, the attitudes of the audience must change from watching videos for entertainment only to instructional or educational purposes. These considerations become important when teaching children and young adults with learning disabilities or hailing from poor or disadvantaged background. (Pant, 2006; Rao et al, 2007; Hammound, 2006)

The Leprosy Mission Trust, India has been producing educational material in print, audio and video media for different target groups, which include students admitted to its vocational training centres, most of whom have a background of leprosy or poor socio-economic status.

In this paper a methodology for determining the effectiveness of learning videos is described using one educational video and a guideline provided for designing future evaluation of instructional videos.

Material and Methods

The Media Centre of the Leprosy Mission in India used relevant expertise to develop a few educational videos for students. One of these relates to dressing making, an important component of a tailoring course conducted at Vocational Training Center (VTC). This module is of 45 minutes and was prepared at VTC in Vizanagaram Andhra Pradesh with background narration and music.

An evaluation of this video was done at another VTC in Nashik, Maharatra as well as at two nearby government Industrial Training Institutes to compare the responses of the participants in different environments. A special proforma was used. The VTC instructor’s help was obtained to prepare a meaningful evaluation questionnaire on the content, presentation, language, background music/narration and general usefulness and acceptance of the video as an educational aid.

Prior permission and convenient dates were obtained, and a preparatory visit made to set up the venue and equipment. The evaluation was done during November 2006. Students were given orientation to the study, the questionnaire explained and how to complete it after watching the video. Completed questionnaires were entered on MS Excel sheet and analysed using SPSS(version 11.0). Frequency distributions and percentages were computed and the statistical significance of the differences observed tested using normal and chi-square tests.

Findings

A total of 59 students were selected from 3 institutions: 11 from TLM VTC, 18 from one Govt. ITI, and 30 from a Govt.Womens ITI.

Majority of the respondents were aged 18-25 years. Except for three males at TLM VTC, all were females. Only 8 women (6 in ITI and 2 in Women ITI) were married. 45 (42.4%) of the respondents are 12th qualified. 20(33.9%) are 10th pass and 12(20.3%) are graduates. 25(43.9%) of parent’s/guardian’s are working in factories/government/private offices while 10(17.5%) are involved in the agricultural activities while 13(22.8%) are unskilled/non-agriculture labourer. The household income of 19(33.3%) respondents was below Rs.2,000, while only 6(10.5%) respondent’s household income was above Rs.10,000.

The full marks for the questionnaire was 30. A score of 60% marks, i.e., 18 out of 30 that i.e. 60%, was considered to be the benchmark to determine that the video is understood to a large extent. Accordingly, 9 of 11 VTC (81.8%), 15 of 18 (83.3%) in ITI but only 6 of 30 (20.0%) in women ITI have scored well.

Only about half the respondents (45.7%) felt the video was good, and made a number of suggestions for improvements as shown in the following Figure
## Figure: Suggestions to improve the Video

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Comment</th>
<th>VTC</th>
<th>ITI</th>
<th>WOMEN ITI</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed of image and voice</td>
<td>SLOWER</td>
<td>9 (81.8%)</td>
<td>18 (100%)</td>
<td>29 (96.6%)</td>
<td>56 (94.9%)</td>
</tr>
<tr>
<td>Language</td>
<td>CHANGE TO HINDI</td>
<td>9 (81.8%)</td>
<td>18 (100%)</td>
<td>30 (100%)</td>
<td>57 (96.6%)</td>
</tr>
<tr>
<td>Voice</td>
<td>REPLACE BY FEMALE</td>
<td>9 (81.8%)</td>
<td>15 (53.3%)</td>
<td>22 (73.3%)</td>
<td>46 (77.9%)</td>
</tr>
<tr>
<td>Music</td>
<td>NO CHANGE</td>
<td>2 (18.1%)</td>
<td>2 (11.1%)</td>
<td>3 (10.0%)</td>
<td>7 (11.8%)</td>
</tr>
<tr>
<td>Nightie garment demonstration</td>
<td>YES</td>
<td>8 (72.7%)</td>
<td>14 (77.7%)</td>
<td>27 (90.0%)</td>
<td>49 (83.0%)</td>
</tr>
<tr>
<td>appropriate or other garment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any instruments/ tool shown in the CD, not in use at present</td>
<td>NO</td>
<td>8 (72.7%)</td>
<td>17 (94.4%)</td>
<td>28 (93.3%)</td>
<td>53 (89.8%)</td>
</tr>
<tr>
<td>CD different from a book</td>
<td>YES</td>
<td>9 (81.8%)</td>
<td>14 (77.7%)</td>
<td>24 (80.0%)</td>
<td>47 (79.6%)</td>
</tr>
</tbody>
</table>

Several respondents of ITI and Women ITI felt that they have gained from the video that they watched in terms of fresh insights on dress designing, have learnt about the different parts of a machine and their functions, the others learnt the basics of cloth cutting and stitching. On the other hand, some respondents of VTC remarked that they did not get any new information from the CD since it is just the practical demonstration of the theory that is taught in a classroom.

### Discussion

Educational videos are more difficult to produce compared to those used for entertainment for several reasons: one, the target audience should be properly profiled and the content adjusted to their level of comprehension and experience (Beaudin & Quick, 1996; Lawson & et al, 2006). Secondly, provision should be made to assess progress in knowledge and understanding as the lesson proceeds; this can be done through spot quizzes and checklists, and pause or rewind for repetition. Thirdly, it should be produced in an interesting manner to keep the students alert and concentrated in the learning (Goswami, 2003). Obviously, educational videos need progressive development to maximize effectiveness and acceptability. Despite the brief exposure, the participants have highlighted most of these factors and made very useful comments to improve the content and presentation of the video.

The evaluation would have been more revealing if there was a pre-test score to compare with the post-test assessment. It is possible that the defects or strengths of the video are made more obvious if the skills are assessed after the video show (O'Donnell & et al, 1995).

Nevertheless, the evaluation shows the need to complement the video show with some classroom demonstration as well as some briefing on the video, and what to look for (Peli et al, 2007).
Conclusion

Proper evaluation of educational videos must be planned with a suitable experimental study design, with pre and post assessments of the students' knowledge and skills. Students must be oriented to respond to both pre and post assessments. The study should be carried out in a calm and quiet setting with adequate time for clarification and discussion. Such scientific evaluations are a sine qua non for developing effective educational videos.

References
1. Chevigny K (2002); Make an Impact with Advocacy Videos, Media Rights.
2. Gros, Begonia (2003); The impact of digital games in education, First Monday, volume 8, number 7

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National Foundation for Teachers’ Welfare

National Foundation for Teachers’ Welfare (NFTW) was set up in 1962 under the Charitable Endowments Act, 1890. The main objective of the Foundation is to provide financial assistance to teachers who may be in indigent circumstances. The Corpus Fund of the Foundation consists of an initial contribution of Rs. 1,00,000/- by the Central Government and subsequent annual contributions received from the member States/Union Territories. In addition, all the State Working Committees transfer to the Foundation 10% of the collections made on the occasion of Teachers’ Day every year. At present, the Corpus Fund stands at Rs. 69 crores.

The following schemes for the welfare of teachers all over India are being operated by the Foundation:
- Financial Assistance for Construction of Shikshak Sadans
- Paid Holiday to Eminent Teachers who have rendered Meritorious Services
- Support for Professional Education of Children of School Teachers
- Financial Assistance (Medical) to Teachers Suffering from Serious Ailments

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