



What learning happens? Using audio diaries to capture learning in response to safety-related events within retail and logistics organizations



Colin Pilbeam*, Ross Davidson, Noleen Doherty, David Denyer

Cranfield University School of Management, Cranfield MK43 0AL, UK

ARTICLE INFO

Article history:

Received 30 September 2014
Received in revised form 27 July 2015
Accepted 29 July 2015
Available online 28 August 2015

Keywords:

Organizational learning
Audio diary
Safety practices
Logistics
Retail
Violation
Error

ABSTRACT

Learning from safety incidents has typically been investigated amongst front-line workers in high hazard contexts. In contrast this study collected safety incident data using audio-recorders from 21 respondents across the organizational hierarchy in two retail and one logistics company in the UK. The diary data highlight the propensity for problem-fixing in a single-loop learning mode rather than deeper, double-loop learning problem-resolution. The latter occurs amongst those with organizational responsibility for safety, irrespective of hierarchical position. The observation of violations is suggestive of prior learning of correct procedures and these data suggest that near-misses are under-reported in organizations.

© 2015 Elsevier Ltd. All rights reserved.

1. Introduction

Safety in organizations is, for many, critically dependent upon reducing errors and eliminating mistakes. Yet the occurrence of both errors and mistakes provides opportunities for individuals, and organizations, to learn and to change, facilitating improved safety practice. Learning from errors and mistakes however is not guaranteed. In organizations it is not uncommon for the same mistakes and errors to be repeated and for safety incidents to recur (Buchanan and Denyer, 2015), even serious ones. For example, accidents on the UK railways are attributed regularly to drivers passing signals at danger. This caused an accident on the Great Western main line at Southall, London in September 1997 and another a few miles away on the same line at Ladbroke Grove, London in October 1999. Less critical incidents recur more frequently in many organizations. Despite the organizational desire to reduce errors and to eliminate mistakes and so minimize accidents and incidents, they are still repeated. An important question therefore is what prevents organizations from learning from their mistakes and errors to improve their safety performance?

According to Argyris and Schön (1974) learning involves the detection and correction of error. They suggest two forms of

learning. Single-loop learning simply fixes the presenting problem, while double-loop learning challenges the existing situation to discover a different way of acting or behaving. Fixing a presenting problem without addressing the underlying causes allows an organization to continue with its existing policies and practices but results in the possibility of the problem recurring. Conversely modifying organizational policies and practices through double-loop learning may eliminate the possible recurrence of a particular mistake or error. Of course this can be more costly in terms of time and resources. Organizations that emphasize single-loop learning more than double-loop learning may therefore be less likely to learn from their mistakes and errors. In an observational study of junior nurses in eight hospitals in USA Tucker and Edmondson (2003) argued that single-loop learning (or simply fixing a presenting problem) was overwhelmingly the more common response of these junior staff. They also suggested that the relatively dynamic, strongly hierarchical organizational context actively discouraged double-loop learning. Their conclusion was that incidents in such high risk environments were therefore inevitable, as staff became burnt-out with the additional burden of managing the day-to-day irritations of a partially effective organizational system.

Our study investigates the occurrence of single and double-loop learning amongst different hierarchical categories of employees in response to safety incidents caused by a 'gap' between an expected and an actual state or practice in organizations in more stable, less

* Corresponding author. Tel.: +44 1234 751122.

E-mail address: colin.pilbeam@cranfield.ac.uk (C. Pilbeam).

dynamic, low risk environments using a novel audio-diary approach. It contributes empirically to our understanding of safety learning in organizations in four ways. First, we confirm the findings reported for other contexts, that employees in service-type environments predominantly adopt single-loop learning rather than double-loop learning following safety related incidents. Following the well-rehearsed argument (Tucker and Edmondson, 2003; Lukic et al., 2012) this may suggest that learning from safety related incidents in these settings is uncommon. Second, the data suggest that organizational role rather than hierarchical position in the organization, affects whether employees engage in double-loop learning. Those with formal safety responsibility regardless of position are more likely to engage in double-loop learning than those without such responsibility. Third a comparison of our data with records of accidents and particularly near-misses in the case organizations suggest that organizational estimates of near-misses are low and that there is substantial under-reporting. This has implications for improving levels of organizational safety, if such near-miss data are used as significant indicators of future incidents. Fourth, while diaries have been used in other fields to capture lived experiences they have not been used in the field of safety research. Here we modify this approach to make use of audio-recorders, which are a cost effective and accessible method for collecting real-time data relating to safety incidents across a larger population than would be possible by the ethnographic methods previously used in safety research.

2. Literature review

2.1. Learning in organizations

Edmondson and Moingeon (1998) and Shipton (2006) develop very similar frameworks along two separate dimensions to categorise perspectives on learning in organizations. The first dimension distinguishes between studies that have the individual as the unit of analysis and those that focus at the organizational level. The second dimension considers whether the research is prescriptive and interventionist, or descriptive. Organizational learning research is then populated against the resultant 2×2 matrix. Both reviews consider the existence of organizational routines and practices as evidence of prior learning at an organizational level, which is then typically communicated to new employees through induction and other ongoing training, and codified in standard operating procedures. The problematic nature of the connection between learning at an individual level and learning at the organizational level is highlighted. One framework which encapsulates the interplay between learning at the individual and the organizational level, is that proposed by Crossan et al. (1999). The 4I framework suggests that through the processes of intuiting and interpreting, individuals feed-forward their learning to influence the organization. The processes of integrating and institutionalizing formalize and embed this individual learning in organizational rules and practices and the feed-back from the organizational level constrains and directs individual behaviour and actions.

Feed-forward and feed-back loops are vital characteristics of learning which Argyris and Schön (1974, 1978) incorporate into their models of single and double-loop learning. Single-loop learning occurs when individuals after detecting an error seek to find a solution consistent with their framing of the circumstances and one that permits the organization to continue with its policies and practices unaltered. Alternatively, a double loop model of learning is apparent when an individual in developing a solution scrutinizes the circumstances and the proposed action plan. These may lead to a modification of the organization's policies and practices. Single-loop learning takes the circumstances as given and operates broadly within existing routines to increase organizational

effectiveness. This is essentially a closed and defensive response to the error (Argyris, 1976) that seeks unilateral control of the environment and the task to protect self and others, so that no-one is embarrassed by challenge. Causal reasoning reduces sensitivity to feedback permitting only confirmation of existing expectations and so the freedom of choice of potential solutions is restricted. Double-loop learning is quite different. Here individuals are encouraged to test publicly assumptions and beliefs and to participate in the design and implementation of actions and to create a wide variety of solutions that subsequently may feedback to affect individual behaviours in the future. In this mode, substantial or radical organizational change is more likely than incremental change.

Reason et al. (1998, p. 292) define errors as “the failure of planned action to achieve their desired ends”, and according to Argyris (1976) their detection and correction is key to organizational learning. Alternatively, Tucker et al. (2002, p. 124) suggest that learning can occur through problem solving, the closing of “an undesirable gap between an expected and observed state that hinders a worker's ability to complete a task”. The difference between these two concepts of learning hinges on the definitional distinction between ‘errors’ and ‘problems’ (Tucker and Edmondson, 2003). However, in practice both errors and problems require the resolution of a discrepancy between expected and actual practice. This ‘gap’ (Fig. 1) once it has been observed (which is the starting point for the cycle in the figure) it can be investigated and then often it can be resolved in similar ways, irrespective of whether it came from an error or a problem. Correcting errors through single or double-loop learning is considered to be analogous to first and second-order problem solving (Tucker et al., 2002). First-order problem solving, like single-loop learning, fixes the presenting problem but does nothing to prevent it reoccurring, whereas second-order problem solving like double-loop learning seeks to diagnose and alter the underlying causes of the problem to prevent recurrence.

In addition to problems and errors, a third category of discrepancy between expected and actual practice exists, namely rule violations. Desai (2010, p. 185) defines these “as the voluntary and intentional departure of behaviours from rules governing how that behaviour should occur in organizations” and notes that they are only infrequently incorporated into discussions of organizational learning. Problems, errors and violations each provide opportunities or stimuli for learning. However, we suggest that the type of learning that occurs depends upon the individual's response to the circumstance (Fig. 1). An individual is able to observe a rule violation by another colleague when they are aware of the organizational rules and operating procedures, most probably learnt through prior training. Organizational level influences which transmit what behaviours are acceptable affect individual behaviours through feedback mechanisms (Crossan et al., 1999). These reinforce prior individual learning. Taking corrective action to fix a problem, but not addressing any of the underlying causes indicates single-loop learning (or first-order problem solving). Escalating or communicating a problem to more senior colleagues or external agencies to make wider systems changes to resolve a problem and remove the underlying causes to prevent recurrence indicates double-loop learning or second-order problem solving (Tucker and Edmondson, 2003). In Crossan et al.'s (1999) framework this corresponds to feed-forward where the individual influences the organization, suggesting possible changes to practices and providing an opportunity for organization-level learning.

Problems, errors and violations therefore provide opportunities for observing and investigating organizational learning. However, the type of learning that occurs depends upon whether individuals simply fix the problem following the model of single-loop learning, or whether they make wider system changes to remove the underlying causes following a model of double-loop learning. Highly

Download English Version:

<https://daneshyari.com/en/article/588971>

Download Persian Version:

<https://daneshyari.com/article/588971>

[Daneshyari.com](https://daneshyari.com)