CHAPTER 12

Reporting Design Principles for Effective Instruction of Writing: Interventions as Constructs*

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Interventions as Constructs

Meta-analyses of intervention studies in writing show that various types of interventions vary in the extent that they promote writing skill (Hillocks, 1986; Graham, McKeown, Kiuhara, & Harris, 2012). These types are broad clusters of interventions like ‘collaboration’, ‘summary writing’ and ‘strategy training’. In meta-analyses it is difficult to provide insight in the distinctive features of types or groups of interventions, but in research papers on single interventions, the intervention itself is rarely laid out fully for the reader who wants to gain insight in its intricacies and thereby find out what its crucial ingredients could have been. While in various research fields working groups set up schemes for complete reporting on intervention studies, (Altman, Schulz, Moher, Egger, Davidoff, Elbourne, Gøtzsche, & Lang, 2001; Mayo-Wilson, Grant, Hopewell, Macdonald, Moher, & Montgomery, 2013; Moher, Schulz, & Altman 2001),¹ the stress is on covering all elements of the procedures important for replication, but not so much on the content of the intervention itself. For studies in the field of learning and instruction however, it is also important to get grip on especially the content of the interventions. While a certain standard is usually adhered to when reporting about the dependent variables (variables, instruments, indices for validity and reliability), such a standard is lacking when reporting the independent variable: the intervention as a complex and hierarchical program of teaching and learning activities. This hampers replication and concurrent studies, theory building, and communication about effective writing instruction. It also hampers the dissemination and implementation of effective interventions

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into practice, which, besides theory building, is the ultimate goal of educational intervention research. When the basics of the intervention are unclear, this could result in invalid implementation in the classroom.\(^2\)

We see an intervention as a complex, multidimensional construct, that must be defined at one hand and operationalised at the other hand. Reviewers must receive enough information to evaluate the construct and the way it is operationalised. Since most research journals are now published in digital format, with options to add digitalized information on the content and structure of the intervention, lack of space is no longer a valid argument for omitting accurate descriptions of interventions. The aim of this Volume is to present the design principles and their operationalisations of strategy instruction programmes analytically, since this category of instructions proved to be so effective (Graham & Perin, 2007). Then this Volume would provide researchers and educational designers with the ingredients of the effective writing programmes. As a side product, we would like to design and illustrate a reporting system for interventions in writing research. In this chapter, we aim to explore such a reporting system for interventions in writing, illustrated with examples from the other chapters in this Volume. The exploration must result in a system that could be used in research papers on writing intervention research. Such an initial standard table for reporting writing research interventions might become part of author instructions.\(^3\) The restriction to just one category of writing interventions makes it possible to compare the design principles and the way they are operationalised in various interventions and educational cultures.

When we consider interventions as constructs, the parallel with the dependent variable in a research question is obvious. These constructs must be well chosen in line with the research question and theoretical framework presented. When one claims an effect of intervention \(X\) on writing skill \(Y\), then writing skill \(Y\) must be defined, and operationalised. The same holds for \(X\), the intervention or independent variable.

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\(^2\) Digital publishing does help a bit to understand the intervention. Intervention materials can easily be added now in digital environments. But even if these materials are available online, like the research instruments are available in appendices, this is not sufficient to estimate the quality of the intervention. Therefore we need an theoretical account for the basic structure of the intervention/the lessons/the learning materials, that relates this specific intervention to a larger group (‘type’) of interventions, as if they are operationalizations of a certain construct.

\(^3\) In fact we aim to expand the standard element in APA’s Journal Article Reporting Standard for describing interventions analytically (see VandenBos, 2010, p. 249).