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Value of Audiovisual Records in Intercultural Education

Valor de los registros audiovisuales en educación intercultural

ABSTRACT

This article discusses the possibilities of audiovisual records as research data in intercultural relationships, or those that allow us to understand the Other. The research aims to contribute to the theory that is being developed on the nature and value of narratives in photographic and video representation and analysis of basic realities of teaching that are difficult to capture and quantify. Specifically, we examine whether audiovisual recording is a good tool for gathering and analysing information about intentions and interpretations contained in human relationships and practices. After presenting some epistemological and methodological dilemmas such as the crisis of representation in the social sciences or the «etic-emic» conflict and proposing some solutions taken from audiovisual anthropology, we analyse the nature of intercultural relationships in two schools –ethnographies– that support the study completed in 2011 and funded by the Spanish Ministry of Science and Innovation: the use of visual narratives as a substrate of intercultural relationships between culturally diverse kindergarten and primary education pupils. As an example, we describe how we discovered some categories that allow us to understand the universe of meanings that make sense of, determine and shape their cultural relations. Finally, we describe the contributions of NVivo 9, a software package that facilitates the analysis of photo and video recordings and narratives.

RESUMEN

Este artículo analiza las posibilidades de los registros audiovisuales como datos en la investigación sobre relaciones interculturales, o aquellas que van dirigidas al conocimiento del otro. Pretende contribuir a la teorización sobre el valor de las narraciones fotográficas y videográficas en la representación y análisis de realidades de la enseñanza que son difíciles de captar y cuantificar. Concretamente, estudiamos si el registro audiovisual es una buena herramienta para recoger y analizar información situada sobre las intenciones e interpretaciones contenidas en las relaciones humanas. Después de presentar algunos dilemas epistemológicos y metodológicos, como la denominada crisis de la representación en ciencias sociales o el conflicto «etic-emic», y de plantear algunas soluciones dadas desde la antropología audiovisual, analizamos la naturaleza de algunas situaciones de educación intercultural recogidas en los dos colegios –etnografías– que soportan el estudio finalizado en 2011 y financiado por el Ministerio de Ciencia e Innovación de España, sobre el uso de narraciones audiovisuales como sustrato de las relaciones entre el alumnado diverso culturalmente de educación infantil y primaria. A modo de ejemplo, describimos cómo hemos llegado a algunas de las categorías o constructos que llevan a entender el universo de significados que dan sentido a la vez que condicionan y configuran las relaciones interculturales de esos centros. Finalmente, describimos las aportaciones de algunas herramientas del software NVivo 9 en el análisis del contenido de registros y narraciones foto-videográficas.

KEYWORDS / PALABRAS CLAVE

Intercultural education, audiovisual anthropology, case study, audiovisual narratives, collaborative learning, audiovisual recordings.

Educación intercultural, antropología audiovisual, estudio de casos, narrativa audiovisual, aprendizaje colaborativo, registros audiovisuales.

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1. Introduction

Research since the 1980s on teaching processes has revealed the dilemma addressed in this article: the existence of intangible situations that are not only unquantifiable but also difficult to convey in words. This is the case of intercultural relations, where it is essential to know people's location and movement, together with the feelings of rejection and exclusion sometimes experienced by immigrant schoolchildren. Such situations, as in the sphere of Intercultural Education, become complicated when those involved in the teaching processes do not know the language of the receiving country or they are not sufficiently fluent in it, such as in the case of kindergarten pupils.

This is a dilemma that has accompanied one of the greatest epistemological crises of the late 20th century, known as «the crisis of representation» (Rorty, 1983; Gergen, 1992; Crawford & Turton, 1992; Shotter, 2001), which questioned the foundations of objectivity made from the standpoint of Cartesian rationality based on the premise that the human mind showed the truth of reality by its representation using language. This cornerstone of objectivity was questioned by the absence of personal and contextual referents of the people making that representation.

One of the approaches for dealing with the dilemma and leaving behind this crisis situation was put forward by Anthropology, which proposed to address study situations by using narratives that provide spatial and temporal contextual elements of the action or event, and the personal context of the observer/narrator in order to be able to facilitate an understanding of the event or field of study. In this sense, the researcher is not permitted to speak on behalf of the participants and describe their behaviour and relationships using the researcher's own cultural and scientific framework as reference – the «emic/etic» dilemma. Additionally, in Intercultural Education the underlying principle of «knowledge of the other» contributes to understanding of and affection for different Others, as when they start to form relationships they get to know each other and then start to love each other. However, to understand a personal action or social event, we need to know the intention of the person who is acting in this way as well as the interpretation or meaning given to those actions by the person on the receiving end of them (Mead, 1982; Blumer, 1982; Schutz, 1974; Berger & Luckmann, 1986). From the approach of symbolic interaction and social construction of reality, both processes are essential for acting as a group even though on the surface they may not seem to share common values. For example, for Mead (1982) both

the intentions and the interpretations of human behaviour are necessary for taking group action in which each person has to interpret the actions of the rest while giving clues about the intentions behind their own conduct.

It was in the second half of the 20th century that Audio-visual Anthropology emerged as a discipline within Anthropology, concerned with studying the use of audio-visual recordings –photography, sound, video– as part of anthropological research in general and educational ethnography in particular (Ardévol, 2006; van Leeuwen, 2008; Pink, 2007; 2009). In this context, as knowledge of the Other is one of the basic tenets of Intercultural Education, this article aims to tackle the following questions: to what extent do photo and video recordings help to understand the Other, that is, to know the intentions and interpretations of the people acting?; how, and to what extent, do audio-visual narrations provide contextual references for these actions? From a methodology point of view, what audio-photographic and film information should we collect and how should it be analysed to produce audio-visual documents that enable everyone to see the Others' reality and truth objectively? In order to answer these questions, the following section shows some figures and describes the construction of some of the categories generated in the project funded by the Ministry of Culture and Innovation (2009-11). We will then go on to describe the contribution made by NVivo 9, a software program for handling audio-visual recordings in qualitative research, in order to describe, produce and categorise or code the intercultural relationships. Lastly, we will provide a set of conclusions drawn from the analysis.

2. The contribution of audio-visual recordings to knowledge of the other

To illustrate how we approached the issues outlined above, we present some of the elements of the two ethnographies carried out at the kindergarten and primary school (CEIP) «La Paloma» de Azuqueca de Henares (Guadalajara) and CEIP «Cervantes», a primary school in the centre of Madrid. We started work by selecting two groups of pupils at each school, one in kindergarten and the other in primary. We began our field work at the first school on 4 March 2009 and completed it on 16 June 2011. At the second school, field work started on 19 February 2009 and was completed on 21 June 2011. We went to each school one day a week. Both schools were chosen for their cultural diversity, among other reasons. Specifically, in CEIP «La Paloma», the Primary Education section

had: 10 Spanish children, 1 Spanish girl of ethnic gypsy background, 6 Latin American children, 4 Rumanian children, 1 child from Burkina-Faso and 1 child from Morocco; and in Kindergarten: 18 Spanish children, 1 child from Latin America and 3 children from Nigeria. In the Primary Education section of CEIP «Cervantes»: 1 Spanish girl, 8 children from Ecuador, 4 children from Morocco, 1 girl from Paraguay, 2 from the Dominican Republic, 1 Peruvian boy, 1 Italian girl, 1 from the Philippines, 1 from Argentina and 1 from Colombia; and in Kindergarten: 3 Spanish children, 5 from Ecuador, 2 from Morocco, 3 from the Dominican Republic, 1 Peruvian boy, 2 from Bolivia, 1 Italian, 2 from the Philippines, 1 from Argentina and 1 from Venezuela. We worked with a total of 101 pupils.

Both ethnographies shared the feature of working with audio-visual narrations. There is a difference between one and the other ethnography, which is that CEIP «Cervantes» identified pupil groups through video recordings made in the playground, where each week the itinerary and activities of a particular child were filmed. This enabled us to see the companions chosen by each pupil to share their time in school with and the activities and cultural operators mediating their relationships.

During these years, the topics covered by the pupils in their audio-visual narratives were:

In CEIP «La Paloma»: What I like and don't like about school; How I see myself and how others see me; My family and my surroundings; Reporters: Interviews with important women; Reporters: Our view of the playground; School autobiography.

In CEIP «Cervantes»: What we're like; The neighbourhood from my school; The school from my neighbourhood; My autobiography; This is my family; Reporters in the playground; Smells, colours and sounds of Madrid.

In the reference classrooms, the stills and video camera became essential for the «native gaze» to emerge (Ardèvol, 2006; Pink, 2007) through the narratives produced by the boys and girls over the three school years. Photography and video, in addition to the classic function of recording reality that they play in educational research, formed a space where pupils created representation and therefore where meanings

were discussed that enabled everyone involved –pupils and researchers– to understand who they were and what they thought about, what they liked and preferred, and what contexts they inhabited and constituted.

For example, one of the categories we dealt with was «Football: different meanings and practices», explaining that in a group of children who are fans of this sport there is much more going on than merely a particular group having an affinity for a particular physical activity. It revealed the disaffection shown by this group towards their peers, whose preference for other kinds of games and activities excludes them from play-time and complicity both in the playground and in the

We should state that audio-visual data are valid for representing their essential elements and help to produce interesting knowledge when they are handled by computer programs such as NVivo 9, that facilitate the visualisation, ordering, relation, grouping and analysis of different kinds of recordings – text, audio, photography, video, etc.

classroom. As we delved deeper into the data analysis, we found that football as an activity is made up of a whole array of practices and meanings which, to some extent, conditioned the interpersonal relationships of Primary Education pupils at CEIP «La Paloma». We came to understand that among group identities, there is one based on football that lends a certain stability to interactions, turning this sport into a social gathering in the playground, but also into mutual knowledge through which they shared experiences and wishes that went beyond the time spent together at break time. Of the 16 boys and 7 girls in the group, 8 boys mentioned football as a major reference point in all their narratives. As pupils made their photos and audio-visual narratives, we as participating observers began collecting evidence that football was a part of their relationships by which some sought social recognition from their peers by demonstrating their skills and physical prowess in the sport, and by possessing certain items such as footballs and football shoes in the colours of the country's most famous clubs. They sought and obtained the group's recognition and acceptance and this gave rise to a series of shared

meanings: «he plays football well», «he's an ace football player», and so on, in representations of themselves that were recognised by the other children. Seven boys in this group even showed their preference for an ideal type of woman, linked with the image of Sara Carbonero (a Spanish female sports journalist), Angelina Jolie or Cristiano Ronaldo's girlfriend, all of whom were, and still are, references from a context outside school but loaded with meaning for them.

Gaining access to an understanding of this complex dynamic within the interpersonal and intercultural relationships in the sixth year primary school group would not have been possible without the pupils' audio-visual self-narratives. Their lively, emotional and evocative photo and video records of their own referential framework made our field work into an experience of communication, social relations and learning, as understood by Ardèvol (2006), Pink, (2007) and Banks (2007). The task of thinking about what they want to say and what images they want to capture on film, plus showing and sharing their audio-visual productions in the classroom, gave rise to an

exchange of meaning that enabled us to delve into topics and issues around the «school child» and the «social child», or the subject that acts with intent and within a framework of reference. In Figure 1 below, we present the relevance of each of the topics or operators around which we grouped the data for each boy and girl in «La Paloma» school. It is evident that, alongside football, the children shared a series of interests and concerns to do with the subject of «technology». This category was made up of meanings gained from their use of stills cameras and audio recording equipment during the narration process, which were, inevitably, situations that prompted pupils to share experiences and get to know each other better.

This way of proceeding with our study gave the ethnographic process two fundamental aspects, above all because it turned the photos and video recordings into valuable material for accessing «knowledge of the other». One, described by Ardèvol (2006), who argues that the relevance of the self-definitions made possible by using the camera in fieldwork, lies in that the best description of a culture is made by the native

–the «emic» approach– because they are part of the cultural world that we want to understand and because these data are fundamental for addressing the researcher's doubts, questions and interpretations. The other, already described, because audio-visual narratives produce an exchange of meanings that are neither visible nor accessible by directly observing reality, so they became essential material for complementing the observations recorded in our field notebooks². We agree with Wolcott (2003) that if all ethnography demands that we observe the cultural aspects of behaviour to find common patterns, we need to focus our attention not only on actions but also delve into the meanings that these actions have for the social actors involved. Our direct observation of reality, together with the data and information provided by the pupils when they spoke about and discussed the audio-visual narratives, reassessed the subjectivity, interaction and exchange of meaning between the researcher, the pupils and the context in which they were acting and relating to each other (Bautista, 2009; Burn, 2010; Kushner, 2009). To paraphrase Kushner (2009: 10) «the audio-visual has the power to provoke intersubjectivity». This is a fundamental epistemological process for understanding the function and value that audio-visual narratives have in constructing true and consistent knowledge of the Other that, in turn, will allow the intercultural relationship to run smoothly and strongly. But, how did we get

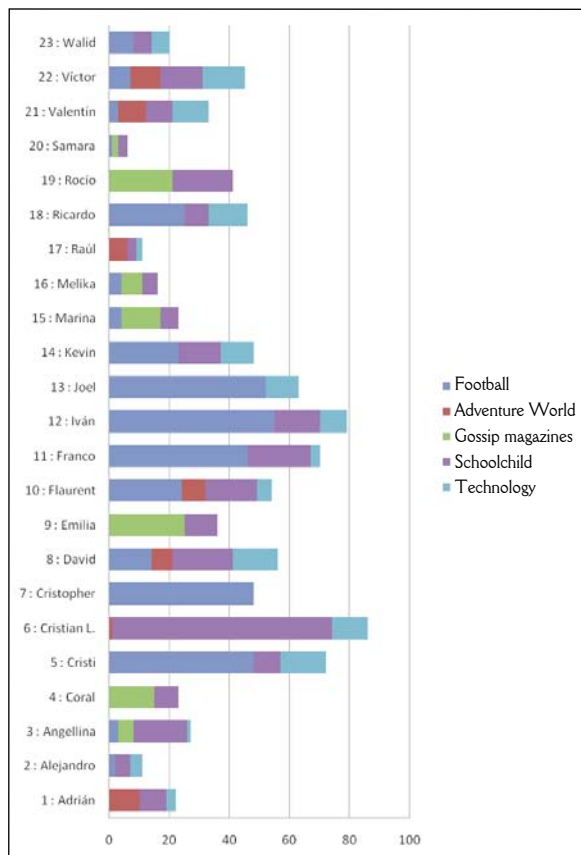


Figure 1: Importance of thematic categories for Primary Education pupils at CEIP «La Paloma».

to categories such as «Football: different meanings and practices», immersed in the content of the audio-visual recordings?

3. Contributions of the NVivo 9 program for handling and analysing audio-visual data

By reviewing computing programs that assist with qualitative research data analysis³, we identified that the NVivo 9⁴ application would be a valuable help in organising, handling and analysing large quantities of data recorded in photographs, audio and video. «Large-scale projects requiring several researchers sharing large quantities of audio-visual data benefit from using this technology. Researchers who decide to use CAQDAS (Computer Assisted Qualitative Data Analysis Software) have a range of options for storing and analysing their data» (Pink, 2007: 139). In our case, it is evident that the value of the audio-visual recordings for our study was heightened enormously by using NVivo 9. Imagine the tedious and laborious task of handling and analysing thousands of photographs and hundreds of video recordings using conventional software. The difficulties in analysing and handling the data would hamper a thorough exploration of the content of the photos and video recordings and narratives, hindering in-depth analysis and cross referencing of the data.

For our research this software turned out to be a tool that simplified the tasks of sorting, analysing, connecting, grouping and viewing textual and audio-visual data collected using various techniques and from different informants. The first activity this software allows us to do is connected with a basic task in ethnography, which is to define and establish initial links between the data. As a tool for carrying out this task, NVivo 9 has various functions for defining and specifying the «links» between photographic, audio, video and textual data, which in our study enabled us to relate pupils' audio-visual recordings to researchers' field notes and comments. To make this task easier from the outset, NVivo has a tool called «queries» which enabled us to explore data in a simple way. With «queries» we were able to ask various questions of the data in such a way that we could start to initially group information together. For example, these «queries» have enabled us to identify which of their peers each child played with during the break times recorded on video. Image 1 below is a screen shot showing the children with which Edward, a Primary Education pupil at CEIP «Cervantes»,

played with and the number of interactions between them in each of the sessions recorded.

NVivo also shows all the information in detail, allowing us to access every moment of each video and enabling us to watch and analyse how Edward relates to each of his 14 peers. These connections between data allow us to «find concepts that help us to make sense of what is happening in the scenes documented by the data» (Hammersley & Atkinson, 1994: 227). As commented above, from the first audio-visual narratives, we discovered how football emerged as a primary concept that made sense of various data collected using different techniques. This meant we could make groupings that allowed us to gradually understand how intercultural relationships were being established and what they consisted of. As in the case of football, these groupings enabled us to validate that behind a love of the sport there was an array of highly diverse meanings and practices that made sense of the relationships between the children and showed the true nature of the boys and girls in the classrooms. NVivo enabled to get a level of intersubjective recording of detailed descriptions and comparative explanation on how our pupils were relating to each other and what cultural objects and practices were mediating in these interactions. As Geertz said, (2001: 37-38) «the task consists in discovering the conceptual structures that inform our subjects' acts, what is «said» in social discourse, and in building a system of analysis in terms

| DATOS PATIO. MARZO 2011 | | | |
|-------------------------|----------|-------------|--|
| Nombre | Recursos | Referencias | |
| Edward | 14 | 42 | |
| Achraf. 17-11-09 | 1 | 3 | |
| Ali. 09-02-10 | 1 | 2 | |
| Allegra. 10-11-09 | 1 | 2 | |
| Ana. 23-03-10 | 1 | 4 | |
| Andrés. 26-10-10 | 1 | 5 | |
| Carlos. 03-11-09 | 1 | 7 | |
| Katerin. 15-3-11 | 1 | 1 | |
| Luis. 22-3-11 | 1 | 7 | |
| Nicole. 27-4-10 | 1 | 1 | |
| Ronel. 16-03-10 | 1 | 1 | |
| Tatiana. 11-05-10 | 1 | 1 | |
| Valeria. 29-3-11 | 1 | 6 | |
| Walid. 02-03-10 | 1 | 1 | |
| Yván. 01-12-09 | 1 | 1 | |

Image 1. Edward's intercultural relationships in the playground (Primary Education, Cervantes).

of what is generic about those structures, what belongs to them because of what they are, is highlighted and remains against other determining factors of human behaviour. In ethnography, the function of theory is to supply a vocabulary that can express what symbolic action has to say about itself, that is, on the role of culture in human life».

This complex process within ethnography needs a tool that is sufficiently flexible and powerful to relate different kinds of recordings (textual, digital, audio-visual, image, sound, etc.). «Nodes» such as the ones used by NVivo enabled us to do this complex task. As shown in Image 2, in addition to an accessible environment for working with the data, this tool enables complex groups of meanings to be set up as they are built from different kinds of recordings, at different times and by different individuals.

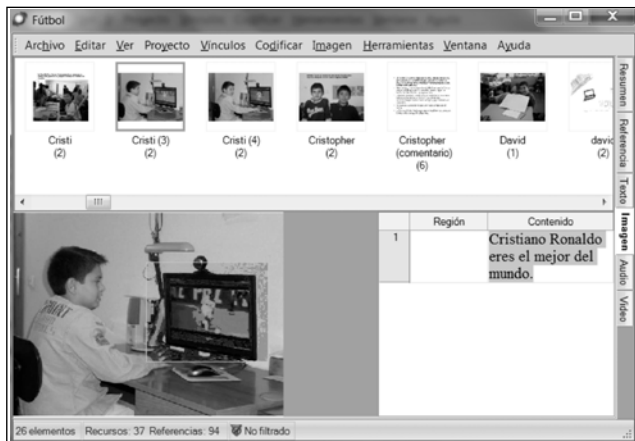


Image 2: Records contained in a «node».

NVivo 9 also provides a workspace that is not available in any other CAQDAS, as Lewins & Silver (2007) acknowledge, and we consider it to be essential for any ethnographic research project and for our study in particular. The data grouping environment called «cases» helped us to focus on the study of each boy and girl and was where we stored various kinds of data to know more about them. Image 3 shows the twenty-five cases of the pupils in 6th year of Primary Education at CEIP «La Paloma», holding a large number of audio-visual recordings taken by the children together with recordings obtained by the three researchers who provided relevant information about who they were and what their relationships were.

This way, we captured the view of several participants and what was anecdotal and meaningful in the actions and discourse of the social agents; this enabled us to know what they were feeling and thinking in order to understand how they were acting. In these groups of «cases» we collected each pupil's discourse, together with the views of their classmates and any relevant events recorded by the researchers involving each of the subjects. We therefore built second order data because we coincided with Geertz (2001: 23) in that «what we call our data are really interpretations of

interpretations of other people on what they and their fellow countrymen think and feel». Returning to Image 2, it can be seen how each «case» groups together different kinds of recordings, giving us easy access –as with the «nodes»– to audio-visual and textual data, and verify for each child –as in the case of the example under discussion– what cultural operators were mediating in their relationships and what practices were associated, as well as the meanings they held for each pupil.

With the same work options provided by the grouping of «nodes», in «cases» we were able to access each pupil's many audio-visual representations, as well as the discourses and meanings extracted during the process of eliciting the image referred to in the above paragraph. The potential of the «cases» lies in providing a space in which to describe the story of each social agent, their values, meanings and norms that govern their social life and that allows them to be embodied. The «cases» allowed us to look at individuality, the detail of the culture as it was experienced by each pupil, enabling us to make sense of reality from an intersubjective discourse and get under each boy and girl's skin to understand their point of view and their feelings in their different contexts: school and social.

4. Conclusions

We understand that knowledge of the Other is one of the core aspects of Intercultural Education and of the solution to the «etic-emic» dilemma faced by ethnographic studies. We approached this knowledge by specifying and sharing the intentions and interpretations of human actions in situations of collaborative work, such as the audio-visual narration of stories that are relevant to the people in them. In this context, we can provide some answers to the three questions posed in the introduction:

To what extent can photo and video recordings help to understand the Other, that is, to know the intentions and interpretations of the people acting? In the work carried out during the school years 2008/09, 2009/10 and 2010/11, both photographic and video images were the basic systems used for representing the collaborative relationships, as they enabled us to show not only the perception of reality through the eyes of the people taking part, but also to convey attitudes, feelings, events and intangible relationships that are hard to communicate using words; in the case of some pupils, the fascination with fame or the power of

| Nombre | Recursos | Referencias | Creado el |
|-------------|----------|-------------|-----------------|
| Adrián | 10 | 15 | 02/07/2010 16:1 |
| Alejandro | 2 | 4 | 02/07/2010 16:1 |
| Angélica | 4 | 5 | 02/07/2010 16:1 |
| Coral | 8 | 14 | 02/07/2010 16:1 |
| Cristi | 8 | 12 | 02/07/2010 16:1 |
| Cristian L. | 15 | 21 | 02/07/2010 16:1 |
| Christopher | 6 | 9 | 02/07/2010 16:1 |
| David | 4 | 11 | 02/07/2010 16:1 |
| Deyvis | 4 | 8 | 02/07/2010 16:1 |
| Emilia | 11 | 16 | 02/07/2010 16:1 |
| Flaurant | 12 | 24 | 02/07/2010 16:1 |
| Franco | 4 | 5 | 02/07/2010 16:1 |
| Iván | 6 | 10 | 02/07/2010 16:1 |
| Joel | 2 | 3 | 02/07/2010 16:1 |
| Kevin | 3 | 8 | 02/07/2010 16:1 |
| Marina | 2 | 2 | 02/07/2010 16:1 |
| Melika | 11 | 19 | 02/07/2010 16:1 |
| Raúl | 11 | 16 | 02/07/2010 16:1 |
| Ricardo | 6 | 12 | 02/07/2010 16:1 |
| Rocío | 6 | 12 | 02/07/2010 16:1 |
| Samara | 3 | 5 | 02/07/2010 16:1 |
| Valentin | 1 | 1 | 02/07/2010 16:1 |

Image 3: Each boy or girl shown as a «case».

some football players. In this sense, we consider that the use of photographic and film language was valuable in capturing the intentional behaviour of some of the participants and to show the interpretations of those on the receiving end of these actions.

How and to what extent do audio-visual narrations provide contextual references of these behaviours? We found that the photographic and film language used in the stories or in the autobiographical accounts favoured an understanding of pupils' personal or socio-cultural reality, as it gave continuity to the situations they experienced through the spatial and temporal aspects recorded. This essence of the narration has enabled us to contextualise socio-cultural events, indicating not only the physical characteristics of the people and places involved, but also to present them in the economic or political framework in which they live, that is, in a specific place and at a particular moment in time. That contextualisation helps to make sense of someone's life – the beliefs, thoughts, emotions, intentions and so on that explain their actions – and to facilitate an understanding of the interpretations of that life made by the people they interact with. They are representations that facilitate knowledge of the Other, an essential aspect of Intercultural Education.

What audio-photographic and film information should we collect and how should it be analysed to produce audio-visual documents that enable everyone to objectively see the Others' reality and truth? We have said that audio-visual recording is a good tool for collecting information on human phenomena. To understand how that recording should be made, we should add that social situations are historically and culturally organised, that these scenarios of activity are

made up of material and symbolic elements with meanings that make sense of behaviours and relationships that occur within them. Therefore, to understand the action of humans in those scenarios –their intentions and interpretations– their continuity in space and time should be recorded, as their meanings are in the temporal order and in the succession of places in which these practices occur; a «continuum» that is inherent in film language. Now, as well as addressing the continuity of the film shots of the cultural situations under scrutiny, we should add the importance of the camera's point of view, the requirement to give the recorder to the Others so that they can convey their intentions, concerns and interpretations; this will enable us to confront

the «etic-emic» dilemma and, for example, find out the reason for their affections or the attraction that a high proportion of pupils taking part feel for audio-visual technology. Lastly, as we reflect on intercultural relationships, we should state that audio-visual data are valid for representing their essential elements and help to produce interesting knowledge when they are handled by computer programs such as NVivo 9, that facilitate the visualisation, ordering, relation, grouping and analysis of different kinds of recordings – text, audio, photography, video, etc.

Notes

¹ It may be worth pointing out that these processes of elicitation entail a projective observation as contemplated by audio-visual ethnography, which consists in putting social agents in front of their own still shots or films in order to obtain more and better data. This became a technique that enabled comments to be recovered and events remembered in order to delve deeper into them, as well as generating discussion, views and exchanging different points of view (Ardèvol, 2006). During three school years, pupils made narratives about nine topics, so we worked on one topic per quarter.

² We have already pointed out the elicitation processes produced by pupils' audio-visual narratives and the resulting projective observation. We can now point out that this type of observation produced a textuality from the story, or narration of what was being represented, enabling us to make a dialogic observation of the reality within a structure of exchange of knowledge and interpretations alongside the pupils. The photo and video records meant that it was possible to make observations that complemented our direct perception; this enabled us to complete, explain, discard or delve deeper into the information and descriptions in our field notebooks.

³ This group of software packages is known as CAQDAS: Computer Assisted Qualitative Data Analysis Software.

⁴ There are various types of software available to help analyse qualitative data and they are described in work by Weitzman & Miles (1995), Fielding & Lee (1998) and Lewins & Silver (2007). We used «code-based theory construction software» for its complexity and its flexibility in handling and analysing data. The website for the CAQDAS Project being carried out by leading intellectuals for data study is also a useful resource.

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