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Reconstructive video-analysis. Making methodological reflected selections during the research process

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Reconstructive Video-Analysis: Making Methodological Reflected Selections during the Research Process

Abstracts

EN

The central challenge in reconstructing social meaning or the course of interaction from video material is the selection of units of analysis. This cannot be decided at the beginning of the research process on the basis of the research question and the basic theoretical assumptions alone. Instead, one has to develop and refine criteria that allow a systematic and adequate selection. The article presents two analytical procedures according to Jörg Dinkelaker and Matthias Herrle (2009), which meet this challenge in a methodologically guided way, and illustrates the procedures by means of a study on the emergence of a teaching topic.

DE

Die zentrale Herausforderung, um anhand von Videomaterial soziale Bedeutung oder den Verlauf von Interaktionen rekonstruieren zu können, besteht in der Auswahl von Analyseeinheiten. Diese kann nicht zu Beginn des Forschungsprozesses allein anhand der Forschungsfrage und den theoretischen Grundannahmen entschieden werden. Stattdessen sind in der Arbeit mit dem Videomaterial Kriterien zu entwickeln und zu schärfen, die eine systematische und adäquate Auswahl ermöglichen. Der Artikel präsentiert zwei Analyseverfahren nach Jörg Dinkelaker und Matthias Herrle (2009), die dieser Herausforderung methodisch geleitet begegnen, und illustriert die Verfahren anhand einer Studie zum Entstehen eines Unterrichtsthemas.

PT

O desafio central para poder reconstruir o significado social ou o curso das interações com base em material de vídeo reside na seleção das unidades de análise. Isto não pode ser decidido no início do processo de investigação apenas com base na pergunta de investigação e nos pressupostos teóri-

cos básicos. Ao invés, devem ser desenvolvidos e aperfeiçoados critérios no trabalho com o material de vídeo para permitir uma seleção sistemática e adequada. O artigo apresenta dois métodos de análise seguindo Jörg Dinkelaker e Matthias Herrle (2009), que respondem a este desafio de uma forma metódica orientada, e ilustra os métodos utilizando um estudo sobre o desenvolvimento de um tópico de ensino.

JA

ビデオという資料から社会関係上の意味や相互行為の流れを再構成する際、分析対象となる単位の選択は大きな困難である。分析単位は、研究プロセスの最初期に、研究設問や基本的な理論的立場によってのみ決定することができないからである。そのため、研究者には体系的で妥当な選択を可能にする指標を開発・生成してゆくことが必要になる。イエルク・ディンケルアカーとマティアス・ヘーレによる分析手続き(2009年)では、方法論による制御でこの課題に対応している。本稿では、授業の主題がどのように生成されるのかという問いについて、この手続き方法によって二つの事例を検討する。

Introduction

Videos may make it clearer than other types of data material how challenging the selection of units of analysis can be in order to reconstruct social meaning. While watching a videotaped lesson, the researcher does not only hear people talking in a strict sequential order, but can observe multiple people interacting with one another simultaneously. Also, the technical possibilities opened up by videography allow an observation on a microscopic level. For example, by playing the videos slowly, the sequential entanglement of spatially arranged students, teachers, and things used in the classroom come to the fore and challenge initial ideas of the point of interest, which can lead to an overload. The constantly arising question is: What absolutely must be included in the analysis, and what can be neglected as a context? (Dinkelaker 2018: 142).

In qualitative research, it is a common assumption that a selection of data is necessary to answer a research question. However, the research question alone is not sufficient to productively limit selection out of data material (Reichert 2016: 29-31), which becomes very clear while working with videos. Instead, one needs to develop criteria during the process of analysis according to the basic theoretical assumptions, the research question and the videos themselves in order to select cutouts for closer examination.

In their book "Erziehungswissenschaftliche Videographie" (engl. "Educational videography", 2009) Jörg Dinkelaker and Matthias Herrle suggest several

methodological based proceedings to not only select data units but also to reconstruct social meaning and the course of interaction (Reichertz 2016: 35-36) by using videos. I will explain two of their proceedings – segmentation analysis and sequence analysis – on the basis of my dissertation “Das klassenöffentliche Entstehen eines Unterrichtsthemas” (engl. “The public constitution of a lesson’s topic in a classroom”, Leicht 2021). In doing so, I am less concerned with the specific results of my study than with illustrating the process by which criteria for selecting units of analysis can be developed based on video material to ultimately answer a specific research question.

To do this, it is necessary to outline my research interest and basic theoretical assumptions in a first chapter. I also explain why I chose the method of interaction analysis, which is central to the approach of Dinkelaker and Herrle (Dinkelaker & Herrle 2009: 11), and how initial considerations were derived for choosing data units. In my second chapter I describe segmentation analysis and sequence analysis during which my initial considerations for selecting data units were not only applied to the video material but also adapted to what became apparent while working with the videos. The third chapter summarises and draws conclusions from the considerations.

A Research Interest as an Example: The Constitution of a Lesson’s Topic

General Didactics and specialist didactics of the various school subjects have several questions in common. They discuss possible learning content for a school curriculum and teaching methods in order to develop theoretical concepts on how to teach in a certain way. All together didactics seek to identify the content via which teachers and learners work towards a specifically communicated, intended learning output. However, there are few empirical insights. There are some empirical results on the outcomes of certain teaching procedures (e.g., Hattie 2009). But it is still somewhat unclear, what is actually happening in the classroom. How does a topic occur in daily lesson interaction? And what exactly emerges here as a topic?

Theoretical Background: Practice Theory (Reckwitz 2002, 2003)

To investigate these questions, an understanding of the social is needed. Based on the assumption that a lesson’s topic does not exist before the school lesson but rather emerges during classroom interaction, the project is founded upon theory of social practices as introduced by Andreas Reckwitz (2002, 2003). According to him, a practice is the smallest unit of the social and can be defined as performed routines among present bodies and artifacts (Reckwitz

2003: 288-289). While this process is carried out, it can be observed and be reconstructed afterwards. Likewise in interaction analysis, as stated before, my research focus is limited to only what is observable and cannot refer to (invisible) intentions, motives or understandings that may or may not influence the participant's action. According to the specific social theoretical understanding, a 'lesson' is understood as a chain of particular practices or – in other words – carried out routines between present bodies and artifacts. With this theoretical approach not only verbal references come into sight. Rather one can analyse multiple modalities of interaction (Mondada & Schmitt 2010: 22) such as specific artifacts, non-verbal references and the spatial arrangement. In the sense of practices theory, I refer to a 'lesson's topic' as a reconstructed coherence of meaning that emerges during performed multimodal practices of a school lesson and that refers to a topic stated in a school curriculum.

Methodical decision: Interaction analysis

If practices are understood as a "nexus of doings and sayings" (Schatzki, cf. Reckwitz 2022: 250), they can be decomposed into single references and become observable in their microscopic components when a video recording is played in slowed-down motion. Not only this makes interaction analysis an appropriate method to investigate the research question on the constitution of a lesson's topic.

Furthermore, interaction analysis is based on ethnomethodological conversation analysis (Krummheuer 2011: 1) and shaped by the basic assumption, that "[...] knowledge and action are fundamentally social in origin, organization, and use, and are situated in particular social and material ecologies" (Jordan & Henderson 1995: 51). In this sense knowledge and practices are less conceptualised as "located in the heads of individuals" but more as "situated in the interaction among members of particular community" and the material being used (Jordan & Henderson 1995: 51). These premises resonate with practice theory and have methodological consequences. One has to observe the details of social interaction in time and space and in the naturally occurring or – to say it differently – in everyday settings (Jordan & Henderson 1995; Krummheuer 2011: 1-2). In this sense interaction analysis aims to reconstruct consistency and patterns of references among participants and diverse resources (Jordan & Henderson 1995: 51), which is also possible by using videotaped interaction.

First assumptions as selection criteria

If the emergence of a lesson's topic is linked to the performance of multimodal practices among several participants, there are several preconditions

that need to be considered. As I'll show later, these preconditions can serve as criteria to select units of the videotaped lesson.

First and foremost, participants need to coordinate their bodies and movements to interact with one another. They do not only need to coordinate their posture and movements initially, but also to continue or even end an interaction (Deppermann & Schmitt 2007). In this way the spatial arrangement of participants and artifacts offers visible insights in the beginning, procedure and ending of practices and can serve as a one criterion. Besides, participants must be looking at or listening to the same source, for example, for a shared meaning of something to emerge. Thereby a joint focal point (Dinkelaker 2015, 2010) is formed, which not only enables collective teaching and learning, but also allows a common topic to emerge. Hence, the joint focal point can function as another criteria, to select segments of the video, that are of interest for the research question on the constitution of a lesson's topic.

Reconstructive Video-Analysis according to Dinkelaker and Herrle (2009)

In their book „Erziehungswissenschaftliche Videographie“ (2009) Dinkelaker and Herrle start with videography as a method of data collection and data preparation to focus on four different proceedings for data analysis that relate to interactions observable in the videos. Here, I will describe segmentation analysis and sequence analysis as a form of interaction analysis that is performed to reconstruct how a lesson's topic is being constituted in a videotaped classroom.

Segmentation analysis

According to Dinkelaker and Herrle, a segmentation analysis aims to provide an overview of the videotaped interaction course (Dinkelaker & Herrle 2009: 55). In general, each event of any duration is segmented in some way (Jordan & Henderson 1995: 59). There are shifts in the interactional patterns that are significant, not only to maintain the interaction between the participants. They are also important to the researcher, because they help him or her to identify regularities and chances in the ways in which the participants deal with one another (Jordan & Henderson 1995: 41). Dinkelaker and Herrle point out that different segments can often be distinguished by three criteria: a) spatial arrangement and position of the participants, b) turn-taking and c) the topic talked about (Dinkelaker & Herrle 2009: 54). Beside those criteria certain markers that accompanied changes of the interactional patterns can be observed repeatedly. For example, verbal expressions e.g., “well”, “ok”, “so”

or non-verbal markers such as 'standing up' or 'walking into the middle' in a learning environment set new segments into motion (ibid.: 55). Based on the criteria and markers, an observer can develop an overview on the interactional course by conducting two proceedings. At first, they can distinguish different segments along the criteria. Thereafter, it is possible to identify boundaries and transition phases between the different segments according to the markers in a second procedure.

However, appropriate criteria and markers differ in each case. To define them for a certain video, Dinkelaker and Herrle suggest watching a video several times at accelerated speed and without sound. In doing so, one becomes aware of visible changes in the interactional patterns, which makes it possible to differentiate between segments. Here the criteria of spatial arrangement and orientation of the participants is important. Then the speed is reduced little by little and turn-taking as well as the topic talked about becomes observable. By doing so it is not only possible to identify markers but also boundaries and transitions phases of the segments.

In my study I used the criteria described before – spatial arrangement and joint focal point – to distinguish different segments in a first videotaped lesson. In doing so, I was able to differentiate three main segments, in which the joint focal point was 1) formed, 2) maintained or 3) disintegrated among the participants. Based on the assumption that a joint focal point is fundamental for topic related practices, I focused on the second segment in the following. Here I used the spatial arrangement as another criterion to identify several specific and smaller segments where, e.g., the participants were positioned in a frontal seating arrangement or in a group arrangement. In addition, a specific spatial position of the teacher next to her table ("base-position", Leicht 2021: 287-288) proved to be a reliable marker to determine the boundary between the smaller segments.

Sequence analysis

Sequence Analysis examines the ways in which the participants refer to one another and how meaning is created alongside. More precisely, the main question one has to ask is: How do successive references form meaning in a sequence?

To do so, the research has to follow the sequence of the connecting references. Each one is understood as a specific selection behind the horizon of other possibilities (Dinkelaker & Herrle 2009: 75-76). The point to start from is always a single reference that should be reconstructed in its chain linking. You explore possible meanings and think of several new references, that could follow. After that, you confront your interpretations with the next observable

reference in order to see, which connections were realised by the observed participants. In this way you can modify, expand or change your interpretation of how participants form meaning. You continue interpreting alongside the following references, in order to reconstruct regularities and patterns in which the participants interact with one another.

Sequence analysis is a widely used method in qualitative research, to which Dinkelaker and Herrle explicitly refer (for similarities with objective hermeneutics cf. e.g., Mbaye and Schelle in this volume). However, it has been used mainly to interpret verbal conversation (Dinkelaker & Herrle 2009: 75). If you want to conduct research on multimodal interaction or practices, enhancement is needed to deal with the complexity and multimodality of the observable references in a video, which makes ongoing selections and modification of the procedure necessary (Dinkelaker & Herrle 2009: 76-81). The following questions can be helpful in order to not lose sight of one's own research interest:

(A) Which sequence of the video shall be selected and why is that?

Not every segment nor every scene might be of interest for your particular research question, which makes it possible to choose particular cutouts of your video for a detailed sequence analysis. In my case I chose the second segment, because I was interested in classroom practices, which depend on a joint focal point (Leicht 2021: 118-119, 123). Additionally, I selected transition scenes between different spatial arrangements within that particular segment to find out how the lesson's topic was transformed publicly here.

(B) Which utterance do you focus on and what is their background?

Since a video offers multitude and simultaneous utterances for observation, one needs to focus on some that reflect the particular research interest and disregard others as their context is out of sight (Dinkelaker & Herrle 2009: 77). For my research on the lesson's topic, I chose bodily movements (skillful performance, Reckwitz 2003: 290) in the transition scenes of the second segment that were public, in other words visible and/or audible for all observed participants, based on the assumption that something needs to be generally perceptible to become a lesson's topic. Also, these movements had to reveal a connection to the learning content stated in the curriculum. In this way my theoretical background, as well as the basic assumptions, helped me to choose utterances for and conduct a sequence analysis in order to answer my research question in the end (Leicht 2021: 425-432).

Conclusion: Systematic Selections

In general, a systematic selection of segments, scenes and utterances is necessary to reconstruct social meaning and interactional patterns by using videotaped lessons. Vague assumptions based on a research interest and theories can guide the initial observation during a segmentation analysis, but need to be fleshed out and developed with more information from the video. As concrete criteria and markers, they can help to distinguish between different segments and scenes and thus facilitate the selection of units. Nevertheless, it is also necessary to decide during the sequence analysis which utterances the analysis should consider. Here, too, the initial considerations can be helpful and can be further adjusted on the basis of the video.

Overall, this makes it clear that the selection of units of analysis is always reversible when using video data, i.e., it can always turn out differently (Dinkelaker 2018). Therefore, working with videos shows the importance of systematically questioning one's own (theoretical) assumptions again and again on the basis of the data material. If required, one has to consistently revise and adjust the presuppositions as well as the selection of the units of analysis. It is only through such an iterative process that the research design can become consistent and produce adequate research results. In this respect, videography does not differ from other methods of data collection and analysis in qualitative research. However, it draws attention to the visible bodily and spatial dimensions of social processes and thus the interaction as a complex, multi-modal event is made accessible. This makes the need for an ongoing selection of units of analysis during the research process more obvious and pressing than working with other data material.

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