

Visual Evidence in Qualitative Research: The Role of Videorecording

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Videorecording allows the researcher to record and replay the pictures and sound of an event. As such, it can be a valuable research tool. Nevertheless, it is not just a simple measuring instrument. As a qualitative research data gathering tool, videorecordings should be authenticated. Researchers should indicate clearly the role of this tool in their work and discuss the factors that may have an influence on the way it is used or on the data analysed. The substance of these factors is shown in inventoried form. This paper discusses these and advises how researchers may address the validity of videorecording as a qualitative research tool. Key words: Videorecording, Validation, and Data Collection Tool.

Research Videorecording

The visual mediums of photography, videorecording, and film dominate human's most developed sense, that of "sight". The signs and symbols embedded in the pictorial content of the visual messages are recognized, arranged in a complex flow of sequential images, and decoded and marshalled into patterns in the brain. Images are potent persuaders, but their abstraction and change in meaning over time encourage misunderstanding and improper use, so clarity of thought and expression are vital.

Videorecording is used in both analogue and digital formats; the latter is utilized most often with computer data software, multimedia, and websites. It is an important tool for the collection, analysis, and presentation of qualitative research data. However, the availability of large amounts of videorecording does not necessarily mean that it is being effectively recorded or used, indeed, familiarity with video in its domestic form has bred contempt for the need for experienced and professional users.

In 1998, I undertook a phenomenographic Ph.D. study centred on video use by researchers and teachers in which I interviewed respondents about the role of video in their work. The literature review and the interviews indicated that little heed was accorded to videorecording as a qualitative research tool, which required consideration in its use and substantiation of the process and data. In this paper, my aim is to foster an awareness that video is a qualitative research tool, to discuss matters to be considered when using it, and to argue that "considered use" can only enhance its validity as a qualitative research tool.

A novice video user can be overwhelmed with information on how to use a video camera, the user instructions accompanying equipment, descriptions of its mechanical and optical properties, and details of its technical and operational functions. There are also guides to video production designed for non-media users, which cover a range of topics such as equipment choice and specification, lighting and audio requirements, shooting and editing procedures, titling, and presentation (Basics of Video Production, Lyver, & Swainson, 1999; Single-Camera Video Production, Musburger, 1999; Master

Handbook of Video Production, Whitaker, 2002; The Computer Videomaker Handbook, 2001).

Nonetheless, because of the many extraneous factors likely to affect recording and viewing, users should be aware of the often unconscious pressures exerted for a variety of interpretations of the intended message. Most guidelines, whilst presenting the salient characteristics of videorecording, are neither comprehensive nor directed towards research. Even publications, which promote and support the use of videorecording in research, tend to be embedded in texts of singular disciplines and therefore remain largely undiscovered by other research users.

The use of video in research activity enables spontaneous and transitory information to be captured. In the qualitative arena, such events are rarely scripted or even under the researcher's direction. The recording and analysing of such information need to be considered within a general understanding of human nature and behaviour. It can be affected by factors, which have their roots in psychology and sociology, including perceptions of the "self" and "personal space" and gender characteristics and roles. Few production texts and monographs offer advice on ad hoc factors, particularly where they have relevance to a specific discipline. Following discussion of videorecording as a qualitative data collection method and categorisation of types of videorecording use in research, the non-discipline specific use of videorecording at the point of recording and at the point of viewing is examined.

Videorecording as a Qualitative Data Collecting Method

All documented research procedures acknowledge the need to accurately report the methodology and instruments used in collecting, collating, and analysing data. Videorecording, however, is not commonly recognised as an essential element of a methodology and so is seldom discussed.

It is therefore necessary to go beyond the simple instruction given in the guide to *The Proposal in Qualitative Research* by Heath (1997) that qualitative researchers should describe "the kind of data you will collect (e.g., ..., video tapes, ...)" (III.C.4) and "describe your intended data collection procedures" (III.C.5). The role of videorecording in a researcher's work should be clearly stated. Its comparative value to other methodologies and acknowledgement of external influencing factors or procedural limitations, should also be confirmed. A number of researchers have been at pains to emphasise this substantiation of qualitative methodologies.

In the abstract to his discussion of the methodology of critical ethnography, Wainwright (1997) found that "Qualitative Research is enjoying a new found respectability in medical sociology, derived in part from an increasing willingness to submit to positivist criteria of reliability and validity". In such qualitative research:

. . . the ethnographer is more concerned with the validity of the data she or he collects, that is, with whether or not the data express the considered and authentic views of the informant, with minimal interference or distortion by the research process. It is this criteria of validity (i.e., the potential to access the authentic views of the informants) that guides the ethnographer's selection of a site . . . potential considerations include . . . whether data can be adequately recorded. . . . (Wainwright, 1997, *Selecting & Gaining Access to a Site* section, ¶2)

Tsourvakas (1997) uses the term “methodology of multi-visual qualitative analysis” to emphasise the importance of the means of the analysis. He reiterates the point made by Wainwright (1997) in saying that “it is important to stress that if we are carrying out practitioner research, we must select those data collection methods that do not distort our practices in an unwelcome way or lead us to wrong conclusions that make our research useless” (Data Collection: Observing - Focusing – Interviewing section, ¶1). These collection methods must also be what Oka and Shaw (2000) refer to as “trustworthy” having “credibility, transferability, dependability, and confirmability”, which they say is “analogous to ‘internal validity’, ‘external validity’, ‘reliability’, and ‘objectivity’ in conventional criteria” (7.2). They specifically mention the recording of material as one item that would be audited in establishing the dependability and confirmability of the research data (7.10).

That there is a need to provide researchers with clearly defined guidelines was felt by Dawson (1997), who felt constrained to write *A Primer on Experimental and Quasi-Experimental Design* in order to “guide researchers to use better designs when developing their studies, to increase awareness of the residual imperfections in their particular design to help account for alternative interpretations of the results” (Summary and Conclusion section, ¶1).

This paper commends this purpose and offers evidentiary support for the need to achieve effective and credible videorecording in qualitative data collection with specific guidance for such use. In order for this to occur, there must be a recognition of the types of videorecording appropriate to research work that is an identification of where the research interest lies in terms of the process, and the people involved. An understanding of how users perceive what videorecording is in terms of providing a truthful record of events is also necessary.

Categories of Videorecording Use

All videorecording provides a sequence of moving images that may be replayed for immediate or later viewing using a camera, recording device, and monitor screen. It requires knowledgeable and considered control over the equipment in the selection and framing of visual scenes, technical adjustments, location of the camera, placement of the viewing monitor, and so on. In qualitative research, it is used in a number of ways having several distinct modes of operation actioned by different individuals.

Observational recording

In an observational recording, a researcher follows subjects engaged in an activity. The camera is focused on a specific action and records material that may be used as a database for coding and interpretation, for evaluation, or for profiling purposes. In considering developmental or learning problems or for reviewing progress in longitudinal studies and learning or training projects, it is a useful analytical tool but care must be taken to avoid the inhibiting affect of a perceived intrusive use of equipment and personnel, which may lead to reticence or bias.

Subject viewing

Where subjects of the research are engaged in viewing a videorecording of themselves, it can be termed subject viewing. The researcher is focused upon the subjects’ reactions to this self-viewing, referred to variously as the technique of self-

confrontation, self-monitoring, self-modelling, and stimulated recall. In this research mode, videorecording has been in use since the 1960's and is still a topic attracting inquiry in areas of teaching such as teacher reflection and student learning and attitude, in children's behaviours and motor skill modification, and in a range of therapy procedures. However, in dealing with revelatory issues and despite an individual's acquiescence or freely given official permission, there is always a risk of apprehension or loss of self-confidence.

Subject response

When the researcher is interested in subjects' responses to a videorecording, which is not of themselves, it can be termed subject response. The videorecording stimulates reflection and discussion of the viewed material and is often used in training and learning programmes and testing and assessment procedures. It may also be used to provide examples of role modelling by experienced or expert people.

Subject self-reflection

A more critical use of research videorecording results from subjects using videorecording equipment to document a subject self-reflection; the researcher is focused on the material produced by the subject. This may be a studied self-portrait or record of themselves engaged in unscripted activity. This would include a cameo of teaching demonstration for certification or exposure of an emotional state by a disabled client in therapy. Scripted, planned performance in drama or formal role-playing is also amenable material.

Subject recording

Where a researcher observes a subject designing and making a videorecording, it is termed subject recording. Undertaking such a role has been found to increase the self-esteem of at-risk students and permits the researcher to watch the creative process and evaluate production skills. Involvement in the production of videorecording content may serve to consolidate understanding of a foreign language, foster relationships between differing cultural groups, advance problem solving strategies, or to improve communication skills.

Researcher presentation

Research, at least in academe, requires that conclusions drawn from the studies pursued be disseminated to the widest possible relevant audiences. In this, the effective use of videorecording to promote the work of a qualitative researcher is predicated upon a professional attitude and the highest standard of practitioner skill displayed during the presentation, but regardless of the specific research focus, perception and affective factors may arise, which compromise the validity of the outcome.

Users' Perceptions of Videorecordings

In the education field, videorecording has been referred to as conferring new powers on the teacher/researcher and student as a "medium of empowerment and self-awareness" with users gaining "the ability to monitor their speaking skills, to concretize

and share their perceptions . . . and to recognise the importance of the information they were gaining” (Jankowsky, 1992, p. 25). How users, as producers or viewers, understand videorecording and what they expect of it, will affect the way they perceive its usefulness and consequently how they perceive the data it captures and shows.

Videorecording is considered to be a means of providing an image of an event. The photographic image produced by a still camera, the antecedent of videorecording, was considered to capture a frozen instant of time on film. In the early days of photography, a likeness of the image to the subject was sufficient for recognition and pleasure, and it was believed then that “the camera never lies”! However, once liberated from its more elementary function the, still camera became an instrument of art, a manipulator of the visual depending as much on film emulsion and speed, on shutter speed and lens focal range, as on the develop and print skill and aesthetic perspective of the photographer. To counteract this potential for manipulation the immediacy, movement and continuity of videorecording are in its favour in seeming to offer the truth. Many viewers accept the videorecording image as being a facsimile, an approximation, an illustration of actuality, if not reality itself. (Feak & Salehzadeh, 2001, p. 482) Indeed, many researchers consider videorecordings to be what Shi, Corcos, and Storey (2001, p. 269) term authentic communication data without question.

In fact, review of current research papers shows that users of videorecordings hold disparate comprehensions of the concepts integral to the act of viewing. A divergence of views is illustrated as although some viewers claimed it was near enough the truth to permit objectivity, others believed that a videorecording was superior to actuality in that it offered better viewpoints than were possible at the actual event. It is also described as a means of “seeing many things that would otherwise remain invisible” (Davis, Maher, & Martino, 1992, p. 177), referring to seeing the development of ideas and permitting insight into the concealed inner self of a videorecorded subject. That it is not the videorecording itself that prompts such a reaction is demonstrated by a study by Coniam (2001). In the audience, who watched a videorecorded group discussion, 17% felt that it was not very realistic compared to 60%, who felt that it was realistic (p. 8).

This brings into question whether the recorded image can be true to the actual event or whether (excluding manipulation) it is inferior because it lacks extralinguistic and cultural cues (Feak & Salehzadeh, 2001, p. 490), an absence of olfactory and kinaesthetic experiences, and suffers the visual limitation of the camera’s field of vision, which may have bearing upon the action.

This paper presents a case for videorecording to be considered as a qualitative, rather than quantitative, tool in qualitative research that requires judicial thought in its use and justification in its reporting. It comprehensively presents affective factors that are not commonly included in production or methodology guidelines. One of the few research papers to include such considerations is by Feak and Salehzadeh (2001) where videorecording was chosen “as a tool for listening assessment” (p. 481). It presented staged classroom scenes that the subjects, from a non-English speaking background were asked to “listen to the discussion as though they are students in the class” (p. 483). Subjects were then assessed on their comprehension of the interaction presented. In the section headed “Why Use Video?”, Feak and Salehzadeh (2001) used videorecording to present “dynamic visual input” aiming to provide some of the sensory experience of the listening experiences of a students in an academic surrounding. They justify this by referring to previous use of it in this manner in the literature, considering the distraction potential of the visual medium, lauding its ability to clearly identify individuals in multi-speaker interactions, and discussing their belief that as it presents “a context that approximated ‘real’ academic listening” the “examinees would have the perception of

authenticity, take the exam seriously, appropriately interact with it, and thus do their best” (p. 482).

Affective Factors in the Recording and Viewing of Videorecordings

A qualitative researcher aims for a videorecorded image that is as authentic as possible. Clear and precise image and sound unadulterated by external recording and viewing factors allow a direct focus on, and interpretation of, the data. The material then is characterised as reality. If these factors are reported as part of the research process, the findings attain further validity and reliability. It follows that at the point of recording attention to equipment, setting and background, lighting, visual components, editing, the role of the editor, and intrusiveness and reactivity is paramount. In addition to aiming for unbiased interpretation of videorecorded data, the modifying implications of the equipment and viewing environment, and viewer understanding and reaction should be borne in mind.

At the Point of Recording Equipment

When videorecording in a casually occurring environment, the lighting level and audio field may need to be carefully monitored to avoid undue influence or imbalance on the resulting videorecording picture. This depends on a suitable choice of equipment and the selection of a physical and social environment that does not place unacceptable limitations on recording opportunities. Informed decisions must be made which balance the gain in quality provided by the larger and more costly professional equipment against the smaller and less intrusive home or hobby camcorder. As researchers are rarely A.V. trained, the choice of the latter would avoid such problems as the mismatching of components resulting in incompatibilities including mating long play videorecording to short play machines and of Beta format to VHS.

However before exhausting a budget on basic purchases, consideration should be given to accessories (external microphones, tripods, special lenses, etc.), which may be thought of as unnecessary extras but which can make a significant difference in obtaining better quality useful material.

Placement of the camera for recording depends, in part, on the configuration of the recording locale, whether the shoot is an entirety or sessional and whether the action tends to stasis or is dynamic. Choice is also dependent on the requisite camera angle, lens type, and the need to present a low profile. Each of these factors modifies the videorecorded image and so influences the interpretation of the visual data. It also follows that the precise framing of shots to ensure the centre of interest remains as desired without visible distractions is a central intent. Since the impact of the image on a viewing screen is magnified at close-up, the picture must be steady, unblurred, focussed, and controlled. Hand held cameras, commonly available in low price equipment, are not able to obtain this unless supported by a steady-cam harness system; better results are possible using zoom lenses and tripod.

Accompanying the pictorial matter is the audio track, which if it is to be integrated and supportive, must be clear, free from distortion, and tonally sensitive. This presupposes that the sound pick-up characteristics of the microphone are known, particularly its directional feature, for extraneous and inappropriate sounds should be eliminated to prevent ambiguity. Where a microphone is built into the camera, the lack of adjustment can result in confusion, a common occurrence, and externally independent microphones are a necessity to avoid this.

Setting and background

The importance of setting and background is emphasised in a review of videorecording in Educational Research by Leinhardt and McCormick (1996). The confidence of a subject in responding to tasks whilst being videorecorded is determined to a degree by the nature of the surroundings in which it takes place. An unfamiliar locale will have an effect on behaviour unlike that of a well acquainted place, home, or school environment. Some semiologists theorise that the background to a shot may influence its reality when being viewed, so it should always merit attention. It should also be noted that the off-screen presence of recording crew and support staff, an audience or any random activity, will be likely to modify behaviour unless time is taken to make introductions, explanations, or exert benign control.

Lighting

The electronic componentry of a videorecording camera requires a certain minimum level of light, natural or artificial, to function satisfactorily and produce pictures of reasonable quality. As with the background to a shot, lighting also considerably affects interpretation. Primarily, the intensity of light determines perceptive limitations whilst colour, contrast induced reflection, and shading articulate the detail or mood depending on the light source, its control by luminaire, and by the nature of reflective surfaces both on and off-screen. Poststructuralist theory postulates that bright light evokes “feelings of security and happiness”, and dim light triggers “a sense of powerlessness” (Silverblatt, 1995, p. 95). But under what may be termed normal conditions, satisfactory lighting may be taken almost for granted as current technology compensates automatically for low and changing levels. A viewer’s need to understand the content takes preference over a desire for high-level picture quality.

Visual components

A visual scene is composed of semiotic elements, which may have a direct but intangible affect on viewers. Silverblatt (1995, p. 89-127) lists those that need consideration when videorecording such as wide shot, where the subject performs within an environmental context, close-up, where the subject dominates the frame, overall picture colour cast, which has an emotional or psychological charge (blue, cool, calmness), shape or form position relative to others and to the boundaries of the frame which relate to the direction of eye reading, the sensations of hesitancy and conviction engendered by the delicacy or boldness of created shape, the scale of an image of regard inducing assumed importance if large compared to other constituents, and the viewpoint from which the visual scene is intended to be apprehended (an elevated adult’s view or from some other extreme position – ant or bird).

As well as these factors, the play of intuition and the passion of amateur camera operators can also affect the videorecording as can experience, artistic sensibility, and personal preference, which may sometimes lead to a loss of the essential message.

Editing

Within limits, the selection of visual images can be altered or complemented during the editing process whether at the recording or post-recording phases. This

includes making inclusions or omissions, reordering material in time and space, or in arranging different hierarchies of importance or relationships. Study of the etymology of editing shows the semiotic connotations implicit in selection, sequencing, special effects, and the like. Nack and Parkes (1997, p. 58) state that such factors as the organismic attributes of the editor (e.g., male, adult, etc.), personality, and empathy with the target audience together with external cultural and social mores are all influential in affecting what editing takes place. Whatever the impact, sequential order is vital as is obvious from the filmic experiments carried out by Kuleshov in 1974.

Role of the operator

The individual, who operates the camera, bears the primary responsibility for capturing the activity in any videorecording project within a suitable environment and for determining the critical properties of the images by selection and operation of various technical controls. Those working in teaching or research circumstances, apart from teachers or researchers, may be technicians from AV support, students, or members of the media industry, which suggests varied production training and expertise. As is often the case, those with a non-media background undervalue the specialist skills of career media people and believe that the evolution of fully automatic sensing equipment allows them to videorecord effectively without instruction or training. Generally, casual users tend to consider camera skills as self-evident and give little credence to the need for expertness, proficiency, and experience in videorecording research material.

Beyond functionality, the aesthetic of content presentation must be scrutinised for topic appropriateness, lack of obfuscation, and level of stimulation and because operators come from diverse backgrounds production criteria differ. An operator from a media background may place such stress on technical and aesthetic criteria as to almost misrepresent the recording of research data, whereas those with a professional research background may concentrate on research data to the exclusion of reasonable pictorial quality. There must be a shared understanding between the researcher and the camera operator as to the priorities when videorecording research material.

Intrusiveness and reactivity

The intrusiveness of videorecording equipment and crew and the resultant reactivity of the subject should be considered in terms of how they may influence the reliability and validity of the videorecorded data. It cannot be denied that the introduction of unannounced and unusual activity into a setting arouses interest, which may occasion disruptive behaviour, although researchers seen to be making written comment during similar events have proven more so.

The convergence of a camera lens upon a subject being videorecorded is often received by that individual with misgivings, if not suspicion, that the editing of resultant images may distort what was believed to have been originally presented to the camera.

Whether the recording position is exposed or unobtrusive, the very fact it exists and a process may be in train, affects subjects with respect to their behaviour even if they are convinced their behaviour patterns are constant and normal. To varying degrees, there is a conscious awareness of a potential audience or videorecording's purpose, which influences the way the recorded event is constructed and conducted, the verbal form, dress style and body language. Some teachers, for example, in a classroom situation, are reported as believing that awareness of being videorecorded affects their typical performance.

To attempt to overcome these disadvantages, videorecording equipment is sometimes hidden behind a one-way mirror or a hide, the recording being made only at times agreed between the parties and indicated by a recording light. A more preferable practice (on the principle of familiarity breeds contempt) is to assemble and place the videorecording equipment in full view of the subject, and introduce the activity and roles of the crew (particularly to children) so that curiosity is diminished and allow a lapse in time for a return to normal behaviour before commencing recording. The lower profile also negates the natural precociousness of some children in front of a camera.

At the Point of Viewing

In addition to factors that may be affective when producing the videorecording, there are others that may be affective when the videorecording is viewed. Viewing a videorecording in a research context is not just a matter of accepting a series of moving images solely for their superficial pictorial interest but for the information that can be deduced from them.

Equipment and the viewing environment

Because the components of a videorecording and viewing system may be sourced from different manufacturers, it is imperative to establish their compatibility, availability, and convenient ways to power them. Playback systems consisting of videorecorder and monitor whilst familiar need clear, easy operation of controls. It should be noted that when a group audience is present that the size of the monitor determines the optimum viewing distance and therefore, the number of viewers for whom the image intensity, scale and detail will be comfortable. For example, an audience limited to 20 viewing a 34cm screen between 2 and 3 metres within a 45° angle to its centre line is appropriate in a locale free from distraction (Elliott, 1984, p. 131).

The visual frame of reference delivered by an optical system only allows an extract of the setting to be recorded at any moment even taking into account possible camera movements such as panning. If the pictorial aspects of a real time videorecording are regarded essentially as a 2-dimensional capture of 3-dimensional events, then much of the spatial behaviour of subjects and their cognitive processes must be assumed as these are not explicit. It is an interesting and important fact that all imposed limitations tend to be considered by viewers in terms of their effect on the “here and now” of viewing rather than on the “there and then” of recording. Thus, this deprives them of full awareness of ambient conditions.

Viewer understanding and reaction

Viewers are inclined to interpret the content of a videorecording to some degree according to their liking of the technique of presentation. In addition, if data is familiar, the presenter or location well known, the videorecording rates are higher with viewers than would normally be the case (Yager, Johns, Ingram, & Brown, 1995). Wallbott (1992, p. 16-17) reports that facial expressions reflecting an emotional state are more easily recognised than those expressed through body language, where signs of “. . . hot anger, happiness or despair” prevail over “fear, terror or contempt”. Faces seen from a low camera angle “were perceived as more positive and less negative while faces seen from above appeared more negative and less positive” (Kappas, Hess, Barr, & Kleck, 1994, p. 263). All perceptions increase in ambiguity as the image becomes degraded,

“emotion recognition” becoming impaired. The study of Face Detection is ongoing and information regarding study of faces under various illumination conditions, and scale and head orientation can be found at such sources as <http://uirvli.ai.uiuc.edu/mhyang/face-detection-survey.html>.

It comes as no surprise that “hearing impaired” viewers practiced in sign language were better able to identify facial expressions of emotion (on silent videorecording), than those with no sign-language experience and that “females were more successful decoders than males” (Goldstein & Feldman 1996, p. 111). Non-native speakers when viewing a silent videorecording sequence were [also] “less able to recognise and exploit the facilitative potential of the visual cues” (Tuffs & Tudor 1990, p. 29) than native speakers.

A viewer’s life experience, gender, cultural roots, and degree of socialisation may also be relevant in the interpretation of a videorecording. Gender affects both performance and reception as was found when the idiosyncratic behaviour of female professors presenting topics was more acceptable to both male and female viewers than the same behaviours in male professors (Marks & Nelson, 1993). Young children also reacted towards same-sex role models more positively than opposite-sex role models (Hanna & Barnat, 1995) and in an audience comprised of boys and girls, Decker (1988) observed that the girls exhibited more patience in sitting and watching videorecordings.

Whenever a group of viewers is gathered to watch a videorecording in a learning situation, their individuality should be considered since their “different backgrounds would allow them to perceive the same events differently” (Grainer, 1995, p. 2). Individuals also have an in-built inclination towards either words or images, with those who favour the latter seeming “to grow more intensely responsive . . . near the end . . . their emotions paralleling what was taking place on the screen” (Karl, 1994, p. 194). Feak and Salehzadeh (2001) suggest that when presenting role-plays or scenarios “great care be taken when choosing the actors to avoid stereotyping, negative portrays of students, and perceptions of accented speech – issues that must be considered for the production of any videorecording for use in an educational setting (p. 490).

Effective viewing, like effective learning, takes place when the viewers understand the content as being meaningful. It follows that videorecorded material should be selective, its application obvious, and its consumption devoid of distraction and uncertainty.

Conclusion

In this paper, I have established from original work, videorecording to be a legitimate instrument of use in qualitative research. Its potential is to be able to record aspects of inquiry hitherto neglected or confined to simple premises. For its intelligent and skilled use in qualitative studies, scholarly scrutiny needs to be given to those matters implicit in its, as yet, unrealised capacity to increase the quality of research outcomes. It follows that authentication will only be achieved if all relevant influencing factors on its mode of use and captured data are taken into account from the point of recording to the point of viewing. Only then will the academic validity of a researcher’s work be acknowledged.

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