THE EFFICACY OF "VIDEO TEACHER" IN INSTRUCTIONAL DELIVERY PROCESS AND STUDENTS' PERFORMANCE IN CALABAR, NIGERIA

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ABSTRACT

This study attempted to investigate and compare the learning achievements of students receiving instructional message through the channels of classroom teacher and the video TV. The study was adapted from two theoretical constructions: the channel effect theory and perception theory effect of message delivery. These theoretical abstractions provided clues to the understanding of the contributions of channel type and differential perception effects in the delivery of the message variable. One research question was posed to help provide the basis of generating data for analysis. Two groups of students received exposure, one from classroom teacher and the other from video TV channel of instructional message delivery. The post exposure test scores received by the two groups were used to compare the learning achievements differences between the two groups. It was found that the video TV channel produced students with higher learning achievements than the classroom teacher.

Keywords: Video teacher students' performance, instructional delivery, message variables

INTRODUCTION

The penetration of computer technology in Africa and the steadily growing applications in business and industry is a relieving barrier-breaking developing for a continent that had not hoped to make this breakthrough during this century. A technology-resistant region, Africa is now undergoing a revolutionary change in national communication policies. Emphasis has shifted from the dying concern over the cultural implications of communication technology transfer to functional applications and computer communications system is leading the way.

The acceptance of computer system of communication in Africa and its growing uses by business, industry and the bureaucracies is not, however, a bottle fully won at this point in time. Barriers are still tenaciously confronting the way to the full consolidation of the present patronage. The current breakthrough is not anything beyond a limited experimental victory. To carry the initial success to the full applications of the capabilities of the technology in technocrats, patrons, professionals and clients and clients will probably prepare to combat the obvious barriers: poor level of computer awareness; low formal literacy, culture, tradition, maladjustment, dearth of training facilities, shortage of training personnel, short supply of service technicians, and to say the least, the problem of staying current on the evolving technology as ownership and operations of the facilities revolve unto the hands of the indigenous Africans.

Observers continue to focus on the development of training techniques that take local conditions into consideration. The first rug on the ladder is computer awareness. This level is still demanding serious attention from the promoters of the technology. This, in effect, means that the problem of educating the users on the basics of the technology continues to confront the changes agents of the import. The current use of the computer in most of

Africa is still confined to routine processing of information of the general category, often involving record keeping in the bureaucracies and business establishments.

In many instances, the computer private business centers accept documentation jobs of minor classification from clients drawn from members of the general public. Effect is directed at finding ways of getting the system out of this rudimentary level of application to the level of diverse applications as in Europe and America. The sophistication of computer communication already accomplished in the United States, Western Europe, and in some parts of Asia, relative to the crawling pace in Africa can be analyzed with the aid of the popular "Darwinist Theory of Evolution by Natural Selection".

In the similar work on the Origins of Species (1859), Charles Robert Darwin (1809-1882) observed glaring variations in the coping ability of organisms to survive and reproduce under conditions of fierce competition. Against the backdrop of this construction, it is probable that only the technologically developed societies are likely to take the best advantage of the facilities function of computer communications, while the technologically lagging nations will either crawl or drop out of the race.

Eventually, the pacesetters in the competition might probably get on the Moon with the technology someday, predictably for application to determine the function of computers in the process of ascertaining the scope of urbanization of the Moon! This projection as fanciful as it seems might probably materialize sooner than the most computer illiterate societies are able to accomplish complete awareness of the basics of computer applications for word processing. The study focused on the relevance of computer literacy acquisition including the method used by trainers to deliver instructional message to trainees. With current communication technology available instructors would patronize alternative instructional message delivery outlets. The video TV represents

alternative delivery choice. A comparison between the regular classroom teacher and the video TV delivery channels was pursued.

The comparison was intended to measure apart the learning achievements of students exposed to instructional message delivered via the traditional classroom teacher with the learning achievements of students who received the same content of instructional message via video TV.One research question was constructed to provide the basis for the investigation of the research problem. What is the difference between the learning achievements of students exposed to classroom teacher and video TV instructional message delivery methods?

THE VIDEO TEACHER

After years of experimentation, instructional television came of age in January 1961, when a converted DC-6 airplane beamed programs to half a million students in 10,000 classrooms across six U.S. states. Organized by the Midwest Program on Airborne Television Instruction (MPATI), this medium was heralded as a way to replace the classroom teacher, at least in certain areas of study (Skolnik & Smith, 1993 as cited by Hendry 2001).

According to Hendry (2001) over the following decades, an informal national distribution system for classroom television developed, involving public broadcasting stations, school-based cable systems, educational media centers, and teachers. Today, this network includes 190 licensed PBS stations as well as cable and network stations. Most ITV programming airs on such stations in the middle of the night, sometimes featuring a whole series at once. The programs are recorded to videotape by media specialists and librarians in the school districts served, and then made available throughout the school year to teachers. In this way, hundreds of millions of students have had access to ITV programming.

Research literature in instrumental design and technology addresses the components of educational message (content) and

the delivery method (channel). Leifer (1972) explained that the art of teaching with TV and film involved audio visual channels that increased learning achievements among students. He contended that the co-channels are complementary to each other.

In his study, Jerkins (1967) addresses the issue of differential memory responses to pictorial and verbal message variables in the learning and teaching process. Accordingly, different students react differently to instructional material that is presented to them through the verbal and visual channel. On the other hand, Rohwer et al (1967) observed the reciprocal functions of verbal and visual channels of instructional message delivery. They concluded that the use of the two channels constituted what was referred to as "paired associate" technique that facilitated learning. Also in his analysis, Paivio (1971) found that imagery and verbal processes stimulated learning as well as increased memory retention. According to him, the two instructional delivery methods were functionally appropriate in the learning and teaching environment. The contribution of Attneave (1974) was significant. He observed that visual perception generated information that aided the learning process. The instructional message delivery, according to this perspective, is related to information function in the classroom educational process.

According to Moray (1967) who explored the working relationship between attention and performance believed that the multi-channel instructional message delivery was related to higher learning achievements. In another study, Reid (1981) reviewed the composite functions of educational Television and film. The investigators maintained that these channels of educational message delivery were effective in the hands of instructors with experience in their application. In his research, Travers (1966) explained that the success of audio-visual instructional design was the result of extensive research in the discipline of instructional development and technology. Most of the studies cited were published in the

'sixties' and 'seventies' decades during which most of the breakthroughs in instructional system and technology were made. The studies were centered on content and channel as the delivery variables. It is possible, however, that current research may have recorded findings that either alter or modify the ones reported here.

METHODOLOGY

The effectiveness of an instructional message delivery outlet is measured in terms of observable increments in the learning achievements of students. The sample of participants used for the study consisted of students of Tetranlink Computer Training Institute- a private tutorial outfit in Calabar. 40 Students in year one class were randomly assigned to two groups that represented group A (control group) and group B (experimental group) respectively. The random assignment was carried out with the aid of 40 ballot papers. 20 of the 40 ballots papers contained the letter A (control group) while the remaining 20 contained the B (experimental group). In order to measure their prior learning achievements the 40 member class was exposed to a pretest that revealed the significant difference between the performances of the two groups. The groups were then assigned separate lecture rooms, one for the classroom teacher, and the other for the video TV for instructional message delivery purpose. Each group received one hour exposure to instructional message featuring the same content that was taken from their course offerings (Microsoft excel).

However, group A (control group) received the instructional message via the classroom teacher while group B (experimental group) received the instructional message via the video Television. The one-hour instructional duration corresponded with the one-hour video insert. At the end of the session (after one hour of exposure to the instructional message content) the two groups were treated to posttest-instructional test.

The scores obtained from the performances of the two groups were analyzed using one of the measures of central tendency - Mean. Observable differences between the performances of the two groups were apparent from the face values of the obtained scores. These scores were separately analyzed in table 1 (control group) and table 2 (experimental group B) table 3 presented inter-group analyses for comparative purposes.

RESULTS AND DISCUSSION

Table 1: The learning achievements test scores of students in group A (control category) via classroom instructional delivery method

Group A (Control category) Serial Number of students	**Learning achievement test scores N = 20**
1	56
2	48
3	61
4	37
5	73
6	22
7	80
8	49
9	65
10	38
11	79
12	53
13	66
14	70
15	44
16	25
17	32
18	50
19	18
20	41
Total = 1007	Mean = 50

Table 1showed that the test scores which represented the learning achievements of the students in this group (control group) approximated in average performance. The range between the highest score (80) and the lowest score (18) seemed enormous. If computed into academic letter grades, using the popular 5-point scale, there would be fewer "A" grade assignments to students in this group. In a corresponding observation there would be more failing academic grades assigned to students in this group under the same grading scale.

Table 2: The learning achievements test scores of students in group B(control category) through video Television instructional delivery method

Group A (Control category) Serial Number of students	**Learning achievement test scores N = 20**
1	76
2	84
3	98
4	49
5	67
6	91
7	34
8	93
9	35
10	55
11	86
12	79
13	92
14	45
15	33
16	74
17	81
18	92
19	21
20	56
Total = 1341	Mean = 67

Table 2 shows that the learning achievements of most students in this group (experiential category) as represented by the obtained scores were significantly high. The group shows appreciable high scores that substantially represented a performance that is significantly above average. There would be quite a good number of academic "A" grades in this group if scored on a 5-point scale. Correspondingly, there would be fewer failing grades assigned to student in this group under the same grading scale.

Table 3 compared the simple statistical mean and the learning achievement between the control group A and the experimental group B. The mean score for the experimental group B (67) was observed to be significantly higher than the mean score obtained by the control group A (50). This corresponded with the relatively higher achievements accomplished by the experimental group B. conversely, the lower mean score recorded for the control group A corresponded with the relatively lower score indicators that represented the lower learning achievements obtained by this group. The illustrative table 3 showed the detailed analyzed of the scores generated by the two groups.

The study was designed to enable the investigator to compare performance between instructional message delivered through the regular classroom teacher and the video television as alternative for the communication of educational information. The 40 member class of year one students of Teralink computer training institute in the city of Calabar served as subjects for the study. The subjects were exposed to two alternative instructional delivery devices. However, the instructional message featured the same content. Ultimately, the analyzed data were produced by these two groups of subjects. The post instruction test revealed that the performances of subjects varied significantly between group A (the control group) that received instructional message through the channel of the classroom teacher, and group B (experimental group)

Table 3: The comparative mean score differences between the learning achievements test scores of students in group A and B (class teacher and video TV instructional delivery method)

Group A (Control)	Learning achievement test scores	Group B (Experimental)	Learning achievement test scores
1	56	1	76
2	48	2	84
3	61	3	98
4	37	4	49
5	73	5	67
6	22	6	91
7	80	7	34
8	49	8	93
9	65	9	35
10	38	10	55
11	79	11	86
12	53	12	79
13	66	13	92
14	70	14	45
15	44	15	33
16	25	16	74
17	32	17	81
18	50	18	92
19	18	19	21
20	41	20	56
		$\sum X = 1007$	($\sum X = 1341$)
		$\bar{X} = 50$	$\bar{X} = 67$

that received instructional message via the video Television channel. The test scores received by the experimental group B were comparatively higher than those of group A as the face values of the scores in table 1 and 2 revealed. Also, the range between the highest and lowest scores in-group A and B compared, indicated enormous differences as the scores in table 1 and 2 revealed. The mean score difference were striking as that of group B was significantly higher than that group A.

The study was adapted from visual perception theory that is extensively discussed in visual anthropology and humanistic psychology. However, the methodology adopted virtually approximated the tradition of experimental research. These method guarantees reliability considerations. The subjects were pretested to measure their prior learning capabilities and found to show no significant differences across the two groups. The alternative instructional message delivery techniques used for this demonstration are familiar to the educators in instructional message design. A comparison of their relative effectiveness was demonstrated in this study and a significant difference was found between the learning achievements of students in the video Television medicated channel, which rated higher than the class teacher-medicated channel.

CONCLUSION AND RECOMMENDATIONS

The study examined the comparative effectiveness of two major channels of educational message communication, the video TV and the classroom teacher. This design involved paired scoring formula that took into account the performances of groups A (control group) and B (experimental group). Both groups were exposed to identical instructional message content that was nevertheless communicated through the use of two distinctly different channels. The obtained data did not call for sophisticated

statistical analysis. The simple statistical mean was found to be appropriate for the intergroup comparisons that were pursued in the study. Based on the results of the findings of this study, it is therefore concluded that video TV as an educational message delivery channel was found to be more effective than the age-long classroom teacher. Video TV provides for audio-visual impression, which probably sustained attention span of the students more than its rival classroom teacher medium. Most video TV-assisted instructional delivery technique adheres to the tradition of programmed instruction, which facilitates fast paced presentation format. The test scores from both groups A and B reflect differential memory retention rate for picture and word stimuli.

The video TV-mediated information is known for its higher degree of excitement than verbally transmitted information of the classroom teacher. It is therefore recommended that educational message communication should explore and use multiple channel delivery techniques. A replicated design should use methods that further enhance channel effectiveness. The audio-visual component in the selected video inserts should be made to elicit greater appeal to the attention span of the learners. Finally, more emphasis should be directed towards the selection and use of the last video TV technology.

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