

2013

# Through the viewfinder: Reflecting on the collection and analysis of classroom video data

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This article was originally published as: Fitzgerald, A., Hackling, M., & Dawson, V. (2013). Through the viewfinder: Reflecting on the collection and analysis of classroom video data. *International Journal of Qualitative Methods*, 12, 52-64. Original article available [here](#)

This Journal Article is posted at Research Online.

<https://ro.ecu.edu.au/ecuworks2013/594>

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## **Through the Viewfinder: Reflecting on the Collection and Analysis of Classroom Video Data**

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### **Abstract**

The possibilities inherent in the collection and use of video footage point to an important innovation for classroom research. Unfortunately, researchers often experience uncertainty about incorporating video into their methodological approach as it can present a potential minefield of operational, technical, and ethical issues that require consideration and negotiation. Nevertheless, with the increased emphasis on the use of digital technologies, the timing is right to engage in more in-depth discussions about the role of video data in education research. In contributing to this discussion, this article unpacks several issues connected to the use of video technology as a tool for data collection and analysis. This article focuses on addressing some of the barriers faced by education researchers such as making sampling decisions, maintaining research authenticity, and grappling with ethical issues that arise. In terms of the advantages for researchers, this article highlights the suitability of video technology for classroom-based research because it provides a permanent and detailed record, which can be analyzed from multiple perspectives. These issues are explained through the experiences of an education researcher, who used video as the main data source for documenting and examining the practices of two effective primary science teachers in Perth, Western Australia.

**Keywords:** video research, ethnography, classroom research, teachers, education

The potential of video as a research tool started to emerge, predominantly in the areas of anthropology and cultural studies, during the 1980s as a result of the advancements in video technology (Gobo, 2008; Pink, 2007). Prior to this time the use of visual methods in research, such as videoing, were limited by factors such as the cost, complexity, and lack of familiarity with the necessary equipment (Shrum, Duque, & Brown, 2005). Rapid developments in this technology have signalled vast improvements in the convenience, economy, durability, and utility of video equipment, which suggests that the possibilities for the use of video as a research tool seem limitless (Pink, 2007). As Shrum et al. (2005) stated, “the technical artefacts of recording have become radically accessible for the non-professional user” (p. 5). In keeping with the changes this technology has bestowed on the ways in which field research can be presented and practiced, the body of literature in this area has also grown to include examinations of how human interactions can be captured and understood using video technology (Gobo, 2008). Despite this growing understanding, and the increased accessibility of this technology, video as part of classroom-based research is still evolving in terms of when, how, and why it is used (Hollingsworth, 2005; Johnson, Sullivan, & Williams, 2009).

In many ways, video technology seems an ideal way of capturing the complexities inherent in teaching and learning. The rich and visually appealing nature of video-based data has the ability to convey a strong sense of direct classroom experience (Schuck & Kearney, 2006). The capacity of video to capture classroom activity in a way that enables it to be slowed down allows for detailed and numerous examinations of teaching and learning to occur from multiple (e.g., focusing on different teaching strategies and/or learning styles) and different (e.g., from the point of view of students and/or teachers) perspectives (Hollingsworth, 2005). Also, the permanent record that video affords could be considered a feature of this tool (Heath, Hindmarsh, & Luff, 2010).

Interestingly, video technology is a resource that is becoming increasingly popular in teacher education as it enables theory to be brought to life through practice (Wursta, Brown-DuPaul, & Segatti, 2004). For example, the use of digital recordings of field experiences in teacher education courses as a substitute for live classroom observation is a more accessible and practical way of observing what happens in a classroom (Bayata, 2010). The idea behind practices such as this is that by seeing what different teaching practices look like, pre-service teachers are able to reflect upon, analyze, evaluate, develop, and improve their own skills. Nevertheless, education researchers remain somewhat hesitant to adopt and incorporate video technology into their methodological approaches. This hesitance has been connected with a diverse range of issues, such as ethical concerns connected with using video in classrooms to technological understandings of working with video footage (Johnson et al., 2009). With little systematic research actually examining the feasibility and effectiveness of using video, particularly as part of classroom-based research, their reluctance is easily understood (Brophy, 2004).

This article aims to elaborate on the potential of video technology as a tool for classroom-based research and, in doing so, will focus on examining the emergent area of video ethnography and its appropriateness for education research. The intention of this article is not to report on the methodological underpinnings of a research project in the traditional sense, but to tease out the lessons learnt and issues encountered in a more thematic way. In using this organizational approach, it is hoped that readers are able to more easily access the key messages and become more cognizant of the considerations inherent in using video technology as a research tool. To provide some context to support this examination, features of the classroom-based research that is the focus of this paper will be detailed. Literature outlining the use of video in data collection and analysis will be explored and then contextualized through the first author’s personal experiences of looking through the viewfinder as an education researcher.

## **Video Ethnography**

Ethnography is a qualitative method used by researchers to study human behaviour and to access the meanings that guide this behaviour (Hammersley & Atkinson, 2007). Ethnographers can represent and interpret the experiences of their participants through the use of naturalistic strategies (e.g., participant observation) and fieldwork (Creswell, 1998; Gobo, 2008). Traditionally, ethnographic research has focused on developing written representations of a culture, or aspects of a culture, as the result of extensive fieldwork (Berg, 2001; van Maanen, 1988). Ethnographic field strategies, however, are no longer isolated to the work of anthropologists, with ethnographers now being described as anyone who enters a natural setting to conduct field research (Berg, 2001). In recent times, this approach has seen the introduction of digital technology, such as video, as another way of capturing human interactions (Shrum et al., 2005). In an education context, ethnography provides a way of gathering and interpreting rich, descriptive data about the activities of teachers and their students (LeCompte & Preissle, 1993; Pole & Morrison, 2003).

In accessing the latest technologies, ethnographers are able to capture, represent, and analyze teachers' practice in different ways. While there is essentially nothing new about the incorporation of visual data into ethnography (e.g., photos, sketches, paintings, and film), there has been a tendency for researchers to focus on using words to describe their observations (Pole & Morrison, 2003). With the sense of experience that is provided by the imagery of video data, there has been a shift toward video as a new way of practising and reporting field research. It is as a consequence of this shift that the area of video ethnography has emerged (Shrum et al., 2005).

In the broadest sense, video ethnography refers to "any video footage that is of ethnographic interest or is used to represent ethnographic knowledge" (Pink, 2007, p. 169). It is important, however, to acknowledge that the reality of a situation or experience does not merely exist as observable facts captured as video footage. More information is required to bring meaning to and make sense of the collected images. To develop a more holistic understanding, there needs to be conversation and negotiation between participant and researcher. Other artefacts can also be drawn upon, such as photographs, fieldnotes, and work samples, to assist in making sense of what has happened and to provide an in-depth and multi-faceted depiction of what has been captured on video.

Video ethnography has the capacity to capture the complexities of a classroom and enable detailed examination of teaching and learning to occur from multiple perspectives (Hollingsworth, 2005). The use of video footage can stimulate discussion between teachers, students, and researchers after a lesson and, consequently, generate a deeper understanding of teaching practice (Zhang, Lundeberg, McConnell, Koehler, & Eberhardt, 2010). This suggests that video ethnography creates a new dimension for describing and interpreting teaching and learning. While there are a number of positive dimensions related to this innovation, there are implications for education researchers. By adopting this approach, researchers are required to develop new technological and cognitive skills to enable them to plan, capture, and analyse video recordings. Researchers will also need to negotiate more complex research protocols that include copyright issues and human participant ethics considerations, such as access to schools, the identification of students, the use of video footage outside of the classroom, the short-term and long-term implications of this footage on the participants, the development of understandings around who decides who views the video footage, and the existence of a permanent record of teacher and student actions.

### **Contextual Features of Focal Study**

This article draws on the experiences of the first author as she undertook doctoral research examining the effective science teaching practices of primary school teachers (Fitzgerald, 2010, 2012). The specific purpose of this study was to gather evidence about what effective science teaching looks like in a primary setting over a sequence of lessons, and to explore the relationships existing between teachers' beliefs, knowledge, and practice. A subsidiary aim was to determine how the teachers drew on their beliefs and knowledge to create learning experiences that accounted for contextual influences and addressed the learning needs of their students. This section provides an overview of the research design used for this study by describing the participants and outlining the data gathering techniques used during the three-month data collection process. A variety of data collection tools were used to reflect the complexities inherent in teaching and in coming to better understand the practice of teaching, as well as to allow for the re-creation of a rich experience for the reader (Peshkin, 2000).

The participants in this study were two primary school teachers, identified as effective practitioners of science, and their students. In this particular instance, a professional colleague, who worked with primary school teachers in the area of science education, was approached and asked to nominate teachers she believed to be effective practitioners of science, based on the quality of their science teaching practices in engaging and enhancing their students' science learning. It is acknowledged that any process associated with the identification of effective teachers has its limitations and can be problematic. Nevertheless, she was well placed to make judgments about teacher effectiveness based on her direct experiences in actively working with primary teachers to support and enhance their teaching of science. These teachers were from different schools situated within the same metropolitan centre. At the time of the study (April to July 2008), Deanne was teaching a Year 7 class (students aged 11 and 12 years) and Lisa was teaching a composite Year 3 and 4 class (students aged 7 to 9 years). Year 7 is the final year of primary school in Western Australia, the Australian state where this research was conducted. Deanne's class comprised 21 students and Lisa's class comprised 27 students. A focus group of four students, two females and two males, was formed in each class. The focus group students were a volunteer sample based on their teachers' suggestions of students who would work well together and be willing to communicate their ideas with the researcher. The identified students provided their consent and had the consent of their parents to be involved in this study.

Weekly observations were carried out in Deanne's and Lisa's classrooms over one school term (10 weeks) during their science lessons (each approximately one-and-a-half hours in length) to examine their classroom practices and interactions. The researcher's written observational fieldnotes were supported with video footage of the 10 science lessons that took place in each classroom. Three video cameras were used to capture each of the science lessons: one camera tracked the teacher, a second camera focused on the focus group of students, and a third camera, fitted with a wide-angle lens, focused on the whole class. Separate FM microphones were used to record the verbal communications from Deanne and Lisa as well as between the focus group students throughout the lessons.

Following each classroom observation session, semi-structured interviews were conducted with Deanne and Lisa (approximately 40 minutes in length) to discuss and view footage captured from the previous science lesson. Questions were asked of both teachers, including what she aimed to achieve in that science lesson, how she felt about the lesson in light of these aims, why she used certain strategies, what she thought her students learned during the lesson, and what changes she would make to the lesson, if any, in hindsight. The focus group students from Deanne's class were interviewed directly following each science lesson. These students were interviewed as a

group 10 times, and each interview took approximately 10 minutes. Because of time and programming constraints, the focus group students from Lisa's class were interviewed the week following a science lesson. These students were interviewed as a group eight times and each interview took approximately five minutes. The focus group students from both classes were asked questions, such as what did they learn from the science lesson and which parts of the lesson helped their learning in science.

Written documents were collected from Deanne, Lisa, and their students over the course of each science unit, for example unit plans, worksheets, assessment items, and work samples. Both teachers also provided information regarding the learning and teaching tools that their classes developed, such as interactive whiteboard programmes and a list of their online resources.

### **Collecting Video Data**

Video can enable the capture of rich and detailed data. At a basic level, video data can be collected by setting up a camera and recording what occurs. But in moving beyond this level, there are numerous choices that need to be made each time video recording is planned. Three issues are explained here: sampling, authenticity, and ethics, each of which impacted on the collection of video data in this study.

#### **Sampling**

It is not possible to gather an exhaustive account of any one setting, regardless of the data collection tools used. Therefore, sampling decisions need to be made (Erickson, 1992). The use of video as a tool for data collection requires decisions, such as where cameras will be placed (e.g., hidden or conspicuous) and the choice of frame angle (e.g., wide or close up) (Ratcliff, 2003). Researchers need to be aware that sampling decisions associated with capturing research footage differ from sampling decisions for commercial footage. Simplicity is the key to capturing research video, with requisites such as footage has consistent visual framing over time, a clear picture, and clear sound (Gobo, 2008). It is important to consider that any video record is an incomplete document of what actually happened, even when shot continuously. While it may provide tremendous insight, a video camera is limited in what it can capture, when it is captured, and from what perspective (Ratcliff, 2003).

Many of the sampling decisions connected with the classroom research in this study included what would be captured on video (i.e., every science lesson over a term) and when it would be captured (i.e., where the lesson fitted within the teaching timetable). In each of the classrooms, there were three cameras, one with a wide-angle lens and two with regular lenses mounted on tripods. Over the duration of the study, the camera with the wide-angle lens remained stationary at the front of the classroom and captured the activities of the whole class while the first author and research assistant operated the other two cameras, tracking the movements and actions of the teacher and the focus group of students, respectively. Good quality sound was gathered from the classrooms, in synchronization with the video footage, through the use of two FM microphones—one recording the interactions of the teacher and the other recording the interactions of the focus group students. Other decisions were negotiated based on the classroom environment, such as the placement of the cameras and the degree of zooming. In reflecting on the data collection process, the researcher determined that sometimes the degree and frequency of zooming was too great and therefore the footage did not capture the whole context of the teaching and learning interactions that were taking place. This suggests, in hindsight, that for research footage it is more appropriate for the amount of zooming to be kept to a minimum. This recommendation is echoed in the

findings of an expert panel convened by the Data Research and Development Centre, which developed a set of guidelines around video research in education (Derry, 2007).

### **Authenticity**

An advantage of video compared to other classroom-based research techniques, such as taking observational notes or recording audio, is that it can capture and present teaching and learning behaviours as they occur. Nevertheless, concerns have been raised regarding the intrusive nature of video cameras and their potential impact on behaviour, which challenges the potential authenticity of video data (Schuck & Kearney, 2006). For example, Schuck and Kearney (2006) refer to the possibility that “a researcher may need to ask a class to minimise background noise levels and other distractions relating to the filming of participants” (p. 458), which requires a significant change in behaviour for the benefit of the video process. Research has identified, however, that while participants find the presence of a video camera intrusive during the first video recording session, their awareness of the camera diminishes quickly, even in classroom situations when working with young children (Gobo, 2008). This awareness may be evident in what has been referred to as the reactive effects displayed by participants, such as acting for the camera (Ratcliff, 2003). As the camera becomes part of the environment, this reactivity tends to become less likely as participants become more accustomed to the presence of video cameras and/or operators (Heath et al., 2010). Also, other researchers have documented that participants are usually too involved in what they are doing, in this case teaching a class of children, to actually change their behaviour for the presence of a video camera (Gobo, 2008; Pink, 2007).

In this study, initially the teachers were nervous about being filmed, which was evident in how they spoke about their experiences of the early lessons. While they claimed to be continually aware of the camera presence, their anxieties dissipated as they became more familiar and comfortable with the research process. Their students were excited about being filmed and reacted to the presence of cameras by waving to or hovering near them. These acts of recognition became less frequent as the research progressed. In anticipation of these forms of reactivity, the first author visited each classroom every two weeks for the three months prior to the data collection period. To further reduce the intrusiveness of the video cameras, the three cameras were set up in the classroom during a practice lesson, directly prior to the commencement of the data collection, to provide the teachers and students with the opportunity to view the captured classroom footage and to interact with the cameras by, for example, looking through the viewfinder and experiencing what the cameras were like to operate. This process seemed to reduce the intrigue surrounding the cameras and assisted in building relationships of trust and understanding with the teachers and their students.

It is important to be aware that while video footage enables most classroom interactions to be documented in a way that allows them to be repeatedly reviewed, not everything is or can be captured. Additional data sources were therefore crucial in helping to contextualize what was happening on the digital record and to maintain the authenticity of what was taking place in the classroom. In this study, the video data was supplemented with fieldnotes, interviews with the teachers, focus groups with the students, and student work samples.

### **Ethics**

Many of the challenges inherent in collecting video data are connected with ethical considerations. Confidentiality, in particular, is the most salient (Erickson, 1992). A major disincentive for participants involved in video research is the fear of potential embarrassment (Schuck & Kearney, 2006). While the faces of participants can be masked through editing,

behaviours and actions are preserved as part of the video footage. Although video data is inherently non-anonymous, confidentiality can be protected in many ways, for example by restricting access to video footage and to personal information such as the names of the participants or the schools in which data were collected (Derry, 2007). In some situations participants can be assured that video, which has captured them and their actions, will be viewed only by individuals who do not personally know them. In using this technology as a data collection tool, researchers need to develop protocols for preventing harm, particularly in the form of embarrassing events or actions captured on video (Erickson, 1992). This can be addressed through emphasizing the participants' right to view and erase any footage they feel uncomfortable about. Other concerns connected with confidentiality, such as dissemination and future use of the footage, also need to be considered (Schuck & Kearney, 2006).

The nature of using video as a way of recording what is occurring within classrooms means that the identities of the participating teachers and students will be evident. Involvement in this research study stipulated that teacher and student participation was voluntary, that withdrawal could occur at any time, and that any potentially embarrassing footage would be deleted. In addition, in each classroom there were designated "no-go" zones. This area provided students who were not participating in the research (ongoing or at a chosen time) with a way of being involved in the lesson without being identified on video. All participants, including parents or guardians, provided their written consent for the video footage to be used as part of this research. It was also agreed, and highlighted in the consent documentation, that the participating teachers would act as the gatekeepers to the video records and would act in the best interests of their students, their school, and themselves by asking for any footage that could be interpreted in a negative way to be erased as a digital record.

### **Analyzing and Interpreting Video Data**

As part of the research process, analysis is required to make information meaningful. The use of video footage, as an extension of direct observational techniques and the creation of fieldnotes, allows for a more detailed analysis to occur (Gobo, 2008). In particular, the ability to revisit the same event for repeated observation and analysis is a key innovation in video research (Erickson, 1992). Video footage also provides researchers with numerous ways of interpreting the events that have been captured. Video as a research tool opens up a multitude of possibilities in terms of attending to the layers of complexity that are inherent in the acts of teaching and learning.

The analysis of the doctoral research project consisted of building two case studies illustrating the beliefs, knowledge, and practices of the participating teachers, Deanne and Lisa, and the learning behaviours and outcomes of their students. Data from the following sources were analyzed: video footage, transcripts of the interviews with the teachers, interviews with the focus group students, artefacts collected from the classroom, and journal entries relating to the research process. The triangulation of the multiple data sources used in this research helps to ensure the credibility, transferability, dependability, confirmability, and authenticity of the data (Lincoln & Guba, 1985).

The data were examined to identify patterns in Deanne's and Lisa's science teaching practices. Specifically, the focus was to identify data that shed light on the learning experiences and teaching strategies used, why they were used, and how they related to the teachers' beliefs and knowledge. While components identified within the literature assisted with this process, this study used an inductive approach to the data analysis, which enabled a more receptive approach to unexpected patterns or themes. An inductive approach suggests commencing with an in-depth understanding of the details within the data before moving to the use of more general codes and



themes to represent what is happening. This was an important consideration because case studies provide the reader with a rich, multi-dimensional picture illustrating the relationships, issues, and patterns occurring within the two classrooms (Bell, 2005). Furthermore, case studies highlight the value of using a more qualitative approach to the research process, and according to Merriam (1998), case studies are chosen when “researchers are interested in insight, discovery and interpretation rather than hypothesis testing” (p. 10). If the study remained confined within a prescribed framework, the representation would perhaps resemble a flat, two-dimensional image, not revealing the full story. This inductive approach enabled these constructs to emerge out of the data rather than be imposed on the data prior to collection and analysis (Patton, 2002). The focus on emergent interpretations, rather than on existing theories, is a legitimate approach to data analysis that is based in grounded theoretical understandings of research (Corbin & Strauss, 2008).

### **Analytic Approach**

Microanalysis is a process associated with the interpretation of video footage. Aligned with inductive methods, this approach emphasizes that an event or behaviour can be described, measured, or tracked in detail through repeated examination of video sequences (Ratcliff, 2003). Inductive approaches to video analysis are most evident when a minimally edited body of video footage has been collected and investigated with broad questions in mind rather than with an identified orienting theory as an overarching frame. In this case, the researcher generally begins by viewing the body of work (or as much of it as possible) in its entirety, then studying it in progressively greater depth for the purpose of identifying major events and themes. Erickson (2006) described what he considered to be a whole-to-part inductive procedure as generally involving repeated viewings in which multiple viewers reach consensus on the major events and themes evident in the video footage. Ethnographic microanalysis, a five-step process for making sense of video-derived data, is an approach to data analysis described by Erickson (1992) in his earlier work. This process can be summarised as watching a video sequence in its entirety, identifying major events within the sequence, looking at the links between event segments, transcribing the interactions, and comparing segments across the video data set (Erickson, 1992). This layered approach to analysis not only examines the detail in, what Erickson (1992) referred to as, strips of activity, but also provides a more holistic perspective to the analysis by positioning what is occurring or emerging within the broader context. Ethnographic microanalysis has the capacity for a completeness of analysis that is enabled by the ability to view video footage multiple times for different purposes (Ratcliff, 2003).

The analysis of the video data in this study was based on Erickson’s (1992) model. Initially, the researcher was immersed in watching the video footage captured over the complete sequence of lessons from each classroom. The researcher watched footage captured by the whole class camera before viewing the student and teacher footage. After considering the whole event, the footage was re-examined in sweeps, or multiple viewings, to identify the different components emerging from the classroom interactions and practices, such as the instructional settings used, how the scientific story was constructed, and the management of the teaching and learning approaches. These sweeps took place using either the student or teacher camera footage because this footage provided a more focused examination of what was taking place in the classrooms. This process in its entirety took the researcher approximately 150 hours to complete, with footage from each camera and each lesson viewed at least once, though some footage was watched up to 10 times in some cases. For example, in examining the development of the scientific story, the researcher looked at the concepts and processes that were taught over the unit and how they were linked within and between lessons. Identifying these connections and examining the dialogue involved several viewings. To make sense of what was occurring during each sweep of the video footage,

notes were taken by the researcher and written descriptions were created. In this sense, the analysis consisted of two layers: watching the video footage and writing about the video footage.

### **Interpretation**

A basic goal in analysis of ethnographic studies is to create vivid reconstructions of the settings studied (LeCompte & Preissle, 1993). Nevertheless, the ways in which researchers describe what they observe may be quite different from the ways in which participants describe and make sense of their own experiences. As an analytical tool, video can assist the researcher, but the process of video analysis is a complex task. Video can present as a passive medium (Jonassen, Howland, Moore, & Marra, 2003). To promote active engagement with video, strategies that will enable discussion should be considered. In the literature, it has been suggested that anchoring discussion to specific aspects of video footage can encourage more directed and focused discussion, which enables clear connections to be made between learner contributions and particular components of the digital artefact (van der Pol, Admiraal, & Simons, 2010). Developing an understanding of what is occurring within a setting should be a co-operative effort between the researcher and the participant (Ratcliff, 2003). By viewing video footage together, the researcher can discover what meanings participants attribute to different activities and contexts, and how they interpret what is portrayed (Pink, 2007; Ratcliff, 2003). This process can also be beneficial to the teacher as it enables them to visualise or self-observe their own practice, which may facilitate reflection on that practice and could potentially lead to improved teaching and learning (Colasante, 2011). Similarly, collaborating with another researcher or researchers to view video footage can enable the sharing of alternative opinions and ideas to inform the emerging interpretations, which can lead to improved data integrity (Newhouse, Lane, & Brown, 2007).

In interpreting events captured on video, the first author worked with the teachers in two ways. First, throughout the data collection process, semi-structured interviews were conducted with the teachers after each lesson, so that the reasons behind why they taught their classes in the ways they did could be discussed. As part of these interviews, segments of video footage were viewed and the teacher provided their interpretation of what was happening. These episodes were short (no more than five minutes) and were identified by the researcher. This strategy was adopted because the researcher felt that with the short time between the observed science lesson and the interview (two days) it was too much to ask the teachers to view the footage and identify segments that they considered to be meaningful. The investment of Deanne and Lisa's time in this research project was already substantial. On reflection, watching longer segments of footage identified by the teachers would have been preferable, but would need to be managed carefully to ensure that they were not overburdened. Second, when the emergent themes that characterized teaching practice were identified, the researcher contacted the teachers to establish if their interpretations of different events and practices were the same as those made by the researcher, and different perspectives were resolved through discussion. While it would have been ideal to regularly meet with the teachers during the analytical process, again it was not appropriate to further intrude on the teachers' time.

Another consideration of the interpretation process is the role of self as part of meaning making (Eisner, 1991). The task of the researcher, according to Burns (1990), is to "capture what people say and do as a product of how they interpret the complexity of their world, to understand events from the viewpoints of the participants; it is the life world of the participants that constitutes their investigative field" (p. 9). In studying people's actions and thoughts, Wolcott (1988) has defined this type of research as ethnographic because it portrays "literally, a picture of the way of life of some identifiable group of people" (p. 188). Therefore, an ethnographer, regardless of the techniques used, looks for the context and the complexity inherent within a study (Cohen,

Manion, & Morrison, 2007; Wolcott, 1994). This stance inevitably raises issues about the positioning, neutrality, and objectivity of the research process, and more specifically of the data analysis. No one person is value free. Interpretations and understandings of data are passed through a filter, which, in this case, was the first researcher's frame of reference (Carpenter, 1999). Given the researcher's role within this study, one's own experiences as a teacher, and the close working relationships that were formed with the teachers and their students, it is important to be aware of the possible impact of personal values and preconceptions during the analysis of the data.

These considerations illustrate the quality criteria developed by Guba and Lincoln (1989). Guba and Lincoln suggest the quality criteria were "intended to parallel the rigor criteria that have been used within the conventional paradigm for many years" (p. 233) but were not constructed to reflect the qualities of interpretivist paradigms. In particular, notions of credibility are particularly highlighted within the study explored through this article. Credibility involves establishing whether the findings from the research are believable from the perspective of the participants. Several methods of ensuring the credibility of a study as outlined by Guba and Lincoln (1989) were incorporated, such as prolonged engagement, persistent observation, peer debriefing, and member checking.

### **Conclusion**

The purpose of this article was to elaborate on the potential of video technology as a tool for classroom-based research, and in doing so, it has highlighted that video adds a new dimension to the ways in which teaching and learning can be viewed, described, and interpreted. In particular, the literature emphasises that video footage enables data collection and analysis to be an ongoing and iterative process. Nevertheless, there are implications for education researchers in choosing to look through the viewfinder as part of their classroom-based research, for example issues surrounding sampling, authenticity, and ethical considerations. There are also opportunities for researchers to work more closely with participants, in this case teachers and students, to ensure that their experiences of and concerns about video technology are considered and addressed. The research study in which this article is situated highlights the potential use of video ethnography (Pink, 2007) and ethnographic microanalysis (Erickson, 1992) as ways of documenting and analyzing what is taking place in classrooms. While these approaches are not common methodological practices for the field of education, this study provides useful evidence as to how these practices can be used and incorporated into classroom-based research.

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