Production and analysis of video recordings in qualitative research

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ABSTRACT

One of the criticisms made about empirical studies of a qualitative basis concerns the inappropriate use of research methodologies as a result of a less than careful match between the research object/problem and the data production procedures. A fact often neglected is that the adoption of a given methodology is dictated by what is necessary to do in order to obtain empirical material whose density and wealth allows a better understanding of the different aspects surrounding the problem under investigation, so that well grounded hypotheses can be formulated. It is up to the researcher to choose the method best suited to the gathering of the data and to the theoretical assumptions guiding it, and to that purpose he/she must have knowledge of the various choices available. This article presents reflections and guidelines about the ever more frequent use of video recordings in qualitative research, discussing specificities of the production and analysis of audiovisual material associated to investigation procedures in social and human sciences. The considerations put forward here were built from the experience in the use of this kind of resource in studies carried out by the authors during the last five years, in constant dialogue with publications by other researchers who, having also worked with this resource, describe in their texts the difficulties and solutions related to its adoption. It is hoped that this will contribute to the debate on the necessary and close correlation between object and method in empirical studies.

KEYWORDS

Video recording – Qualitative research – Analysis of qualitative data.

This article presents ideas and recommendations about the use of video recording in qualitative research, discussing specifics of the production and analysis of audiovisual materials in research procedures. The present reflections have been built from experience with using this resource in research conducted by us and from the dialogue with studies carried out by other researchers. The studies on which we have relied to produce this work had different goals and objects: a) to monitor and analyze the relationship of children with movies (SACRAMENTO; SILVA; DUARTE, 2009); b) to understand the relationship of children with television programs classified as particularly recommended (GARCEZ, 2010), c) to analyze the construction of the notion of time by children in nurseries (EISENBERG, LEMOS, 2010). However, in all cases, the use of video recording was essential.

What we present in this text is therefore our view about when and how this resource is necessary to conduct a study, about how and under what circumstances it can be used, and about how the empirical material constructed using this procedure can be arranged, cataloged and analyzed.

Video recording as a methodological resource to produce empirical material

The choice of a particular research methodology can not be guided only by a greater or lesser knowledge of a particular procedure, but by what is needed to obtain empirical material whose density and wealth allow us a better approximation of the object of research, so that it is possible to formulate hypotheses about the phenomenon we want to understand. Thus, the need to produce reliable records of field work and to build valid empirical materials which may be used as a source for the understanding of a certain phenomenon and / or research problem determines the adoption

of procedures and resources. In qualitative research, for example, it is crucial for the researcher to ask whether, in light of his or her object and goals, it would be more appropriate to conduct systematic observations, to produce a handwritten or recorded field journal, to conduct interviews (structured or not), to photograph, to videotape and so on. The proper response to these questions will determine to some extent the quality, scope, adequacy and feasibility of the empirical data gathered.

One should ask, then, under what circumstances video recording arises as a necessary resource to conduct qualitative empirical research.

According to Peter Loizos (2008), video recording is necessary "whenever any set of human actions is complex and difficult to be comprehensively described by one observer as it unfolds" (p. 149). The author mentions examples such as religious ceremonies, art activities, one hour of teaching in the classroom, children's games in the schoolyard, among others.

Our experience and that of other researchers in the field of education (HONORATO et al. 2006; SADALLA; LAROCCA, 2004; CARVALHO, 2004; PINHEIRO; KAKEHASHI, ANGELO, 2005, LEONARD et al. 1999; SILVA, 2007) indicate that the proper use of the moving image, coupled with the audio, allows capturing aspects that may go unnoticed when other resources are used. Such aspects are: body, facial and verbal language used in everyday situations (for a systematic observation, for example); reactions of different subjects in the face of an activity or issue proposed by the researcher – such as visualization and interpretation of a film and or fixed image (photo, engraving, symbol, icon, etc.); listening to music; reaction to reading a text aloud; individual reading of a text; participating in focus groups; performance of tasks and / or activities in groups or individually etc.

For Aurelia Honorato et al. (2006), the capture of video images is a rich source

of information, especially in research with children, "after all, how can one register so many intricacies, so many details, so many relationships and then look into them? There are sayings that are not pronounced orally, sayings that are not captured by a recorder and that end up lost without a record..." (p. 6). According to the authors, sound and moving images integrated may help unravel the complex network of production of meanings and senses expressed in words, gestures and relationships, understand the children's cultures and capture the essence of the narratives at stake.

According to Ana Maria Sadalla and Priscilla Larocca (2004), the video recording is also suitable for studying complex phenomena such as teaching practice, full of liveliness and dynamism, which is influenced by several variables simultaneously. For them, "video recording allows recording even fleeting and non-repeatable events, which are very likely to escape direct observation" (p. 423).

Anna Maria de Carvalho (2004) has been using video recordings in research at the Laboratory for Research and Teaching of Physics (LaPEF) since the early 1990s. For the researcher, such technique "has proven highly productive in both studies in which the focus is the teacher and in investigations seeking to understand how students construct scientific knowledge during class" (p. 3), because the filming of classes allows studying the details of the teaching-learning process. The teachers' notes and the students' test results, which used to be the main sources of laboratory research, have begun to be taken as elements of triangulation and validation of data built up from video recordings. In this case, the use of video allowed the research group to pass from how much one learns to how one learns.

The idea that the video captures elements of complexity is also present in studies outside the field of education, such as the article by Eliana Pinheiro, Teresa Kakehashi and Margareth Angelo (2005), published in Revista Latino-Americana de Enfermagem[1]. The authors performed a literature review on the use of video recording in qualitative research, arguing that only 7% of the expression of the individual's thought is made with words and the remaining 93% is made with gestures, body movements, voice intonation, speed of pronunciation etc. (SILVA, 1996 apud PINHEIRO; KAKEHASHI, ANGELO, 2005).

In studies taken as reference for the production of this article, video recordings were very important to capture accurately the aspects that go beyond speech. In two of them (SACRAMENTO, SILVA, DUARTE, 2009; GARCEZ, 2010), we were interested in recording and analyzing the reactions of children to the screening of audiovisual products (films and television programs, respectively) in workshops, as well as in how they interpreted the content of these products immediately after having viewed them. Although we used the triangulation with other strategies, the video recording of these workshops was the main resource of data gathering / production, forming a *corpus* of a few hours of shooting.

In this context, it is worth mentioning some examples of situations in which the empirical material might have been harmed if video recording had not been used. During a workshop in which we screened a cartoon episode that addressed the issue of children's games and their rules, one of the children used the word cheat to describe something that can occur in a game. When asked to explain the word cheat, the boy got up from the circle where the children were sitting to talk with the researcher, and started running as if he were playing soccer and he said: "Every game has a referee. If it is a soccer referee, you can not do so" [simulates a player running and pushing the other]," then the guy does so" [makes a gesture to throw the ball with both hands above his head from outside the field, referring to another soccer rule].

1- Latin American Journal of Nursing.

In another workshop, a child said he did not usually watch the show screened that day. When questioned as to why, the boy replied emphatically, gesturing with his hands vigorously as he said slowly, "I-already-told-you-I-don't-know-what-the-channel-is." First, we wondered at such an emphatic response to our question, but assumed that he had just said and we had not heard. Only by analyzing the material later, did we notice that the child had given the same information five weeks before, which probably had caused the emphasis on the repetition of the information.

In their research, Zena Eisenberg and Gisele Lemos (2010) use the video recording feature to capture the interactions of young children with temporal artifacts in the activities room of the nursery. The purpose of this research is to understand how temporal artifacts - built by the teachers along with the researchers - operate as mediators of time concepts to children; for example, the notions of the routine sequence of events, days of the week, etc. In this context, the use of video recording allowed the micro genetic exam of the manipulation of artifacts by children and the interactions established among themselves and with the educators. As a qualitative study, the video can capture the context of interactions, and allows us to make repeated revisions in order to create a code for the comprehensive analysis of the phenomenon. Furthermore, video recording also favors establishing the reliability of judgments and application of codes.

With regard to research with children in groups, it is important to remember that they speak at the same time, interact, play, sit, get up, do not remain still and they communicate among themselves and with the researchers all the time. Thus, certain aspects can only be recorded and analyzed through the use of video recording.

Other benefits of using video recording are mentioned by researchers such as: noting contradictions between the discourse and behavior (PINHEIRO; KAKEHASHI, ANGELO, 2005); minimizing the intervention of the researcher, although it will never be eliminated, because there is always the view of the shooter (HONORATO et al., 2006); revisiting the field several times and at different times, through the multiple readings of what was experienced by viewing the recorded material (LEONARDOS et al., 1999); and even allowing other interpretations of empirical data by other researchers (SADALLA; LAROCCA, 2004); emotional detachment for reflective analysis of the material (handwritten records of the observation bring the emotional charge that accompanies the situation recorded, which can make a less biased and more fruitful perception more difficult to achieve); different possibilities of viewing the recorded material, speeding, skipping parts, pausing, freezing the image, rewinding, fast forwarding, viewing it as many times as necessary for the proper understanding and interpretation of the material (SADALLA; LAROCCA, 2004).

Video recording can also serve as a form of feedback to the researcher, even during the fieldwork. According to Rosalia Duarte (2002), when transcribing interviews and listening to his/her own voice, the researcher can critically evaluate his/her performance and improve it gradually. The same can happen when watching the video recordings immediately after being produced. Seeing oneself in action, becoming aware of one's interaction with the research subjects favors the gradual correction of some important aspects of the stand of researcher in the field, modifying, if necessary, his/her performance in subsequent activities.

It is important to note that the video is no mere transcription of reality into images. One must consider the view of the one who films, his or her stand on what is being registered, his or her cuts, frameworks, choices. It is often necessary to have another researcher running the camera, especially when the field work requires direct activity of the researcher

with the research subjects, as it often occurs, for example, in studies involving children. In this case, it is worth mentioning the warning given by Honorato et al. (2006): the one who shoots can be considered the co-author of the study, because the choices he or she makes while shooting interfere directly on the way records are produced.

Ethical aspects of research on video recording

The use of video recording and the technological advances that allow easily editing a video bring new issues for discussion on research ethics. For example, the question of identifying or not the subjects in the final text of the study, (whether to use their real names, a code created by the researcher or a pseudonym chosen by the subject or the investigator), does not make sense when the images of these subjects are displayed, since they identify them as much as or even more than their names. Images can only be distributed with the written informed consent of those who supplied them. Thus, it is necessary first of all to inform the research objectives to all persons whose images will be recorded and ask each of them to sign a permission to use their images.

For children, the authorization of parents or guardians is necessary, and even then, it depends on the circumstances. Abused children, who live in situations of risk or who suffer teaching or punitive measures because of some infraction can not have their pictures released under any circumstances, even with parental consent. Sonia Kramer (2002) discusses the use of fictitious or real names of children and the use of their images in research reports. The author presents several studies that she has supervised, in which the question of the identity of the children was a problem. If, on the one hand, children are understood as subjects in these studies and, therefore, one considers that they

should be identified by their real names in the text so they can read, see, and recognize themselves, on the other hand, there are many cases in which anonymity can protect them. For her, the exaggerated care with children's names associated with the free, abusive and indiscriminate exhibition of their images in some research reports is paradoxical.

In our view, informing those who volunteered to be subjects of research on the research results is essential, regardless of the resource that has been used in the production of empirical data. In case video recordings have been made, it is necessary to produce a short edition of the material in which the study participants could see themselves and have a general idea of the results. When it comes to children, if the researcher chooses to produce an edition intended for display in public presentations of their work (thesis defenses, conferences, lectures etc.), it is ideal that children's faces appear slightly blurry.

Technical aspects of video recording

The production of video recordings inevitably involves the knowledge of the technical aspects related to capturing and editing images. Technological advancement has made digital cameras with fairly sophisticated resources accessible to all who are interested in using them. Currently, it is easy to operate a camera like that. However, for a video recording to play its role effectively in investigative contexts, the researcher needs to be familiar with the equipment and feel free to use it. The images and sounds captured in these contexts have the specific task of becoming empirical material and, depending on how the recordings are made, the result may not meet the goals of the researcher. Even if the recording of research situations is performed by others, it is for the researcher to determine the situations that should be recorded on video, the duration

of each recording, the angles from which it must be made, the type of framework that s/he considers appropriate and so on. To do so, one needs some knowledge of the specifics of the audiovisual language and a lot of prior planning and organization. Like in the use of any other research resource, there is no room for improvisation.

In many cases it may be necessary to carry out a pre-test so that the researcher can establish the recording time and position of the camera that s/he considers most suitable to his/her goals, and so that s/he can also test the audio quality (records with poor audio quality can prevent the use of the material[2]). For the success of field work, it is essential to test the camera and check in advance the quality of images and sounds it captures. One should be as careful as possible because mistakes and distractions are inevitable. For example, in one of our studies, we lost the recording of the first of ten workshops. In another, the researcher placed herself between the camera and the child, and all we had was the audio recording. It is fairly common to forget to turn on the camera in the first sessions or to activate the audio recording. To minimize errors - which in such cases can bring great harm - it is important to practice a lot before starting the field research. An interview that has not been recorded causes great inconvenience to the research and the ones who participate in it and lend their time.

The tripod can be a useful resource in case of shooting for long periods of time where there is not much movement or in situations to be recorded in a more or less restricted area. In our case, we generally used the tripod during the screenings of audiovisual products, moments in which children tended to stay more focused and quiet, occupying a more restricted space inside the room where the research was conducted. We hoped thereby to record the reactions of children in the face of the material that we were viewing: facial expressions, comments, jokes, and interactions between them, etc. The camera was aimed at the children, but we could also record excerpts from what was being projected on the screen (the projections were made on an entire wall and / or a big screen). This allowed the different reactions of the children to be related to their speeches about the films that were shown.

The tripod can also be used when the researcher decides to make the recordings himself or herself. In this case, one must place it in a location that allows recording, as widely as possible, the activities or events. It may be necessary to reposition the tripod to modify the recording angle in order to produce a more accurate recording.

The technical dimension of video recording should be thought of as always articulate to the goals of the research, because it exerts direct influence on the gathering / production of data and consequently on the results. The time in the field, the time devoted to the audiovisual record - what should be recorded and for how long -, the size of the camera, who will operate it, whether it will be fixed (with a tripod) or mobile, the duration of each shot, whether it will be carried out continuously or there will be cuts, the angles and camera placement, etc. are choices made by the researcher according to his/her research object, i.e., they are always articulate to what s/he wants to know.

For example, in studies on the teaching-learning of physics, Carvalho (2004) noticed that, in order to associate the speech of students to that of teachers, the classes should be fully recorded, because it would be impossible to predict when a relevant event would happen. For these recordings of lessons or sequences of lessons to be transformed into data, however, key situations, related to the

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2- In most cases, it is necessary to use an external microphone, connected to the camera, to ensure good sound quality, since built-in microphones generally capture the entire sound environment, including external noise that hamper the proper record of the speeches.

questions of investigators, had to be cut out of the videos and then analyzed. Honorato et al. (2006) warn that one should not feel tempted to shoot everything and store a large volume of recordings that do not meet the needs of the researcher and may even become incomprehensible.

In the methodology developed by LaPEF (CARVALHO, 2004), the camera position in the classroom, in research on the teaching of physics, should follow two patterns. When the situations involved the participation of the entire room, the camera should be located on one side of the front of the room, focusing more the students, but without losing sight of the teacher so that the teacher's lines were easily identified. In the case of work in small groups, the camera should focus the same group throughout the work, so that the complete evolution of the activities and arguments could be seen.

The equipment should be shown to the subjects of the research a little before the official start of fieldwork, so that they become accustomed to the idea that they will be filmed. In research with children, it is important to allow them to manipulate the equipment under supervision – shooting each other and watching then. This introduction to the equipment has many advantages: it partially satisfies the curiosity and fascination with novelty, it hinders less the progress of activities in class and it shows respect for children because it allows them to understand what is happening and what they are taking part in. When viewing our videotaped materials, it became clear how researchers and research subjects feel increasingly more at ease before the camera as the recordings are made.

It is noteworthy that audiovisual recordings are not evidence of reality; they are productions almost as subjective and personal as a field journal, and this needs to be taken into account in the analysis.

Cataloging, organizing and analyzing the videotaped material

All the videotaped material must be identified, cataloged and stored properly right after it is produced in order to ensure the access to each item and its analysis. Although video recording is a resource often used in qualitative research, there is little literature about the analysis of this type of material. Many researchers choose to transcribe the recordings, turning the audiovisual text into a written text to analyze it according to the assumptions used in the analysis of written material.

Such procedure causes a loss of quality and can be considered a potential misuse of recorded material. One can transcribe speech but as much as one tries to describe in detail gestures, gaze, tone of voice, cadence, etc, images can hardly be translated into written language safeguarding the necessary precision. For Diana Rose (2008), the transformation of the audiovisual material into written text is a translation, and it usually takes the form of a simplification. According to the author,

> every step in the analysis process of audiovisual materials involves translating. And each transfer implies decisions and choices. There will always be viable alternatives to the choices made and what is left out is as important as what is present. (P. 343)

Even if all aspects of the moving image, coupled with the sound (which makes up the video), such as intonation, cadence and tone of speech of the actors, surrounding sound, type of takes, angles, the subjects' physical characteristics, posture, gestures, clothing, details of the set/environment filmed, etc. could be described in detail, the result would be a written treatise about a few minutes of video recording and even then many aspects would not be considered. It is noteworthy that in general each minute of recording can correspond

to several pages of written text. Since at the end of field work one can have dozens of hours of recording, the number of pages necessary to translate all this is very high, which makes the transcription process inefficient.

Honorato et al. (2006) emphasize the reduction and the consequent impoverishment of the transcript in comparison to the recorded image. The authors quote Maria Isaura de Queiroz, for whom the researcher becomes again an intermediary when s/he transcribes the data that have already been cut out by him or her, and thus reduced, at the time of filming. (QUEIROZ apud HONORATO et al., 2006).

Thus, in what concerns the analysis of empirical material, if the researcher chooses to work with written material, s/he had better produce handwritten records of field observations. And if s/he conducts interviews or collects reports, s/he should do it using audio recordings rather than video recordings.

For the reasons above, we decided to conduct empirical analysis keeping empirical material in the same format it was gathered, that is, on video. We chose content analysis (CA), but there are many other possibilities of analysis in this context. AC is a methodology "that uses a set of procedures to make valid inferences from a text. These inferences are on the speakers, the message itself or the audience of the message "(WEBER, 1985 apud BAUER, 2008, p. 192). In this case, the videos are texts.

According to Martin Bauer (2008), "AC procedures reconstruct representations in two main dimensions: syntactic and semantic" (p. 192). The syntax allows to describe how something is said or written, the frequency of use of certain phrases or words, their order in the sentence and / or utterance as a whole. The focus of the procedures linked to the semantic dimension is "the relationship between the signals and their normal sense - the denotative and connotative meanings in a text" (p. 193). AC is a structured and systematic procedure of analysis that involves

the fragmentation of the text into units of analysis, the encoding of these units, as well as their description and interpretation, to be performed by the researcher according to his/her research object / problem and the theoretical framework. This methodology has generally been adopted in the analysis of written materials, but it has produced good results when applied to audiovisual materials.

In our view, the analysis of video recordings produced in contexts of scientific research requires the use of computer programs. In our case, we opted to use the ATLAS.ti program[3] because it allows the integration of documents in different formats - text, image, graphic, audio and video - on the same operating environment. As an example, we will present and discuss some procedures used in the process of analyzing video recordings, warning that this is one possibility among others.

The first step for the analysis of recorded material using a computer is to move the videos recorded on tape or on digital camera memory to the computer. This can be done by connecting the camera directly to the computer or, in the case of mini-DV tapes, by making use of an editing deck[4] and an image-editing program[5]. The conversion of the contents of mini-DV tapes to computer memory is very simple but time-consuming, since it occurs in real time. However, such problems have been solved, since the current cameras have built-in memory devices, eliminating the use of tapes. Now all one has to do is connect the cameras to the computer (or an external hard drive connected to it) to make the transfer of data quickly, in a process similar to the procedures adopted for the conversion of photos from digital cameras.

3- Manufacturer: ATLAS.ti Scientific Software Development GmbH.
4- Equipment that can transport the images recorded on tapes directly to the computer's hard drive, to be stored in digital files.
5- There are free programs that can be downloaded directly from the internet, but there are also proprietary programs such as Adobe Premiere and Final Cut (developed respectively by Microsoft and Apple Computer).

Once the contents of the video recordings have been converted to the computer's memory, this needs to be inserted in the operating environment of the program. ATLAS.ti is one is just one of them. It is important that all the video files are organized in one place – a single DVD or pen drive, for example, or a single folder on the computer or external hard drive - before being transferred to the program's database.

The guiding principle of this type of analysis is similar to that used in the analysis and interpretation of content of written material – fragmentation of the text and recomposition of the fragments according to the criteria and/or categories chosen by the researcher, according to his/her research objectives and theoretical framework. The first procedure in such analysis is the fragmentation of the videotaped images in units of analysis - the smallest image fragment that makes sense for the researcher. One can not specify in advance the adequate time of a unit of analysis. It may be less than a minute (if the images there make sense for the one who analyses them) or it may be a few minutes (but it is important to remember that in the audiovisual language a few seconds of image can contain many elements to be analyzed). The program allows such fragmentation: it opens a small window where the entire video is displayed, allowing the researcher to select the beginning and end of the scenes to be cut in the shape of citations.

It is noteworhty that digital cameras have time coding that, in the case of a large number of hours of recording, may be used to make pre-selections of the material to be analyzed. That is, takes considered unnecessary or of poor quality may be excluded in the first edition of the material[6], so that only what will effectively be analysed is inserted into the program database.

Throughout the analysis, the small fragments of video should be reorganized and codified, i.e., associated with categories, keywords, concepts or even a neutral code, such as letters or numbers, to enable the production of reports in which one can view the entire analysis. It is difficult to define units of analysis a priori, so one needs to break gradually and carefully all the scenes shot and, at the same time, to organize, catalog and link them to categories.

Another important specificity of the analysis of audiovisual material has to do with the records and notes about citations (fragments of images). What can be considered a complement to the content analysis of written texts plays a key role in the analysis of audiovisual texts: the entire collection must have identification cards, notes, records of dates, locations and circumstances under which they were produced. When we analyze written texts and select fragments, organizing them into categories, when we print a report with the results of these procedures, we can see all the units of analysis selected, whether words, sentences or text fragments, which were associated with categories.

In video analysis, the units of analysis are not visible to the analyst all the time because they are represented by their time code, i.e., the code for their location within the duration of the video[7]. After the scenes have been cut out of the set (fragmented into units of analysis) and during the analysis procedures, we have access only to the time code, which is very important to find the exact scene in the global file, but we can not see the scene. It is therefore absolutely necessary to make short reminders within the program itself about each scene content, because when printing

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6- We call this procedure passing the empirical data through a sieve, or make a preview of the first material to eliminate excerpts poorly recorded, with poor image or sound quality or that have little or no relation to the research problem.

7- For example: the time code of a scene is 00:02:20 – 00:04:00. This means that in a record of 60 minutes, it was recorded between 2 minutes and 20 seconds and 4 minutes from the start of the recording, and therefore it is 1 minute and 40 seconds long.

the report of partial analysis we will have only a given amount of time codes associated with categories and / or concepts and so forth. The way out is therefore to record notes, such as keywords or mini descriptions that refer to each fragment, as shown in the following example: **P 8: Workshop 5.avi – 8:12[8] [Workshop 5.avi] (45759 [2502]) (Super) Codes:** [rules of games[9] - Family: Levels of development according to Piaget] memos - Arthur and Matheus playing an even or odd game. Matheus asks to play again. Both say even. Matheus agrees to be odd. Arthur makes even or odd and wins. Matheus says he won and asks to play again, deciding who the character in the drama will be.

Q 9: Workshop 7.avi – 9:6 [Shop 7.AV] (30358 [560]) (Super) Codes: [rules of games - Family: Levels of development according to Piaget] memos - Daniel and Breno playing even or odd. Daniel - odd wins.

Q 9: Workshop 7.avi – 9:7 [Shop 7.AV] (32286 [236]) (Super) Codes: [rules of games - Family: Levels of development according to Piaget[10]] No memos
Comment: "I won because I like to play this game."

Data analysis programs that enable the integration of different types of documents allow citations (fragments) to be viewed as many times as one   wants. The researcher can choose to see, for example, the citations associated with a particular category, one at a time, but one can not view them all at once, taking an overall view. In this case, the reports help, as long as the researcher has enriched them with comments and / or reference words.

The process of encoding data and the construction of categories in content analysis of videotaped material, using computer programs, is similar to that used in the analysis without a computer: the researcher sees all the scenes previously cut[11] and encoded (units of analysis), and associates them with categories and / or key concepts and / or thematic areas (depending on his/her theoretical and methodological affiliations) defined by him or her, taking into account the research guiding question(s). Thus, several units of analysis are grouped under the same name (which is called encoding). This procedure is repeated until all the scenes considered relevant have been encoded, making up different analytical sets.

In the next phase, with these sets one can build maps and / or detailed analytical frameworks, from which one can make the global description / interpretation of the empirical material, in dialogue with the theoretical framework.

The main difference in the use of computer programs is that citations (cut scenes / units of analysis) and their encodings can share the same operating environment at the same time. This enables the researcher to view classified material as often as s/he deems necessary and reassess the adequacy of the categorizations that s/he produced. Thus, s/he can not only create not new categories and / or delete, replace, merge, modify, link existing ones, but also relocate citations. From our point of view, the use of a suitable program can bring greater agility, flexibility and transparency to the process of analysis.

8- P8 and P9 are the documents included in the program (P-docs). P8 corresponds to the recording of workshop 5 and P9 to workshop 7. The numbers in parentheses correspond respectively to the code assigned by the program to the unit of analysis (citation) and the area occupied by this file [size]. Appointments 8:12, 9:6 and 9:7 identify, respectively, the 12th citation of document 8 and the 6th and 7th quotes of document 9.
9- Rules of games is the subcategory to which the citations selected were associated.
10- Macro category to which the sub-category rules of games is linked.

11- In this case, decoupage is the fragmentation of the video into scenes to be taken as units of analysis.

FINAL THOUGHTS

In this paper, we have sought to present results of the discussions that we have had within our research groups on the use of video recordings as a resource for the production of empirical data in qualitative research in order to contribute to the debate about the necessary articulation of the object / method in investigative procedures. We believe that the use of this resource does not replace the presence of the researcher in the field and it does not intend to produce evidence of reality. Images produced in research contexts, just like written records, have traits of subjectivity. But images may bring more elements of the context observed. Their use is, above all, a theoretical and methodological decision made by the researcher. Such decision needs to be closely associated with the research object and objectives and it requires adequate foundation and justification.

We have discussed some advantages and disadvantages of this resource, as well as problems that may occur during the fieldwork, not only to reflect on the process but also to enable those who wish to work that way to learn the ropes.

We stress that, in our view, the greatest merit of the use of video recording is the possibility of performing a record and an encoding of detailed data produced by more than one observer, seeking greater reliability, trust and wealth in the production and analysis of empirical data, especially in research on difficult issues and topics that are difficult to grasp empirically.

We have also emphasized that video recordings should not be transcribed, because they lose much of their potential and richness. There are nowadays technological resources - such as those offered by ATLAS.ti - which allow a direct coding of the recorded material (in spite of some operational limitations) and make it possible to search in the videos themselves the best they can offer the research, without turning videos into another type of data (written data).

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