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8. Opening the visual methods toolbox

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SUMMARY

This chapter overviews the different approaches to using visual methods in HRD research, offering a ‘toolbox’ from which HRD-researchers might select according to their research needs. We explore the different traditions of visual research design and methods, with a specific focus upon their practical application within the HRD research context.

INTRODUCTION

One of the most discernible developments in the field of qualitative research over the past decade has been the increased interest in the use and analysis of visual data. Visual approaches comprise a vast and diverse field, with visual data encompassing a myriad of forms ranging from photos, video, sketches and diagrams engendered specifically for research purposes, to naturally occurring visual facets of the physical world such as advertisements, graphs, maps, cartoons, symbols, specimens, cyber-graphics and graffiti. We can also extend this beyond such ‘capturing’ of the world, to include the reading of the naturally occurring, visually experienced environment and encounters.

Despite this sea of images that surround us, methods using images have received very limited attention in the Human Resource Development (HRD) research literature when compared with other, more conventional, research methods. Indeed, very few guides to their use currently exist. Therefore, the aim of this chapter is to review visual techniques and to assess their potential for HRD research. Intentionally, we do not discuss the philosophical debates surrounding visual research, nor its theoretical underpinnings. Rather our emphasis is upon practical application. The intention is to provide an overview, a ‘toolbox’ from which researchers might choose according to their personal research needs. Therefore, we anticipate that this chapter will be of particular interest to HRD-researchers new to visual research, and those wishing to extend HRD understanding and practice through visual approaches. We explore the different methodological traditions of visual research designs and

methods, offering specific examples of their use within the HRD research context. We then proceed to discuss some of the many approaches to visual data analysis. The chapter concludes by addressing the main shortcomings of these approaches in HRD research. Whilst a range of visual data is outlined, focus is upon that holding the most potential in HRD research, namely imagery. A second chapter follows this current chapter, providing a far more in-depth examination of one specific visual approach: photo-elicitation interviewing. This technique uses photos and/or images to stimulate reflection upon, and discussion of, the topic under consideration within the interview.

Learning processes, non-formal and implicit to work processes and relationships, often go unnoticed by both learners and researchers (Eraut, 2000). Visual methods provide a means to explore these hidden experiences helping to make tacit facets of our worlds more explicit. Significantly, visual data can be far more interesting and stimulating for the researcher, participant and research reader/user. For the *participant*, images provide a means of expressing self-understanding and emotions, whilst also offering them a 'louder voice' in the research process, prioritising their way of seeing (Warren, 2005, p.864). In helping to bridge the experiences of the researcher and the researched, images assist the *researcher* to see what they might not otherwise see. Through fostering different types of responses to those secured through conventional approaches, images present facets that might otherwise have been overlooked, providing opportunities for exploring taken-for-granted assumptions held by either party. This encourages the generation of a richer, more nuanced data that better communicates understanding of how people think about themselves and experience their worlds. Finally, for the *reader/user*, visual data offers a more persuasive and inclusive articulation of reality: of the conceptions and relations being discussed and the multiple voices evoked. This helps the reader to 'see' what we, the researcher, have 'seen'. Yet it is not just the eyes that 'see'. Visual data invokes other non-rational thoughts in the viewer, offering a more emotional, aesthetic and sensory experience than that achieved through traditional text-based HRD research.

However, visual methods have played only a minor role within the predominantly 'word-based' organisational research (Bryman, 2008). Indeed, their use within HRD research remains scant, especially when compared, for example, with educational research (Woolner et al., 2010; Wall et al., 2013) and marketing/advertising research (Schroeder and Zwick, 2004; Campelo et al., 2011). This scarcity can, in part, be attributed to the dominant positivist epistemological traditions that characterise the HRD field as it strives for ever more 'scientific' evaluations of learning interventions. Nevertheless, increasing attention is now being paid to the visual

dimension of our social worlds. The ascendancy of visual techniques as reputable methods is marked by the emergence of bespoke journals such as *Visual Studies*, through the setting-up of the Economic and Social Research Council (ESRC)-funded 'inVisio' and thematic groups/Special Interest Groups within academic associations. Moreover, research findings derived from these methods now appear in mainstream management journals. This growth perhaps mirrors the predominance of imagery as a mode of communication in contemporary lives and of technological developments enabling the simple and cheap collection, manipulation and storage of visual data. It perhaps also reflects the increased use of 'art' (in its various guises) in workplace problem-solving and 'creative' training solutions.

METHODOLOGICAL APPROACHES USING VISUAL DATA

We now proceed to examine the main methodological traditions supporting the potential of visual methods for HRD research. The varied traditions from which visual research has emerged has rendered it a diverse and disparate field, characterised by a diversity of methodological and theoretical perspectives. Therefore, there is no 'one way' to work. We will consider the distinctions between the forms of visual data, their use and generation, before offering an overview of the visual methods used within these traditions. In doing this, questions will be raised over whose knowledge the images represent, for what purpose and for whom were the images made.

Early applications of visual methods understood images to capture 'accurate' records of reality. These provided a literal reading of a single event, action, communication or artefact, or recorded their longitudinal change. This positivist tradition typically used photos or film to document material, cultural and social practices, with the focus being upon the researcher's understanding of the content of the image (Collier and Collier, 1986). Buchanan and Huczynski (2004, pp.435–436), for example, report Gilbreth's use of still cameras and lights attached to workers' hands to capture their movements, for the purpose of work redesign. A similar approach was adopted at the turn of this century, using still photography to observe theatre delays within an NHS Trust, in efforts to re-engineer team scheduling (Buchanan, 2001).

However, this issue of 'photographic truth' is now heavily contested, with the debate over the authority that images hold forming a central theme within the visual research literatures. As Berger (1972) observed,

the visual does not inherently mean the visible. As we view so all of our senses come into play. Thereby, visual data offers a 'window' to the socio-material, psychological or interior worlds of research participants. Through this, meanings emerge as social constructions, enabling us to better understand how other people see things. Consequently, this approach gives the participants' meanings prominence, enabling the researcher to experience their participants' subjective 'world' through their own eyes, providing far greater insights into the worlds that they are researching. In this modus, photos are not *taken* but rather are *made*. They cannot tell the story of how it 'is' or 'was', but offer an incomplete, fragmented and context-bound version of reality, with the image, and how it is framed, inextricably entwined with the cultures of the image-producer and image-reader (Berger, 1972).

However, Emmison (2011) questions whether aesthetics can really be captured in images. He argues that focusing upon only 'two-dimensional' representations is 'curiously short-sighted and unduly restrictive' (p.236). A third and divergent form of visual data focuses upon the spatial and visible facets of our social worlds: 'live' readings of the actual experienced environments and interactions. Data might include body language, temporal and spatial movements of individuals, their clothing and the communication of meaning through such material elements as buildings and public spaces. For HRD-researchers, these data might emerge through participant observation of, for example, interactions within a training session. They might examine how the architectural space, the appearance and layout of a training room, affects the learning that takes place: how the arrangements of chairs into lecture-room style rows might instil a very different understanding for the participants than if the session was conducted with chairs placed around small tables. Therefore, this visual data does not comprise representations of the room, rather the room itself: the actual objects that comprise the room and their layout within it.

RESEARCH DESIGNS USING VISUAL METHODS

Having decided upon their methodological approach, the visual HRD-researcher must consider the research design. This requires two further important decisions, informed by this epistemological perspective they have adopted. Firstly, they must decide upon the source of the visual materials: whether to use pre-existing visuals or to generate them for the purposes of the research. Secondly, they should consider how these visual materials would be used within the research process: as an aide memoir,

illustrating other data, or as a data source in their own right. Each of these decisions poses practical and methodological issues.

The emphasis has, ordinarily, been upon the use of extant visual materials. These might include archival photographs, organisational charts, company reports, cartoons and advertisements. Although, the increasing use of social-networking sites and other websites to store and display images, especially 'personal' photos and videos, provides a wealth of opportunity to retrieve 'everyday' images of society. Meanwhile, simple diagrams, signs and maps offer information about, and a means to understanding, everyday custom-and-practice. Whilst, in the case of visual materials produced by organisations, it is important to remain cognisant of the persona and identity that they might be wishing to portray, they too provide an invaluable stock of data that might be used by the HRD-researcher.

More recently, visual materials have been produced specifically for the purposes of the research. Photos play an important role in this, although other techniques, notably diagramming, are being used increasingly. However, when using images driven by the research, a fundamental decision lies with who actually generates or provides the images: are they researcher-generated or participant-generated. Each of these draws upon divergent traditions and requires differing forms of analysis. Researcher-generated images might be used to encourage participants to discuss a subject based upon their interpretation of what is shown and/or to compare their own conceptions and experiences to this. This enables the HRD-researcher to both explicitly delimit the area of research interest whilst also assuring participants of the pertinence of their contributions. However, the images provided will inherently portray the researchers' construal of the research field, although these perspectives may, through participant questioning, be challenged.

By contrast, kindled by postmodern and feminist perspectives on the need to redress perceived power imbalances between researchers and participants, increased attention has been placed upon collaborative and participatory research methods. Participatory visual approaches, referred to by Wagner (1979) as 'native-image-making', invite the participants to create, generate, or locate images that portray their own experiences and understandings of phenomena in response to a specific assignment, rather than imposing the researcher's preconceptions upon the participants (Willig, 2008; Pauwels, 2011). Although Warren (2005) observes that these may tell the researcher more about the photographer/image creator than that which they have chosen to depict, they do, nonetheless, offer an invaluable opening into their worlds: its social, political and cultural elements.

The second research design hurdle confronting the visual researcher

lies in determining the value or position that the visual holds within the research. These might be summarised into three broad categories:

1. Research approaches that use the visual as an aide memoir, to stimulate thought within interviews, for example in photo/visual-elicitation;
2. Studies that use visual illustrations such as graphs and storyboards, in place of, or to supplement, other data forms, notably text;
3. Methodologies that understand images as a data source in their own right.

These are considered in more detail below, within the specific research methods that adopt these approaches.

VISUAL METHODS

Having settled upon a suitable research approach and design, the visual HRD-researcher must determine what actual method(s) to adopt. Table 8.1 provides an overview of a number of these methods, an explanation of their use in practice, suggestions of how they might be used in HRD research and, finally, evidence of their use, where known (to the best of our knowledge) by HRD-researchers. We will then examine in more detail five of these methods that have notable potential for HRD research. These are indicated by the shaded rows.

Graphic Mapping

Graphic mapping methods use participant-created illustrations to 'reveal how they think or feel about matters' (Wagner, 2011, p.55). These are created iteratively, typically before or during an interview with the researcher, encouraging the participants to reflect upon their perceptions of the phenomenon under study. A number of groups of techniques are identified in Table 8.1. As an example, mind maps might be used during an interview to help the HRD-researcher and/or participant to clarify their thoughts on, and understandings of, their informal workplace learning. This might identify the sources of this learning, the tools and artefacts that have been utilised in this. In using the less well-established technique of personal maps, participants might be invited to develop a 'personal geography' of how they see their selves: their identities, attributes, feelings and ambitions; also people, places and events that have shaped their lives. Recent work by King (2013) used this approach to better understand academics' identity. This created maps, typically of islands or archipelagos,

Table 8.1 Overview of visual methods and their uses

Method	Brief overview	Possible use in HRD research	Evidence of use in HRD (where known)
Video, film and imagery to authenticate events, actions and emotions			
Film/video	The use of film or video either for recording events, or for reviewing perceptions of previously 'captured' and preserved events. This approach provides naturalistic access to the minutiae of behaviour and interactions that are unavailable through more traditional methods (see Heath et al, 2010)	Videos of training/coaching sessions to explore participants' perceptions of their effectiveness Using videos of workplace incidents to assess learners' understanding of them	Jubas and Knutson (2012)
Video dairies	A digitised diary collecting data on participants' lives over an extended time period. Participants conduct a daily camera session through which they share information, such as their thoughts, feelings, reflections, with the researcher 'audience'	To observe an apprentice 'learning the ropes' through weekly recordings in which they are asked to emphasise their workplace experiences and learning	Littlejohn et al. (2012)
Iconography	Illustrations, principally diagrams and photos, used to represent the social, cultural and political contexts within which they were developed	Use of images provided in annual reports, publicity and advertising materials to reveal perceptions of, and thereby illustrate areas for, workforce learning and development	Ardichivili (2006)

Behaviour: video tracking, eye tracking and motion analysis	Uses specialist technology-focused eye or motion tracking equipment to record participant behaviour	Examining non-verbal communication in developing customer relations Examining use of workspaces to analyse task performance	
Diagramming and mapping			
Participant-generated pictors (pictures)/ doodles (graphic ideation)	Simple freehand drawings and doodles that help organise thoughts and ideas either in advance of, or during, interviews, offering a visual representation of how the participants view themselves, relationships and their social world. Might also be used by the researcher during the course of an interview to help clarify their understanding	To help participants explain their understanding of a specific workplace process following their attendance at a training session To understand how participants feel that their learning and their relationships with others within the workplace are changing during a period of organisational change	Ross et al. (2005)
Graphic mapping	Participant created. Take various forms from ideas shared through sketches and maps to visual or spatial thinking tools (such as mind maps and concept maps) to develop concepts, organise and share ideas, articulate perceptions and promote reflection. May be developed prior to or within an interview within which they are subsequently explored	Asking participants to mind map their understanding of specific learning interventions Asking participants to create a map to illustrate their perceptions of, and feelings about, their workplace learning journey	Daley et al. (2010) King (2013)

Table 8.1 (continued)

Method	Brief overview	Possible use in HRD research	Evidence of use in HRD (where known)
Diagramming and mapping			
Network mapping	Participants draw maps of interconnectivity (network maps) to illustrate the dyadic ties between the various actors that comprise their network(s). These can be used to identify local and external influential entities, and examine network dynamics	Examining whom participants interact with in the workplace and whom they learn from. Solid lines represent an interaction, whereas double lines between individuals might represent learning	
Process mapping	Participants (typically teams) 'process map' a common understanding of the current situation/system, reflecting not what should happen but what happens in reality.	Examining processes in place for decision-making within an organisation	Cameron et al. (2001)
Elaboration			
Photo/visual-elicitation	Using photos, drawings and artefacts (researcher or participant created) in interview to stimulate a response to the topics under examination	Examining how workspace configurations affects learning Examining how office architectures affects perceptions of workplace happiness/motivation Determining participants' perceptions of their workplace lives through images they provide to portray this	Warhurst (2013)

Diary-ing and story-ing

Photo diaries (Snap logs)	Participants take shots of actions, activities or events to help them explain their stories. The photos act as a log and also as stimuli in subsequent in-depth interviews. Reduces the problems of 'participant fatigue' associated with written diaries.	Tracking workplace novices (participants) information-seeking behaviour in the workplace To understand informal workplace learning experiences: how/where systems and/or services promote or hinder learning processes Examining participants' form of self-representation through the duration of these learning processes	Bramming et al. (2012)
Story/timelines	To recall participants' lived worlds and their meanings framed within a specified time period. Not intended to be chronological or linear but provide a visual representation of main events. May be prepared by the participant in advance of an interview, or may be a collaborative effort shared by the researcher and participant	Examining participants' career development, organisational development and learning journeys over a given time period with the intention of deepening and expanding their learning and performance	Mazzetti (2012)
Applied Drama and Theatre ('ethnodrama')	Using staged script and techniques of theatre production, dramatizing participants' experiences and/or the researcher's interpretations of data	Assisting workplace educators to reflect upon their practice, and re-envisage how it could be changed and thereby enhancing their own personal development	Rae (2011) Pässilä et al. (2011)

Table 8.1 (continued)

Method	Brief overview	Possible use in HRD research	Evidence of use in HRD (where known)
<i>Diary-ing and story-ing</i>			
'Photomontage'	Juxtaposes multiple photo frames in order to capture a clearer sense of time, movement and narrative: an arrangement of images produces more vivid, complex stories	Manager's changing understanding of self through the course of a training programme	Shortt (2012)
<i>Classifying</i>			
Q-sort/Picture sort/Photosort	Participants organise images provided by the researcher according to guidelines provided. For example, classifying the images or telling a story from the pictures provided	Examining characteristics of managers considered important to managing workplace diversity	Eppler (2007)
Visual repertory grids	Participants provide images in response to the research purpose. They consider these images in randomly selected sets (typically three/time), identifying commonalities between pairs and differences with the third. This generates constructs. Images are presented until the constructs	Examining line managers' perceptions of team learning and creativity Participants' perceptions of the impact of objects on their workplace learning experiences Examining understanding of the characteristics of effective workplace coaching	Blundell et al. (2012)

emerging are repetitive or until all possible combinations have been presented.

Miscellaneous

Blob Trees	Uses drawings of cartoon characters in different positions on a large tree. They are designed to enable participants to identify how they see themselves in a specific context (the tree) and in relation to others within it (other characters on the tree). This is with the intention of enabling them to articulate their own ideas with limited prompting, whilst also revealing hidden levels of consciousness	Examining participants' feelings and emotions before, and then after, a learning intervention	Talbot et al. (2009)
'Lego Serious Play'	Participants make visual representations using Lego	Building models to represent participants' workplace/occupational identity and/or learning	Gauntlett (2007)

with various geomorphic features, such as erupting volcanoes, or human features such as railway lines linking various facets of the self. These were overlaid and further annotated with 'post-its', images and photos. Participants were invited to explore these maps with the researcher through interviews.

Storylines

Storylines provide an invaluable means of invoking recollection and memories. This method can be especially useful where the researcher is looking to understand participants' perceptions and meanings of (periods of) their lived worlds (Cross and Barker, 1994). Importantly, storylines are not intended to be chronological, or indeed linear, but provide a visual representation of the main events within participants' lives framed within a specified time period. These may be prepared by the participant in advance of an interview, providing a stimulus for discussion. Alternatively, the construction of events along this storyline may be a collaborative effort between the researcher and participant, forming the focus of the interview. The HRD-researcher might use these storylines for portraying learning journeys. Such storylines offer participants an opportunity to reflect upon their experiences and events or activities they have encountered and then to relate these to how and what they have learned, for example the development of their leadership or team-working skills. Using these storylines as a stimulus for discussions might mean that the transcripts alone are used in the analysis, the storylines acting like a field memo. Alternatively, the researcher might also interpret the storylines themselves, examining the different elements depicted within them. These approaches to analysis are examined below.

Photo Diaries

Photo diaries provide a useful method for logging participants' activities, views and feelings over time. Within HRD research, participants might be requested to collate a series of photos or images that best illustrate how their thoughts and feelings change through the progress of a formal training programme. These images might then be used as stimuli for a subsequent interview to aid the participants' recollection. The photos may then act solely to support the interview. However, the photos and images may also be analysed separately to the text, with their interpretation 'grounded' within themes induced through the text analysis. Alternatively, the participant might be asked to provide the images supported by a written commentary of the story that they tell. The HRD-researcher might then

both analyse the story, using suitable qualitative text analysis and also the images, or elements of them, independently generating themes identifiable within the image itself. This is examined further below.

Video

Video is a much neglected investigative tool (Heath et al., 2010), yet it provides a unique method of recording ‘naturally-occurring’, situated day-to-day actions as they happen. It offers an invaluable means of revealing the character and complexity of the mundane aspects of organisational activities, thereby addressing a range of phenomena and issues that remain largely unexamined. The minutiae of the embedded and embodied behaviours, also the tools, technologies and artefacts in use, can be scrutinised and dissected, time-after-time. This enables a far more nuanced analysis, offering ‘multiple-takes’ on the data, than is possible through more traditional methods (Heath et al., 2010, p.6). Video may be used by HRD-researchers to examine the effectiveness of training for professional–client interactions. Recordings might be made of staff activity prior to and post-training, with analysis scrutinising the changes in individuals’ verbal and non-verbal behaviours. It might also be used to observe informal knowledge-sharing within collaborative teams, recording the verbal and non-verbal interactions and conduct between members. The HRD-researcher might analyse the video, or elements of it, and/or participants’ explanation of the activity recorded within it.

Photo-elicitation

Photo-elicitation uses photos and/or other images to stimulate thought upon the topic/phenomena under consideration within interview and/or focus group discussion. This visual method is the focus of detailed examination in the subsequent chapter.

ANALYSIS OF VISUAL DATA

Analysis of the data generated through these different methods might take various forms. As visual data has gained acceptance within the social science research community, there has been increased demand for methods to organise and analyse visual data. In response, CADQAS (Computer Assisted Qualitative Data Analysis software), notably NVivo10, ATLAS.ti and MaxQDA, has been developed to provide a

means of logging, tagging and annotating visuals. However, as Warren (2005) observes, the relationship between words and images remains 'uneasy and unclear'. Consequentially, many different approaches to analysis have been adopted. We will focus upon, and critically evaluate, two specific approaches appropriate to HRD research. Firstly, we will discuss how we might analyse the content of sets of images, using a simple content analysis. Secondly, we will consider the analysis and interpretation of single images, and/or elements within them, using a symbolic interpretation. These approaches are differentiated by the extent to which a literal reading is made of the conscious content – the actual image(s) portrayed – and to what extent account is taken of the unconscious also encapsulated within the images.

However, again, analysis poses a series of hurdles that the HRD-researcher must consider in advance. Firstly, s/he must decide upon the status that the visual data holds within the research findings. In some instances, visual representations are omitted from the subsequent reporting of research, the researcher suggesting that they hold the same status as field notes and therefore remain in the background of the study. Thereby, both the image and text are integrated into a whole. Other research presents visual data juxtaposed with text, each holding equal status. Significantly, visual data should be used to fulfil a unique and certain role that adds value to the research rather than being used solely to illustrate an idea that has been well crafted in words (Pauwels, 2011; Wagner, 2011). Secondly, as Wagner asserts, visual data can 'seem inherently messy . . . leaving the researcher with multi-dimensional records, artefacts and data sets . . .'. Whilst he notes that 'records can be wrestled into shape' through the normal process of coding, this involves a trade-off 'reflecting an abiding tension . . . between phenomenal fidelity and data reduction . . .' (pp.65–66).

Simple Content Analysis

For the realist HRD-researcher, focus is upon the coding of themes or content represented by the complete image or of elements identified within it. Crilly et al. (2006) identify four key properties: the actual objects that comprise the image; the attributes of these objects and what information this conveys about them; the relative arrangement of the objects; the meanings that might be conveyed through the actual arrangement of the objects within space (p.346). Thereby, this content may include such facets as whether the image is posed or natural, whether it incorporates people or artefacts and what these actually are and/or denote.

Symbolic Analysis

Symbolic analysis, developed from within the field of semiotics, examines images not to determine what it ‘denotes’, but rather the ‘connotations’ contained within them, with the intention of decoding the messages, notably emotional states and relationships (Krampen et al., 1987). This approach also considers the social, cultural and political contexts within which the visual data were created. Where visuals form only a part of the data, supported by interview narrative, the HRD-researcher must consider the extent to which they should attempt to interpret what the images ‘actually’ mean and to what extent the interpretation should be grounded within supporting interviews, since it is for the participants to interpret what the images signify.

The application of both of these methods of analysis, with worked examples, is examined in the subsequent chapter.

DISCUSSION

We have, through the course of this chapter, provided a strong argument for the use of visual methods and data. However, it would be naïve to assume that this offers a panacea to the HRD-researcher. Whilst we have emphasised the significant benefits they offer over many conventional tools/methods, these methods are not without their shortcomings.

Perhaps the most significant problem is that the ease of collection means visual data grows uncontrollably. As Wagner (2011) identified, ‘a downside is the cost in research time and attention to sorting through rivers of information when a small stream might suffice’ (p.65). This, he suggests, is also exacerbated by a kind of ‘commodity fetishism’: the attractions of visual materials displacing attention to the phenomenon they are intended to represent (p.64).

Visual approaches are arguably favoured for their ability to generate a naturalistic data. However, is not fully known to what extent the camera will influence the participants, and/or how/where the camera is positioned will impact upon the data generated, thereby questioning the trustworthiness of the data. Also, many of these methods involve the concurrent use of interview/discussion. The limitations of this approach are discussed in the following chapter.

Perhaps the most significant constraints for visual HRD-researchers lie in the ethical challenges associated with these tools. These challenges are discussed in detail in the next chapter; however, a brief synopsis is offered. Doubtless, most ethics committees will become concerned by the

suggestion of cameras and recorders. It may also be difficult to gain permission from participants and/or organisations, and in some contexts the use of cameras, especially video cameras, may be practically problematic. Where the research requires images to be generated within the research context itself we advise the use of an incremental approach, building the fieldwork towards the use of visuals to develop the trust of the individuals/organisation.

This chapter has provided an overview of the different approaches to visual research that might be considered by the HRD-researcher. Whilst the use of visual methods and visual data is, at present, limited in extent within HRD research, we assert that its use for capturing and expressing social meaning offers significant benefits. These benefits provide the researcher, the participant and the reader or user of the research interest and a more persuasive articulation of the research context and the meanings evoked.

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ANNOTATED FURTHER READING

- Heath, C., Hindmarsh, J. and Luff, P. (2010). *Video in Qualitative Research*. London: Sage. Discusses a range of video-based projects in social sciences and also the ethical and practical issues that arise in generating video data.
- Margolis, E. and Pauwels, L. (eds) (2011). *The Sage Handbook of Visual Research Methods*. London: Sage. A comprehensive handbook for HRD-researchers engaging with visual methods; however, it is possibly better suited to those researchers with some experience of visual methods rather than the complete novice.
- Yau, N. (2013). *Data Points: Visualization that Means Something*. Indianapolis, IN: Wiley. Focusing upon many different techniques of data visualisation, this book uses photography, art, mathematics/statistics, cartography and various online links to explore both conventional and unorthodox thinking on data representation.