Research paper

Implementing artifacts: An interactive frame analysis of innovative educational practices

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A B S T R A C T

Innovative policies often enter schools as educational artifacts which teachers are expected to implement. Conceptualizing the interaction between teachers and artifacts as a process of interpretative negotiation, we use frame analysis to unravel the implementation practices of one exemplary artifact: the TraPS-file. This file aims at warranting continuity in educational care when students make the transition from primary to secondary school. Based on an artifact analysis and a qualitative multiple-case study, we identify three configurations in implementation: faithful use, selective use and extended use. The study adds further evidence to critically question the fidelity approach in the study of innovations.

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Teachers' work lives are not only filled with people, but also with numerous artifacts, "discrete object[s], consciously produced or transformed by human activity, under the influence of the physical and/or cultural environment" (Suchman, 2003, p. 98). Examples are teaching materials, educational tools and infrastructure. But also educational policy goals often get translated into artifacts. Policy makers design and construct objects, procedures, instruments, aimed at supporting practitioners in schools to change their practices in line with the policy goals. Hence, developers of those artifacts have a clear idea about what an appropriate use of the artifact should look like. They have a "script", a "manual" reflecting their intentions and goals for the artifact and its proper application. In other words, educational artifacts are imbued with a particular intention, a normative meaning, and a legitimate way of being used. They are not neutral objects, but represent a prescriptive stance by the developers. The artifact —as the material reflection of the innovative policy goals- claims to contribute to better schooling, but by doing so puts to question the self-evidence of existing practices.

As a consequence, whenever artifacts are being introduced in a school, staff members find themselves forced to engage with the artifact and take a stance. Even refusing to use or apply the artifact reflects a position taken, forced by the appearance of the artifact (D'Adderio, 2011; Gagliardi, 1990). Furthermore, this positioning is a complex process of interpretation, judgment, and negotiation. In other words, even if an artifact has a clear rationale and script to follow, its actual use (or the lack of it) will depend on the processes of individual and collective sense-making by the staff members of the schools (see for example März, Kelchtermans, Vanhoof, & Onghena, 2013).

This is in line with the key insights provided by the research on educational innovation since the early '80s of the last century (Kelchtermans, 2005; Fullan, 1982; van den Berg, 2002), which has provided ample evidence that calls for innovative practice are always being interpreted and evaluated by practitioners in schools (Ballet & Kelchtermans, 2009). The actual implementation practices are to be understood as resulting from the negotiation between the normative message in the artifact (as the materialization of the call for change) on the one hand and the individual and collective beliefs about good education as well as the conditions, needs, and possibilities of the actual situation in that particular school on the other. This makes implementation practices complex and

unpredictable, with multiple possible configurations (Cardoza & Tunks, 2014; Dusenbury, Brannigan, Falco, & Hansen, 2003; Swain, 2008; van den Berg, Sleegers, Geijsel, & Vandenberghe, 2000). For that reason, in order to understand the (failure of) educational innovations, it is not very interesting to ask whether an innovation is implemented as intended −which would be the question of the so-called 'fidelity-approach' (see for example Dusenbury et al., 2003)-, but rather wonder more openly: what happens when an artifact enters the school, calling for changes?; what does it do?; how do the members of the school engage with it and why?; what actual implementation practices emerge?

In this article we report on a study driven by these questions, exploring the case of the Transition from Primary to Secondary School-file (TraPS-file), a document designed to collect, organize and transmit information on educational care when pupils move from primary to secondary school. We analyzed the artifact itself, as well as the way it was interpreted, evaluated and used in Flemish primary and secondary schools. "Implementing" in the title needs to be read in its active and passive sense: how the artifact was implemented (passive), but also how it itself actively determined the process of implementation (making schools implement it in their practices).

1. Sense-making, frame analysis and artifacts

The conceptual lens guiding our study is rooted in the sense-making perspective. More specifically we used frame analysis to capture the actual processes through which these meanings are being built and impact practices. Furthermore, we metaphorically and heuristically treated the artifact as an actor in these processes, carrying particular meanings and messages, and engaging in interactions with the other actors. We'll briefly elaborate on each of these three elements below.

Building on the sense-making perspective in research on educational innovation (Coburn, 2001; Fullan, 1982; Louis, 2010; Spillane, Reiser, & Reimer, 2002; van den Berg, 2002) we contend that what an innovation actually will come to mean for particular practitioners cannot be entirely clear nor defined in advance, but rather results from interactive processes of interpretation and sense-making. These processes are individual as well as collective, and are always situated in a particular context. To conceptually capture individual sense-making we use Kelchtermans' (2005, 2009) concept of the *personal interpretative framework*. Based on his narrative-biographical research, he has argued that over time practitioners develop "a set of cognitions, of mental representations that operates as a lens through which teachers look at their job, give meaning to it and act in it" (2009, p.260). This framework includes a representation of who one is as a teacher ("professional self-understanding") as well as the knowledge and beliefs about how one can best perform one's professional duties ("subjective educational theory").

Yet, since sense-making also results from interactions with others it is also a social, collective and situated process. A concept like *school culture* refers to the dynamic outcome of collective sense-making, encompassing shared beliefs, norms and values, which guide and justify actions and practices in the school as an organization (Kelchtermans, 2006; Schein, 2004). Similar to how the personal interpretative framework functions at the individual level, the school culture operates as a filter through which policy messages and calls for change are interpreted and translated to the local conditions of the school as an organization (Ballet & Kelchtermans, 2009).

Concepts like "personal interpretative framework" or "school culture" refer to the outcomes of sense-making, but don't specifically illuminate the *actual processes* through which meaning is

being socially constructed. The latter, however, is the central focus of the so-called *frame analysis* (Benford & Snow, 2000; Coburn, 2006). This theoretical and methodological approach provides a conceptual toolbox to analytically address the processes of sense-making or "framing" themselves. Frame analysis then aims at reconstructing the process (framing) through which these meaning structures or "frames" are established. Although the frames have some stability, they remain dynamic and open to modifications as the processes of sense making continue over time. Because framing implies co-constructing meaning in a particular context, some authors prefer to talk about "interactive frame analysis" (Dewulf & Bouwen, 2012; Dumay, 2014) and emphasize the discursive and performative nature of framing: framing makes things happen, it "acts".

An important distinction is made between two main forms of framing: diagnostic and prognostic framing (Coburn, 2006). *Diagnostic framing* "problematizes and focuses attention on an issue, helps shape how the issue is perceived, and identifies who or what is culpable, thereby identifying the targets or sources of the outcomes sought" (Cress & Snow, 2000, p. 1071). Diagnostic framing imposes a very particular definition on an issue. This definition not only determines the causes or who is to blame, but at the same time delineates what are meaningful ways to conceive of and talk about the issue at hand. By imposing a particular frame, other ways of looking at the issue or thinking about it become less meaningful, less evident or even impossible. As such, diagnostic framing is linked to *prognostic framing*, or "the articulation of a proposed solution to the problem, or at least a plan of attack, and the strategies for carrying out the plan" (Benford & Snow, 2000, p. 616). In prognostic framing the emphasis is on solving the issue and promoting a particular solution to achieve this.

With Coburn (2006) we contend that the act of framing is constituted by the interaction of two core processes: *frame alignment* and resonance. The first refers to "actions taken by those who produce and invoke frames in an attempt to connect these frames with the interests, values, and beliefs of those they seek to mobilize" (Coburn, 2006, p. 347). The goal is to develop congruency between the beliefs, interests, and goals of those others and the frame. Yet, whether or not frame alignment is achieved will always remain dependent on how the envisaged others respond. Their assent is called *resonance*, "the 'mobilizing potency' of a particular frame, the degree to which a frame is able to create a such connection (…) with individuals and motivate them to act" (Coburn, 2006, p. 347).

Since educational innovations aim at improving existing practices in schools, the processes of sense-making or framing are not neutral and therefore often contested: they inevitably convey normative messages on what good education is and why a different practice would be better. They not only contain a normative and even moral message, but also a (micro)political one, since they aim at steering (changing) practice. In other words, framing is also strategic in nature, involving issues of power, influence and interests (Kelchtermans, 2007; Park, Daly, & Guerra, 2012). Negotiation and influence are intrinsic elements of framing processes as are *frame disputes*: "prognostic and diagnostic framing may be challenged as others offer counter-frames that put forth alternative portrayals of the situation, often with contrasting implications for roles, responsibility, and resources" (Coburn, 2006, p. 347).

Finally, educational artifacts aiming at changing practices in schools can be understood as "carriers" (Scott, 2014) of a particular normative frame, for which they seek resonance and alignment. The message about the proper use of the artifacts (as intended by its developers) in its "script" can be understood in terms of a particular frame, a call for particular ways to change existing practices and as such intervening in the school's actual ways of operating. As the