Christian Harteis · Andreas Rausch · Jürgen Seifried *Editors*

Discourses on Professional Learning

On the Boundary Between Learning and Working

This book analyses and elaborates on learning processes within work environments and explores professional learning. It presents research indicating general characteristics of the work environment that support learning, as well as barriers to workplace learning. Themes of professional development, lifelong learning and business organisation emerge through the chapters, and contributions explore theoretical and empirical analyses on the boundary between working and learning in various contexts and with various methodological approaches.

Readers will discover how current workplace learning approaches can emphasise the learning potential of the work environment and how workplaces can combine the application of competence, that is working, with its acquisition or learning. Through these chapters, we learn about the educational challenge to design workplaces as environments of rich learning potential without neglecting business demands.

Expert authors explore how learning and working are both to be considered as two common aspects of an individual's activity. Complexity, significance, integrity, and variety of assigned work tasks as well as scope of action, interaction, and feedback within its processing, turn out to be crucial work characteristics, amongst others revealed in these chapters.

Part of the Professional and Practice-based Learning series, this book will appeal to anyone with an interest in workplaces as learning environments: those within government, community or business agencies and within the research communities in education, psychology, sociology, and business management will find it of great interest.

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△ **Springer**

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Editors

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On the Boundary Between Learning and Working

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Series Editors' Foreword

The relation between learning and working has changed during the history of work. Early traditions of occupational preparation such as those for craftswork in medieval times featured restricted access and clear structures of learning opportunities within the practice of work. Learning was considered as inevitable quality of and prerequisite to conduct work appropriately, and it was also considered inherent to working practices – at least when mastery plays a role. This view on the relation between learning and working dominated for centuries before industrialisation, when mass production brought about change. A goal for the work organisation within industrialisation was to structure work in a way that does not necessarily require specific education and learning, but is independent from workers' capacities as much as possible. During this phase of economic development, the separation between planning and executive work activities was established. The relation between learning and work changed in a way that intentional learning became necessary for just a small group of supervisors, but was not necessary for the mass of workers, whose role was to merely execute specific tasks. This distinction remained the main perspective until the peak of automatized mass production was reached in the second half of the twentieth century. In the late twentieth century, business concepts became popular which returned to the appreciation of workers' individual capacities. Hence, the relation between learning and working was reconsidered and these relations are still under review and being reordered. For instance, increasingly learning in post-school education is coming to include work experiences as part of this broader reconsideration. Similarly, researchers began to develop interest in work-related learning processes. This interest was, firstly, to address problems in the educational systems, but later also with specific interest on employees' learning at their workplaces.

This volume aims at contributing to these reconsiderations. It does so by offering analyses of the relation between learning and working comprising theoretical and empirical research from specific perspectives and different countries. The first part of this volume comprises six contributions that analyse conditions of employees' learning in the context of regular daily work. All focus different aspects of learning

processes which can be considered as by-product of working practices. The second part of the book comprises six contributions exploring work processes that particularly are designed for learning purposes. The third part of this volume discusses methodological issues of investigating work-related learning empirically. A concluding chapter reflects opportunities of distinguishing learning and working analytically and discusses the relation between them as reflected in the contributions to this volume.

This volume provides insights into recent research on professional and practice-based learning by bringing together researchers from diverse theoretical and methodological paradigms that together reflect the current state of the discourses on professional learning.

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Contents

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Chapter 16
Learning Through Interactional Participatory Configurations: Contributions from Video Analysis

Laurent Filliettaz

Abstract This chapter focuses on the role and place of guidance and mentoring in learning as it may occur in the circumstances of professional practice. Recent literature in the field of workplace learning has stressed the importance of guidance in the process of learning in and from practice. Workers do not only learn just by conducting specific tasks individually; they learn when adequate resources are afforded to them and when more experienced workers are able to assist them in their practice. Hence, there is considerable importance to investigate the specific qualities of guidance at work and to understand how novice workers engage with these resources. In this particular context, the chapter advances two main ideas. The first idea is to consider that a close examination of the conditions under which mentors and students engage in face-to-face interactions provides a relevant theoretical basis for exploring the relational interdependences between these actors. These interdependences may be described and analysed as "interactional participatory configurations". The second idea the chapter puts forward is to consider that video analysis should be seen as a rich and relevant methodological resource for describing how interactional participatory practices emerge, unfold and transform in the conditions of professional practice. These resources, it is proposed, bring complementary insights to the understanding of the importance of participation and guidance in vocational and professional learning as it occurs in the workplace. Transcripts of video data collected in the field of vocational training of early childhood educators are used as empirical illustrations of the proposed analytical frame.

Keywords Guidance • Vocational education • Interaction • Discourse • Video analysis • Early childhood education

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16.1 Introduction

This chapter seeks to explore some aspects of the complex relations existing between learning and work. It investigates how individuals engaging in production tasks may encounter learning opportunities in the workplace and how these opportunities may best be recognised, understood and reproduced for training purposes. These considerations have become of particular interest in a context where increasing aspects of professional practice are being connected to educational purposes. These connections certainly have a long tradition and history, particularly in Western apprenticeship programs, where the workplace is conceptualised as a legitimate and rich context for the development of professional competences (Fuller & Unwin, 2013). But these connections between learning and work have also been under particular scrutiny in the context of tertiary education, where an increasing number of vocational training programmes are engaging students with practicum experiences. These experiences, which complement formal teaching periods, occur in the circumstances of practice and are subject to complex forms of learning outcomes, which are highly dependent on individual and contextual factors (Akkerman & Bakker, 2012; Billett, Sweet, & Glover, 2013; Tynjälä, 2008). Hence, discourses on professional learning appear as highly concerned by the conditions under which learning arises in and through professional practice itself.

More specifically, the chapter focuses on the role and place of guidance and mentoring in learning as it may occur in the circumstances of professional practice. Recent literature in the field of workplace learning has stressed the importance of guidance in the process of learning in and from practice (Billett, 2001a, 2001b; Fuller & Unwin, 2003). Workers do not only learn just by conducting specific tasks individually; they learn when adequate resources are afforded to them and when more experienced workers are able to share their knowledge and skills and assist them in their practice. Hence, there is considerable importance to investigate the specific qualities of guidance at work and to understand how novice workers engage with these resources. In this particular context, the chapter advances two main ideas. The first idea is to consider that a close examination of the conditions under which mentors and students engage in face-to-face interactions provides a relevant theoretical basis for exploring the relational interdependences between these actors. These interdependences may be described and analysed as "interactional participatory configurations". The second idea the chapter puts forward is to consider that video analysis should be seen as a rich and relevant methodological resource for describing how interactional participatory practices emerge, unfold and transform in the conditions of professional practice. These resources, it is proposed, bring complementary insights to the understanding of the importance of participation and guidance in vocational and professional learning as it occurs in the workplace.

These theoretical and methodological considerations will be explored here in a specific empirical domain, that of early childhood education, and more particularly in the provision of initial vocational education and training to early childhood educators in the context of Switzerland. In the Swiss VET system, early childhood

educators are trained at tertiary level, in what is called higher vocational education. Students move back and forth periods of teaching in vocational schools and periods of practical training in institutions caring for pre-school children. During their practicums, students are supervised by mentors, who assist them in their early days at work and make sure they meet the pedagogical objectives assigned by the curriculum. In this chapter, we will use empirical material collected in a research project recently initiated at the University of Geneva[1] to understand (1) how mentors are shaping specific participation configurations for students as a way to mediate their access to professional practice and, reciprocally, (2) how students are able to align to these configurations and make use of the opportunities afforded to them.

To achieve these goals, the chapter will first briefly refer back to existing literature about the role of mentoring and guidance for learning through the circumstances of work (1). The concept of "interactional participatory configuration" will then be defined and specified, as an extension and contribution to this body of literature and as an illustration of a specific theoretical perspective inspired by interaction and discourse analysis (2). Video analysis, closely aligned to this specific theoretical perspective, will then be presented as a fruitful resource for exploring the ways interactional participatory configurations are established in practice. Here, the main specificities and methodological potentialities of video analysis will be outlined (3). In the next section, an empirical illustration of these claims will be provided: by using audio-video material collected in the context of the above-mentioned research programme, specific interactional patterns will be identified and described, by which guidance is provided to students in the context of early childhood education training practices (4). Finally, in a concluding section, the theoretical as well as practical implications of the presented approach will be discussed (5) and more general considerations about the relations between learning and work will be developed.

16.2 The Role of Guidance and Mentoring in Professional and Vocational Education

When considering the body of knowledge available in the literature, one first aspect that draws attention is the rather paradoxical position of the topic of guidance in vocational education practices and research. The paradox lies in the mismatch that exists between theoretical assumptions that have become largely dominant within sociocultural approaches to learning and the relatively low level of empirical

knowledge available on naturally occurring mentoring practices in the conditions of work. On the one hand, there is a large body of research that assumes the configuring role of "the other" in learning processes. The Vygotskian framework (Vygotsky, 1978) and its famous concept of the zone of proximal development or Bruner's concept of "scaffolding" (Wood, Bruner, & Ross, 1976), for instance, stress the idea that individuals do not learn on their own but only when interacting with more experienced partners. These claims have deeply influenced research conducted in vocational and professional education, where it is now widely assumed theoretically that workers do not learn just by engaging in work production tasks but when adequate resources are afforded to them by co-workers. But on the other side, little empirical knowledge seems to be available to date regarding the specific conditions in which guidance is provided in the conditions of professional practice. In many workplaces, the fact that experienced workers assist newcomers in the profession is taken for granted and not necessarily seen as an activity per se, associated with specific and complex forms of actions and skills. Workers are often expected to be competent "guidance providers", but they are not necessarily trained and qualified to do so. This does not mean that formal training constitutes the main or sole means by which guidance skills may be acquired. However, as a matter of fact, work organisations afford little resources to assist guidance providers in their tasks. Consequently, there is often a lack of social recognition attached to the role of mentors and insufficient understanding of the specific skills attached to such roles.

Amongst the fields that have recently attempted to go beyond these evidences and shed light on empirical aspects of guidance and mentoring at work, anthropology, professional didactics and workplace learning theories provide useful resources for conceptualising the role and place of guidance in vocational and professional education.

One first significant contribution to the literature on the role of guidance in vocational and professional education is the idea that guidance should be conceptualised as related to professional practice itself and as a dynamic and transformative process. This idea has been put forward by Lave and Wenger (1991) and their famous concept of "legitimate peripheral participation" (LPP). The concept of LPP suggests that access to professional practice constitutes a precondition for learning. It is by engaging in professional practice progressively that newcomers access and experience the body of knowledge associated to the practice itself. And it is by transforming the conditions in which participation occurs over time that newcomers experience changes in the ways they are socially positioned within specific communities. From that perspective, guidance can be defined as the process through which newcomers navigate a community of practice and are progressively invited to become full members rather than peripheral participants.

Closely aligned to Lave and Wenger's conceptions, Kunégel (2011) also attempted to account for the practical and dynamic nature of guidance in the workplace. In his PhD study, conducted within the framework of Francophone professional didactics (Pastré, 2011; Pastré, Mayen, & Vergnaud, 2006), Kunégel observed and described in detail how mentors provide guidance to apprentices in the context of small-size car mechanics workshops in France. The research results consist in describing a set of basic actions through which guidance may be exerted and expressed in context (i.e. instructions, prescriptions, demonstrations, evaluations, etc.). They also illustrate the dynamic and transformative nature of these actions as they evolve in time. Kunégel's work, for instance, establishes a model capturing the sorts of relations between apprentices and mentors at various stages of the apprenticeship pathway. Six successive steps are distinguished, including a phase of "familiarisation", a phase of "instruction" and a phase of "attribution of work production tasks". At each step, the relation between mentors and apprentices is expected to take a different shape and displays specific properties. The main interest of this model is to show that there seems to be a strong alignment between the level of competences apprentices are expected to have acquired and the sorts of verbal and nonverbal interactions existing between apprentices and their supervisors. The other interesting contribution of this model is that it proposes to see these interpersonal configurations as evolving in time and not as given or static realities.

Another particularly interesting contribution to reflections on guidance can be found in Billett's work dedicated to workplace learning. Billett conceptualises the ingredients to learning in the workplace as "relational dependencies" (Billett, 2001a, 2001b). In line with sociocultural approaches, learning is conceptualised as related to "participatory practices" by which workers gain access to specific actions in workplace contexts. But, as pointed by Billett (2001a), "it is inadequate to believe that learning simply by just doing it will suffice" (p. 7). Both social and personal factors may either support or on the contrary hinder learning opportunities. Social factors are designated as "affordances". Affordances include, for instance, the sorts of guidance provided to novice workers, the type of expertise available or not and more globally the range of resources workplace contexts are able to make available to learners. Personal factors are referred to as "engagement". Engagement is related to the specific ways individual workers elect to make use of the resources afforded to them in the workplace. These individual factors include, for instance, personal values, prior experiences and personal epistemologies. Affordances and engagement are seen as key determinants of learning in the workplace and as shaped by a relation of interdependence. From that standpoint, the provision of guidance plays a significant but not a sufficient role in workplace learning. It is significant in the sense that it constitutes a key resource for learning, but not sufficient in the sense that workers have to engage with these resources to make progress and learn.

As mentioned above, strong and convincing conceptualisations exist in the literature that have proposed to see guidance as a *practice*, related to *participation* in social action and as a *dynamic* and *reciprocal* process involving both individual and contextual ingredients. However, there is a need for understanding in more detail how participation and the relational dependencies that relate to it unfold in everyday situations and how they may be enacted in specific workplace contexts. In what follows, we introduce a range of complementary theoretical and methodological ingredients that are closely aligned to a sociocultural perspective on guidance and that may contribute to our understanding on the role of guidance in vocational and professional education.

16.3 Conceptualising Interactional Participatory Configurations

In an earlier work dedicated to apprenticeship in the Swiss dual VET system (Filliettaz, 2010a, 2010b, 2010c, 2011a, 2011b, 2013), we have proposed to approach the provision of guidance as an *interactional accomplishment*, namely, as a social, cognitive and semiotic process that is mediated through the ongoing performance of verbal and nonverbal interactions between learners and mentors. Over the last couple of years, we have attempted to bring numerous illustrations on how such verbal and nonverbal interactions unfold in the context of guided learning at work.

Elaborating on this earlier work, it is proposed here that the relational dependencies and workplace participatory practices associated with the provision of guidance can best be described through the emergence of "interactional participatory configurations". Interactional participatory configurations are specific forms of local arrangements, through which participants to social encounters establish the principles that rule the ways they interact with each other. These rules set rights and obligations to participants and have to be recognised by them as resources for organising participation in the context of joint actions (Durand, Trébert, & Filliettaz, forthcoming; Filliettaz, Losa, & Duc, 2013; Filliettaz, Rémery, & Trébert, forthcoming; Losa, Duc, & Filliettaz, in press). From there, interactional participatory configurations are based on a plurality of components. They result from (1) the specific nature of activities accomplished in context and the purposes attached to these activities, (2) the situated identities endorsed by participants when they engage in these activities and finally (3) the conditions under which participants access specific positions from which they may or may not communicate with each other. Concepts borrowed form the field of the microsociology of everyday life provide useful references to elaborate these ingredients.

First, the ways participants engage in interaction are highly dependent on the sorts of activities they recognise as being accomplished in context. This aspect of participation in interaction has been particularly well investigated in Erving Goffman's work dedicated to what is called "frame analysis" (Goffman, 1974). Goffman's theory stresses the idea that the meaning of ordinary perceptions and human behaviour is highly premised in light of natural and social "frames". These "frames" include culturally acquired knowledge about social and natural phenomenon and their particular meaning. Individuals constantly make use of this knowledge to answer the question "what is going on here?" They rely on these premises to interpret social reality and to adapt their own conducts to such interpretations. In other words, it is by applying "frames" to these experiences that individuals may participate adequately to the sort of activity they interpret as being accomplished in context. Developing William James' and Gregory Bateson's phenomenological thinking, Goffman considers that these framing processes are complex and dynamic. These processes are complex in the sense that, in a given situation, multiple actions may be going on at the same time and, consequently, numerous activity frames may be relevant to interpret what is going on. Another way to illustrate this complexity

is to recognise that, apart from "primary frames", which may be recognised directly and without reference to another meaning system, a large number of activities observable in social life rely on "transpositions" or "transformations" of more elementary frames. This is the case, for instance, in simulations or in drama plays, where multiple levels of interpretation must be recognised, to adjust an adequate frame to the ongoing activities. Apart from being complex, framing processes are also conceptualised by Goffman as never given or fixed; they are vulnerable to change. People may misunderstand the meaning of contextual arrangements; they may also be abused or influenced to produce false interpretations; finally, they may also revise the meaning they attribute to the reality they experience in social life. From such a dynamic perspective, "frames" can be seen as the result of a process of "framing" through which participants jointly negotiate how to interpret the conditions in which social action takes place.

In close connection to the framing issue related to the experience of social life, interactional participatory configurations are also shaped by the specific *roles* and *situated identities* attached to the sorts of activities accomplished in interaction. This particular aspect has also been scrutinised by social theorists, as a way to understand how participants to interaction position themselves according to each other and with regard to broader cultural and institutional arrangements. Following Goffman again, these processes of positioning are not perceived as determined by preexisting social roles, but endorsed by participants in interaction itself (Bucholtz & Hall, 2005; Goffman, 1961; Sacks, 1992). It is by "doing being" a person of a certain kind (e.g. a doctor, a teacher, a mentor, etc.) that participants endorse particular identities in social action and that they place co-participants in a reciprocal position (e.g. a patient, a student, a mentee). Situated roles, when they are endorsed, project specific expectations regarding what is recognised as a valuable and relevant form of engagement. It is by adopting the conducts related to these expectations – or by failing to do so – that participants endorse these specific roles and display their ability to behave according to these norms and values.

Finally, one should also consider that participatory configurations as they are accomplished in and through interaction also rely on the conditions under which participants gain access to talk and broader communication processes in context. Goffman (1981) referred to these aspects of interaction as "footing". The concept of footing develops the idea according to which participants to social encounters have to position themselves according to each other and with respect to what they interpret as going on in interaction. This footing problem is made particularly complex in the sense that social encounters are not always clearly delimited portions of reality and may involve a large number of participants endorsing variable and specific reciprocal positions. With regard to such a complexity, categories referring to language and talk deserve to be reconsidered. For instance, in a social encounter gathering more than two individuals, participants may not only endorse alternatively the roles of "speaker" or "hearers". They may simultaneously speak and hear, or be addressed or unaddressed recipients, identified as ratified participants or not. They may also be mere "bystanders", observing or "overhearing" what is going on. In other terms, it is proposed by Goffman that social encounters are shaped by "participation frameworks"

and that these frameworks specify the positions participants may or may not endorse depending on the context of interaction and its local meaning.

From there, it appears that what we call interactional participatory configurations combine practical, social and communicational ingredients. Interactional participatory configurations emerge when participants apply activity frames to their encounters, when they endorse specific identities related to such frames and when they align to positions related to specific participation frameworks. These arrangements are neither given nor determined or fixed. They are locally accomplished in interaction and collectively established by participants themselves. Capturing the local and ongoing conditions in which these participation configurations emerge and transform deserves specific methodological resources. In the next section, we propose to consider video analysis as a relevant contribution to such resources.

16.4 Video Analysis as Methodological Resource

Within the multidisciplinary area of interaction and discourse analysis, a growing number of researchers collect and investigate audio-video data to bring answers to their questions. Inspired by ethnographic approaches, video analysis conducted in an interactional perspective aims at gaining access to social actions in the naturally occurring conditions in which they are performed. Following Heath, Hindmarsh and Luff (2010), the main contributions of video analysis to qualitative research rely on empirical access to three properties recognised as central to social interactions: (1) their indexical relations to contexts, (2) their dynamic unfolding in organised sequences and finally, (3) the multimodal nature of their accomplishment. These properties will be briefly elaborated below.

First, video data provide a relevant basis for investigating participation in interaction in the sense that it captures visible conducts or situated actions as they refer to specific contexts. Situated actions are said to be indexical with these contexts in the sense that they entertain multiple and complex relations with the social and material conditions in which they are accomplished. On the one hand, visible actions are often seen as being shaped by these contexts in the sense that historic, cultural and material arrangements exert a form of influence on the ways actions are performed. But on the other hand, visible actions are also shaping these contexts in the sense that participants may use their conducts as resources to make visible how they interpret specific contextual arrangements. In observing the concreted actions amongst members and describing how these members communicate and interact, video analysts examine what members produce together, what they hold each other accountable for and how they make sense of actions of others. In doing so, they identify patterns of practice that make visible what members need to know, produce and interpret to participate in socially appropriate ways.

A second important contribution of video data analysis to the exploration of social interaction is the possibility it affords to access local dynamicity and the fact that interactions unfold in time, step by step, and in a nonarbitrary order. These

dimensions of social interactions have been thoroughly investigated by conversation analysis and ethnomethodologists, through the concept of *sequential organisation* (Sacks, 1992; Schegloff, 2007). By exploring the organisation of sequences in interaction, conversation analysts understand that social actions jointly accomplished by a plurality of participants do not unfold in an arbitrary way but reflect a specific social order. To align to this social order and to make it visible, participants engage in fine-grained coordination procedures in which they take turns, use adequate places for leaving the floor to co-participants and orient to the successive steps by which action is accomplished. From there, conversation analysts consider the sequential organisation of talk-in-interaction as the dynamic process through which participants make their actions publically accountable and shape interpretations about what they perceive as relevant in the context. The machinery of turn-taking in interaction becomes a resource for interpreting how participants orient to each other and accomplish a joint understanding of their actions.

One last potentiality associated with video analysis is related to the fine-grained details through which visible conducts may be captured and the semiotic complexity associated with these details. Indeed, the sequential organisation of interaction and its contribution to the configuration of local contexts does not exclusively rely on talk and linguistic units; on the contrary, it also involves a wide range of other semiotic systems participants may use as resources for coordinating their participation and which are made accessible through video caption. To refer to this multitude of semiotic resources combined in interaction, the concept of *multimodality* has recently emerged as a solid reference point within discourse theories. Multimodal discourse and interaction analysts originate from a variety of subdomains of linguistics such as conversation analysis (Goodwin, 2000), mediated discourse analysis (Levine & Scollon, 2004; Norris, 2004) or social semiotics (Kress & Van Leeuwen, 1996). These various disciplines have developed distinct approaches to discourse and interaction, but they also share a tendency to break away from a logocentric view on interaction. The concept of multimodality relates to the plurality of semiotic modes combined in human behaviour (gestures, gazes, body movements, spatial displays, images, objects, voices, texts, etc.) and to the local arrangements through which they are used as tools for accomplishing social actions. For multimodal discourse and interaction analysts, participants are constantly engaged in complex meaning-making processes in which they have to produce a joint understanding of their actions. It is by using and combining a plurality of modes that they produce and interpret meaning in context and that they elect to orient to specific resources (or not). Considering that these choices are not arbitrary but also, to some extent, shaped by the specific potentialities of these resources themselves and the conditions in which they are used, participants also express forms of agencies through the specific ways they make use of semiotic tools in interaction.

To sum up, it is proposed here that video data and the specific analytic potentialities it affords bring useful resources for the study of interactional participatory configurations. Video data make available for analysts how participants adopt specific conducts in context, how these conducts evolve in time and unfold in sequential order and how semiotic resources of different sorts are used and combined in this

dynamic unfolding. It is precisely by accomplishing these processes observable in the data that participants share mutually acceptable frames for their encounters and negotiate the various ingredients composing the participatory configuration through which they shape interaction.

Referring again to the context of mentoring in early childhood education, specific empirical questions emerge from such a theoretical perspective: what are the typical interactional participatory configurations through which guidance occurs in the workplace? To what extent do mentors and students contribute to the establishment of such configurations? How do these configurations unfold in time? And through what specific semiotic means are they accomplished and transformed? These questions, we believe, bring relevant insights to our understanding of the "relational dependencies" associated with "participatory practices" in workplace learning (Billett, 2001b).

16.5 Exploring Interactional Participatory Configurations in Early Childhood Education

To address this set of empirical questions, specific sorts of audio-video material have been collected, in the context of a vocational training programme addressed to early childhood educators in Geneva. As indicated in the figure below, three students were followed and observed during their first year of training, in the context of a practicum taking place in institutions caring for pre-school children aged between 0 and 4 years old (Fig. 16.1).

Each student (A, B, C) was observed three times during a period of 8 weeks, equivalent to the duration of their placement. Students were video recorded in
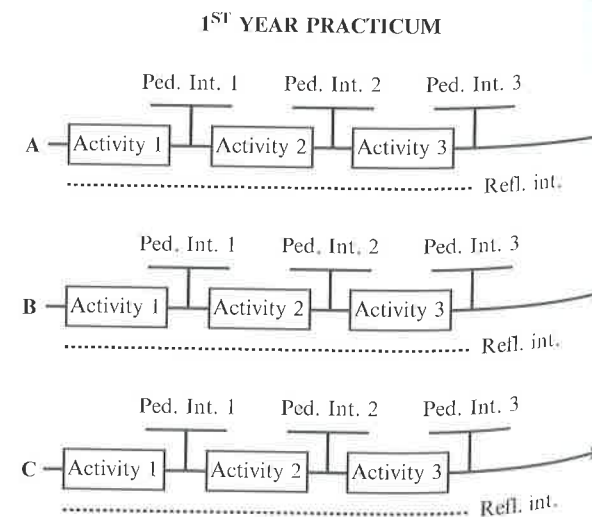
1ST YEAR PRACTICUM

Fig. 16.1 Audio-video data available

specific contexts, in which they conducted educational activities with children. These recordings document both play activities, during which students supervise children playing freely, and more directed activities consisting, for instance, in craft, structured games or psychomotor activities. These activities were prepared and conducted by the students, in presence of and with support from their mentor.

Complementary to these video recordings, two sorts of interview data were also collected as a way to enrich our understanding of guidance provision at work. The first sort of interview data consisted in audio recordings of pedagogical meetings, held on weekly bases between students and their mentor. These meetings are planed in the curriculum and provide space for students and mentors to reflect about their practical experience, to assess learning objectives and to plan future activities. In each site, three pedagogical interviews were recorded, between each different activities observed. The second sort of interview data collected consisted in reflexive interviews conducted by researchers at the end of the observation process. In each institution, students and their mentor were confronted to excerpts of video recordings of their activity and could comment on their strategies, difficulties, emotions. They could also express the rationale underlying their contributions to interactions as they were observable in the video data.

This procedure was replicated a second time, with the three same students, during another practicum taking place on the third and last year of training, briefly before the final exams. In sum, the complete data set includes approximately 22 h of video recordings of activities, 13 h of pedagogical interviews between students and mentors and 7 h reflexive interviews led by researchers.

A close examination of the video data and detailed transcripts based on these data provides a rich empirical base for examining how mentors afford guidance to students and how students engage with these resources when leading activities with children. Consistent with the proposed theoretical frame presented above, three main "interactional participatory configurations" were identified, placing the participants in distinct and specific participation positions. In what follows, these participatory configurations will be defined and illustrated with excerpts of transcripts captured in the data.

16.5.1 Observation and Feedback

One first interactional configuration through which guidance may be accomplished in the conditions of work can be referred to as *observation and feedback*. In such participatory configurations, mentors set themselves outside an educational activity conducted by the student. They observe the students from an external position and provide feedback to students, either during or after the activity. Specific participation positions emerge in such configurations, both for mentors and students.

To illustrate these participatory positions, one first excerpt of data, related to student A, will be used. This excerpt was observed in a daycare centre for children aged between 3 and 4 years old, which offered placement for this student.

The observed activity, planned by the student, is addressed to a small group of three girls and consists in a painting experience where children use their hands instead of brushes. Large sheets of paper have been placed on the wall and the children are using their hands to paint trees. In the excerpt transcribed below, children move back and forth between the wall and the student to clean their hands, while the mentor observes how the painting activity unfolds.

(1) "There is fresh paint on the ground" (P-A1, 45:00–45:43)[2]

```
1. STU:   it's beautiful\
2. CH1:   now I will use pink/ ((comes to STU and cleans her
          hands)) [#1]
3. STU:   you want to clean this finger/ ((STU helps CH1 to clean
          her hands))
4. CH1:   yes\
5. CH1:   ((goes back to the painting wall)) are you using pink
          or green\
6. CH2:   green\
7. CH1:   I will take some pink\
8. MENT:  ((MENT leans forward and addresses STU)) XXXX
9. STU:   ((STU leans forward and listens to MENT))
10. MENT: ((MENT leans forward)) [#2] there is fresh paint on the
          ground you should clean it\ ((points with the finger to
          the ground))
11. STU:  ouch\ ((takes a towel and cleans the ground))
12. MENT: only the fresh ones\
13. STU:  yes\((continues to clean the ground))
14. CH1:  and now pink\ ((comes to STU and cleans her hands))
15. STU:  you want pink/ wait a minute\ ((helps CH1 to clean her
          hands))
```


#1: CH1 approaches STU to clean her hands ("now I will use pink")

#2: MENT leans forward and addresses STU ("there is fresh paint on the ground")

Excerpt (1) illustrates one specific form of relational interdependence between the student and her mentor. The mentor affords an autonomous participation space to the student and installs the conditions for the student to lead a painting activity

[2] Transcripts are translated from French. Transcriptions conventions are listed in the Appendix.

with children. The student, on her side, clearly engages with this participation space and endorses the active educative role associated with this participation space. Her active engagement is made visible through the specific ways she behaves and orients her participation in interaction: she establishes eye contact with children (see #1), makes comments on their paintings ("it's beautiful", l. 1) and helps them clean their hands when changing colour ("you want to clean this finger?", l. 3). From what it appears in the data, children themselves recognise the student as the leader of the painting activity: they address the student, place her in a ratified recipient position (l. 2) and align sequentially to her questions ("you want to clean this finger?", l. 3) by providing relevant answers ("yes", l. 4).

A complex layering of frames emerges from the ways participants engage in interaction at this stage. The mentor obviously remains outside the painting activity conducted by the student with children. She is observing the activity but not taking part and leading it. This external participant position seems to be ratified by other participants: neither the student nor the children are addressing the mentor verbally nor orient their gaze or body towards her. However, the mentor does not remain inactive: she sits on the ground, observes what is happening and takes notes in a notebook (see #1). In doing so, she endorses typical conducts associated with the social role of a "trainer" and brings visibility to another activity frame that shapes "what is happening here": the frame of vocational education, associated with specific training purposes. In sum, the way participants shape participation at the beginning of this excerpt displays two coexisting activity frames: (1) the painting activity frame, in which the student engages with children, and (2) the vocational training frame, gathering the student and her mentor.

But interestingly, the different layers associated with this complex framing configuration are not completely split but, to some extent, intersect with each other. As observed in the data, the mentor is not sitting as a passive observer during the entire unfolding of this excerpt. When noticing that children carry fresh paint on her shoes and leave marks on the ground, she leans forward to the student, self-selects herself as speaker and addresses instructions to the student ("there is fresh paint on the ground you should clean it", l. 10). In doing so, she assists the student's activity by solving practical problems she had neither anticipated nor noticed before. These scaffolds bring additional visibility to the training frame shaping participation. The specific modalities through which these interventions take shape deserve particular attention. Indeed, it can be observed that the mentor addresses the student at a particular point in time when the student is not interacting with children. Her intervention is carefully prepared, by establishing eye contact and changing body orientations (see #2). And finally, the instructions are voiced very silently so that they can be heard and understood by the student exclusively. In other terms, the mentor endorses a training role in which guidance is not supposed to be noticed by children and affect their actions. It is shaped as an element taking place aside from the painting activity itself. The student aligns to the verbal exchange initiated by the mentor and sequentially responds by satisfying the instructions (l. 11, 13). In doing so, she aligns to the specific framing offered by the mentor.

This first excerpt illustrates how mentors may provide guidance by placing students in an active position and by assigning to themselves an external observation position. This excerpt also illustrates how these observation positions are not radically external to the students' actions, but provide local opportunities for assisted participation.

16.5.2 Joint Action

A distinct form of guidance provision can be observed in participatory configurations in which mentors are not positioned as external observers but actively engage together with students in educational activities addressed to children. Such an interactional participatory configuration can be designated as *joint action*, considering that both students and mentors jointly accomplish educational activities in which training and learning opportunities may occur.

A second excerpt of data may be used to illustrate how such participatory configurations emerge and unfold. Excerpt (2) was observed in a kindergarten involving student B, her mentor and a group of children aged approximately 3 years old. The activity conducted by the student consists in a "mini-bowling" play, where children are expected to throw coloured balls and use plastic bottles as targets. Children have been gathered in a large room and are listening to the student's instructions. These instructions consist in grabbing soft coloured balls and throwing them towards plastic bottles that have been placed at the other end of the room. At the end of these instructions, children stand up and start to play with balls.

(2) "Lisa, go and grab a ball" (S-A1, 34:30–34:45)

1.	STU:	are you ready kids/ **[#1]**
2.	CHI:	yes\
3.	STU:	so you can grab a ball/
4.		((STU stands up))
5.		you can take a ball and throw it at the bottles to try to make them fall
6.	CHI:	((all the children except Lisa stand up and throw balls at the bottles))
7.	STU>MON:	yes congratulations Monika you made a bottle fall/
8.	MENT>LIS:	Lisa/ go and grab a ball/ ((points with her finger towards the box containing the balls)) **[#2]**
9.		go and grab a ball Lisa\
10.	LIS:	((Lisa stands up and approaches the box))
11.	MENT:	((MENT stands up and approaches the box with Lisa))
12.	DAN>STU:	I made bottles fall/
13.	STU>DAN:	you made two bottles fall congratulations/

#1: STU and MENT are providing instructions to children before the activity starts ("are you ready kids?")

#2: MENT addresses LIS while STU engages with the group of children ("Lisa, go and grab a ball!")

Similarly to what could be observed in excerpt (1), the mentor again affords an active participation space to the student and installs the conditions for the student to lead the activity. The student engages with this participation space and endorses an active role of leadership in conducting the activity: she establishes eye contact with the group of children sitting on mattresses (see #1), addresses instructions to participants ("you can take a ball and throw it at the bottles to try to make them fall", l. 5) and leads the progression by conducting a transition form the instruction phase to the start of the play ("are you ready kids?", l. 1; "so you can grab a ball", l. 3). The children also recognise the student as actively engaged in conducting the activity: they orient their bodies and gaze towards the student (see #1) and respond sequentially to her instructions, either verbally ("yes", l. 2) or with body movements and physical actions (l. 6).

But contrary to the participatory configuration characterising excerpt (1), the mentor assisting student B does not remain outside the primary frame of the educational activity. On the contrary, she is actively taking part to such an activity, as indicated by the conducts she makes visible in the context. For instance, her body position and orientation show that the mentor is not sitting outside the group as a bystander but takes place within the group and as a component of it. She also addresses the children directly and guides them through the activity ("Lisa, go and grab a ball!", l. 8). Interestingly, the children themselves recognise the mentor as a participant in the game: they also establish visual contact with the mentor (see #1 and #2) and align to her instructions when required (l. 10). From there, it appears that the student is not alone in leading the activity but that both the student and the mentor engage in a complex coordination process to produce a joint accomplishment of the bowling play.

Such a joint action participatory configuration becomes particularly visible at the end of the instruction phase, when children are expected to engage with the play (l. 1–3). At this point in time, complex changes occur in the ways participants take actions: a group of children immediately stands up, approaches the box containing the soft balls and starts to use them, but one little girl, called Lisa, stays still in a sitting position. The student orients her attention to the group of children ("yes congratulations Monika you made a bottle fall", l. 7), whereas the mentor aligns with Lisa, establishes eye contact with her and guides her through the game ("Lisa, go and grab a ball", l. 8). A so-called schisming configuration emerges

from such a multifocused gathering (Egbert, 1997), where a plurality of interactions take place in various regions of the material environment, according to distinct sequential unfolding. Both the student and the mentor take in charge distinct facets of the ongoing activity and produce complementary forms of participation to make it work.

Interestingly, training purposes are not absent from this complex coordination process. By bringing back Lisa into the play, the mentor takes in charge aspects of the activity that are difficult to cope with: the fact, for instance, that children may respond differently to instructions and that collective activities may unfold at different paces, in different places, with different participants. In other terms, the mentor is providing assistance to the student in the sense that she contributes to attenuate the complex and unpredictable nature of educational activities. The student can then keep focusing on the group and move on with her plans. What makes the provision of guidance distinctive here is that it is not accomplished from an external observation position, but from within the educational activity frame itself. In such participatory configurations referred to as joint actions, guidance provision becomes almost invisible or transparent in the sense that it takes shape through the accomplishment of professional practice.

16.5.3 Demonstration and Imitation

When mentors and students are working collaboratively for accomplishing educational activities with children, mentors sometimes use the unfolding of such activities as opportunities to demonstrate ways of doing and bringing ostensibly to the attention of the students specific resources for their actions. Fortunately, it also happens that students identify the displayed resources and use them at later stages in their practicum experiences. They may, for instance, reproduce aspects of practice that have been previously demonstrated by mentors. Such a combination of *demonstration* and *imitation* frames a specific participation configuration, distinct from the two previous ones described above.

To illustrate how demonstration and imitation participatory configuration emerge and unfold in interaction, we will refer to excerpts of data collected in a third institution, with student C. These data relate to a psychomotor activity, prepared and conducted by the student with a group of children aged between 1 and 2 years old. The activity consists for children to explore a material environment in which various objects have been placed, such as mattresses, toboggans, tunnels, bowls of different sizes, etc. The student and her mentor are jointly assisting the children in their free exploration of these objects. At the beginning of excerpt (3), Lea, one of the little girls in the group, approaches a smooth cylinder laying on the ground, which children have not used so far. The mentor notices Lea's interest for the cylinder and shows her how to play with it.

(3) "Look we can place the cylinder another way" (M-A3, 36:10–37:55)

1.	MENT:	look we can place the cylinder another way ((*approaches the cylinder and places it in a vertical position*))
2.		who wants to go inside/ . come Lea\ ((*takes Lea and places her in the centre of the cylinder*)) ouh::: **[#1]**
3.	ALI:	((*Alix et Maria are approaching the cylinder*))
4.	MENT:	shall we place Alix inside/ . OK we place Alix with Lea\ ((*takes Alix and places her in the centre of the cylinder*))
[...]		
5.	MENT:	both of you have been kidnapped by a cylinder\ ((*shakes the cylinder*)) attention oh oh oh:::
6.		((*shakes the cylinder again*)) oh oh oh oh:::
7.	LEA:	((*Lea expresses fear*))
8.	MENT:	oh you don't like it so OK we stop\ shall we do "In the boat"/ ((*sings a song while rocking the cylinder*)) *in-a-boat-ALI-and-LEA-in-a-boat-ALI-and-LEA-when-the-boat-faces-big-waves-the-boat-makes-splash-and-turns-around* **[#2]**
9.	LEA:	again boat/
10.	MENT:	do you want to get out of here/
11.	LEA:	again/
12.	MENT:	oh again/ wait I will do it one more time and then it's Maya's turn all right/

#1: STU observes how MENT places Lea and Alix in the centre of the cylinder

#2: MENT sings a song while rocking the cylinder

Although the psychomotor activity is supposed to be in the hands of the student, who planned it and who prepared the material, the mentor is clearly taking an active role of leadership at this stage. She initiates a change in the position of the cylinder (l. 1), places Lea and Alix in the centre of it (l. 2–4) and frames a narrative

event in which the two little girls are "kidnapped" by the cylinder (l. 5). She then starts moving the cylinder according to a famous song in which a boat is rocking in the waves (l. 8). Children taking part in the situation also explicitly recognise the mentor as leading the activity: both Lea and Alix respond to the mentor's offer to be placed in the centre of the cylinder and align to the participatory positions afforded to them (see #1).

In this particular configuration, the student is loosely engaged in the psychomotor activity. She is orienting her attention towards her mentor and observes her using the cylinder (see #1 and #2). It is noteworthy though that the student is placed by the mentor herself in an observing position, the mentor accomplishing her actions ostensibly so that they can be noticed by the student ("look we can place the cylinder another way", l. 1). It is based on these premises that a specific participatory configuration is afforded by the mentor, taking the shape of a *demonstration*. Interestingly, approximately twenty minutes after this demonstration, another episode of the psychomotor activity takes place in relation to the cylinder, and during which, the student reproduces the sequence of actions earlier displayed by the mentor.

(4) "I don't know Isabel's song" (M-A3, 54:58–56:00)

1.	LEA:	((approaches the cylinder and touches it)) here/
2.	STU:	would you like to go inside/
3.	LEA:	((LEA shakes her head in approval))
4.	STU:	wait a minute\ step back I will put it over your head\
5.		((raises the cylinder and tries to insert it around LEA's body)) [#1]
6.		come/
7.	LEA:	((LEA steps back and seems to be afraid))
8.	STU:	it's frightening isn't it/ ((places the cylinder back on the ground)) Come I will help you to go inside\ ((takes LEA in her arms and places her in the centre of the cylinder))
9.	ALI:	((ALI approaches and expresses interest for the cylinder)) ah-li-li/ ah-li-li/
10.	STU:	you too/
11.	STU:	((takes ALI in her arms and places her in the centre of the cylinder)) be careful/ don't shake your feet too much\
12.	LEA:	again/
13.	STU:	again In the boat/ . I don't know Isabel's song\ ((sings the song while rocking the cylinder)) in-a-boat-ALI-and-LEA-in-a-boat-ALI-and-LEA-when-the-boat-faces-big-waves-the-boat-makes-splash-and-turns-around [#2]
14.	MENT:	((MENT observes the scene with a smile))

#1: STU raises the cylinder and tries to insert it around LEA's body

#2: STU sings the song while rocking the cylinder; MEN observes the scene with a smile

In the excerpt transcribed below, the participants endorse a distinct and reverse participation position in comparison with excerpt (3). At this stage, the student is not anymore observing the mentor performing the action with children, but she is actively leading the activity involving these same children. It is now the mentor who sits away from the cylinder and observes how the student plays with the two little girls.

In many aspects, it is visible here how the students imitates the action she previously observed from her mentor. For instance, a similar sequential pattern of interaction unfolds as the one that occurred previously: the student places the cylinder in a vertical position (l. 5); she places the same two girls in the centre (l. 5, 8, 11) and shakes the cylinder in reference with the boat song (l. 13). The reproduction of this sequential pattern is very much initiated by children themselves: it is Lea who first touches the cylinder and makes visible that she wants to go inside (l. 1, 3); Alix again steps forward and asks to be part of the game, together with Maria (l. 8). The student aligns to these requests and responds by reusing the resources previously displayed by the mentor. She also makes explicit reference to these resources when it comes to reusing them ("again in the boat? I don't know Isabel's song", l. 13).

Interestingly, the student is not only reproducing literally the sequential pattern of action observed previously. She is also adapting it to the local contingencies of the situation. For instance, when Lea expresses interest for the cylinder game, the student experiments a distinct technique for placing the child in the centre of the cylinder: she raises the cylinder over Lea's head instead of pulling Lea in her arms and placing her in the cylinder (l. 5). But Lea reacts with fear to this way of doing (l. 7), steps back and forces the student to come back to the technique used by the mentor (l. 8).

In sum, these two last excerpts illustrate how the joint accomplishment of educational activities by students and mentors generates opportunities to share repertoires of techniques and strategies: the mentor ostensibly displays resources for conducting psychomotor activities with children, and the student recycles these resources by enacting them in her own practice. These mechanisms also illustrate that this sharing of repertoires is based not only on imitation and reproduction but also involves a process of appropriation and recreation. Consistent with other research results (Billett, forthcoming), these mechanisms emphasise the importance of mimesis in vocational learning and the creative and social aspects related to these mechanisms of imitation in learning.

16.6 Bridging the Gap Between Learning and Working

This chapter has attempted to make the ordinary practices of mentoring students in the workplace more visible by understanding how mentors afford learning opportunities in practice and how students engage with these resources. To do so, mentoring practices have been conceptualised not as abstract categories, but as interactional accomplishments, namely, fine-grained situated and visible conducts enacted through verbal and multimodal interactions.

Approaching mentoring practices as situated interactions emphasises the complex framing process going on when mentors and students are "doing guidance" in the circumstances of work. More specifically, the approach adopted illuminates the complex ways educational practices involving adults and children intersect with vocational training purposes involving novices and experienced professionals. What makes these sorts of settings particularly rich, complex and potentially profitable in terms of learning is the fact that, as we saw from the data analysis, two layers of framing are constantly shaping the ways participants engage in interaction: (1) an educational frame addressed to children and taking the form of a wide range of activities (painting, bowling, playing, etc.) and (2) a vocational training frame involving the student and the mentor and enacted through specific and distinct educational purposes (learning how to use paint, how to cope with multiactivity and how to expand the ways children may explore the material environment). These two layers are constantly intersecting when it comes to train and learn in the circumstances of practice.

The collected data and analysis suggest that participants bring local and distinct responses to these complex framing issues. Some of the mentors observed set themselves outside the educational frame and endorse an observer position to accomplish training practices. Some others participate in these activities and position themselves as partners of a joint action collectively conducted together with students. Finally, some other mentors use these joint actions to share their repertoires of resources and make these resources ostensibly visible to students. In sum, what we have proposed to refer to as "interactional participatory configurations" can be regarded as specific resources used by participants for navigating the contextual complexity they are faced with. It is by negotiating shared participatory positions that they reconcile the premises and expectations associated with both learning and work.

As this chapter argues, interactional competences, namely, the capacity participants have to engage in complex coordination procedures in context, play a significant role in the establishment, negotiation and constant transformation of participatory practices in vocational education. Recognising the importance of these interactional competences may serve relevant purposes for early childhood educators in general and for workers endorsing mentoring functions at work in particular. For instance, this could help in understanding why mentoring practices are sometimes so difficult to observe and why so little attention has been paid to the empirical conditions in which they unfold. From what we see in the data, this lack of visibility can be explained by the fact that mentors do not always endorse training roles by producing explicit sorts of guiding instructions. They often give to the provision of guidance the shape of professional practice itself and

exert guidance through the affordance of participatory positions. If guidance is difficult to observe empirically, it is then, to some extent, because it is framed in interaction as transparent and invisible by participants themselves. From there, using video analysis as research method could bring additional visibility and social recognition to mechanisms that are central to learning through work but are yet to be fully understood.

These methods can also open rich and original avenues for the development of formal or informal training practices addressed to mentors themselves. Analysing video-based material and observing diverse interactional participatory configurations related to this material provide a stimulating empirical base for reflecting on mentors' personal strategies for assisting students in their workplace activities. Recently, we have attempted to move into that direction by organising focus groups with mentors and confronting them with excerpts of video borrowed from the above-mentioned research programme. These focus groups show how participants are able to elaborate their own mentoring skills by observing others' interactions and attitudes. They also provide opportunities for mentors to discuss convergences and differences about what they see as relevant ways of shaping students' participation in workplace contexts. These forms of video-based focus groups bring alternatives to the teaching of norms, prescriptions and preestablished recipes that dominate traditional forms of training in this filed. They can be seen as promising resources for transposing descriptive research results into non-prescriptive training contents.

Appendix: Transcription Conventions

CAP	Accented segments
/	Raising intonation
\	Falling intonation
XX	Uninterpretable segments
(hesitation)	Uncertain sequence of transcription
:	Lengthened syllable
.	Pause lasting less than one second
..	Pause lasting between one and two seconds
Underlined	Overlapping talk
((comments))	Comments regarding nonverbal behaviour
[#1]	Reference to the numbered illustration in the transcript

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