REVIEWS

TOMÁŠ JANÍK & TINA SEIDEL (EDS.)
The Power of Video Studies in Investigating Teaching and Learning in the Classroom
Münster : Waxman Verlag GmbH, 2009.

The book *The Power of Video Studies in Investigating Teaching and Learning in the Classroom* displays the power of expertise of an international group of researchers who contributed to its contents. The publication was edited by Tomáš Janík from Masaryk University of Brno and by Tina Seidel from Friedrich Schiller University of Jena. Fourteen chapters threaded by the concept of video study are organized into three sections.

The introduction to the whole book was written by Tomáš Janík, Tina Seidel and Petr Najvar. First of all, the authors introduce observation as a method of social and educational research, which is followed by the role of video technology in current educational research. The introductory chapter also offers both an overview of recent large-scale video studies and a summary of recent research developments ranging from obtaining the descriptions of classroom practices to implementing research outcomes into teacher education programmes. Furthermore, the authors highlight what they perceive as the main powers of video studies: firstly, the possibility to deploy circular research design based on revisiting the original video data, and, secondly, the reversibility of complexity reduction, which allows the researcher to return to the raw data whenever needed. The introductory chapter is concluded by an overview of the three sections of the book.

Describing the dynamics of teaching and learning is both the title and the focus of *section one*, which consists of six chapters.

Kathleen Roth not only presents the results from the *TIMSS Video Study* of 8th Grade Science Teaching but she also gives reasons for using video-based methodology in an international comparative study and offers insights into its implementation. Apart from supporting the powers of video study stated in the introduction, this chapter provides a valuable example of a collaborative analysis of video data.

David Clarke, Cameron Mitchell and Peter R. Bowman uncover data generating processes in the context of *Learner's Perspective Study*. They advocate that the recent shifts in education theories on learning represent the driving force of technological developments. In order to illustrate this, three technical interludes, which reveal processes that a non-specialist in ICT can hardly imagine, are inserted in the text. The reader will appreciate that the chapter uncovers the potential of the technology by offering examples of analyses the technology enables to carry out in the area of investigating classroom practices.

Kirsti Klette introduces *PISA+ Study*, a video study of teaching and learning in Norway. The chapter shows how the complexity of video data may become a

double-edged sword: on the one hand, the reality of the classroom captured in its complexity, on the other hand, challenges for a research team to cope with both the quantity and complexity of the video data. The author's solution of the problem – being explicit about coding categories – is illustrated by selected findings of the *PISA+ Study*.

A team of researches, including Inger Marie Dalehefte, Rolf Rimmele, Manfred Prenzel, Tina Seidel, Peter Labudde and Constanze Herveg, presents *IPN Video Study*, German-Swiss physics study carried out in response to the results of TIMSS and PISA studies. The reader will become aware of the issues involved in conducting such a large-scale project, for example, carrying out surface structures and in-depth structures analyses and using low- and high-inference category systems. Besides yielding valuable results, the IPN Video Study illustrates how to benefit from intercultural and international comparison, i.e. from observing "next door".

The following chapter, written by Petr Najvar, Tomáš Janík, Marcela Janíková, Dana Hübelová and Veronika Najvarová, actually provides another example of benefiting from observing "next door" as the focus of *CPV Video Study* is on inter-subject comparison. The reader will certainly appreciate that apart from traditionally explored classes of physics, geography, English and physical education are subject to investigation. The authors conclude that in inter-subject studies of this type the research targets domain-general aspects; inevitably, some domain-specific aspects have to be sacrificed, e.g. content.

In the concluding chapter of section one the attention is turned to *Process-oriented learning in small groups in chemistry education* project. Maik Walpuski and Elke Sumfleth share their experience with video-based methodology. Furthermore, they introduce a process plot, a tool to analyse video recorded inquiry situations in chemistry education. The authors accentuate that attaining a high level of inter-rater reliability is an issue.

While previous studies provided insights into classroom teaching and learning, three chapters in *section two* are concerned with *investigating the effects of teaching*.

Eckhard Klieme, Christine Pauli, and Kurt Reusser report on *The Pythagoras Study*, which was aimed at investigating the effects of teaching and learning in Swiss and German mathematics classrooms. The complex research design was built on a theoretical model of basic dimensions of instructional quality and their effects on student learning and motivation. One of the core issues of the study is the concept of cognitive activation.

The following chapter brings the reader back to the *IPN Video Study*. This time Tina Seidel, Manfred Prenzel, Katharina Schwindt, Rolf Rimmele, Mareike Kobarg and Inger Marie Dalehefte present its findings regarding the effects of observed physics teaching practices on student learning. The design of the study represents a multi-method approach. Similarly to some of the previously mentioned chapters, the issue of inter-rater reliability is reiterated.

The last chapter in this section was written by Erin M. Furtak and Richard J. Shavelson, whose study explores the relationship between guidance and conceptual understanding during inquiry-based post-investigation discussions

held in classrooms of four middle school teachers of physics. The results of the study suggest that less extensive projects also contribute to understanding the effects of teaching. In this particular study it is the manner in which different types of discourse are used that makes the difference, rather than the type of discourse itself.

Section three titled *Using video in teacher professionalization* consists of four chapters, which provide different examples of utilizing the benefits of video in teacher education.

The authors of the opening part of this section – Tomáš Janík, Marcela Janíková, Petr Knecht, Milan Kubiatko, Petr Najvar, Veronika Najvarová and Simona Šebestová – summarize different purposes of using video in teacher education. They further present examples of video databases used in teacher education programmes. Apart from describing the *CPV Video Web* and its component parts, the authors also introduce the rationale for creating this e-learning environment as well as its prospective use in teacher education.

Kathleen Roth describes the *Science Teachers Learning from Lesson Analysis study*, which examined if upper elementary teachers in the U.S. could improve their teaching after engaging in a professional development programme, in which analyzing video recordings constituted a major part.

Tina Seidel, Manfred Prenzel, Katharina Schwindt, Kathleen Stürmer, Geraldine Blomberg and Mareike Kobarg present *LUV* and *OBSERVE* projects that use video to diagnose teacher competence.

The final chapter by Jennifer Jacobs, Hilda Borko and Karen Koellner discusses the use of video both in research and in professional development of teachers (*STAAR* and *iPSC projects*). In this part the process of establishing a community of teachers around video is described.

As it has already been implied in the above comments on individual chapters, the book fulfils what its title promises – it shows the power of video studies in investigating teaching and learning in the classroom and in teacher education.

Thanks to the carefully structured content the prospective reader will get an overview of major video studies as they were conducted in the area of education in the last fifteen years. The reader will surely realize how complex, technologically demanding and long-term projects video studies are, and how the results of one study inspire the design of another.

As regards the area of research methodology; the reader will become familiar with the main assets as well as challenges of video-based methodology, which the research teams were confronted with. The book itself is an evidence of multiple benefits of cooperation in educational research.

To conclude, all the presented studies have a sound theoretical background and, through the implementation of properly designed research, they provide unique insights into instructional processes that would not have been possible to obtain without video-based methodology. Undoubtedly, for such reasons the book has plenty to offer to professionals in the field of education.

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