8-1989

Applications of Personal Computer Presentations For Corporate Video Users

Paul Raymond Alatorre
University of Tennessee, Knoxville

To the Graduate Council:

I am submitting herewith a thesis written by Paul Raymond Alatorre entitled "Applications of Personal Computer Presentations For Corporate Video Users." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Communication.

Norman R. Swan, Major Professor

We have read this thesis and recommend its acceptance:

Barbara A. Moore, Herbert Howard

Accepted for the Council:
Dixie L. Thompson

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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Application of Personal Computer Presentations For Corporate Video Users

A Thesis

Presented for the

Master of Science Degree

The University of Tennessee, Knoxville

Paul Raymond Alatorre

August 1989

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Date 6-28-89

DEDICATION

To my wife, parents, brother and sister. In countless ways 'you' have provided me with an example. An example to reach higher goals and with Gods help become a better person at home, school, the workplace and at all times.

I want to say thank you, for giving me the opportunity of a lifetime. I share this endeavor and extend gratitude to you from the bottom of my heart. I will never forget how you've always believed in me especially when times got tough, for giving your all, and for the many sacrifices you made on my behalf.

ACKNOWLEDGMENTS

I cannot say enough for Mr. Daniel Lee who has been instrumental in introducing me to the field of Desktop Video Presentations. He is a respected professional in this field as well as an invaluable resource in too many ways to mention. His enthusiasm and special skills with computers are an inspiration to me and I'm sure to those who are fortunate enough to meet him. He has been more than generous in the giving of his time, patience and understanding throughout the course of my studies. For everything he has done for me and the interests of Desktop Video Presentations, I thank him.

I wish to express sincere gratitude to my major professor Dr. Sam Swan, Department Head of the Department of Broadcasting, for the guidance and admonition given to me throughout the duration of my career as a graduate student. He is a gifted and respected educator, individual, and family man. His kindness and consideration will forever be appreciated.

Grateful acknowledgment is expressed to the members of my committee, Dr. Barbara Moore and Dr. Herbert Howard for suggestions and criticisms given during the course of this investigation.

Also, this academic endeavor would not have been possible if not for the enormous contribution from a man I respect and love like a father, Mr. Donald Steinberg. He believed and trusted in me in the most difficult of times. The lessons he taught me will forever be passed on from generation to generation.

Finally, a special thanks is gratefully expressed to my personal friends Harry and Marge Dodson. They have been a beacon of light and true friends to both my wife and myself. Their genuine support and sincere love will never be forgotten.

ABSTRACT

This thesis is a study of desktop video as an application to the traditional postproduction process utilized by corporate video producers. Desktop video involves the personal computer in the editing process; this definition includes the personal computer as an editing and special effects tool.

The purpose of this study is to measure the feelings and attitudes of professionals in the field of video postproduction about desktop video and its application to traditional methods of editing. The introduction of new technology inevitably leads to a period which the new technology is opposed by those who understand and are comfortable with the traditional modes of operation. The goal is to find out whether the desktop video technology is a threat to tradition, whether it is being accepted in everyday use by businesses who utilize industrial videos, or if the application of desktop video will lead to the opening of new markets. The promise of desktop video production is that it is cheaper than traditional processes, enabling industrial users to expand their usage and the markets they can afford to approach.

This qualitative focus group study was conducted with members of the International Television Association (ITVA) chapter located in Knoxville, Tennessee. The study involved the presentation of a 10 minute video, prepared by one person, which showed what the desktop presentation technology could do and its application to the corporate user. A group discussion followed the showing of the video, using a set of questions designed to elicit responses to the presentation and the field of desktop video in general. Next, a demographic questionnaire and a Likert Scale questionnaire were distributed with questions about desktop video and its application to the corporate video user. Responses from "strongly agree" to "strongly disagree" were used to create a quantitative means of comparison for this study.

The results of this focus group study showed a variety of feelings and attitudes concerning the use of personal computers in the postproduction process. The majority of the professionals were familiar with the new technology, but felt that it only applied to those "high-end" professionals who knew how to use the present equipment.

The group agreed that applications for the individual user were limited, that the learning curve for personal computers was a deterrent for anyone to simply pick up a personal computer and instantly become an expert in postproduction editing. The general feeling of this group was that personal computers were an asset to the professional, but that the postproduction process was still one where trained personnel could best handle the job, with or without a computer.

The findings of this study point out an inherent weakness of the application of the personal computer to the traditional postproduction process. Working within the constraints of magnetic tape, an analog method of storing information, limits the computer to working within a system which it cannot simply optimize by becoming a part of it. For the desktop video use to create a difference, a change will have to come in the method of storing and recording video information. This study includes brief glimpses at the future of video, moving from magnetic tape to the compact disc and other digitally oriented modes of video production.

In order for desktop video to make a difference, the postproduction reliance on magnetic tape must be changed, for then a computer may enhance the process by working with digital devices instead of analog tape.

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CHAPTER I

INTRODUCTION

NATURE OF THE STUDY

The personal computer is beginning to make inroads into the specialized field of video postproduction, because unlike the traditional tools of editing, the personal computer has applications outside of the postproduction process. With a personal computer, it is possible to add special effects and, with the proper software, to coordinate editing machines. The personal computer may enable the industrial video users to afford postproduction capabilities in-house, making it a cost-effective investment. The myriad of possibilities for its use--business presentations, training, sales promotion and as general teaching aids--make the the use of personal computer assisted video production, known as desktop video or desktop presentation, a feasible alternative for corporate users.

This thesis is a study of the immediate application of desktop video to the current methods of postproduction, conducted with professionals in the field who are involved with the editing of video

for corporate users. The attitudes of this group were measured to see if those who are using the traditional technology find the merging technology of computers as a feasible alternative. Since the uses of video are as diverse as the nature of the user, this was not an exact and quantitative study of personal computer applicability in the process. This study is about reactions to the new technology and the possibilities the personal computer may or may not open in the traditional methods of video postproduction.

Today the development of the capabilities of the personal computer has brought a merging of the technologies. In the field of video production, the ability of the personal computer to blend various technologies of sight and sound into a single productive unit has opened the door to lower-end users, i.e., the non-broadcasting market of corporate, industrial, and individual videos. This market utilizes the small format approach outlined in the book, Small Format Television Production by Compesi and Sheriffs, which focuses on the equipment and procedures for those without studios and million dollar budgets. The non-broadcasting market can now access the

technology which was once the sole property of the broadcasting markets, through the use of the personal computer. Yet is this simply a case of access opening the door to quality video postproduction? Is the computer powerful enough to eliminate the need to house a large staff of professionals for video postproduction? The answers to these questions lie in the current state of the process and the opinions of those directly involved in the process.

THE MERGING TECHNOLOGIES:

QUALITY THAT IS COST-EFFECTIVE

The two separate industries of personal computers and industrial video production have merged in the 1980s. Many industry observers say this merger is in its infancy at this stage; in the next five years, with the development of the Compact Disc (CD) and optical disk laser technology, the ability to incorporate video, sound, and animation effects on a single digital disk will make all forms of magnetic tape obsolete. Currently a technology called Desktop Presentations, also known as desktop computing or

multimedia, is the phrase for the blending of various technologies within the personal computer. This merger encompasses video, sound, animation, input (from live or pre-recorded external video sources) and output devices like television monitors and video tape decks that allow the combination of computer and video generated pictures to be produced as a single video product. This product does not necessitate the amount of machinery or personnel the traditional mode of video production demanded. A single computer, operated by a single person, can conceivably coordinate the entire postproduction duties for industrial video production.

The personal computer is like the conductor of a symphony; it is the leader and coordinator of all visual and audio images delivered into the computer. No longer is the audio source separated from the visual source; no longer is animation created and then spliced into the video production and released on a separate video tape. The personal computer is able to interrelate the various technologies, allowing one to create animation on the actual video. The possibilities for this technology are only limited, in the present, by

the magnetic tape format which necessitates re-recording these images to a final tape. But instead of using two or three tape machines, with an expensive external computer as the edit controller, the personal computer will blend all the technologies within its own workings.

The advent of microprocessors in personal computers has allowed the creation of graphics, animation, sound and design which were once limited to machines costing five times as much and requiring programmers and technicians. Today it is possible for an individual, group or company to produce a video and animated presentation with a personal computer system. Multimedia productions without computer enhancement have been used. What is new is the mixing of text, graphics, audio, transitions like fade or wipe and video within the personal computer.

STATEMENT OF THE PROBLEM

Personal computer/desktop production is currently in a stage where it is useful, but it may seem like an extension of the present

system. This extension may be perceived as unnecessary and costly, since this tool still works with the present magnetic tape format. The problem is in informing the industrial video users where this technology is heading. The fact that the personal computer saves money now and will save more in the future can only be proven through a production which is developed utilizing this technology.

In this case, the first two categories of concern to a corporation- the equipment on hand and the budget--were included in the addition of a personal computer to the video production. This one-time expenditure is dependent on the future purchase of software, not hardware, and thereby reduces the current and future budgets of production. The measurement of this study was based on whether the plans for video production, for the present and future, fit into the capabilities offered by the use of the personal computer/desktop production method.

In order to judge whether the users can utilize the personal computer/desktop production modes, the presentation must address these three realms. Quality industrial videos may open up markets

that were previously inaccessible to corporate users.

The use of personal computers involves active participation of the audience in question, instead of the passive mode so commonly encouraged by most industrial video productions. This active role is encouraged by the intertwining of audio, sound, and animation into a tool that will produce a final product that has the ability to grow. If the final product is not exactly fitting the needs of the corporate video user, then the user can go back inside the computer and change it. This study measured the reaction of those who currently use traditional modes of video production, along with those who use personal computer/desktop production, as to the future of this new technology.

PURPOSE AND SIGNIFICANCE OF THE STUDY

This study had two main purposes. The first was to assess the attitudes of video producers towards personal computer technology in video production through the desktop presentation; the means, the method of production, were to be measured, not the end--the presentation itself. The second purpose was to show how one

individual could produce such a desktop presentation, using a personal computer, and by showing the result allow the users themselves to evaluate for corporate video users in general.

Desktop presentations may be able to bridge the cost-versus-quality-gap in industrial video production. Individuals, groups or companies who are presently using the traditional post-production method need a more cost effective way to produce video presentations. The change in this technology is not one of eliminating the present equipment, but of adding to it and integrating it by using the personal computer. Instead of separate parts, the user will have a system which augments traditional modes of video production by enhancing and making it quicker, more efficient, less costly and a competitive video production tool in the marketplace.

The access to personal computers is far greater than the access to expensive production equipment needed to equal the quality of presentation. Merging the technologies may give video producers a wider variety of options and an ability to test different approaches.

This ability to work and re-work material in-house would make post video production an affordable and powerful tool for anyone owning the central focus of all these systems, a personal computer. Extra effects may be added by purchasing inexpensive software instead of adding another piece of hardware.

This innovation of desktop video could open new markets for the corporate video producer. For instance, an engineering firm which uses the traditional mediums of paper when bidding on projects, is limited to contracts within its immediate area. Paper cannot communicate the qualifications adequately and traditional methods of video production are too expensive. Desktop video could allow the firm to show, instead of tell, about the projects it has completed. Viewing a dam under construction, or before and after video of a marina, provides a concrete image. This videotape can communicate the capabilities of the engineering firm in a professional presentation. The engineering firm, which was limited by budget and by the limitations of paper, can now access projects outside of its immediate area, since the project references are shown.

The professionalism displayed in such an approach can apply to any business, with desktop video allowing the company to avoid the heavy investment necessitated by the traditional modes of postproduction, while creating new markets through the use of visual presentations. Markets are created by convincing consumers that the company is worth working with. The use of video, shows the consumer what other companies tell in words. Desktop video creates new markets through a mixture of dollars and common sense. What you see is what you get, the old adage goes. This technology is important only to those who want to go beyond the present approach, and who wish to create more effective presentations without adding to the budget.

PROCEDURES FOR THE STUDY

This study centered around the evaluation of personal computer/desktop production by two focus groups. These groups were composed of an undergraduate class in communications at the University of Tennessee and corporate video users, members of the

International Television Association (ITVA) from the Knoxville, Tennessee chapter. The presentation demonstrated the technology, procedures, and systems used to create a desktop presentation, which is outlined in Chapter 3 of this thesis.

The undergraduate class were used as the pilot-test focus group. The purpose of the pilot-test was to measure the approach used. The measurement was based on response to the production itself, i.e., whether this desktop presentation was able to be judged by the questions presented. This pilot-test allowed feedback on whether the approach and questions were comprehended and understood by the students in a clear and concise fashion. Modifications to this approach were used for the Knoxville chapter.

The final test of the Knoxville ITVA chapter started with the collection of demographic information from a selected sample of members. The production was then presented to the group. After this, a one hour open discussion ensued, with 10-15 primary and secondary questions designed to measure and evaluate what the groups thoughts and perceptions of the presentation were. The

objective here was to evaluate whether desktop presentation technology is applicable to their video production work. Individual responses and reactions were recorded for later evaluation, in order to identify trends and demographic patterns.

At the end of the focus group discussion, an attitude test was administered (a Likert Scale) which included attitude items presented on a five point scale, ranging from "strongly agree" to "strongly disagree" to derive the final opinions on desktop presentation technology.

The traditional video producer operates many pieces of equipment run by a group of people who must be supervised to create a presentation. The desktop video technology offers the chance to use fewer machines and people, while cutting down post-production time. The machine allows the human interface to be used for creative purposes; it allows for a team instead of a group of specialists, who work together on all parts of the process instead of being stuck in one phase of post-production. A final product displaying a coordinated team effort shows through its quality. The

desktop video method in turn may open up new opportunities for using video technology that were previously thought as inaccessible. The personal computer shifts the focus from production to creativity. When the computer houses all the knowledge needed to conduct postproduction work, the user is freed to focus on imagination and marketing, instead of technical problems.

DEFINITION OF TERMS

The use of the personal computer in the postproduction process of industrial videos is a study of an emerging technology. The problem with this technology is that it is new and is not part of the traditional postproduction video process. In order to understand the impact of this technology, both financially and creatively, on the field of industrial videos, two rather generalized definitions must be narrowed down for the scope of this study.

The first of these is the field of industrial video. A problem lies in the fact that it is a diverse field. There is no one way of using video; insurance companies might use it for sales, while another

company might use it for training. Industrial video is simply used as a generic term for private broadcasting, for businesses who use video without the intent to broadcast. The variety in budgets, in the types of markets appealed to, and the equipment a company may or may not have is not a constant. This study can only find individual opinions, which is why the focus group is useful. A difference between broadcast and private broadcasting should be noted. Broadcast video is involved with commercial productions, those which are sold for their content and which generate income through this content. Private broadcasting involves videos which are not produced to sell themselves, but to advance the interests of the company that produces the video. Private broadcasting videos are reserved for those specific areas that are in business, or working for, the company that produces the video.

The second generalized definition is that of desktop video production utilizing a personal computer. A variety of systems exist that use computers in the postproduction process. Most of these are expensive and seemingly specialized to the present market of

industrial video users. The system to be used for the purposes of this study is desktop video production utilizing a Macintosh. Macintosh is not as common as IBM in offices nationwide, in fact Apple Computers' main inroads in the computer market have been made in schools. Many of the focus group members may not be familiar with or like the Macintosh, which could create some prejudice. The lack of familiarity with the Apple Macintosh may create a prejudice of preference, which is the basis of this study, the attitudes of professionals involved in the field of postproduction. Combined with the stigma of being an emerging technology which has not developed as a replacement for the existing methods of postproduction, but instead acts as an enhancement of the current processes, the realm of desktop video production is indeed a gray area that will be focused on in one computer: the use of the Macintosh II computer as the supplier of desktop video production.

Postproduction in this thesis is defined as the process after the videotape is made. This involves editing, adding special effects, and creating the final version of the videotape. High end use is a

reference to those users who work in postproduction as a profession and who have access to editing equipment that is the center of their employment. These users work on a daily basis in the postproduction process. The term low end user is used to refer to those who are not directly involved in the postproduction process. These users may be involved in the administrative or sales positions, but are not actually using the equipment every day. This term is also used to refer to the new users of desktop video, who are not involved in postproduction as a profession, but who will use the process on a small scale to advance the interests of their own business. Finally, the references to genlock mean the component in a Macintosh computer video card which allows the signal of the external video machine to be synchronized with the video output of the computer. This in turn is used to translate the signal of the personal computer, involving graphics and audio, which can be received by the external video source.

The term low end user is used to refer to those who are not directly involved in the postproduction process. These users may be

involved in the administrative or sales positions, but are not actually using the equipment every day. This term is also used to refer to the new users of desktop video, who are not involved in postproduction as a profession, but who will use the process on a small scale to advance the interests of their own business.

SUMMARY

The use of personal computers in the postproduction process is more a case of evolution than revolution. The goal of this study was to measure the reactions of professionals who are directly involved in the process. The use of traditional methods of video production using magnetic tape is being tested by the adaptability of a personal computer. With new generations of producers coming out of schools, trained and familiar with computers, the promise for the future is obvious. It is the present that this study addresses, the current use of the personal computer for industrial users in the postproduction process. The present is compared to the hopes for the future, to outline a picture of what exists and what will exist, in business,

planning and for the future, which is as important as operating in the present.

ORGANIZATION OF CHAPTERS

The remainder of this thesis is organized as follows:

Chapter 2 is the literature review, which examines relevant literature concerning the following factors of the postproduction process and its application to the corporate user:

I. Use of Computers in Video Post-Production, and

II. Recent Speculation on the Future of Desktop Video.

Chapter 3 will outline the focus group methodology utilized for this study and define the postproduction methods involving traditional modes and those using the personal computer.

Chapter 4 will include the results of the focus group study and analyze what these findings mean.

Chapter 5 concludes this thesis with the implications and recommendations of this study, both for immediate application and for the future.

CHAPTER II

LITERATURE REVIEW

RESEARCH ON INDUSTRIAL VIDEO

On the surface the issue raised in this thesis seem simple; which is better for post-production, industrial video following traditional methods of production or computer-enhanced video? This is the question that will be answered in the focus group by actual users of video in the business world. But in this literature review, the question is not one of comparison in the present, but of where technology will lead this field in the next five years. This perspective is imperative in understanding the value of the personal computer in the future of visual presentations and education.

The development of this perspective is arranged in a literature review addressing the two categories imperative to understanding the interaction of the personal computer with the traditional postproduction process for industrial video users:

I. Use of Computers in Video Postproduction

II. Recent Speculation on Desktop Video.

These categories are selected because they allow definition of the current postproduction process while giving a view to the future of both desktop video and the postproduction process. They are arranged in chronological order, in order to understand first, how the process of the traditional modes of postproduction have evolved and, second, how the personal computer has entered as an outsider to this analog process. This study is conducted in the context of the present, a time of change for two merging technologies. It is important to understand that at this time, computers and video have not merged, but are akin to oil and water; they are involved in the same process, but they cannot mix because magnetic tape is not computer oriented.

Most of the information is taken from professional books and trade publications because desktop video is a new technology that is only now being explored. Studies have not been conducted as of yet to bring a perspective to the field of video editing and the importance of the personal computer in this process. What is being explored in this thesis is the expected evolution in video postproduction; and in these early stages, most of the available

information is based on conjecture about the future. Currently, desktop video is entering the market and the information about desktop video can only be found in books and trade publications with the freedom to engage in predictions of what will be, instead of investigating the current state of affairs. Scholarly journals like the *Journal of Broadcasting and Electronic Media* and *The Quarterly Journal of Speech Communications* were not informative on this issue for a variety of reasons.

Currently the technologies of video and computers are merging, but this merger is still in the developmental stage. Today both technologies use the same medium--magnetic tape played on a VCR--as the method of communication. Previously, managers with no knowledge of video production had to see the economic value of using the visual media. Today, the ignorance is not of visual media, but of the use and price of the personal computer. This literature review is concerned with comparing the postproduction capabilities of video and video enhanced systems by the use of a personal computer and the demographics and preferences of those

professionals who may utilize industrial, non-broadcast video in their business.

The variety of opinions about the future of desktop video vary, from skeptics to professionals who are attempting not to predict the future, but to plan for it. According to Apple Computers' CEO John Sculley, the future is in optical technology, on laser disks utilizing digital recording, and interactive video, where the viewer is directly involved in what is shown. Sculley's ultimate dream, outlined in his autobiography *Odyssey* (1987), involves the use of advanced computers, which can understand the human voice, to guide the user towards a myriad of questions and answers, called interactive media. As will be seen, this is not a revolution in communication, but an evolution in the development of the computer and the interaction of it with mankind. Methods of communication are expanding, yet the resistance to change is evident in the market.

USE OF COMPUTERS IN VIDEO PRODUCTION:

BOOKS

The literature review for this section shall be composed of the

present technology involving the Macintosh personal computer and video postproduction. The term "desktop video" shall be used to refer to video composed with the assistance of the personal computer; this term shall stand for other terms like "desktop presentations" and "multimedia" which are currently becoming part of the language of computers. Desktop video is the focus of the literature dealing with the present state of video and the Macintosh.

The market for industrial video has risen around the advent of the magnetic tape process and the ease of using portable cameras. The bias towards the traditional process on the part of postproduction professionals is based on the fact that those who have been initiated have become use to these methods, and that these methods have become a "standard." In assessing attitudes, both in literature and the focus group, another bias arises--that computers are huge, temperamental, expensive, and inaccessible. (Gayeski/Williams, p. 5) The first computers were designed to communicate through the effort of the user in learning program

languages. This myth does not apply to the personal computer. Today media and computers are merging, yet the single greatest opponent of this technology is the prospective user. Those who are currently involved in postproduction will naturally oppose change, since this means relearning an accepted process. The users of postproduction technology are comfortable with their knowledge of media and may see the computer as an extra burden to their jobs and time. In order for the postproduction process to evolve from magnetic tape to digital mediums, the users must exhibit the interest to adapt. Adaptation is the hindrance to the introduction of desktop video.

The area of graphics is perhaps the strength of the personal computer based system. Carl Caiati in his 1985 book, Video Production/ The Professional Way, insists that the computer effects on animation and graphics of tape adds a new personality to the video. Patterns can be generated, like fractals, which are constantly reproducing geometric figures which grow from a single shape into many, following a mathematical formula. The original use of

computers in video production was as a graphics and animation tool, adding special, computerized effects to images that existed, as well as adding images to the picture. The use of progressive stages is perhaps the focal point of the computer's addition to the video field. (Caiati, 1985, p. 189)

USE OF COMPUTERS IN VIDEO PRODUCTION:

PUBLICATIONS

Desktop video is, according to E.E. Eric Erzinger in his article "Desktop Video" in the January/February 1987 edition of Amiga World, the use of a videotape machine as a primary output device for a computer. (Erzinger, p. 17) This article is based on the same philosophy as the Apple Macintosh; the use of the personal computer, which, when combined with video generated pictures, can create a finished product that outperforms traditional peripheral machines. These special effects generated range from animation to lettering, using software and affordable additions to the personal computer as the stepping stones towards postproduction capabilities.

Erzinger defines desktop video as the electronic medium for recording and finding visual and audio information on magnetic tape. Focusing on the small format, industrial video, Erzinger finds that the production industry is dominated by equipment. The basic differences between low-end and high-end production are cameras, lighting, and special-effects. Erzinger states that basic video production routines are the same, no matter what medium one uses because they are both based on transferring and adding information from magnetic tape to magnetic tape. The use of "genlock," which is a standard for the Macintosh as well as the Amiga, enables the computer to synchronize the external video signal with its own video output. This output can be sent to an external monitor or to the computer's monitor. (Erzinger, p. 19) The genlock device allows the personal computer to overlay graphics and audio onto the external video source, i.e., the VCR.

So where does the personal computer hold an advantage? At the current time, the only advantage is in being a replacement for the tools that already exist. For instance, according to Erzinger the

traditional role of the computer in video production is found as a graphics/titling tool and as an edit controller. The peripheral machines outlined by Compesi can cost over $10,000 each, while a comparable Macintosh or Amiga with similar graphics, design, and animation capabilities sells for half that price. Add the software and the price is still considerably lower, and this P-C machine is not limited to just video. (Erzinger, p. 19) This ability allows it to capture and digitize images from the videotape for other uses, such as slides or presentations. As of yet the ability to be an edit controller is limited to 8 mm film. The area of videotape edit controlling is not within the capabilities of the personal computer. (Erzinger, p. 20)

In the May/June 1988 issue of Presentation Products Magazine (p. 8), the president of Desktop Presentations, Inc., Dr. William S. Cogshall, stated that ignorance of the new software and hardware for video presentations, is the "number one enemy of growth" in the personal computer/video market. It is this lack of knowledge that limits the use of the personal computer, because users feel they

must learn a new technology. In assuming this, they lose the chance to learn the power of a personal computer.

What can the Macintosh do? It can add to the video one has, and with the use of a professional edit controller, is able to transfer pictures, objects, sound effects, music and instruments into scenes that have already been shot, according to Jamie Krutz in his October 25, 1988 article, "Now showing: desktop video" in MacWEEK. In the field of postproduction, the technology of the personal computer has not been able to match the specialty of the edit controller. The extras, the fades and dissolves and animation which add zest to a picture, can be added. The graphics boards and colors available on a Mac II, for instance, can create elements of the production; it cannot replace the magnetic tape technology, however. (Krutz, p. 87)

The Macintosh can create simple presentations, using a red-green-blue (RGB) signal or the NTSC standard used for television. But this NTSC standard is below the quality needed for larger screens. In order to produce more complex videos, editing costs are incurred, according to Krutz. These costs include the mandatory two

video decks, the computer, possible extra video decks, special effects machines at a postproduction location that costs between $50 to $500 per hour, depending on the amount of equipment needed. (Krutz, p. 87) Is this cost-effective? The answer for someone who plans to buy a Macintosh merely for its video capabilities is a resounding no. Professionals use 3/4 VHS and Betacams, while the personal computer is limited to the home VHS or 8 mm VCRs. (Krutz, p. 87) The focus is on the personal interface with the computer, but the results cannot equal the professional quality offered by the Compesi method.

Yet the postproduction market is not being surrendered by the Macintosh. Video-editing control is beginning to attract software and hardware developers for this personal computer, as outlined in Steve Rosenthal's October 25, 1988 article in MacWEEK, "Window On/Video Production/Not quite ready for prime time." This title is the appropriate current state of affairs for the Macintosh, with so much promise but limited direct capabilities to handle the complete postproduction process. Rosenthal explains that the problem with

the personal computer is that it is expected to take over the market immediately. It meets opposition in the field of industrial video because the cost of this machine cannot be written off as an investment solely for video. This approach denies the enormous capabilities of the machine. Rosenthal admits that the total power of Macintosh video products is short of a well-equipped television studio, but the catching up has begun. (Rosenthal, p. 25)

Traditional video production methods have used the personal computer for preproduction services, such as compiling budgets or creating storyboards. Yet the development of the Macintosh is being centered on the videotape market because of the future promise, according to Rosenthal. For example, a film-to-videotape transfer called "Edgewriter" is now available, that uses the Macintosh as a controller. Through the use of Hypercard, which is able to direct the sequences of sound and visual information, the Macintosh is able to coordinate this transfer. The difficulty, says Rosenthal, is that film runs at 24 frames per second and videotape at 30. Through the use of a primitive SMPTE program, the machine is able to equalize the

two technologies. (Rosenthal, p. 25)

Even though other video machines may cost more, the purchase of the P-C computer is no guarantee of quality. These are the sentiments of Andrew Goodman, whose article "Desktop video? Not so fast!" created a stir in the March 7, 1989 issue of MacWEEK. Goodman feels that the hardware and software developers at Apple are not being truthful with people. His article focuses on the comparison to desktop publishing, that people with no experience can be putting out professional quality videos like nonprofessionals produce magazines with desktop publishing. Goodman does not believe in this connection because videotape "is not paper, meaning that it is much more difficult and more expensive to produce a quality videotape than a quality newsletter." (Goodman, p. 20)

Even if these systems can help out on editing costs, Goodman finds the use of the personal computer as tiresome and its inability to work as easily as traditional equipment is also a problem. The Macintosh has editing software as in MIDAS or VideoMaker, but these don't make the editing job any simpler than traditional editing

equipment. (Goodman, p. 21) The problem is that the Macintosh just replaces the edit controller in such a system. If one owns an edit controller, there is no need to invest, since the equipment needed to control the editing process is already present in the office. Goodman estimates that the $10,000 price tag for Macintosh editing capabilities does not include the computer itself, the Macintosh II, which sells for close to $6,000 itself. He finds that the cost of an edit controller is less, especially if one is missing the camera and videotape recorders needed to complete the system. The Macintosh may become a part of this system, but it cannot replace what exists, as far as the magnetic tape medium is concerned. (Goodman, p. 21)

Goodman finds that even in the expensive systems built around the Macintosh, the 3/4 inch and Betacam formats are inaccessible because they would double the cost of the system using inferior videotape recorders. He describes most desktop video systems as "off-line" editors, which means they are used for the rough cut which is made on the original tape. This tape is then edited and taken to "on-line" production companies, where the costs

range from $500 to $1,000 per hour. The special effects added on -line are far superior to the capabilities of the Macintosh, says Goodman. He asserts that the personal computer cannot replace the video technician, because the real work in producing video lies not in the computer, but in the human operating it. (Goodman, p. 21)

Goodman's statements stand at the transition phase between the current magnetic tape technology and the future of optical videodiscs. The current prognosis for the use of the personal computer in the industrial video market is dim, if looked at in immediate returns. But the failure to explore the potential for computer involvement in the creation of new visual medias, ones that promote thinking and activity rather than viewing, could leave a business stuck with outmoded equipment. Magnetic tape is the system of today's video revolution in the nonbroadcast field, but the possibilities are also limited. There is little evolution left in this medium; with the personal computer, the possibilities are just beginning.

RECENT SPECULATION ON DESKTOP VIDEO:

BOOKS

The future of desktop video has many possibilities, yet as it applies to the postproduction process, most of them have to do with changing the medium of recording and storing the information. Efrem Sigel, Mark Schubin, and Paul F. Merrill in their 1980 book, Video Discs/ The Technology, the Applications, and the Future outline numerous advantages of the proposed videodisc system. Remember, at the time the book was published, the only use of laser discs was for audio; the ability to record visual information did not occur until later in the 1980s, according to Sigel, et al. Yet these authors see the business/industrial users as those who would be most willing to adopt the new technology. (Sigel, et al., p. 136) The cost of the technology at this time seemed overwhelming, and the authors saw only special applications for it. Yet by their own statistics, the price of such videodiscs dropped by 40-60% in 1980, according to the prices of an industrial videodisc producer. (Sigel, et

al., p. 137)

The authors of this book predicted that the industrial video market would be the primary user of such technology, because of the ability to instantly access and edit certain frames. Lasers are able to do what capstan heads, which playback videotape, cannot; they move and by being mobile, afford the opportunity to search for information. The authors sees this laser form of recording as an investment. (Sigel, et al., p. 137) The investment is in improving communications. If this technology could be used with a personal computer, the change in focus from the machine oriented industrial video to a video which relied more on the creativity of the human element might be complete. This book focused on the evolution from a group of machines performing a task, to a video postproduction system based on digital, computer technology, which could perform similar tasks with less equipment and manhours.

Lon McQuillen's 1983 book, The Video Production Guide, is basically a treatise on the how-to method outlined by Compesi and others. The medium is limited by its own parameters; the equipment

and the people needed to run the equipment. The use of digital sound is perhaps the last development for this medium, McQuillen states. The record/playback videodisc system of the future, he predicts, will make digital videotape obsolete. (McQuillen, 1985, p. 305)

McQuillen sees the downfall of the magnetic tape market because of its design. The narrow ribbon of magnetically coated mylar is called the "least elegant" and the "simplest" way to record and playback video. (McQuillen, 1985, p. 303) He sees the benefits of this change in technology as having two categories. The cost of the recording medium would be drastically reduced. Videodiscs are more efficient and cost-effective than a comparable 1" videotape, which costs approximately $75 in 1985. Editing is the other major advantage of this technology, since the "random-access quality" of discs would allow the editor to jump back and forth to parts that needed editing, instead of rolling the film back and forth in order to find the right spot. (McQuillen, 1985, p. 306)

Research about the future of desktop video leads to the term

"interactive media," a generic term for the evolution of the human/computer interface. Compact discs are an essential stepping stone in this evolution. Interactive media implies that the viewer and the computer are communicating; the human asks the questions and the computer is programmed with a multitude of directions within which to pursue an answer. In order to be more than a question and answer machine with a few choices, the computer must have ample memory to draw on. Compact discs are an important step in this evolution. Currently, one compact disc can hold over 600 megabytes of memory, according to Apple Computers. This is in comparison to current hard disks accompanying personal computers which can hold 40-100 megabytes, a costly investment when compared with a single compact disc. One compact disc would cost approximately $10-20 (assuming that the technology has evolved to allow recording and erasing of information onto a disk), while current hard disk prices for 40 megabytes runs upwards of $600.

Interactive media is an essential part of the desktop video evolution, for what is offered by the computer is not a vicarious

experience, where the audience merely watches images pass by. The promise of interactive media is that the audience may question and direct what is being shown, either through a vocal interface or the standard keyboard. This involvement of the audience is not available on magnetic tape, simply because it is forced in winding and rewinding itself; it has no avenues of memory to pursue other than the information coded on it. A compact disc, for example, could house areas of interest that arise out of the video, as well as having the ability to store audio and visual information at the touch of a button. Interactive video is an imperative part of desktop video, for without it, the improvement of the personal computer would only be one of ease of use. This evolution of video production based on the personal computer offers more, the ability for the audience to be involved in the presentation itself.

This idea of incorporating computers with video is still based on the passive viewing process, where the audience is not involved in what is presented. Interactive media is where desktop video wishes to evolve to, where the audience will determine what is

shown and why, according to predictions by John Sculley of Apple Computers. Diane Gayeski and David Williams write about this change in the 1985 book, Interactive Media. The key to this evolution is the human interface. The authors describe a meeting with a hypothetical interactive media computer. The computer meets the user by addressing it. This is not the specialized technology of computer language; it is the programming of the computer made to access the human interface. The approach is different than that of the passive media; the answers of the human have as much power to determine the direction of the computer, since the questions have been programmed with the human audience in mind. (Gayeski and Williams, 1985, p. 121)

A second level is included in this program, a pause to allow students to pursue other forms of media or to ponder the direction the lesson is going to. In this manner, the student has a direct connection to the teacher, who is programmed to respond to the questions. The authors see the value in this in the branches of knowledge offered; instead of limiting the audience to a yes or no

response, the computer has levels of knowledge that must be pursued actively. The person cannot just watch it work. (Gayeski and Williams, 1985, p. 120)

The random-access controller that provides the branches is the third level of interactivity. The fourth comes with a responding device, according to the authors. The human being can enter a response into the computer after researching a branch or branches. Level five is where these answers are evaluated, equated in terms with the videotape player which is prompted to respond at the press of a button. In this manner Gayeski and Williams see a descending into the computer's memory and knowledge, without being forced to adopt the computer's point of view. Unlike industrial video, this interaction is not a one-sided affair but a challenge to the viewer. Level six goes beyond the computer device running the fifth level; here peripheral devices are used to analyze the progression of the task. (Gayeski and Williams, 1985, pp. 122-123)

What is the connection between such a machine and industrial video, between learning material and merely showing a picture of a

training or sales technique? According to the statistics quoted earlier from Dranov, et al., the main use of industrial video for corporate users was for employee training. The interactive media paradigm foresees a medium where the passivity of the audience will be eliminated, according to Lon McQuillen in his 1986 book, Computers in Video Production. The challenge of this medium is not only on the side of the humans operating the computers, but surprisingly on the manufacturers who must create these complex programs. (McQuillen, 1986, p. 65)

The change in development of such a video is a change in design format. Traditional video is designed on a linear pattern, that is it follows a rational development towards its climax, which is preordained by the producer and director of the film. In other words, someone knows the ending. Interactive media, according to McQuillen, finds its only answers in the direction chosen by the user. He claims that the interactive program actually refers to two products. The first is the video program and the second is the computer program that will control the videodisc player. McQuillen

sees this challenge not in the hands of traditional technicians who know nothing about computers, but those who have learned to adapt to the new methods of presentation. (McQuillen, 1986, p. 65)

The linear programming of traditional video is built around a beginning, middle, and ending. Interactive media, according to McQuillen, is constructed around the segments of choice actively input by the user. This user has the option to either quit, or choose a different order, or respond in such a manner that the presentation is changed to suit his or her liking. A series of tests is given to the viewer, who once again must choose from the branches of knowledge, i.e. options, built into the computer program. Videodiscs are essential for this task because they hold much more information than the traditional methods of storage being used today. (McQuillen, 1986, p. 66)

The Brady Guide to CD-Rom (1987) by Buddine and Young is a definitive guide to the present and future of this technology. The way this applies to postproduction can only be conjectured on at the present moment, but the possibilities of access make this future

promising. Magnetic tape was originally used for mass storage in computers. The problem with the tapes was density; the issues of volatility and proximity of the stored information to the head of the magnetic medium made this technology risk at best, prone to crashes. (Buddine and Young, 1987, p. 9)

The promise of the compact disc market is in the medium itself. Information in this disc is stored in little holes, called pits, and the flat spots between the holes, called lands. The two are arranged in a spiral track that goes outward from the center of the disc. The disc itself is made of plastic coated with a metallic layer and a lacquer protection. A laser beam reads through the plastic (polycarbonate) onto a track; this light is scattered and absorbed as a visual or sound image, while the laser that hits lands is reflected onto a photodetector. (Buddine and Young, 1987, p. 60) A signal decoding and processing system reads the information stored on the disk. The use of the laser eliminates the physical contact of the magnetic head; this medium is merely shined through and left alone, protected by a solid layer of plastic. The chances for breaking

down are far less than that of the volatile magnetic medium, subject to the whims of electricity. (Buddine and Young, 1987, pp. 60-61)

The same problems exist with video production, although the amount of information involved is less than with computer storage. In this book the authors discuss the possibility of the future, which currently is in the CD-I phase. This stands for Compact Disc Interactive, a standard for providing audio, video, graphics, text and machine code which will have applications in the corporate and educational markets. (Buddine and Young, 1987, p. 20) A new compact disc, called a CVD or Compact Video Disc, promises to allow the use and manipulation of video signals on the compact disc. The possibilities are limitless, since the disc can hold more information than a magnetic tape, is digital, and will not wear down from excessive exposure to magnetic mediums. Imagine preserving generations of film like a computer program, accessing whatever frame possible by pressing a button. Instead of editing from two separate videotape players, one could manipulate all the material on a single disk, and when done copy it. This technology promises to

cut down on machines and costs, though the current cost of such equipment is prohibitive of desktop video becoming an immediate solution for the industrial video users. (Buddine and Young, pp. 20-25)

Stewart Brand writes in his 1987 book, The Media Lab/Inventing the Future at MIT, of the changes going on in the fields of communication today. Brand sees theses changes as indicators of a convergence in technology; first most forms of the media became electronic, now they are becoming digital. (Brand, 1987, p. 18) Brand points out the changes in telephones, radio, TV, and music, which all began as analog media, only to become digitized by computers. He feels that this will free the media from being entrapped in its creation, since by being digital it can be transmitted over telephones, satellites, or fiberoptic cables. Brand claims that all forms of communications media are changing into each other, all focused at making inroads to the final barrier, the human/machine interface. (Brand, 1987, p. 19).

RECENT SPECULATION ON DESKTOP VIDEO:

PUBLICATIONS

Technology is still the barrier; the final section of this literature review deals with how the computer is attempting to knock down this barrier, and how this knocking down could change the way industrial video users will view the personal computer and video production in general.

The head of Apple Computers, John Sculley, gave this description of the upcoming interactive media explosion in the foreword to the book, Interactive Multimedia by Sueann Ambron and Kristina Hooper (1989):

> "Technologies described in this book will give us the ability to explore, convey and create knowledge as never before. Powerful computers, high-speed telecommunications and optical storage devices such as CD-ROM and videodisc will provide the hardware platforms...The massive institutions that the United States built to drive our prosperity in the Industrial Age are failing to keep up with current changes in the world. As the flow of world trade shifts, it is clear that as a nation we are living beyond our means. We no longer are creating enough value to sustain our lifestyle, and we are falling deeper into debt. The only way to halt this slide is to find new ways to create value in the world. That means that our education system and our businesses must foster innovation and discovery."

What sounds so prophetic in the words of this pseudo-

visionary of the corporate world is what lies at the weakness of perception in the industrial video users minds. Any futuristic talk may be labeled "idyllic", yet the foundation of this technology is being forged in the interaction of computers and video production.

The March 1989 issues of MacUser was devoted to the subject of multimedia, called "Interacting With Information." John J. Anderson wrote the article, "Multimedia: About Interface" to address the issues of the multimedia capabilities. Anderson talked of the two terms, interactive and multimedia, and their import to future users of computers. "Interactive" according to Anderson is the viewer being part of the communicative process with the computer, with the images being related ones that have been chosen instead of presented without the will of the viewer. "Multimedia" was defined as a combination of text, pictures, diagrams, animations, sounds and video. (Anderson, pp. 88-89)

Anderson speaks of an intuitive approach to learning that translates across all barriers. The magazine includes medical applications of interactive technology; it also includes a Shakespeare

drama department which operates its curriculum through a Macintosh. The student can see a videotape of a performance, start and stop it, find the part that needs to be studied, and add comments to it. These are just part of the multimedia offerings that are in the future. (Anderson, pp. 89-90)

This literature started with a simple question and with a simple answer. The likelihood of acceptance in the industrial video realm is unlikely given the current state of affairs. Those who wish to remain with the medium will get what they want. Those who utilize the personal computer in an interactive setting can grow beyond the present use. The future is never guaranteed, but in this literature review it is evident that the technology is rapidly changing. Therefore those industrial video users who cannot see the difference between a Macintosh II and an industrial edit controller will continue to use magnetic tape, while those who choose the computer might have a chance at profiting even more in the future. From the readings of this review, in either case it is a gamble. One side gambles to remain the same; the other gambles to change. The

divergent opinions are ones that most likely will be evident in the focus group research.

SUMMARY

This literature review is an investigation of what has been and what likely will be. The past is simple to define. It is comprised of the postproduction process and the use of video by the industrial sector. This use has been limited by cost and by the inability to utilize the equipment. The research literature has revealed the following parameters of the postproduction process and its use of the personal computer:

1. The postproduction of video is based on magnetic tape, which is played on one machine and edited to another tape for the final product; an edit controller controls the timing of this editing.

2. The above is known as on-line editing, yielding the final product; effects may be added by purchasing various machines to allow, for example, fades and dissolves and animation. Since these effects are additions and not directly involved in the editing of the

video, they are known as off-line editing.

3. The use of the personal computer in the traditional postproduction methods outline in 1 and 2 is in off-line editing; the computer is allowed to interface with the video to add animation or other special effects.

4. Magnetic tape is an analog method of recording information which requires constant winding and rewinding to reach the exact point of editing. The personal computer is a digital instrument and currently cannot be used to edit, since it does not share the analog technology.

5. The center of the traditional method of video postproduction relies on the machines that have been developed to facilitate this process with magentic tape; the computer is an expensive and specialized addition to this process.

The problem with the postproduction process as defined in this literature review is that a number of machines are involved in producing a video. One must understand how to use all the machines and how to allow them to interact. It takes knowledge of working

videotape machines and making sure the edit controller puts the film together at the right time. This means scrolling back and forth through a reel of videotape, making sure to arrive at the right point to edit. What is known is an analog process, that is dependent on the machinery; the human interface is merely a guide to the machine.

The unknown is how computers may change this process. What is not known is how the present methods of postproduction will interact with and/or be replaced by the advent of desktop video. This thesis is aimed at finding out the opinions of those involved in the traditional modes of postproduction and how they feel about the personal computer's possibilities of making this process affordable and accessible to more users. The literature review looked at the predictions for the future of video, predictions which are changing the market;

1. According to the president of Desktop Presentations, William Cogshill, the problem with the introduction of computers into the business marketplace is the ignorance of software, hardware and the capabilities for growth with these tools. Currently, the lack of

understanding of computers has prevented acceptance. Computers, which can accomplish a mulitude of tasks, are seen as being specialized pieces of equipment.

2. By using the personal computer only in off-line editing, the postproduction process is stuck on a method which is becoming outmoded.

3. The future of video postproduction and the computer is in the change from an analog magnetic tape to digital videodiscs, which can carry audio and visual information that can be accessed at the touch of a button.

4. Currently, computers are being utilized as outside accessories to the traditional modes of postproduction. The switch to a computer-based mode of production must be enacted before the capabilities of desktop video can be realized.

5. The problem with computers and video is that they are two technologies that are merging. At this stage, there is no digital method of recording information. When this merging happens, the magnetic tape will be eliminated and the technologies will become

one.

6. The future of computers and video production will be eased with the introduction of people who have been raised with and are comfortable with computers. The traditional method is comfortable for the business minds that have been raised with it; the reluctance to accept and integrate the new technology is due to a lack of information and familiarity on the part of current users.

This focus group cannot deliver the final opinion on the state of the personal computer in the video postproduction process. What it can do is show the areas where professionals involved in the process are being limited by their adherence to the traditional technology and what areas of desktop video are appealing to them. Along with these limitations is the possibility to find out opposition to the introduction of computers into the postproduction process. The traditional method is known by the professionals, yet the desktop video technology is new and just now being tested. This focus group study is aimed at giving immediate reactions to a profession in transition.

What will be answered by this study? The literature that has been reviewed up to this point is made up of a variety of opinions. The answers will not come in how things are being done currently, but how they likely will be done in the future. This thesis is based on an interaction of opinions, those of the literature review predicting the future and those of the focus group, predicting how desktop video will affect their market. This research is the first of its kind, since it asks a specific market, industrial users, to evaluate the technology and predict how it will affect their work. It will also allow a view into the struggle to adapt to a new technology by a market that has been satisfied with the present technology. Feelings and attitudes are the concern of this thesis, along with exposing video producers to the desktop video technology; it is in measuring these reactions that the evolution of the personal computer in video production can be given a perspective. Will the current users choose to integrate the computer with their professional expertise? An answer to this is found in the focus group opinions.

CHAPTER III

FOCUS GROUP METHODOLOGY AND DESKTOP VIDEO PRODUCTION

This is a study of reactions to a new technology; it is not a study of how many will choose to use it. Rather it questions those involved in the postproduction process of industrial videos to find out if they, personally, can see the value of desktop video in their own productions. In what areas are video employed within a company? Is it cost effective to add a computer, or to develop postproduction capabilities around equipment already in the office? The questions concerning personal computers are a mixture concerning enhancement of present equipment and investing for the future.

An attempt to quantitatively measure such a market requires that users be separated by economic and need categories, which in this case are virtually worthless measurements. The value of qualitative measurements employed in a focus group is in the exchange of opinions. Wimmer and Dominick in their book, Mass Media Research (1987) utilized the focus group as a method to use

open-ended questions to spur on discussion. The group acted as the informants for the mediator, or facilitator, who presents the questions and the presentation. In a qualitative study as developed with a focus group, the goal is not to define the question asked or to come to a final conclusion. It is the basis for further study and a way to measure reactions.

A generic description of the focus group methodology would include the mediator and the group of respondents or informants who act as a testing base for questions. These questions may be delivered orally, which encourages discussion and an exchange of ideas. Combined with the use of written responses, which protect the privacy of those who may be intimidated by group situations, the combination of oral and written answers allows a variety of response mediums. The mediator may evaluate responses to questions in order to find out the what, why and how of a selected topic. The areas of who and where are the priority of quantitative research, but the focus group method aims at research through the freedom of personal opinion.

The exploratory nature of the focus group is well suited to the purposes of this study. The question being asked is whether these users would choose to integrate the personal computer with video production, which initially might seem like mixing apples and oranges because these two fields have been viewed as separate technologies. What is sought are directional conclusions that may guide the mediator toward a better presentation of the computer-enhanced video production and an understanding of the needs and biases of the marketplace. The search is for specific ideas and attitudes within the users. These reactions will be evaluated as subjective responses and used to develop further questions. The focus group is a method to evaluate opinions and clarify areas of confusion, both on the part of the informant and the mediator.

THE STRENGTHS OF THE FOCUS GROUP METHODOLOGY

The strength of the focus group is in variety. From a variety of opinions and ideas, a core of information can be developed. This qualitative core will allow further areas of research to form, since it

is based on the free exchange of opinion. The strength of the focus group is that it creates questions. The increased ease of interaction and exchange that is developed will benefit the mediator by creating an atmosphere where brainstorming is encouraged. If the focus group feels comfortable, opinions will be delivered. The mediator may then sit back and record these opinions, allowing the group to direct itself. If the mediator is forced to direct the conversation, the freedom of exchange of opinion could be diminished, making the results more of what the mediator was looking for instead of unbiased reactions delivered by the group.

This variety of response will reveal different sets of opinions. Through the use of a group, the different opinions may come into conflict and resolution, or even better, may not yield to resolution and create areas to explore. The focus group research is dependent on exploration and interaction. There are no right or wrong answers, only opinions. This study has no basis for measurement or comparison with other studies, so it relies on the variety of opinions. In this case, the more opinions the better, because then a basis of

comparison within the group can be created. Areas of opposition in opinion will allow the mediator to understand where the opinions conflict. In this sense, areas of agreement and conflict are both important.

USE OF THE WRITTEN AND DEMOGRAPHIC QUESTIONNAIRE

The use of the written questionnaire before a focus group can create a basis for the focus group discussion. It is the one area where the mediator indirectly controls the flow of conversation. The questions posed serve to set the grounds upon which the discussion will ensue. Individuals are not isolated in their opinions and forced to defend them in an one-on-one situation.

Another strength of the focus group is the revelation of certain beliefs or biases that may exist within the industry. These may range to certain attitudes that are shared among the focus group or differences of opinion that exist. The reliance on subjective reactions and the immediate, un-edited responses of members is another strength of the focus group. In trying to measure the nature and

quality of a group, the ability to make instinctual responses allows the focus group methodology to be measured in the present, instead of predicting future trends. The ideas and attitudes of those questioned form a pattern of the attitudes prevalent in the industry; these can be used to develop new approaches to the questions at hand.

The demographic questionnaire is needed to find out who is answering the questions. Without this measurement, it is impossible to estimate the level of expertise at the meeting. Through this creation the answers can be compared to studies done through other publications and what area of postproduction was represented. From this comparison it can be discovered whether the answers received were accurate and may suggest ways to find a more representative group the next time around.

THE WEAKNESSES OF THE FOCUS GROUP

The weakness of the focus group lies in the narrow scope of opinion and the nature of the focus group and the mediator. The

immediate question and answer format does allow for free discussion, but this discussion is still limited to a select group. Attempts to generalize opinions must take into consideration the personalities and particular areas of expertise in the focus group that is being interviewed. Proof is obtained about the qualitative assessment of each individual member of the focus group. But these qualitative responses can in no way be judged to be conclusions. They are simply keys to further questions.

Perhaps the major barrier to the focus group approach is the timing and quick nature of the study involved. Since respondents are only present for a few hours, the variables of social ability and comfort come into question. In this sense, the nondirectional aspect of the focus group will dissolve into chaos if the persona of the "leader," the mediator, is such that the group ends up uninterested and discontent.

The weakness of the focus group informants may also deter the question and answer process. Certain opinions may be delivered not to further discussion, but to create confrontation. Also, if a trend

develops in the opinions of a certain group, it may become the accepted opinion within this discussion and few may object to it. In this manner it becomes more efficient to compare the responses of various focus groups, rather than relying on these short sessions.

In addition to these problems, the course of the conversation must stay within the topic area. Without this element of control, the focus group may be a waste of time. The results are dependent on a fair and free exchange of information, with maximum involvement of all focus group members. The mediator must be thorough in picking his group. If the group is a mixture of those who know what they are talking about and those who don't, then the findings will simply be the result of a few people's feelings, rather than a collection of opinions.

THE FOCUS GROUP: THE USE OF THE ITVA

The focus group chosen are members of the International Television Association (ITVA), which is an organization for nonbroadcast video professionals, essentially comprised of corporate users. The ITVA is the oldest group of industrial video users,

according to Dranov, Moore and Hickey in the study of corporate video, Video in the 80s.

This study of corporate users utilized the ITVA as the most experienced and representative faction of users in the country. This association was formed in 1973 by a merger between the Industrial Television Society (ITS) and the National Industrial Television Association (NITA). These groups were founded in the 1960s to incorporate the growing medium of television with the needs of industry. The membership displayed continual growth throughout the 1970s and early 1980s. With this addition to the ranks of professionals came an increase in the diversity of users. The early members were primarily insurance companies, with corporate training directors dominating the membership. But as the prospects for video grew, so did the variety of members. (Dranov, et al., p. 34)

This possibility for investment of this industry has risen into the billions in the 1980s, according to the March 1987 issue of E-ITV (Educational and Industrial Television), drawing in the likes of NBC, who have created the first network nonbroadcast company. (E-ITV,

March 1987, p. 14.) These factors make the choice of ITVA members an ideal one for the focus group. The criteria of members is that they are experienced and conversant in the medium. The ITVA is made up of professionals who share the knowledge and utilize the technology of industrial video. These members will know the traditional modes of operation, and through the questionnaire will be able to give a demographic representation of their areas of expertise.

The specific objective of this focus group study is to measure the response to the use of the personal computer through a comparison of the two processes. It is assumed that these professionals are familiar with the traditional process. This process will be outlined, but the key is that the technology involved is at least understood and accepted by those who will be tested.

A pilot focus group study was conducted with an undergraduate class in communications prior to the ITVA focus group. This was intended to measure the effectiveness of the questions, video, demographic questionnaire, and the Likert scale. The obvious weakness of this pilot group was that it was conducted

with students who do not have experience in the field. It is also unlikely that many of them have run their own businesses and could understand the budgetary implications of the questions.

The responses from this group showed that the questions and discussion yielded similar results. The responses from the oral interview, when compared with the Likert scale, indicated a strong correlation of response in favor of the medium. The students agreed that desktop video was an easier, more cost-effective approach to video, since it relied on one person doing the job of a group. It was noted, however, that one would not just sit down with a personal computer and become an expert overnight. The technology was not foreboding, but the undergraduate class echoed many of the sentiments of the professionals, i.e., that desktop video is an alternative to video that takes a degree of expertise. The casual user would need time to learn it.

The video to be presented to the Knoxville, ITVA chapter is a 10 minute personal computer video production. The challenge is not to present this as a test to the existing systems. The focus is on what

the ITVA group already have in their offices, which is a personal computer. If these P-C tools are already in the possession of the user, and this video proves to have the quality and cost effectiveness that cannot be found in the standard industrial video postproduction, then the hypothesis is that these users will see the value in enhancing what they already have.

This ITVA focus group will be used to measure the reactions of those within the industry. The personal computer has become a tool of the mass media, but is the corporate user reacting to it? Is there value in the corporate market for it? Will the industrial user move beyond mainly training individuals with video to using it for sales and promotions? Is it worth the expense to conduct postproduction in-house, and are the cost savings related to an expanding market? All of these are opinions, subjective and relevant to the separate industries represented.

The questions handed out determined the demographics of the focus group, as previously mentioned. Yet the most value will come in the oral questions, which will be presented immediately after the

video has been shown. At this time the focus group will act both as client and as judges of this new technology; this training tool will be judged on its ability to sell itself. On the other hand, if the quality of the video is not perceived as being equal or better than that of the traditional mode, the mood of the presentation may limit the exchange of information. What the visual medium does is directly communicate a message; if this message fails, due to the lack of experience of the mediator's video, the results of this focus group may be affected. In this manner, the focus group becomes as much a judge of content and taste as a measure of the possibilities of this technology.

This focus group is a measurement of the acceptance of computers as mass media instruments. This acceptance has the variables of focus group bias and the skills of the presenter. The study of reaction to the new technology is reliant on the active exchange of information. This video presentation is, in essence, akin to what the professionals do: an attempt to show, instead of tell, the value of a particular training method.

SUMMARY

The goal of a focus group is to find out opinions. By using a Likert Scale for the written questions, many of which are addressed in the discussion after the video, the accurate measurement of feelings and opinions should be entered. The mixture of these elements with the demographics of the group will give a clue to how the professionals in postproduction are reacting to desktop video.

The focus group is an ideal forum for such a study because it is based on responses and interactive exchange between group participants. The gathering of these responses will develop the sharing of opinions. What will be learned are the professional's opinions about desktop video. It is not known how many are using personal computers for their video productions and if they feel that a personal computer is a useful tool in this endeavor. Through a question and answer process, more questions can be derived. Considering that the study of desktop video is in its infancy, the information provided is valuable in leading to further focus group

studies. It is a way of measuring reaction and in being so, is a tool in the beginnings of a new technology.

The responses from this study will allow further research into the use of computers, as well as revealing what professionals in the field feel about the technology and the changes that are occurring. This may lead to avenues for the computer companies to address, since the industrial video users are not commonly addressed in the development of broadcast video. This area of the market has not been researched extensively; this study allows the opinions of the business sector to be measured.

CHAPTER IV

RESULTS OF THE FOCUS GROUP EVALUATIONS

This focus group study was conducted with twenty-five members of the ITVA chapter in Knoxville. The focus group was first shown a 10 minute video presentation which was produced using a PC-based desktop video postproduction method. The sample video was intended to show the possibilities of a single person producing a video using a personal computer. The video is a mixture of videos composed by Apple Computers' and Macromind, as well as video produced by the researcher. These three sources were combined to show the power a personal computer gives the individual. The initial shots of a video production room, with an interview of a professional spokesperson, are intermingled with animation effects, like balls bouncing and graphs growing on the screen to show their final results. This is contrasted with video of a "traditional" business meeting, where poorly drawn charts are shown to a bored audience.

The key to understanding the significance of desktop video is in the presentation itself. The soundtrack to the desktop video

presented in this study was composed of music and interviews. Combined with the variety of visual images, both animated and straight shots of people working in the postproduction process, the overall approach is one of control and ability to mix different mediums of expression. The single user working with a personal computer is able to draw on previously created material, like the videos from Apple and Macromind, along with videotape that deals directly with the issue at hand. For the focus group, the mixture of video and sound textures was designed to show the capabilities of desktop video. (See video script in Appendix A)

The group was then asked a series of questions about the desktop video post production process and how it applied to their own work experience. A demographic questionnaire and a Likert scale attitude measurement were then passed out and filled in by the respondents.

The demographic profile of the 25 members of the Knoxville ITVA group revealed a diverse group of video users, involved in facets ranging from the casting of talent for industrial videos to the

post-production process.

The demographic questionnaire asked the gender of the individual respondent. In this group there were 18 males and 7 females, which made the group 72% male and 28% female.

The age of the respondent was asked in order to develop a perspective of age. Of the ITVA group, the majority, 36%, were in the 30-40 age group, while 24% were in the 20-30 age group. In comparison, 20% were in the 40-50 age group and 16% were in the 50-60% age group. One respondent was older than 60, representing 4% of the total. Sixty percent of the focus group was between 20-40 years old, while 40% was older than 40. This information indicated a majority of users that were either new to the field or had just established themselves.

The level of education of the focus group was mainly comprised of people with a minimum of a college education. The overwhelming majority of respondents, 68%, indicated that they were college graduates. Of the respondents, 16% indicated that they had a masters, and 1 member or 4% had a PhD. The percentage of

respondents with only a high school education was 12%.

The respondents in the focus group came from a variety of companies. Of the respondents, 3 represented Panasonic (in either A/V Systems or Industrial Video sections), 2 came from Kennedy Maxwell Motion Picture Production, 3 came from the University of Tennessee-Knoxville, and 2 were from Alcoa City Schools. Forty percent of the group did not attend this focus group without fellow workers. Of the 60% remaining, their companies included: Martin Marietta Energy Systems, WBIR-TV, CAM 3 Associates, Midwest Communications, HP Video, the Talent Trek Agency, Bondurant Brothers Company, the East Tennessee Baptist Hospital, a freelance video producer, and an unemployed college graduate.

The question of length of experience with the current company was used in conjunction with the question of years of experience. Of the focus group, two members or 8% did not respond to this question. The majority, 28%, indicated that they had worked from 1-3 years at their present job, while 24% indicated they had worked from 4-6 years. The percentage of the focus group that worked 7-10

years and 10 or more years with the same company was the same, 20% for each. Here the majority of members had been at work from 1-6 years with the same company.

Of the focus group who responded, 42% were from Knoxville, with 8% hailing from: Oak Ridge, Tennessee; Maryville, Tennessee; and Secaucus, New Jersey. Two members, or 8%, did not respond to this question. The remaining 16% of the members were from Atlanta; Alcoa, Tennessee; Louisville, Kentucky; and Kingsport. It is not clear how the two members from New Jersey were members of the Knoxville ITVA chapter, unless the fact that both of them work for Panasonic is an indicator.

The following chart (**Figure 1**) is an indicator of the variety of positions held by the focus group members. The titles included in the demographic questionnaire were not chosen by most, indicating jobs that comprised a variety of skills.

Years of experience in this focus group found many with extensive experience. Of the focus group, 32% had worked over 10 years, 28% had worked 7-10 years, 20% had worked 1-3 years, and

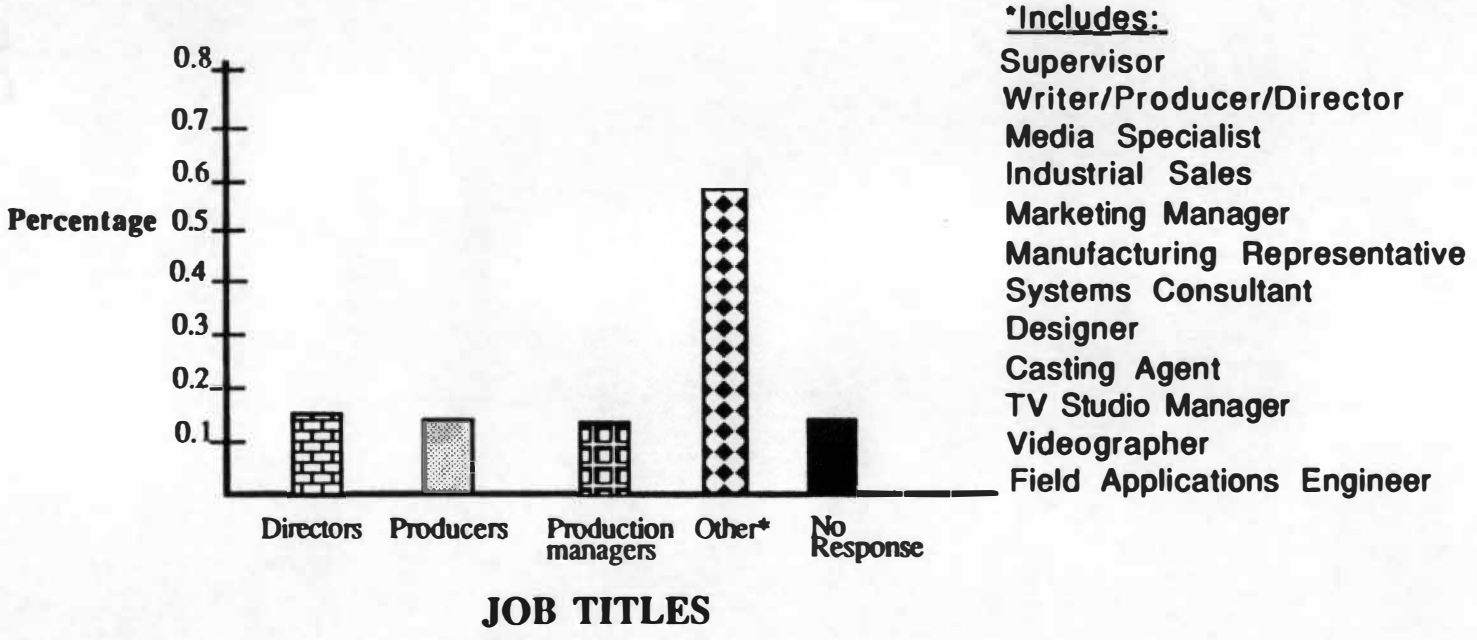

Figure 1: Job Titles Held by Focus Group Members

16% worked from 4-6 years. One member did not respond, accounting for 4%.

Finally, the company's primary business activity was questioned. **(Figure 2)** Of those responding, 24% claimed to be involved in video production; 4% or one was in advertising; and the remainder were in the category of other. Their jobs primary business included: government contractors, 8%; education, 12%; manufacturing, 12%; sales, 12%; health care, 4%; talent agent, 4%; editing/production facility, 4%; manufacture of video equipment, 4%; commercial TV broadcast station, 4%; two members, or 8%, did not respond to this question.

A general profile of the focus group member was a male, 30-40 years of age with a college education and over ten years of experience. While the job title is difficult to pin down, most seemed to have experience in a technical or managerial level associated with video postproduction, as seen in figure 2.

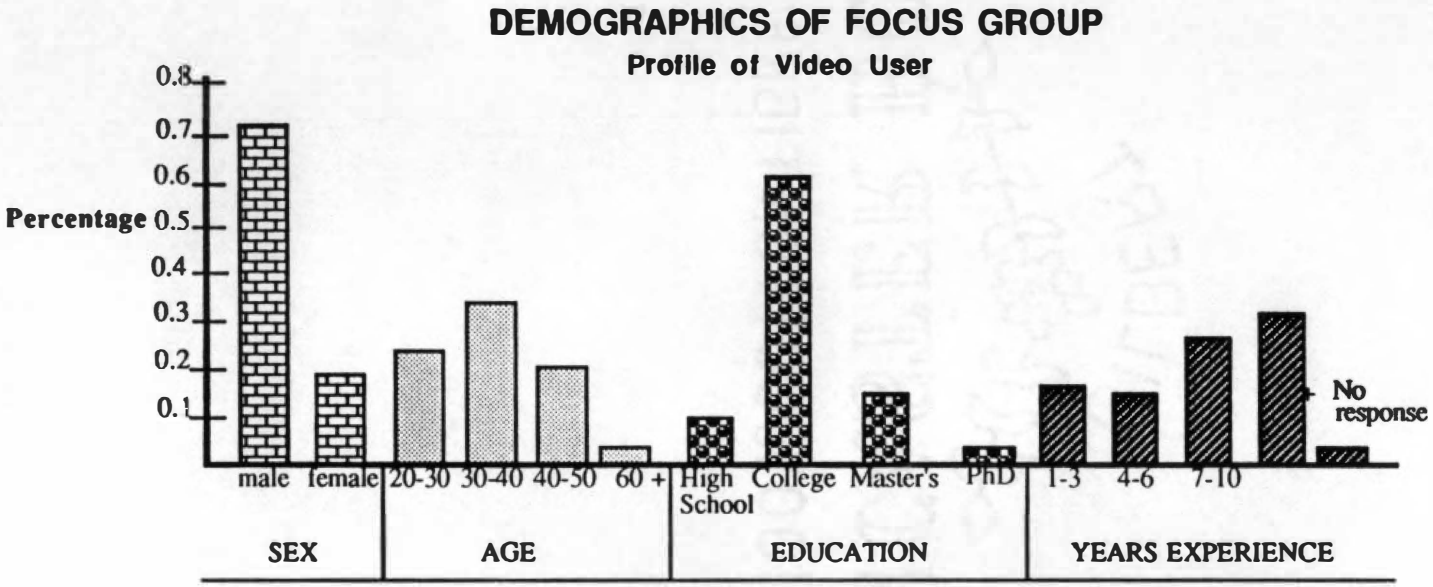

Figure 2: Demographic Profile of ITVA Video User

FOCUS GROUP DISCUSSION

The next group of responses to be measured come from the focus group oral interview after viewing the 10 minute video tape. Before these responses are determined, it should be noted that the members of this group consistently reiterated the fact that the technology that they observed was an excellent addition to the field, but this addition was strictly to be construed as a high-end, expensive application. The video, though done by a single person using a personal computer, melded the best of examples of animation effects and video presentations done by various departments, not by an individual. This variable was not overlooked by the focus group, who knew that the elements of this video were not done from scratch, but pieced together by an individual. Although this video done by the researcher pointed out a strength of desktop video, it also pointed out the difficulty and tremendous amount of time such a complicated production would take.

The group was asked about prior knowledge of desktop production technology prior to this video demonstration. The

majority in the room responded that they did know about this technology, that as professionals this technology had been part of the business for a few years. Three members claimed to use desktop productions in their own businesses. One used a software called "Videoshow", which allowed the creation of charts and graphs. He had been using this for approximately two years and indicated that it had enhanced the rather boring presentation of overhead productions.

Another member indicated that he had used animation in his business. This required the extensive training of an individual in the department, who took approximately 1-1/2 years to become competent in the field. This member felt the use of desktop production was worth the rather expensive cost.

The third member who indicated she had used desktop production pointed out a problem with the technology, not in its use but in the understanding of how to implement it. Approximately 6 departments within her business used one form or another of desktop production, but each used a form that worked best for there

particular need. She asserted that in her experience, there was not one method of operation. Each department used its own method, which created 6 different systems within the company. There was no communication among these 6 systems, which detracted from the cooperative use of the medium. She found this to be a weakness of using a personal computer, that the various applications for each department were the only ones that were studied. The time it took to learn these applications was all that was invested in the technology. In this manner, each department knew its own form well, but was unfamiliar with the other forms being used. The learning curve for desktop production differs from individual to individual and application to application, which makes expertise in different forms of desktop production unnecessary from a budgetary viewpoint.

The use of desktop production in opening up new markets in the professional video production industry was directed at finding the applications that might be made available through the use of the personal comptuer. Of the few respondents who answered, the

response was a definite yes. One member felt that this technology melded the jobs of instructional designer and computer programmer into one individual. Desktop video enabled a trend to develop in the industry toward computer based training as a method of developing video production skills. The group was unclear on this question, as they focused on the way desktop video would help in-house. No member had a suggestion of how this technology could open up new markets for the company. It seems that the focus group found the value of the desktop video production technology as a teacher of the skills needed, rather than a way to create new markets that were not previously available.

In order to measure the personal reaction of the members to the technology, to find out if they cared for it or not and why, they were asked to give opinions from personal experience. In general, the members felt that desktop video was "great," merging the technologies of video production and computers. One ITVA member felt that desktop video was a "powerful tool" which when put into the hands of an instructional designer or trainee, could establish a

link between the two technologies. Now the video production process could be a mixture of computers and the power of video.

Another response to this question found the value of computers in tracking information, following the method of the SMPTE code that had made editing a simpler process. The access to data is invaluable, said one member, making feedback and interaction more of a possibility.

A negative response to the technology was registered by a member who felt that the use of computers was not being integrated with video production. The two technologies, which are merging in design, are not being implemented in a profitable co-existence. This member found that the computer and the traditional production mode were still not working together, and were in the period of adaptation.

The next question asked how the focus group would apply this technology to current post production methods. This was the first question where the issue of whether an individual, "casual user," could benefit from this technology. One member found that the

computer could be the driving force of postproduction methods, a coordinator of the hardware that was already present in the company. Another member estimated that the level of output on a consumer level would take 3-5 years of training and development of this technology to approach that of professional video production.

Most of those responding found that a better than amateur video production job is still the sole property of the professionals in the field. At best, the personal computer can deliver a moderately creative job, in the opinion of the focus group members. Desktop video is cost effective, but this does not mean it is cheaper. Cost effective must be separated from cheap, insisted one member. For a professional operation putting out high-end productions, the use of a personal computer adds an additional capability. To think that an untrained individual can sit down and magically use this technology without extensive training is a fallacy, according to several members.

The negative aspect of applying this technology is the enormous amount of time it takes to train an individual, and to have that person use the equipment without being monitored. The

member who used animation reiterated his experience of training his animator for a year and a half. Another ITVA member claimed that it would take at least 6 months for someone to learn how to use animation. The general consensus was that one does not simply walk in and use the equipment, that it takes knowledge and time.

The variable in learning curve depends on one's familiarity with computers and the software used in this desktop video production. The focus group agreed that there are so many types of software available that it becomes confusing to the average user. A distinction must be made between the high end professional use and the individual's applications. The focus group found that there was a "big gap" between these two applications. Desktop video production is capable of helping the high end video producer who is already familiar with the process. But for those who do not know how to do desktop video, the computer is not a short cut to becoming an expert. Expertise comes through use and experience, not through a computer, according to one member.

The next question was to compare the advantages of desktop

video production to traditional methods of production. The only advantage pointed out by the group was that this was a new dimension of presentation, opening a new realm of expression. The use of desktop presentation methods was advantageous to the casual user, but in video production the technology was not enough to make anyone an expert, according to these professionals.

The focus group judged the video shown to them to be an example of high end video production. It was estimated that a 5 second animation could take up to 105 working hours with the present state of technology; in order to produce a video like the one demonstrated would take approximately a year and a half, according to the various members of the group. One member again asserted the common theme that cost-effective did not mean cheap, and that to study and operate a machine takes more than just walking up to a computer and pressing the keys. Video production is not desktop publishing, according to the experts. It cannot be learned instantly. The learning curve was again explained by a member, who said that the technology was not magic. It was helpful, but it could not make

anyone a professional.

Yet was this technology a threat to the professionals in this group? The group was asked to identify desktop video production as a threat or asset to the professional video production companies. Once again this question sparked the need to separate the high end production from the low end and to explain that the traditional method employed is complicated and demands expertise. The introduction of this technology does not eliminate jobs as much as enhance those jobs already in existence. One member identified an asset of this technology as allowing casual users to recognize how complicated the video production process is. Low end software and machines can't do high end production. The lack of expertise will show up in knowledge of equipment and also in professional ideas. The focus group found that the best application of this technology was on the high end, so it was not a threat to them at all; if anything it was an advantage.

The difference between high end and low end video production is that the low end can only do small things, like storyboards, while

the possibilities for high end application is virtually limitless, according to one member. This complication prevents the use of this technology by beginners, especially in postproduction. The use of animation and artwork shows another dimension of high end service that can be used as a sales tool to customers, who will realize that the process demands professional knowledge and experience.

This question of desktop video production technology being a threat or asset to the professional video elicited the most emotional and complete response of the group. One individual estimated that for a lower end user, the evolution of this technology would consist of 5-7 upgrades, making it too costly for the average user. This would require an upgrade in knowledge as well as machinery. The advantage to the professional was in making the unseen seeable, which could be translated to low end users who came in to see for themselves if they could produce professional videos. The focus group agreed that the high end will acquire personnel with training in this mode of production, who will demand higher salaries. But the average user must surrender quality if they want to produce their

own videos. The computer can't do the job of creating for the individual user, according to one member.

After the emotional response to this question about whether or not the computer was a threat to their professions, the general opinion of the group seemed to have been entered. The next question asked whether this technology would make productions more cost-effective. The focus group felt they were answering the same question, insisting that in order to create certain effects in artwork and animation, it would take 3-4 months. With a computer and a properly trained professional, it was estimated that this time could be cut down to 2 weeks. This seemed to contrast with the earlier statement that a 5 second piece of animation would take 105 working hours, yet the members seemed in unison in agreeing that the desktop video production technology could significantly cut down their production times. But they re-asserted that they were familiar with the process in the first place. In order to reach their level of expertise in machinery, one member estimated an investment of $25,000 in software alone. The results of an

individual who decided to invest this money along with the money needed for a video production system would still not yield high end results, one member claimed. The difference is that video production is a career, not a hobby.

The focus group was asked how they were currently using their computers for production purposes. This question had already been addressed by three members in the opening question. Most of those responding to this question claimed that the computer was used for word processing scripts, for logging tapes and records, and for computer assisted instruction. The use of the personal computer as a teaching tool seemed to be the primary use in this focus group.

The group was then once again asked if this technology, coupled with the traditional modes of production, could create new markets by saving time and postproduction costs. This generated absolutely no response in the group at all. By this time they seemed to feel that they had given their opinions on the topic.

The final question was how this technology would affect their own job duties/description if incorporated, if it would change the

nature of one's job. The group reiterated that the market between high end and low end was defined and that the personal computer would in no way establish a middle class of video production. Leave it to the professionals, they said, although one member felt that the new generation of students who grew up with computers would adapt to the technology more quickly than the present generation.

This ended the focus group oral discussion. The members seemed to be in accordance with the view of desktop video production as a method of improving the ability of professionals to do their job, but could not see how this would translate to the lower end user. The technology was an asset but at the same time, when asked if it threatened them, the emotional tone of the group seemed to indicate an apprehension. This apprehension was reinforced by the constant assertion that only professionals should handle video production.

The findings of this discussion seem to indicate that the group is familiar with the changes being caused by the advent of the personal computer. Yet the learning curve for computers seemed to

be a major deterrent. One member indicated that younger people who had been raised with computers might find them easier to work with. The opinions seemed to confirm that

1. Desktop video is perceived as a subtle threat to their professions;

2. The new technology can add to the current modes of production;

3. Many of the members who advocated the use of computers were only using them for word processing and menial chores;

4. The difference between the appreciation of the professionals of the computer's capability and the actual number of members (two) who were actually using the new technology indicates a contradiction. Though they have opinions on the subject, most of these are not from direct experience.

LIKERT SCALE ATTITUDE MEASUREMENT QUESTIONNAIRE

The Likert Scale works on a 5-step scale ranging from strongly agree to strongly disagree, with undecided being the middle range of

3. The Likert Scale is used to gain feedback about the feelings regarding desktop video production, with the range of expression indicating extremes of total agreement or total disagreement. The questions had two prime focuses: the first addresses the cost and cost-efficiency of the desktop video production methods, and the second researched the actual use and projected use of this technology.

Statement 1, (Figure 3) of the attitude measurement asked whether desktop presentation technology is a cost-effective alternative to traditional video postproduction methods. The respondents tended to agree that it would be cost-effective: 40% agreed, 20% strongly agreed, while 16% were undecided. Twenty-eight percent disagreed with the cost-effectiveness of this technology.

Statement 2, (Figure 4) asked if the respondent would use desktop presentation technology if the company had the necessary equipment and software. Once again the response was affirmative, with 52% in agreement, 40% who strongly agreed, and only 8% who

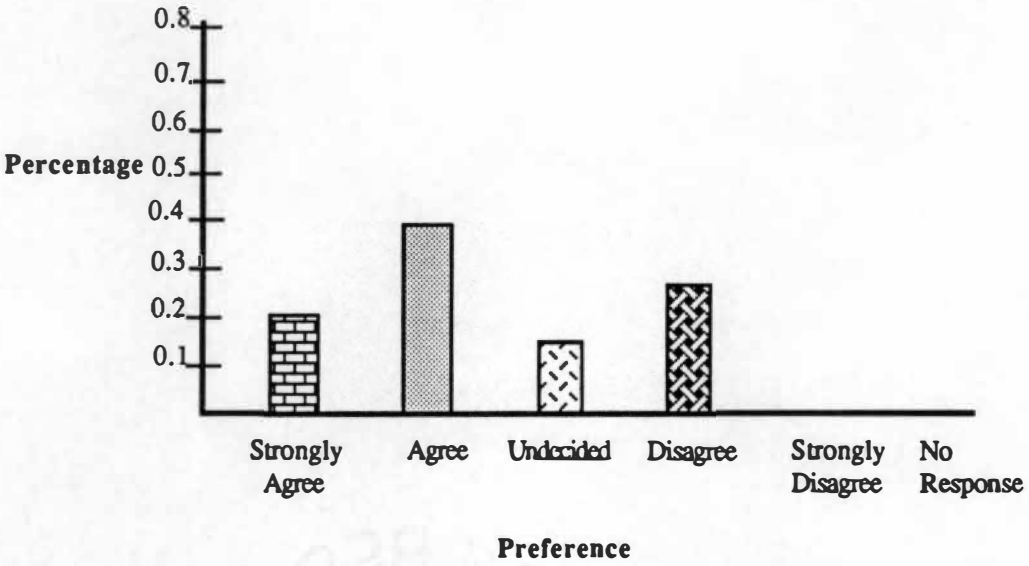

Figure 3: Attitude Measurement Statement 1. Desktop presentation technology is a cost effective alternative to traditional video post production methods.

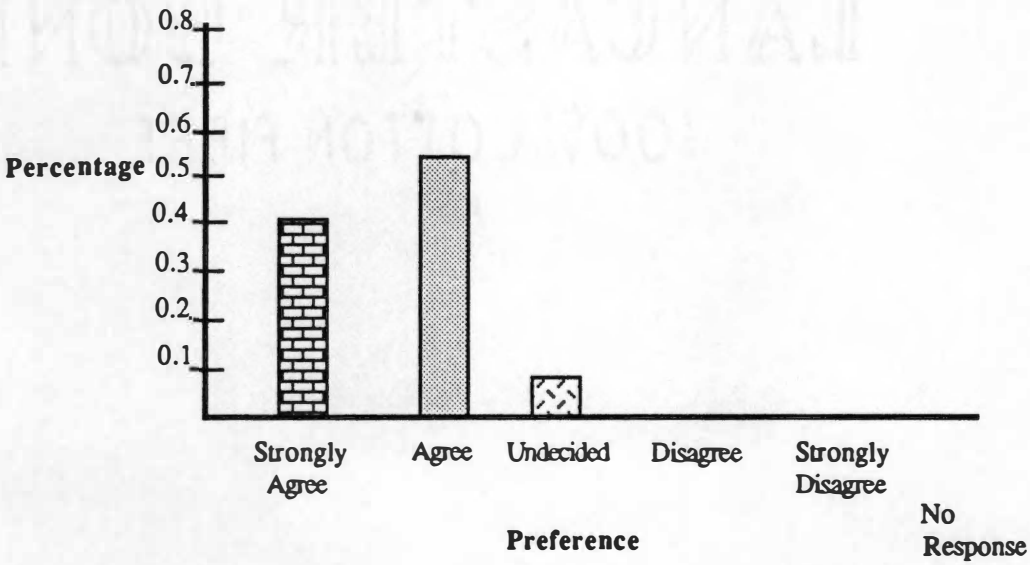

Figure 4: Attitude Measurement Statement 2. I would use desktop presentation technology if my company had the equipment and software needed.

were undecided. The strong positive response of the first two questions belies a faith in the importance of the new technology, and the assertion that it is indeed cost-effective. As an alternative on the professional level, the ITVA focus group seems to agree in the value of desktop presentation technology.

Statement 3, (Figure 5) asked if desktop presentations will replace traditional video postproduction in the near future. Here the opinion altered towards the negative, with 32% who disagreed, 28% who strongly disagreed, and 28% who were undecided. Only 12% strongly agreed with this premise.

This response is perhaps the strongest response against the desktop presentation technology. It is not perceived as a threat to these professionals, who understand that it is not designed to replace the present postproduction methods. At best it can enhance an already fixed process. This comparison shows an agreement among the professionals that they are experts in a system that will remain for a long period.

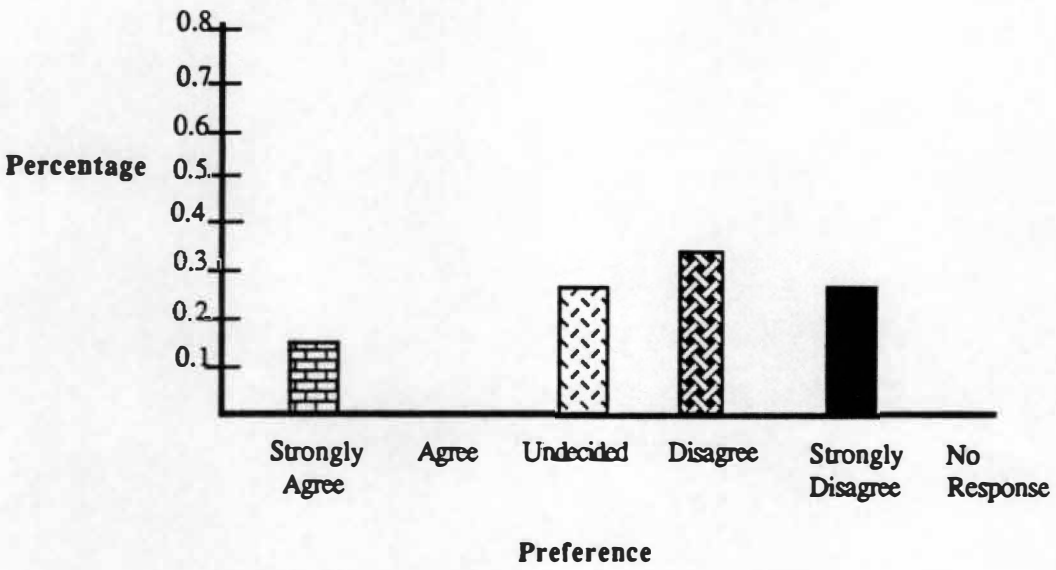

Figure 5: Attitude Measurement Statement 3. Desktop presentation technology will replace traditional video post production methods in the near future.

Statement 4, (Figure 6) asked whether the company was likely to purchase this system and technology in the next five years. Opinion was divided over this question: 32% agreed, 20% strongly agreed, 16% were undecided, 16% disagreed, 4% strongly disagreed, 8% did not respond, and 4% did not think that the question was applicable.

Statement 5, (Figure 7) asked whether desktop presentation technology would open up new markets in the professional video production industry. The response was an overwhelming yes to this question: 44% strongly agreed, 36% agreed, and 16% were undecided. Four percent did not respond.

The answer to this question is an interesting comparison that will be noted in the discussion of comparison between the oral interview process and the attitude measurement. When asked this question, the answers did not address new markets or the possibilities for opening them. But it seems in this comparison, the group sees the possibility for new markets to be opened with the desktop presentation technology.

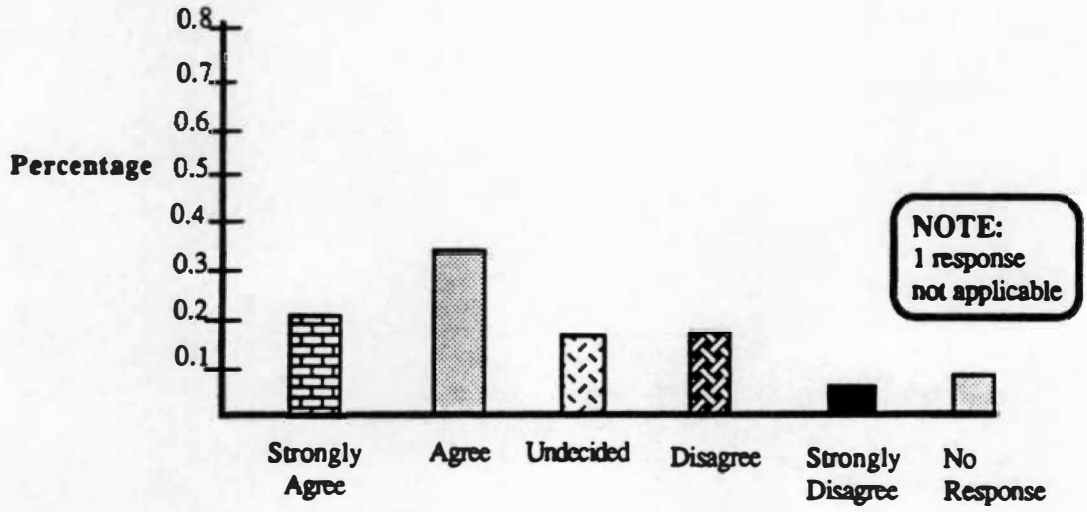

Figure 6: Attitude Measurement Statement 4. My company is likely to purchase this system within the next five years.

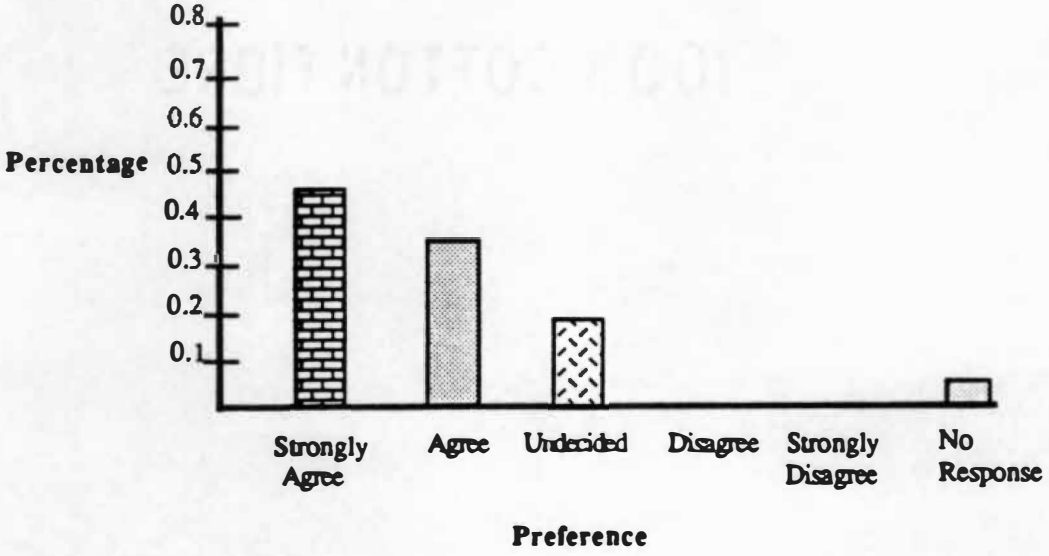

Figure 7: Attitude Measurement Statement 5. Desktop presentation technology will open up new markets in the professional video production industry.

Statement 6, (Figure 8) was aimed at finding out whether desktop presentation technology is applicable to current postproduction needs. Forty-eight percent agreed with this idea, while 24% strongly agreed; 12% were undecided, 8% disagreed, 4% did not respond, and 4% did not think the question was applicable at this time.

Statement 7, (Figure 9) asked whether, after comparing the advantages and disadvantages of desktop presentation technology versus traditional modes of video postproduction, the individual would look into acquiring a system for their production needs. The response for this question was predominantly in the middle of the scale, with 40% who agreed and 40% undecided; 12% disagreed, 4% strongly agreed, and 4% did not respond.

Statement 8, (Figure 10) asked if the technology was too difficult or complicated to easily understand. Thirty-six percent disagreed with this, while 24% agreed and 20% were undecided. Twelve percent strongly disagreed and 8% strongly agreed.

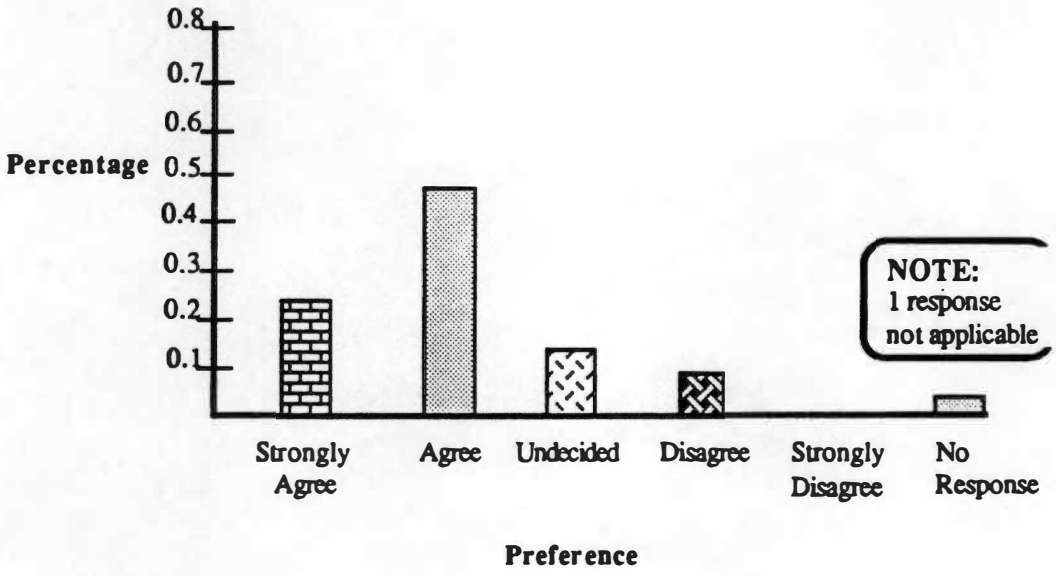

Figure 8: Attitude Measurement Statement 6. Desktop presentation technology would be applicable to my current post production needs.

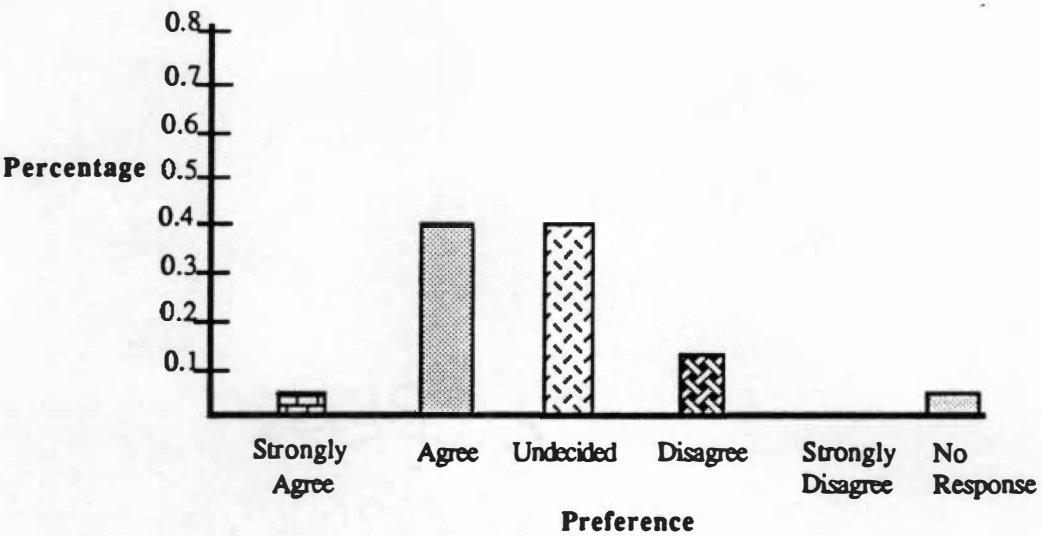

Figure 9: Attitude Measurement Statement 7. After comparing the advantages or disadvantages of this desktop presentation technology to traditional post production methods, I want to look into acquiring this system for my production needs.

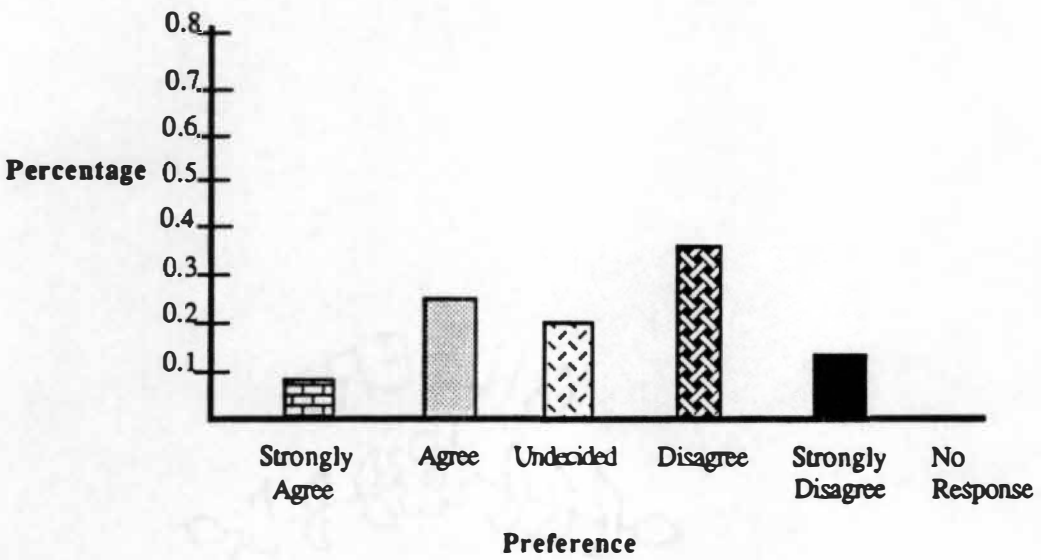

Figure 10: Attitude Measurement Statement 8. This new technology looks too difficult and complicated to easily understand.

Statement 9, (Figure 11) researched the capability of desktop presentation technology to interconnect and enhance postproduction tools. The majority of respondents felt it could be an integral part of their systems; 64% agreed, 24% strongly agreed, 4% were undecided, and 4% disagreed. Four percent did not respond to the question.

These response seem to reveal a correlation of belief among the focus group, that the desktop computer production method is an ally, but not a replacement, of the present systems.

Statement 10, (Figure 12) investigated whether the technology would be an asset to professional video production houses. The response was once again overwhelmingly in favor of incorporating the new desktop presentation technology with the current modes of production: 56% agreed, 28% strongly agreed, 12% were undecided, 4% strongly disagreed.

Statement 11, (Figure 13) asked if more home users/producers will enter the marketplace. Surprisingly, the response to this question was: 56% agreed, 12% strongly agreed, 20%

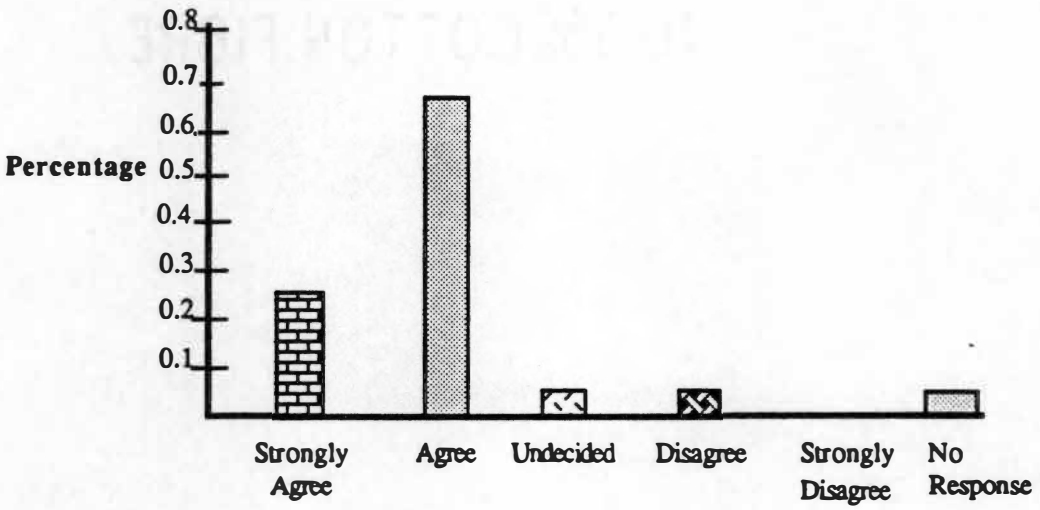

Figure 11: Attitude Measurement Statement 9. Desktop presentation technology can interconnect and enhance some of my post production tools currently being used today.

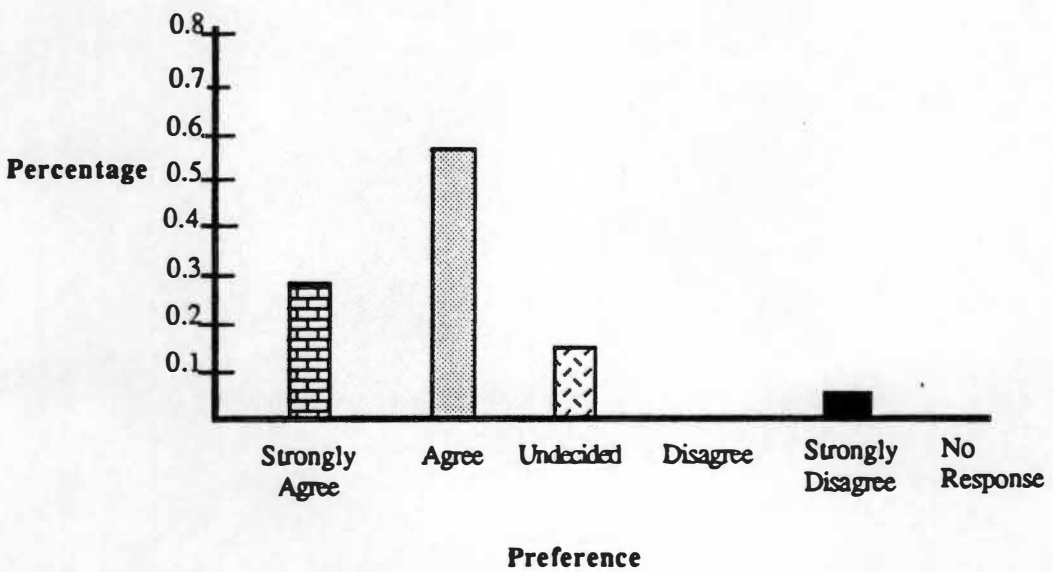

Figure 12: Attitude Measurement Statement 10. Desktop presentation technology will be an asset to professional video production houses.

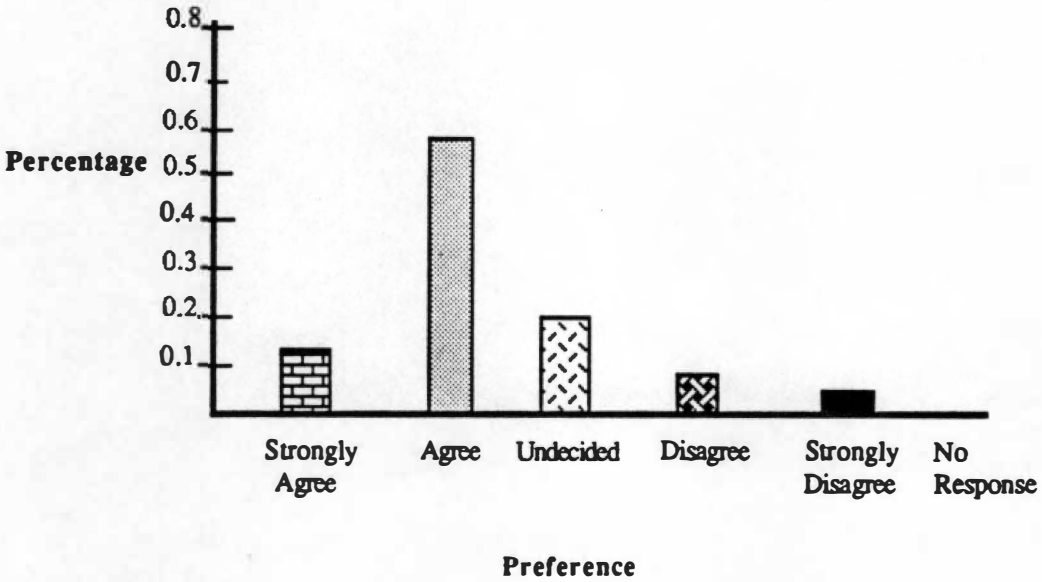

Figure 13: Attitude Measurement Statement 11. Desktop presentation technology will bring more home users/producers into the market place.

undecided, 8% disagreed, 4% strongly disagreed. This is surprising considering that in the oral interview the opinion seemed to be that the non-professional user would not benefit from this technology.

Statement 12, (Figure 14) examined whether the introduction of desktop presentation technology will reallocate jobs and allow more time for creativity. Here the consensus was negative: 44% disagreed, 28% agreed, 20% were undecided and 8% strongly disagreed.

Statement 13, (Figure 15) asked the respondents to compare whether the cost of purchasing the equipment is too high, or if is it worth the return in the postproduction effectiveness and quality. The majority opinion here was undecided, with 48%, followed by 24% who disagreed, 16% who agreed, 8% who strongly disagreed, and 4% who strongly agreed. The opinion of cost-effective is not perceived as being inexpensive, lending an unsure response to this question.

Statement, 14, (Figure 16) asked whether desktop video production would allow productions to be produced quicker. Thirty-

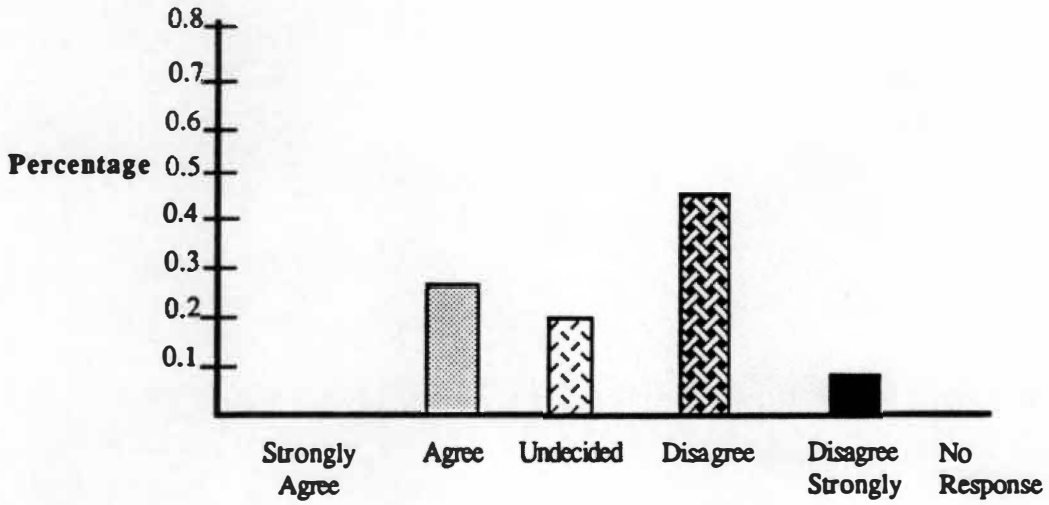

Figure 14: Attitude Measurement Statement 12. Desktop presentation technology will reallocate jobs by requiring less people to be a part of the post production process and will allow people to have more time to be more creative.

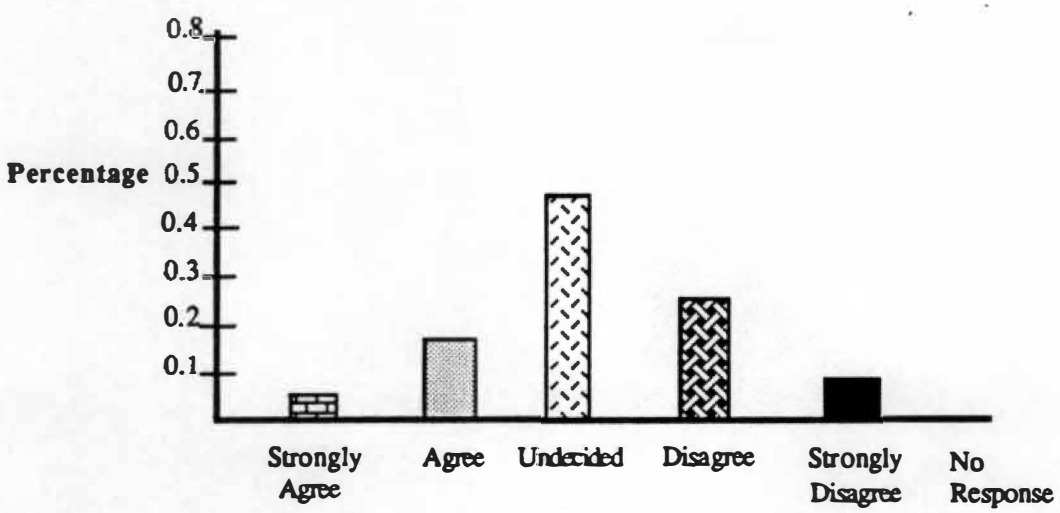

Figure 15: Attitude Measurement Statement 13. The cost of the necessary equipment to produce desktop presentations is too high for the amount of good it produces.

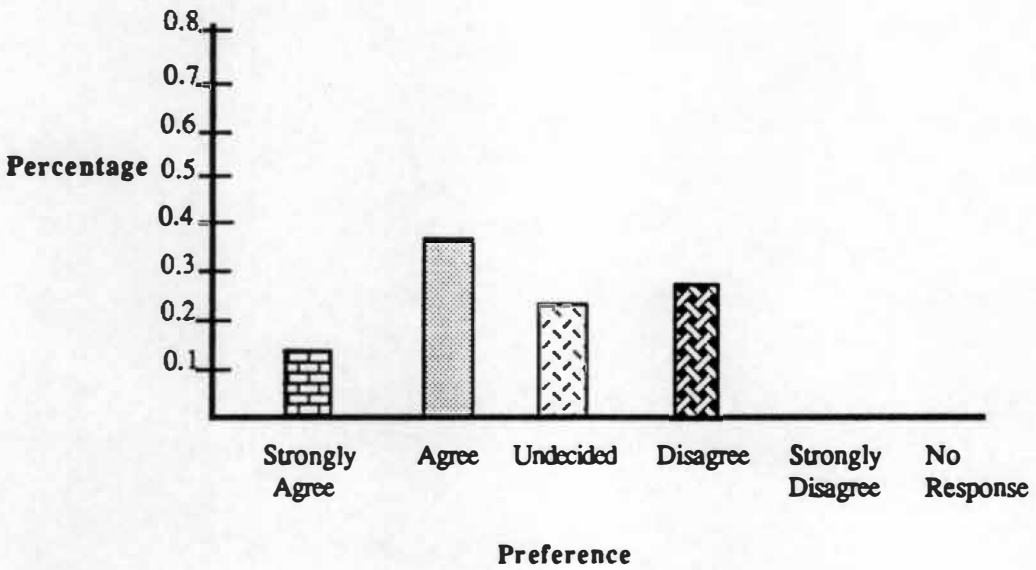

Figure 16: Attitude Measurement Statement 14. Desktop presentation technology will allow productions to be produced quicker using a personal computer.

six percent felt the productions would be quicker, while 28% disagreed, 24% were undecided, and 12% strongly agreed.

COMPARISON OF ATTITUDE MEASUREMENT WITH THE FOCUS GROUP DISCUSSION

The attitude measurement seemed to verify most of the findings of the discussion. In particular, the first two questions affirmed the discussion finding that the desktop presentation technology is a cost-effective addition to the postproduction methods and that if they had the equipment, they would definitely put it to use. The value of desktop production is recognized by the professionals; it is the degree to which it can be implemented which is not agreed upon.

The focus group members concurred that the new technology will not replace the traditional modes of production. The focus group did not feel that this was the value of desktop presentation technology, yet the responses to the questions of whether desktop video was perceived as a threat seemed to create the most defensive

answers. Question three of the attitude measurement, which asked if the desktop video technology would replace current methods, was the only question which registered an overwhelmingly negative response, along with being the highest response of all the questions in the strongly disagree category. It was as if the focus group would not admit the importance of the technology because they were unsure of its effect on the market. One of the major problems of new technology is that those who don't understand it, will try to resist it. The feelings from this question about desktop video as a perceived threat seems to bring a contradiction between response and emotional reactions. The group acted as if they were protecting something, most likely their jobs.

An inconsistency in response developed with the question of opening up new markets. In the discussion, the focus group appeared reticent and quiet on this question. In the discussion the response to new markets was directed to how it would enable in-house instruction to be enhanced. No one specifically outlined how it would apply to opening new markets. But in the attitude

measurement in Question 5, the majority found that it would help open new markets. This question leaves an opening for further investigation.

The focus group gave consistent responses to the value of desktop presentation technology, finding that it fits their current needs and that it will enable them to use this technology immediately. However, in Question 8 of the attitude measurement, an inconsistency is found in the responses as to the difficulty of understanding and learning the new technology. The difficulty of learning how to use it was agreed upon in the discussion, but the number of people who feel that it is beyond easy comprehension increased in the attitude measurement. The response here seems to indicate that the technology takes a long time to comprehend, which would tend to contradict its immediate implementation which is agreed upon in Questions 6, 9, and 10.

Another inconsistency between the attitude measurement and the focus group interview occurs in Question 11 of the Likert Scale questions. After insisting that the home user would need a large

investment of time and money to begin to develop an expertise, the focus group turns around and predicts that more home users will enter the marketplace. These are the same people who, in the oral interview, were to be convinced by the professional's use of the new technology that it was far too costly and difficult to pursue. The focus group interview pointed out that to upgrade a system and to keep up with the technology would take an investment far beyond the home user.

The attitude measurement also revealed a skepticism about the new technology freeing up the time of the video production or the jobs involved in producing videos. The problem of complication seems to correlate with the response to Question 8 and the opinion in the focus group interview that it takes a little over a year to get competent in the use of desktop presentation technology.

Another surprising inconsistency occurred in Question 13 of the attitude measurement, where the members were asked to decide whether the cost of the new technology justified the purchase in results. The majority seemed to feel that the cost was a major factor

in not purchasing a system. They seemed to feel that their present system would suffice. In the oral interview the distinction between cost-effective and expensive was repeatedly stressed. This attitude measurement seems to reveal that for most, the cost-effectiveness is not enough. It does correlate with the fact that the majority of the respondents do not run video production houses. The diversity in demographics seems to indicate that the use of this technology is limited to those who invest in video production only.

SUMMARY OF MAJOR FINDINGS

The focus group, in both the discussion and the attitude measurement, seem to see the value of the personal computer as one limited to specialized functions. The issues of cost versus effectiveness came up again and again. A major theme that emerged from this study was the separation between the low end user and the high end user, an ironic separation when one considers that most of the participants would be categorized as low end users. The following findings were derived from the focus group:

1. The major use of computers by this focus group was for word processing and for training programs for employees;

2. These professionals were adamant that their professional approach to video production would not be replaced by the computer. The computer seemed to be an interesting addition to a set system;

3. The majority of respondents in this focus group would have to be labeled low end users. Many are not involved in video production houses, but instead have a diversity of jobs that surround the field;

4. The responses echoed the lack of respect for desktop video production as a revolution within the industry;

5. Most found the cost imposing, seeing the computer technology as a costly tool that could provide dividends to those who are used to spending large amounts of cash on postproduction equipment;

6. The attitude that computer technology was a "fun" addition to the rather mundane world of postproduction is a response that is

echoed in the attitude measurement as well as the oral interview. The problem seems to be in the perception of the personal computer in the postproduction process;

7. Demographics is perhaps the greatest weakness of this study. The professional industry as represented here is an amalgam of users and those who work around the industry. This leads to a question of whether this group knew enough about the practice to comment effectively;

8. The questions seemed to be answered not from the viewpoint of a professional in the field, but from an observer of the process. This opens up the question of the accuracy of this study;

9. The findings in this focus group study indicate that the personal computer is still considered a tool for storing memory and making the process of paper quicker. Its application to the professional video production lacks clarity;

10. The video presented to introduce the group to desktop video technology was attacked by several members, who pointed out that it would take a year and a half for one person to achieve this.

When the mediator indicated he did it in a few weeks, by taking pieces of previously created material, the focus group remained adamant in finding weaknesses with the video. The defensive attitude was noted in questions that attempted to define the value of desktop video;

11. The computer is still perceived as a tool that takes time and a certain way of thinking to learn. A major inconsistency in this study that reveals this finding is in the perception of a computer as a complicated and difficult tool in the attitude measurement. Many of the focus group members do not know the postproduction process and were unable to form educated opinions.

The focus group discussion and Likert Scale revealed certain opinions about desktop video that were not supported by the actual use indicated by the ITVA users. The findings of this focus group include:

A. A vast difference between respect for what a computer can do and how it is actually being utilized by these professionals;

B. A reluctance to accept computers as anything more than an

accessory to the traditional modes of postproduction;

C. A distinct insistence in the discussion group that desktop video technology will not open the market to "casual users," which is then contradicted in the Likert Scale with the finding that many expect more home users to enter the market;

D. The focus on the expensive cost of computer generated video from professionals who are, for the most part, not actually using the technology;

E. Finally, an underlying apprehension over what the introduction of the personal computer will do to the field of video production. The fear of desktop video simplifying the editing process like desktop publishing did the printing process was steadfastly denied, yet the knowledge that computers are able to transcend human limitations does seem to be in the background of the answers given by this group, raising the emotional level of responses.

CHAPTER V

CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

The issue of desktop presentation technology and its ability to either replace or enhance the traditional modes of video postproduction has been the focus of this study. The issue is one that involves the advancement of computer technology into fields that were once thought of as totally separate technologies. The theory was that individuals or groups who are using traditional modes of postproduction will need a more cost-effective way to produce video presentations.

CONCLUSIONS

This study was conducted on a focus group comprised of members of the ITVA group in Knoxville, Tennessee. As a result of this study, the following has been learned:

1. Video users in the postproduction process find that computers are expensive additions to the postproduction process;

2. The use of desktop video is perceived by the ITVA users as

limited to those professionals who know how to work the equipment;

3. The computer is equated with the complicated machinery that is involved in the traditional methods of postproduction, limited to what has been labeled a "high-end" user;

4. The focus group, comprised of what would be termed "low-end" users, finds the expense of the computer as benefitting only those who are already professionals in the field of postproduction;

5. Video users and the ITVA members perceive the computer as an accessory to the present method of postproduction. Computers seemed to be perceived as a specialized tool in postproduction, with the use limited to specialists;

6. The ITVA group contradicts itself with the finding in Number 5, for most of the members are, by their own admission, low-end users and could not understand the implications of desktop video;

7. Despite this lack of knowledge, the video users seemed to be intimidated by those who were directly involved in postproduction. The results of the focus group attacked the cost and ease of use of

the computer, based on the "defensive" opinions delivered by a few members and accepted by the group;

8. This intimidation was not reflected in the questionnaire, which indicated that a majority of the group felt that computers would change the nature of the video postproduction market and make it easier for a casual user to become involved in the process;

9. The acceptance of desktop video in the workplace is limited by the ignorance of the professionals and those who are low-end users about computers and the desktop video process. It is perceived as a costly and time consuming effort;

10. This ignorance is adamantly defended by those directly involved in the postproduction process, who repeatedly insisted that the introduction of the personal computer would still only benefit the high-end user. No one mentioned moving beyond the traditional process involving magnetic tape; judging from the emotional responses to questions of the computer being perceived as a threat to their positions, the ITVA users feel that as long as the traditional process is preserved, their businesses will still succeed;

11. The reluctance to accept and adapt to desktop video is evident in this focus group study. It is clear that video postproduction is still perceived as a separate process from the use of computers, since most of the respondents still used computers only for word processing and training procedures that did not concern video postproduction.

IMPLICATIONS

The implications of this focus group study are :

1. Video users tend to be reluctant to accept the desktop video technology. A major gap exists between what the computer manufacturers want to happen and what video users perceive as happening;

2. This reluctance is based on a lack of familiarity with computers in general and reflects an ignorance that is a safe haven in the face of change. The challenge of learning requires work while clinging to the present technology requires no effort;

3. A major barrier to the use of the personal computer is the reliance on traditional modes of production and the reluctance to explore the computer's capabilities from professionals who are already trained in the traditional manner;

4. Video users need to broaden their thinking about the potential of this technology, by learning how it works;

5. Manufacturers are going to have to change the marketing approach to desktop video. Currently, the use of jargon and the emphasis on the revolution of computers is alienating the public that must learn how to use them;

6. The resistance to change must be addressed by computer companies in order to change the perception of desktop video as time consuming and expensive;

7. The lack of knowledge about computers is an indication to the manufacturers that the market for high-end users is succeeding, but that the very people that are supposed to be helped by the computer, the low-end users, are being excluded due to a lack of

technical knowledge;

8. Currently, the fear of progressing into the future is limiting the introduction of desktop video into the workplace. The gap between the video user and the manufacturer is due to a lack of communication. In order for desktop video to progress, the focus on the personal computer must move outside of specialized, professional publications and be addressed to the mainstream user. Until then, computers will seem like a complicated myth instead of a teachable reality;

9. The personal computer cannot be adapted to the present mode of video postproduction. Rather, the opposite must occur, the methods of postproduction must be modernized so as to maximize the potential of the computer. Traditional methods of postproduction limit the value of the computer.

The promise of desktop video production is that it is a cost-effective way to shorten the process, focusing on a single individual producing a video through the use of a personal computer. The merger of the two technologies was to open the doors to a new

approach to video production. Instead of opening new markets, it appears to be making a clearer defining line between what is considered professional and what is considered amateur.

The findings of this study are in agreement with the opinions of two professionals who see the current hype over multimedia presentations as just that, hype. It is not that the promise does not exist for this technology. The conclusions that are reached from this study are that the knowledge and investment needed has an inherent weakness. Frederic F. Davis in his article, "A Wild-Goose Chase?" in the March 1989 multimedia issue of MacUser points out that "judging market size by how much money is being spent, rather than by how many people are doing something, is far more important." (Davis, MacUser, March 1989, p. 9.) Davis points out the fallacy in comparing the ease of using multimedia devices with the ease of desktop publishing. The problem with personal computers and multimedia/video production is that they are mired in the attitude and tradition of magnetic tape modes and interface.

In his article, "Desktop video? Not so fast!," Andrew Goodman

makes the point that desktop video is not analogous to desktop publishing. As he relates, "most businessmen and businesswomen aren't accustomed to putting sound and picture together in a recorded, linear fashion. For them, producing desktop videos is traveling in a foreign land. The process is complicated and often tedious, and so far the computer can do very little to help the amateur." (Goodman, MacWeek, March 7, 1989, p. 20.) Goodman's point can be applied to this study. In order to maximize the availability and ease of computer technology, the idea of video postproduction must move beyond interrelating with the traditional modes of communication. Computers can only enhance the present system. But the possibilities for computers to create their own system, which will allow the average user to participate in videos, is the future of computers.

RECOMMENDATIONS

In making recommendations to a corporate video user, one would have to take into consideration the budget of the company.

Recommendations arising from this study are as follows:

1. For video users, the reliance on the traditional modes of production should be eased, with the focus being on the innovations in video production that are imminent;

2. Video users need to broaden their thinking about the potential of this technology, rather than being mired in the comfort of understanding the current technology;

3. The need for video users to think of video production as a long term investment instead of a short term, one shot process is imperative in understanding the changing nature of business. By continuing to focus on the current state of production, instead of planning for the future, businesses will profit in the short term but fall behind in technology in the long run, the kind of falling behind that is almost impossible to catch up with;

5. Manufacturers must develop the video production process to move beyond magnetic tape and offer an alternative to traditional modes of video production;

6. Currently, the switch from traditional modes to desktop

video needs to be facilitated by simplifying the process. Manufacturers should address the gap in knowledge between the user and the manufacturer; the promise of computers is that one need not be an expert. But the knowledge of computers is still limited, making it seem elitist. Manufacturers would benefit by issuing instructional manuals as a way of promoting interest and eliminating the gap between the average video user and the future of desktop video;

7. A central recommendation for the manufacturer would be to ease the interface between human and computer. The current use of programming and keyboards still limits the use of the computer to those who are trained. As it concerns video postproduction, the simplification of the process should be studied, putting more of the expertise in the computer. This will allow the average user to focus on creativity, instead of the operation of the computer;

8. Future research should be aimed at solving this interface issue, as well as making desktop video a totally computerized process;

9. Research should be conducted on the barriers of learning and accepting the use of personal computers. The stigma of being forced to learn a foreign language to work with a computer has been opposed by the graphics-oriented Macintosh, which claims to show instead of tell the user how to operate the computer, yet this appeal to the common user must be intensified if the desktop video process is to gain acceptance;

10. From the findings of this study, it becomes evident that even professionals in the field feel a challenge from desktop video. This market should be studied in order to develop a transition from traditional processes to the desktop video process;

11. Future research should concern the perception of computers as a threat to business instead of an asset. This attitude should be focused on professionals who are directly involved in the process, with educational tools provided to show the use of desktop video. This study was weakened by the reliance on a single video as a means of convincing the group that desktop video was a viable

process. Interactive media should be used, with members using the personal computer and then delivering their reactions.

What is the value of solving this problem? The answer can be seen in the attitude measurement of the focus group, where the question was put whether computers are too complicated or difficult to invest in for video production. If the computer was able to allow one to sit down and simply interface with human communication, then the learning curve that was so stressed by the video production professionals in this study could be eliminated. The computer of the future is one where the learning will be interactive, the computer with the knowledge of how to do a task, and the human with the knowledge of what the task should become.

If one were to recommend the personal computer video production to a corporation, in the current state, it would be a costly and unwise investment. If the company could afford to train a person or group in the workings of the computer, they might be able to produce professional videos in a year and a half. The total

system in the traditional mode, based on the system outlined in Chapter III by Compesi and Sheriffs, is a bulky system that could cost close to $60,000. Combine this with the training time, and the inability of other members of the company to understand the process, and the personal computer video production seems like a white elephant.

Sculley's dream equates to computers learning the human language. The interface of a keyboard or a drawing screen could be eliminated by programming the possibilities for creation into the computer. Further research concerning desktop video and the future of the postproduction process should address the following:

1. The most effective way of eliminating the use of magnetic tape as the primary element of video editing;

2. A study of the major problems individuals have with the interface of the traditional video postproduction systems;

3. The problems individuals have with understanding personal computers and software;

4. Long term business plans for introducing and implementing

personal computer systems which have uses beyond just video production;

5. The development of technology that allows the computer and user to maximize potential with a digital output.

In conclusion, the future of desktop video production cannot be found in modes of production that were designed for analog equipment. Computers will never replace or save money in a world where information must be read through in chronological order. This is not the order of the human mind nor is it the order of the computer. In order for desktop video to gain acceptance, it must show that it works with and like the human mind, instead of like the machines that are currently in use in the traditional methods of postproduction. Currently, the use of computers in the postproduction process is limited to high-end users, an elitism that eliminates the most promising market for desktop video and personal computers in general, the casual user.

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APPENDICES

APPENDIX A

VIDEO SCRIPT

VIDEO SCRIPT

To make a professional video production today normally requires the use of expensive and large format equipment found only in industrial video production houses.

Individuals, organizations and small companies usually have limited access to this sophisticated equipment and little chance to produce high quality work. Still, if you want to make a presentation, you can always hire a video production company to do it for you at a price averaging $200 to $500 an hour. This makes presenting your ideas difficult, especially if your working with a limited budget.

Today there is a new approach in video production that can give a greater number of people the tools to make their own professional video creations--it's called Desktop Video Presentations. This technology uses the power of the personal computer found in most businesses and homes and makes them more television-like.

Desktop Presentation technology combines video, sound, animation and other devices into a finished video product. This blending of formats makes a personal computer a video production tool and

creation device.Presentations are intended to convey information and be interesting as well as persuasive. But hard to read visuals can obscure the message while projecting an unprofessional look. Research indicates that the best way to express yourself and your ideas is by incorporating moving images with sound to make a complete presentation. The personal computer now gives us this capability. The following examples were produced using a personal computer. For the first time you have control of a presentaton from your desktop. Control that means accuracy, speed, quality and confidence.

You can input the data, edit the text, create charts and graphs or electronically paste anything in from other sources. Then build your presentation using a broad range of enhancement tools or special effects.

Desktop video presentations let you include the latest information, pick just the right color, make immediate changes within seconds without having to re-do the entire presentation. You can even create new graphics to support your message. Then give

your presentation life by making the images move,--- and adding sound. The personal computer lets you pull it all together easily and cost effectively. By using sophisticated software, hardware and accessories, you can create digital quality results in-house.

You can even minimize the time and money spent reformatting information by using clip animation and clip art.. With clip animation you simply place an image in front of a static slide to add impact. For example, instead of having a static arrow on the screen, use an arrow that flies onto the screen. Or put a dazzling marquee around your sales figures. Or, with clip art, you don't have to be an artist to use this technology. You simply select any number of ready made images and paste them into your presentation.

You can even create original art work on screen with a new wealth of precision tools. There are more effects and techniques available than ever before. Graphic elements can be moved and positioned accurately, refined replicated and re-used so the art you create today can be filed away to give you a head start on tomarrows project.

All these personal computer advantages apply as well to photographic images. High quality scanners let you copy drawings, photographs or logos directly into your personal computer. With thousands of available colors, you can enlarge up to 1,600 percent for retouching, resizing or to add special effects. You can even combine your computer generated output with live or pre-recorded video segments as you can see from these examples.

Once you've completed your presentation, the personal computer allows you the flexibility to show your production in several formats. You can transfer the presentation to video tape in 1", 3/4", or VHS format. You can even transfer it to compact disk. Or with easy to use personal computer communications, you can transfer your presentation to another party through the phone lines using a modem. This way the person on the receiving end can view your presentation within minutes through their own personal computer without either party having to eave the home or office.. Finally, you can also store your presentation on a computer disk.

If you can operate a personal computer and any easy to use

software program such as a word processor, then you can also learn to create desktop video productions. You don't need a degree in computer science to do it.

The power of the personal computer and software products can give the user new methods for developing effective and sophisticated presentations. You can choose the output that you need, the level of sophistication, choose the best way to tell your story.

Throughout this demonstration, you've seen various examples of desktop presentation technology. This advancement in personal computing makes it possible for an individual, group or company to produce a video presentation about itself, its services or products with a P.C. system.

Professional video production using large format computer enhancement is not new. What is new and exciting is the innovation of mixing and manipulating text, graphics, audio, transitions and video with a personal computer.

APPENDIX B

DEMOGRAPHIC INFORMATION

Demographic Information

Please circle the response that most accurately reflects your answer.

---

1) Gender: Male or Female

2) Your age: 20-30, 30-40, 40-50, 50-60, Other:_____

3) Highest level of education completed: High School, College, Masters degree, PhD. Other:_____

4) Name of company or organization you work for? (optional)_____

5) How long have you been at your present job?
1-3 years, 4-6 years, 7-10 years, more than 10 years.

6) Where is the location of the company?_____

7) How many employees work in your department?
1-3, 4-6, 7-10, more than 10.

8) Your professional title? Video producer, Director, Production manager, Editor, Other:_____

9) How long have you worked in this field? 1-3 years, 4-6 years, 7-10 years, Other:_____

10) Your company's primary business activity: Video Production, Public Relations,Research and Development, Consultation, Advertising, Other:_
_____

This study may provide an insight into the possible uses desktop presentation technology may offer either at the present time or in the future. There are no known risks to this testing/questionnaire procedure. Your identity will be kept confidential. Only the investigator will have access to your score sheets and demographic questionnaire, which will be stored in a locked filing cabinet. Only aggregate results will be reported, and your individual test sheet will be destroyed as soon as the results are statistically compiled. Any reference to individual performance in the test will be disguised to protect your identity.

If you have any questions about the research, either now or later, please contact me, Paul R. Alatorre at the below listings. Your participation in this study is voluntary, and you may refuse to participate. You may withdraw at any time during the testing without penalty.

I have read and understand the explanation of this study and agree to participate.

Signature_____ Date_____

APPENDIX C

FOCUS GROUP QUESTIONS

FOCUS GROUP QUESTIONS

1) What do you know about desktop production technology prior to this video demonstration?

2) By any chance, do you use this technology now?

3) Do you feel this technology will open up new markets in the professional video production industry, Yes or No?

4) What is your reaction to this technology? Do you care for it? If so, why? Do you dislike it? If so, why?

5) How would you apply this technology to your current post production methods?

6) Compare the advantages of this desktop presentation approach to traditional post production approaches currently being used?

7) Compare the disadvantages of this desktop presentation approach to traditional post production approaches currently being used?

8) Do you feel this technology will be a threat or asset to the professional video production houses of today? If so, Why?

9) Do you think this technology will create a new marketplace for home enthusiasts (users) to get involved with?

10) Can this technology make productions more cost effective?

11) Do you think this technology will reallocate jobs? Will it allow people to have more time to be more creative?

12) How are you currently using personal computers for production purposes?

13) If this technology is incorporated with industrial video production equipment, can it create a new market by saving time and post-production costs?

14) What types of training do you think it will take to learn this method of video production.

15) If this system is incorporated into your current ways of video production, how will it affect your job duties/description. Will it change your job into something different than it is now?

APPENDIX D

ATTITUDE MEASUREMENT

Attitude Measurement

Please check the response that most accurately reflects how you feel.

1) Desktop presentation technology is a cost effective alternative to traditional video post production methods.

STRONGLY AGREE AGREE UNDECIDED DISAGREE STRONGLY DISAGREE

2) I would use desktop presentation technology if my company had the equipment and software needed.

STRONGLY AGREE AGREE UNDECIDED DISAGREE STRONGLY DISAGREE

3) Desktop presentation technology will replace traditional video post production methods in the near future.

STRONGLY AGREE AGREE UNDECIDED DISAGREE STRONGLY DISAGREE

4) My company is likely to purchase this system within the next five years.

STRONGLY AGREE AGREE UNDECIDED DISAGREE STRONGLY DISAGREE

5) Desktop presentation technology will open up new markets in the professional video production industry.

STRONGLY AGREE AGREE UNDECIDED DISAGREE STRONGLY DISAGREE

6) Desktop presentation technology would be applicable to my current post-production needs.

STRONGLY AGREE AGREE UNDECIDED DISAGREE STRONGLY DISAGREE

7) After comparing the advantages or disadvantages of this desktop presentation technology to traditional post production methods, I want to look into acquiring this system for my production needs.

STRONGLY AGREE AGREE UNDECIDED DISAGREE STRONGLY DISAGREE

8) This new technology looks too difficult and complicated to easily understand.

STRONGLY AGREE AGREE UNDECIDED DISAGREE STRONGLY DISAGREE

9) Desktop presentation technology can interconnect and enhance some of my post production tools currently being used today.

STRONGLY AGREE AGREE UNDECIDED DISAGREE STRONGLY DISAGREE

10) Desktop presentation technology will be an asset to professional video production houses.

STRONGLY AGREE AGREE UNDECIDED DISAGREE STRONGLY DISAGREE

11) Desktop presentation technology will bring more home users/producers into the market place.

STRONGLY AGREE AGREE UNDECIDED DISAGREE STRONGLY DISAGREE

12) Desktop presentation technology will reallocate jobs by requiring less people to be a part of the post production process and will allow people to have more time to be more creative.

STRONGLY AGREE AGREE UNDECIDED DISAGREE STRONGLY DISAGREE

13) The cost of the necessary equipment to produce desktop presentations is too high for the amount of good it produces.

STRONGLY AGREE AGREE UNDECIDED DISAGREE STRONGLY DISAGREE

14) Desktop presentation technology will allow productions to be produced quicker using a personal computer.

STRONGLY AGREE AGREE UNDECIDED DISAGREE STRONGLY DISAGREE

VITA

The author was born in Fullerton, California in October, 1961. He graduated from Cypress High School, Cypress, California in June, 1980. Between 1980 and 1983 he attended Cypress Junior College located in Cypress, California where he majored in political science. Later, he transferred to the University of Tennessee, Knoxville where he received his Bachelor of Arts degree in March, 1987.

Immediately following, he pursued a Master of Science degree in Communications with a major in broadcasting. During this time he worked within the Department of Broadcasting as a graduate assistant.

At the University of Tennessee, Knoxville and under the direction of Dr. Sam Swan, Department Head of the Department of Broadcasting, he received said degree in August, 1989.