

Evaluation and Program Planning 28 (2005) 257-269



www.elsevier.com/locate/evalprogplan

Concept mapping methodology: A catalyst for organizational learning

Stephanie Sutherland^{a,*}, Steven Katz^b

^aLearning Research and Development Center, University of Pittsburgh, 3939 O'Hara Street, 803 LRDC, Pittsburgh, PA 15206-5189, USA ^bOntario Institute for Studies in Education of the University of Toronto, Toronto, Ont., Canada

Abstract

In this paper, concept mapping is suggested as a methodological catalyst for organizational learning. Concept mapping, by virtue of its psychological and sociological foundations, offers a way to simultaneously understand complex systems in terms of both intra- and interpersonal relationships. We posit that key stakeholders, when taken together, represent the organization as a bounded unit and set the stage for the interaction between evaluation practice and organizational learning. We illustrate this argument by reference to an evaluation study in which concept mapping was used by two stakeholder groups as a process of structured conceptualization. Ultimately, the methodology facilitated the development of a jointly authored conceptual framework to be used in future program planning, development, and evaluation. © 2005 Elsevier Ltd. All rights reserved.

1. Introduction

In this paper, we illustrate how concept mapping can be viewed as a transformative process that has the ability to bring together diverse views and values of multiple stakeholders to conceptualize and represent complex constructs in a clear and systematic manner. In this way, we discuss how concept mapping can be used as a potential methodological catalyst for organizational learning. We posit that key stakeholders, when taken together, represent the organization as a bounded unit and set the stage for the interaction between evaluation practice and organizational learning. Organizations devote considerable energy in developing collective understandings of events. It is the interpretations of events (or constructs) within a structured 'meaning making' environment whereby learning can occur (Daft & Weick, 1984). We illustrate this argument by reference to an evaluation study in which concept two stakeholder groups used mapping as a process of structured conceptualization.

2. The context

The Manitoba School Improvement Program (MSIP) provides the context for this research. MSIP is

* Tel.: +1 412 624 7489; fax: +1 412 624 2662.

E-mail address: stephs@pitt.edu (S. Sutherland).

a non-governmental agency that has been operating in Manitoba, Canada for 10 years and came into being as a result of the of the Walter and Duncan Gordon Foundation (WDGF). The Foundation sought to support school-based improvement projects designed to help students at risk remain in school and fulfill their individual potential. The central goal of MSIP has been to improve the learning experiences and outcomes of secondary school students by building school level (i.e. capacity of administration, teachers and students) capacity to enhance student engagement and learning. In addition to receiving multi-year grants, MSIP schools receive professional and technical support from the program for skill building, including support for program evaluation. MSIP has always believed that thoughtful reflection based on data helps build a school's capacity to sustain improvement. As part of their involvement in MSIP, the schools must agree to produce annual evaluation reports (Lee, 1999).

3. The challenge

An emerging body of research has sought to link the two explicit goals of MSIP-school improvement and student engagement. Such studies seek to understand the relationship between school characteristics and student engagement and learning (Davidson, 1996; Smith, Butler-Kisber, Portelli, Shields, Sparkes, & Vibert, 1998; Whelage, Rutter, Smith, Lesko, & Fernandez, 1989; Wilson & Corbett, 2001). Defining student engagement, however, has proved

^{0149-7189/\$ -} see front matter © 2005 Elsevier Ltd. All rights reserved. doi:10.1016/j.evalprogplan.2005.04.017

problematic (Smith et al., 1998) with there being little agreement amongst researchers about both scope and content of the construct. For some, student engagement has been about links to learning (Newman, Wehlage, & Lamborn, 1992), for others it concerns participation and identification with the life of the school (Finn, 1989; Finn & Cox, 1992; Leithwood & Jantzi, 1997). And still for others, it is more closely linked to social interactions within the school (Covington, 1992; Woods, 1996). That said, regardless of the peculiarities of the definition that one chooses to accept what is clear from an evaluation standpoint is that the views of the primary stakeholders are recognized and represented—specifically those of students and teachers.

While it is not unusual for the experiences and views of teachers to be represented in scholarly research (Cullingford, 1995; Fullan & Hargreaves, 1992), less evident are studies in which the views of students are solicited (Davidson, 1996; Morgan & Morris, 1999; Rudduck, Chaplain, & Wallace, 1996; Wilson & Corbett, 2001). Prior school improvement research has generally separated students' perspectives from those of their teachers. Some studies have emphasized teachers' behavior in the classroom (Bossert, 1988; Coleman & Collinge, 1993), while others have focused on clearly defined goals for the education of students, comprehensive curricula, instructional leadership, rewards to the students and high expectations (Hallinger & Murphy, 1986; Mortimore, 1991; Reynolds, Sammons, Stoll, Barber, & Hillman, 1996; Schreerens & Creemers, 1996; Stringfield & Herman, 1996). What is missing in this corpus is a comparative orientation that addresses both the teacher and student perceptions of student engagement within a singular context.

One promising pathway towards the necessary comparative orientation comes to us by way of advances in thinking about the nature and purpose of methodology. From an evaluation standpoint, transformative methodological designs (Greene & Caracelli, 1997; Greene, Caracelli, & Graham, 1989) emphasize the value commitments of different stakeholders (and traditions) for better representation of multiple interests. The purpose of this study is to examine the efficacy by which one such transformative methodology concept mapping (Trochim, 1989)–allows for the emergence of a co-constructed definition of the slippery concept of student engagement. That is, participants are afforded the opportunity to 'think together', thereby creating the possibility of creating a shared 'picture of the future'.

4. Concept mapping methodology: an overview

The literature describes the use of concept mapping in two ways: that related to student learning and curriculum development; and that related to program evaluation and planning. Concept mapping is a graphic technique for promoting social interaction and exchange by creating the conditions for the understanding of thoughts and how they might be linked with each other (Khattri & Miles, 1994). In other words, concept mapping is a type of structured conceptualization which can be used by groups to develop a conceptual framework which can be used for program planning and development, as well as for evaluation purposes (Trochim, 1989).

To construct the map, 'ideas first have to be described or generated, and the relationships between them articulated' (Trochim, 1989, p. 1). This step is accomplished via a focus group or a series of interviews. Once the ideas have been generated they are subsequently sorted and rated, then entered into the concept mapping software for multidimensional scaling and cluster analysis. Hence, both qualitative and quantitative methodologies are combined. The main difference between Trochim's concept mapping (used in this illustration) and other mapping processes is the former is particularly appropriate for group use. Specifically, it generates a group map that makes it attractive for use with different stakeholders in a single evaluation.

The use of concept mapping for student learning and curriculum development emerged out of a debate in science education that focused on whether or not children could fully understand abstract concepts (e.g. matter, infinity, energy). Mapping is a theory of meaningful learning. According to Wandersee (1990, p. 927), concept mapping 'relates directly to such theoretical principles as prior knowledge, subsumption, progressive differentiation, cognitive bridging, and integrative reconciliation'. In education, concept mapping has become an important tool to help students learn meaningfully, and to help teachers become more effective teachers (Novak, 1990).

Concept mapping is an effective method for building capacity amongst key stakeholders as the entire process is premised on group understanding. The final step in the mapping process entails having a group discussion on how the final concept map might be used to enhance either planning or evaluation. In this way, the procedure can work well in assisting stakeholder groups (i.e. teachers and students) come to a clearer understanding of key concepts and their practical utility and effectiveness in practice.

5. Theoretical foundations of concept mapping methodology

An understanding of the psychological and sociological origins of the concept mapping process is critical to the use of its application. We consider each of these broad evolutionary tenets in turn.

5.1. Psychological foundations

Work in cognitive theory by Ausubel (1968) played a key role in establishing the psychological foundations from

دريافت فورى 🛶 متن كامل مقاله

- امکان دانلود نسخه تمام متن مقالات انگلیسی
 امکان دانلود نسخه ترجمه شده مقالات
 پذیرش سفارش ترجمه تخصصی
 امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
 امکان دانلود رایگان ۲ صفحه اول هر مقاله
 امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
 دانلود فوری مقاله پس از پرداخت آنلاین
 پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات
- ISIArticles مرجع مقالات تخصصی ایران