THEORETICAL PERSPECTIVES ON DESIGNING A STUDY OF INTERACTION

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ABSTRACT

This paper discusses the theoretical underpinning of the methodological decisions made in an on-going Swedish research project on interaction and learning. Data consists of 12 hours of videorecorded and completely transcribed instrumental lessons from high schools and teacher training colleges.

Main Contribution The perspective created in the study reflects the researchers' views and values concerning empirical research: Since instrumental teaching is a complex social phenomenon with a long history, it is difficult to study and discuss the outcome of music teaching from theoretical perspectives that does not reach beyond an individual level. On the other hand, sociological macromodels of explanation or theories about the historical context where the institutional routines have evolved cannot provide analytical concepts for analysis on a microlevel, where teachers and students interact.

The main object of the paper is therefore to discuss how multiple compatible theories are combined in the current study for application to different theoretical levels. These levels show continuous movement from the close-up description of how teachers and students act and interact, over a systematic analysis of the patterns of interaction, and finally move on to an interpretation on a macrolevel of why they are interacting the way they do.

The paper discusses how the three levels of theories can be combined to elucidate our understanding of teaching and learning processes in terms of interaction.

1. INTRODUCTION

Video recordings create enormous amounts of multimodal data, and many choices have to be made about how to represent, describe, analyse and interpret data systematically. Not much is known on a scientific level about the interaction in instrumental teaching. Nor do we know how the teacher-student interaction affects the students' opportunities to learn (McPherson 1993; Hallam 1998). One of the reasons could be the traditionally strong view that the outcome of music teaching primarily is a consequence of students' musical aptitude. Another reason for the lack of knowledge based on empirical studies could be the theoretical and methodological difficulties involved in studying such multifaceted data.

The perspective and design of the ongoing study reflects the researchers' views and values concerning empirical research: Instrumental teaching is a complex social phenomenon with a long history. In this perspective it is problematic to study and discuss the outcome of music teaching only as a result of teachers and students' individual aptitude. On the other hand, sociological macro models of explanation or theories about the historical context where the institutional routines have evolved cannot provide analytical concepts for analysis on a microlevel, where teachers and students interact.

2. THEORETICAL PERSPECTIVES ON VIDEO ANALYSIS

The main object of the paper is to discuss how multiple compatible theories are combined in the current study for application to different theoretical levels. These levels show continuous movement from the close-up description of how teachers and students act and interact, over a systematic analysis of the patterns of interaction, and finally move on to an interpretation on a macrolevel of why they are interacting the way they do.

2.1. Descriptive level – Theoretical perspectives on transcriptions

On a basic descriptive level data derives from micro-ethnographic multimodal transcriptions of speech, gesture and music (Green & Wallat, 1979; 1981).

The lessons are video recorded digitally and the recordings are stored in computers. It is a complex process to transcribe and represent multimodal communication into written text and it forces the researchers to make numerous choices from a theoretical point of view. We regard the transcript as a 'text' from the perspective of critical discourse analysis. The transcript is a text that 're'-presents an event and is not seen as the event itself. Following this logic, what is re-presented is data constructed by a researcher for a particular function, and it is not just talk written down objectively.

Transcripts are incomplete representations, and the ways in which data are represented affect the variety of meanings and interpretations possible. We have chosen a method of transcription that focuses on the events as series of communicative messages in three often simultaneously occurring modalities: music, speech and gesture. The representation of the teacher-student dialog is based on the differentiation of message units, which are symbolized with a new cell in the transcript chart. The beginnings and endings of the message units are distinguished by 'contextualization cues' such as pauses, prosody, gestures etc (Green, Franquiz & Dixon 1997; Green, 1994, 1999).

The musical events and gestures during the lessons are transcribed in a parallel way, where each new sequence is described in a new cell. The transcript chart is divided into columns: 'time code',

'teachers' musical activity', students' musical activity' 'teachers' talk', 'student's talk', 'teachers' gestures', and 'students' gestures'.

Based on the experiences from an earlier study we have decided to transcribe and code the complete data material. This is quite unusual in scientific video microanalysis; because of the sheer amount of information and since the process of transcribing is very time consuming. In previous research on video recorded interaction, sequences are typically selected from the entire material. Since the material is not completely transcribed, such choices made during the selection process could reflect the researchers own experiences and interests rather than being based on transparent and systematic methodology. We argue that a methodology based on a selection of 'interesting sequences' at an early stage of the investigation runs a risk of involving choices based on a 'preverbal analysis' that is not fully clear to the reader.

We further argue that the analysis gains by being made in a transparent way that gives the reader a possibility to follow the systematic structure of the transcription in order to comprehend the empirical basis for the analysis and the interpretation of data. This methodology also opens up the scientific process for critique and replication.

2.2. Analytical level

On the second level of study, we have developed an analytical framework based on concepts from earlier research from the fields of education, linguistics, cognitive science and music psychology.

Predefined analytical categories enable us to also discuss what is absent from the observed lessons as well as to compare these to other studies. The concepts are used as a matrix that allows us to focus the analysis on certain aspects of the complex data. Each transcribed message unit from the teacher and students is coded with one of these concepts, and the frequencies of the different functions of speech and music use are registered for each lesson, and for teacher and students respectively. Five educational functions of language, music and gestures are differentiated: 'testing', 'instructing', 'accompanying', 'analytical' and 'expressive' functions.

We will also analyse whether the use of educational genres in the different modalities are coherent during critical sequences. In a previous study (Rostvall & West, 2001) we analysed numerous examples of situations where the inconsistency in the use of various modalities created problems for students to grasp the task at hand. One example of incoherent messages was the very frequent teacher utterance: 'very good, take it once more'. The positive verbal comment was regularly accompanied with an incoherent message that was communicated with gestures. The teacher showed his disapproval with the students' manner of playing by his way of moving in the classroom. While students are emotionally occupied trying to interpret the incongruous emotional message, they will have less mental capacity to focus on the issue at hand. These kinds of situations are interesting to study in detail since they demonstrate critical moments in teaching and learning. Analysis of such situations can help us to understand how the multimodal communication in the interaction affects students' possibilities to learn.

Another critical factor in the interaction and learning is the teachers' mode of using language to accompany their instructions in other modes. In the previous study (Rostvall & West, 2001) we concluded that many misunderstandings occurred when teachers used the language inconsistently. The guitar teachers for example, frequently mixed four or five symbolic systems for fingering and counting the rhythm while they were trying to help their student to play through a new sequence.

The cognitive concepts of schema internalization (Bartlett, 1932; Dowling & Harwood, 1986; Arbib, 1995) and focus of attention (Shaffer, 1975; Treisman & Davies, 1973; 1980; Allport, 1980; Navon, 1985; Bamberger, 1996; 1999) are used as explanatory models of musical learning at the individual level. The concepts of schemata and focus of attention are differentiated into four categories: 'cognitive', 'motor', 'expressive' and 'social'. The analysis shows how the process of schema internalization is facilitated or restrained when the focus of attention alters during the interaction between teacher and student.

The music during the lessons and the way teachers and students play will also be analysed, for example in which manner they play a pop song. The method books used during lessons will be analysed employing the same concepts when suitable.

2.3. Metalevel

On the metalevel the results from the analysis are interpreted in order to understand the patterns of interaction revealed by the analysis. An important principle for critical discourse analysis (Fairclough, 1995) is that analysis of texts – as the transcripts of instrumental lessons – should not be isolated from analysis of institutional and discoursal practices within which texts are embedded. As a consequence, an institutional perspective (Fleck, 1995; Berger & Luckmann, 1966; Douglas, 1986) serves as an interpretive framework for the study. The lessons are viewed as social encounters and performances where the participants act to create and re-create social orders at different institutional levels, by means of communication routines employing speech, music and gesture.

From a perspective of critical discourse analysis (Fairclough, 1995), the patterns of interaction are discussed in relation to the learning opportunities for both teachers and students. The notion of power is essential in the understanding of interaction (Goffman 1959, Giddens 1984). Our emphasis is placed on the distribution of power and who is controlling the definition of the situation.

From an institutional perspective the actions of the individuals are understood not primarily as results of individual choices, but as routine actions with traditions and legitimization as a part of the history of the institution. The institutional perspective can also be discussed from an ethical point of view. Video analysis of interaction reveals events that are not obvious to the participants as they are fully occupied coping with the situation. Such revealing data could cause a lot of anxiety on the individual participant if the explanatory models used in the analysis focuses primarily on the individual performances of the teacher.

We argue that the patterns of interaction that has evolved during the institutional history to a high extent is defining what is possible to do in the classrooms of today, and this consequently reduces the teacher's possibilities to choose his or her actions

freely. A perspective that exceeds the individual level – like a historical background based on earlier research in musicology – is essential as framework to show the historical development of the institutions, which have shaped and influenced the studied activities.

3. CONCLUSIONS

One final question has to be addressed before we conclude the discussion and that is the question about eclecticism. We argue that there are consistency and compatibility of the different theories and perspectives that are used on different theoretical levels. There is a logical and common ground between the theories of schema, institution and interaction. They are coherent models that provide an understanding of networks of experiences and actions at different individual and societal levels. We argue that studies of interaction in instrumental teaching need to employ compatible theoretical levels in order to describe, analyze and interpret the complex historically evolved interaction patters as well as the relationship between teacher-student interaction and the opportunities to learn. A methodology using a wide range of theoretical perspectives enables us to investigate not only *what* happens during the lessons but also *how* it happens and *why*.

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