

Constructing and Using Multimodal Narratives to Research in Science Education: Contributions Based on Practical Classroom

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Abstract This study deals with the problem of how to collect genuine and useful data about science classroom practices, and preserving the complex and holistic nature of teaching and learning. Additionally, we were looking for an instrument that would allow comparability and verifiability for teaching and research purposes. Given the multimodality of teaching and learning processes, we developed the multimodal narrative (MN), which describes what happens during a task and incorporates data such as examples of students’ work, photos, diagrams, etc. Also, it describes teachers’ intentions, preserving the nature of teaching practice in natural settings and it is verifiable and comparable. In this paper, we show how the MN was developed and present the protocol that was used for its construction. We identify the main characteristics of the MN and place it in the context of international research. We explore the potential of the MN for research purposes, illustrating its use in a research study that we carried out. We find that the MN provides a way to gather, organize and transform data, avoiding confusing and time-consuming manipulation of data, while minimizing the natural subjectivity of the narrator. The same MN can be used by the same or by different researchers for different purposes. Furthermore, the same MN can be used with different analysis techniques. It is also possible to study research practices on a large scale using MNs from different teachers and lessons. We propose that MNs can also be useful for teachers’ professional development.

Research in Science Education

doi:10.1007/s11165-013-9381-y