Early Researcher Training Workshop: Video-based Research

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Abstract

Video study has been used widely as a tool for research instrument. The first session of the workshop will present the insights brought about by video studies in international comparative studies of classroom research drawing upon examples from TIMSS Video Study (a follow-up study of Trends in International Mathematics and Science Study (TIMSS)) and the Learner's Perspective Study; and studies with focus on specific aspects in mathematics classroom, such as, contents, pedagogies and discourse.

The second session of the workshop will focus on practical issues of video study, for instance, how to find an analysis angle, how to develop a coding scheme, how to carry out the coding process, how to check the reliability and how to interpret the results. Three examples will be presented with each focus on different aspects. These examples are mainly from two international project - MIST (Middle School Mathematics and the Institutional Setting of Teaching) project and the Alignment project. MIST project is a joint project of Beijing Normal University and Vanderbilt university, which aimed to examine what it took to improve the quality of mathematics teaching and learning at a district level through comparing classroom instruction, teacher networks, school leadership, etc. in four big cities in U.S. and China. Alignment Project aimed to analyse the valued and performed learning outcomes documented in three educational settings, namely Australia, China and Finland, with respect to curriculum, instruction, standards and assessment, and to critically review the alignment of these four essential elements within each of the three sites and for both mathematics and science.

The first sharing will focus on how to identify an angle for video analysis, as videos contain much information. Aiming to examine the alignment between the implementation of a reformed instruction model (the DJP model) and the reform directions, the study chose duration and quality of student participation as the perspective. The presenter will share in detail why they chose student participation, how they defined and developed the coding scheme for student participation, how they used Nvivo software to conduct the coding, as well as how they interpreted and presented the results.

The second sharing will introduce how to develop a comprehensive coding scheme based on existing frameworks in the literature. The presenter developed a coding scheme to analyze verbal questions initiated by the teacher based on the IRF(initiation-response-follow-up) framework. The limitation of existing frameworks will be discussed and the process of refining them to develop a new one will be explained. The presenter will demonstrate how to carry out the analysis manually and how to check and improve interrater reliability. Lastly, the benefit of examining teachers' practices over a unit of consecutive lessons rather than a single lesson will be discussed.

The third sharing will talk about the analysis of types and attitudes of teacher's verbal feedback in 24 video lessons. Details of how to construct and refine coding scheme through consulting experts in the field and how to define coding units will be shared. Rich examples will be illustrated in the presentation.

Furthermore, various kinds of hands-on activities will be facilitated to make sure participants can try out how to carry out the coding, how to dealing with the differences of coding results among raters, and how to refine the coding scheme, etc. This workshop can equip participants with necessary strategies and skills in carrying out video studies.

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