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Title: Teachers' interpretations of their classroom interactions in terms of their pupils' best interest : a perspective from continental European pedagogy

Issue Date: 2013-10-10



Appendix



Appendix

Audit report of 'legitimisation types'

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Auditor: Ben Smit, ICLON/ Universiteit Leiden

Final version, July 2013

Introduction

The study that is audited here focused on the ways teachers interpret their classroom interactions in terms of their pupils' best interest. An analytical framework had been developed in a former study based on continental European pedagogy (a scientific discipline that studies the child's upbringing in institutional and societal contexts). The analytical framework served the purpose of analysing teachers' interpretations of their classroom interactions in terms of their inherent moral significance. In this study, the researchers looked for the ways in which teachers interpret their classroom interactions. Specifically, the study resulted in a table of six legitimisation types, which were described along six components (see Audit report - Appendix 1).

An audit was conducted to assess the degree to which this study – which is part of a Dutch dissertation project – met the criteria of visibility, comprehensibility and acceptability (reliability, validity). The data collection, analysis and synthesis processes were scrutinised to determine whether 1) the table of legitimisation types was grounded in the data; and 2) on-going inquiry decisions and the overall inquiry designs were appropriate, given the needs of the study. However, at the time of the audit, two articles on parts of the study had already been accepted and published in peer-reviewed scientific journals (Van Kan, Ponte & Verloop, 2010a, 2010b). The publication of these two articles had already covered step 1 of the analysis. It was agreed therefore that the actual audit would concentrate on the subsequent steps in the analysis (steps 2-5 in the audit trail; see below). The audit techniques and procedure were agreed upon by the dissertation tutors, the auditee and the auditor. The preliminary meetings consisted primarily of analysing aspects of the documentation system, or audit trail, used during the conduct of the inquiry. The auditor was a colleague researcher of the auditee, but not involved in the study.

Procedures

Roughly speaking, the auditor's activities fall into five stages: 1) orientation to audit procedures and their applicability to this study; 2) orientation to the study; 3) auditing the study and writing a draft audit report; 4) feedback of results and renegotiations; and 5) final audit report.

Phase 1: Orientation to audit procedures and applicability to this study

The auditor was familiar with the audit procedures as described by Akkerman et al. (2008) in their article on auditing quality of research in the social sciences. Furthermore, he had conducted another audit on a PhD study before. The research aim and the research problem were identified along with the methodological choices (approach and techniques), the theoretical framework, the findings and conclusions. The auditor and auditee negotiated and agreed upon goals, roles and rules of the audit. This was the actual start of the audit.

Phase 2: Orientation to the study

The second activity was to become familiar with the study and the audit trail. During the orientation phase, the auditor received all of the audit trail components along with a written explanation of the materials and procedures that had been used in the process of data analysis and interpretation. These components included all of the data that had been used for steps 2-5 that led to the description of the six legitimisation types. Furthermore, the steps between the separate acts and/or products of the analysis were identified and documents were identified that substantiated the outcomes (see Figure 1). The following specific components were used as input for the audit:

- *General:*
 - Audit trail document: table of components, steps and substantiating documents; description of analysis steps and their rationale; examples of analysis process (Audit report - Appendix 2)
- *Component A:*
 - Transcripts of repertory interviews with teachers (n=37), as imported in Atlas/ti (QDA software)
 - Published article A (Van Kan, Ponte & Verloop, 2010a)
- *Component B:*
 - Descriptive framework (table of components, their descriptions and categories within them (Word file)
 - Published article B (Van Kan, Ponte & Verloop, 2010b)
- *Component C:*
 - Coding of the 37 transcripts (Atlas/ti file)

- *Component D:*
 - Teacher profiles (16 Word files)
 - Published article C, method section (Van Kan, Ponte & Verloop, 2013)
- *Component E:*
 - Table of 6 legitimisation types (Word file)
 - Published article C, method section (Van Kan, Ponte & Verloop, 2013)
- *Component F:*
 - Descriptions of 6 legitimisation types (Word file)
 - Published article C, method and results section (Van Kan, Ponte & Verloop, 2013)

Figure 1. Audit trail (components and linkages)

Steps in the analysis						
Step 1	Step 2	Step 3	Step 4	Step 5		
a. Repertory interviews with 37 teachers	b. A descriptive framework consisting of 6 components subdivided into 2 or 3 categories	c. Coded interview fragments of 37 interviews according to the categories of the 6 components of the descriptive framework	d. Teacher profiles. A profile consisted of a compressed description of the 6 components per teacher	e. Indication of legitimisation types alongside a co-researcher. This resulted in 6 legitimisation types	f. Description of the six legitimisation types	
Documents substantiating each act/ product (a t/m f)						
a. Published article A	b. Published article B	c. Atlas/ti hermeneutic unit: 'Descriptive Framework'	d. a) Word document with descriptions of 16 profiles b) Method section of draft article C	e. a) Table of 6 legitimisation types b) Method section of draft article C	f. a) Method section of draft article b) Result section of draft article C	

These audit trail components were explained by the auditee during two meetings with the auditor of about 2 hours in total and in several email messages. Finally, five linkages between the six components were identified as steps in the data analysis process. Four of these linkages (steps 2-5) and five of the components (b-f) constituted the actual audit trail. The auditor focused mainly on the quality of the linkages, that is how the components (acts/products) were derived from their predecessors. It was decided not to audit all the data, but to select several chunks of data from each component and to scrutinise these for their linkage with preceding components, working backwards from component F (the table of legitimisation

types) to component B (the descriptive framework of components). The auditor himself determined the selection of data chunks.

Phase 3: Audit implementation

The auditor's findings are described in detail in the sections below. These findings are summarised in Table 1.

Table 1. Audit findings; summarised

Criteria	Steps			
	2	3	4	5
Visible	Yes	Yes	Yes	Yes
Comprehensible	Yes	Yes	Yes	Yes/No
Acceptable: reliable valid	Code system was adequate for research purpose; quotations were consistently selected on an explicit basis; codes were applied correctly, consistently and transparently; interrater agreement was not determined ¹ , but the auditor's proof coding matched the auditee's coding; no relevant information was left uncoded.	Codes adequately summarised into teacher profiles; content of coded transcripts transparently condensed in summarising descriptions and compressed descriptions; descriptions can be traced back to codes and quotations.	Careful and adequate cyclic procedure of deriving a typology out of teacher profiles; appropriate qualitative research criteria used for decision on analysis procedure.	Final result (the typology of legitimisations) can be inferred to be grounded in preceding components; no data available for full tracing of this step.

Assessing visibility

Is it clear what data sources were used and how each data source is linked to the next one and what procedure was followed?

On the basis of the documents provided and the additional explanation by the auditee, the visibility of the data sources (components) and the linkages between them were clear. The procedures followed in processing the data were adequately

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This was the case at the time of the actual audit. Afterwards interrater agreement indices for coding the components and legitimisation types were calculated by the auditee (Cohen's kappa 0.81 and 0.75 respectively, which is good).

described in the draft article and in an additional text. It was made clear what groups were involved in the study, what the aims of the study were, what kind of data were collected and at what stages and in what way the auditee was involved in linking the components. The theoretical underpinnings of the descriptive framework and the legitimisation types were to be found in the two published articles and the draft article. Copies of these were provided by the auditee.

Assessing comprehensibility

Is it clear how findings are grounded in data from former components and what decisions, inferences, and interpretations have been made by the auditee at every linkage?

In general, the linkages from raw data to the analysed data to the synthesised results were extensively described. The draft article provides a good overview and understanding of these linkages, which were further explained by the auditee in discussions with the auditor. The diagram of the audit trail (Figure 1) helped to keep track of the components and linkages. In addition, the linkages are clearly founded in the data and it is clear from the documents and from oral explanation by the auditee how steps followed from each other: what data were used and how they were interpreted, combined, or condensed into the next component. However, it is apparent that step 3 – deriving teacher profiles – and step 4 – deriving legitimisation types across the teacher profiles – had been the most difficult steps (see below). These steps obviously required extensive interpretation of the data by the auditee, in the light of the aims and theoretical concepts of the study. Nevertheless, apart from step 5, the auditor was able to follow the decisions taken and agrees with the results in the sense that the profiles and legitimisation types can be regarded as grounded in the data. In the auditor's opinion, however, the typology descriptions that were formulated in step 5 are in line with the preceding steps and acceptably capture the essence of the derived types. Furthermore, the description of the methods of analyses, results and conclusion and the author's terminology are clearly related to the theoretical framework described in the research paper.

Assessing acceptability

Is the processing of the data and the linkage of the components done in a valid and reliable way?

The procedure for selecting quotations for coding was made explicit and was followed consistently. Uncoded parts of the interview transcripts were appropriately identified as not relevant to the research questions. The code system is described in full in the digital files (code labels and descriptions). The codes are relevant to the research questions, provide a complete categorisation of the data on the basis of the theoretical concepts in the study and can reliably be applied. No interrater

agreement index was determined for the coding of raw data, even though this would have been possible and feasible for step 2. Nor was member checking used to check the quality of the auditee's coding of the interview data. Proof coding by the auditor on several parts of the data matched the auditee's coding to a large extent, supporting the assessment that the coding reached an acceptable level of reliability.

Steps 3 and 4 were described as procedural steps which aimed to develop legitimisation types that could distinguish ways in which teachers legitimise their classroom interactions. As an intermediary step, teacher profiles were derived from the interview coding (Step 3). The auditee followed a clear and theoretically underpinned way of working for this, which was suited to the purpose of the study. For an individual teacher, in step 3, the auditee had to summarise the codes per component category into a condensed description and subsequently into an overall compressed description for each component. Step 4 was aimed at finding cross-sectional types based on the teacher profile, which was done in several rounds until theoretical saturation was reached. This step was carefully conducted and four profiles were chosen randomly for each round. To complete the logical sequence of the study, the resulting six types were described again in terms of the descriptive framework (step 5). The descriptions are distinctive and valid in terms of the research aims and practical purpose of the typology and are convincingly based on earlier steps. However, this step could not be fully traced by the auditor.

Overall assessment

On the basis of this audit trail, I conclude that the overall quality of this research (theory, data, analyses, results and conclusion) is satisfying in terms of its trustworthiness. The research meets criteria for visibility, comprehensibility and acceptability for a qualitative research project in the social sciences. Although not always explicitly described, the findings (the legitimisation types) are grounded in the data and the inferences are logical and traceable. In addition, the inquiry decisions are rational and appropriate and there seem to be no disturbing influences from outside the research project. It should be noted, however, that the teachers included in the study were selected on the basis of a minimum of three years' teaching experience. It is inferred, though not explicitly, that the derived legitimisation types are valid for describing teachers' legitimisations of their classroom interactions in general. This could well be true, and might reasonably be expected on theoretical grounds, but this implicit claim needs additional evidence to back it up. Future research with different categories of teachers could possibly provide this. Finally, as this audit trail had a central position in the quality checks in this research project, no additional quality check techniques were performed, although this would have been possible and advisable in some cases.

References

- Akkerman, S., Admiraal, W., Brekelmans, M., & Oost, H. (2008). Auditing Quality of Research in Social Sciences. *Quality & Quantity*, 42(2), 257-274.
- Van Kan, C.A., Ponte, P., & Verloop, N. (2010a). Developing a descriptive framework for comprehending the inherent moral significance of teaching. *Pedagogy, Culture & Society*, 18(3), 331-352. doi: 10.1080/14681366.2010.504648
- Van Kan, C.A., Ponte, P., & Verloop, N. (2010b). How to conduct research on the inherent moral significance of teaching: A phenomenological elaboration of the standard repertory grid application. *Teaching and Teacher Education*, 26(8), 1553-1562. doi:10.1016/j.tate.2010.06.007
- Van Kan, C. A., Ponte, P., & Verloop, N. (2013). How do teachers legitimize their classroom interactions in terms of educational values and ideals? *Teachers and Teaching: Theory and Practice*, 19(6).

Appendices²

Appendix 1 – Legitimation types

Appendix 2 – Audit trail