Brown and Eisenhardt (1997) illustrate the importance of structures and processes when describing the characteristics of firms that are able to manage change as a continuous process (see Chapter 3). They refer, for example, to permeable organization structures that facilitate improvisation and the modification of work practices through mutual adjustments.

The quality of relationships between organizational members can affect the quality of organizational learning because the acquisition of knowledge, the recognition of its potential, and its application to improve organizational performance often require numerous individual exchanges. Szulanski (1996) suggests that this is particularly important where knowledge has tacit components (see Nonaka, 1994) and where the reasons for the success or failure of particular practices are ambiguous.

Attitudes towards mistakes and failures can have an important impact on the quality of learning. Husted and Michaiova (2002) argue that mistakes are often the result of exploring unknown territory and can be a vital source of new insights, but they are often buried and kept secret. This happens when organizational members are uncertain about how others will react and especially when they fear they will be blamed for wasting resources. Blame cultures limit information sharing and increase the possibility of the same mistake being made repeatedly. They also inhibit creativity and learning because people are motivated to play safe and avoid experimentation. Google is a company that has developed a positive response to mistakes, which we will see in Example 29.3 below.

Transparency is another contextual factor that can affect collective learning. One view is that transparency can facilitate collective learning by improving the access of managers and colleagues to expertise, experience and stored knowledge, and reduce the risk that the benefits of localized problem solving will be contained and fail to contribute to organization-wide learning. This has encouraged some organizations to adopt an open space design that provides clear observability and the introduction of advanced surveillance and knowledge search technologies. There is an alternative view that observability discourages experimental learning responses (Zajonc, 1965) and encourages hiding behaviour, and that some level of privacy facilitates learning by supporting productive deviance, localized experimentation and distraction avoidance. Research report 29.1 describes a study by Bernstein (2012) that points to a paradox of transparency. While some level of transparency can facilitate learning and performance improvement, there may be a point beyond which observability inhibits collective learning.

Research report **29.1** *Transparency and collective learning*

Bernstein, E.S. (2012) The transparency paradox: A role for privacy in organizational learning and operational control, *Administrative Science Quarterly*, 57(2): 181–216.

Bernstein conducted two studies to challenge the assumption about the link between visibility of action and accessibility of knowledge and the value of transparency for productivity and learning.

Study 1

Study 1 was a four-week inductive qualitative study. Three researchers were embedded in the world's second largest mobile phone factory located in China and simultaneously worked on assembly lines as operators and participant observers. Supervisors and fellow workers were unaware of the embeds' true identity. During meal and toilet breaks, the embeds visited an isolated office and recorded their

observations. At the end of the month, they revealed their role to their colleagues, administered a survey, and recorded interviews with several of the workers with whom they had developed good relationships.

Results

It was observed that operators hid their innovative work practices from others in order to avoid the need to explain them and to avoid getting into trouble for doing things differently. Bernstein reports that the embeds were shown better ways of accomplishing tasks and a 'ton of little tricks' that enabled faster, easier and safer production, but they were also told that whenever customers, managers, line leaders, six sigma auditors or other 'outsiders' came around, they should perform the task in accordance with the posted rules. Operatives felt that it was less costly for them to hide their knowledge and learning than to share it. This hiding behaviour was facilitated by the high level of visibility across the factory floor. While the factory layout had been designed to help managers and supervisors observe the way operatives were working, it also helped operatives spot managers and others long before they arrived.

These findings were in line with Zajonc's observation that being observed can trigger dominant practised responses rather than experimental, riskier learning responses, and they encouraged Bernstein to investigate further the value of privacy on the factory floor.

Study 2

Study 2 was a field experiment. Two of the 16 production lines, each working two shifts per day, were randomly selected for the experimental condition and were shielded from view by the equivalent of a hospital bed curtain, leaving the remaining 14 lines as treatment controls. Bernstein tracked hourly production and quality data for all the lines and collected qualitative data by embedding a participant observer in one of the experimental and one of the control lines.

Results

Performance on the lines surrounded by curtains increased by 10–15 per cent. The qualitative data collected by the embeds indicated that the privacy provided by the curtains contributed to the boost in performance by permitting the operatives to:

1 *Tweak* the line to resolve temporary problems. Bernstein refers to this as 'productive deviance'. For example, operatives working on the control lines (no curtains) were disinclined to tweak because, if outsiders caught them, they could be blamed for causing the problem they were trying to solve, and when they did try to resolve a problem, they would carefully hide the adjustments they had made. Bernstein reports that the curtain on the experimental lines changed this dynamic significantly. Tweaking within the curtain became much more transparent to other operators and these other operators could work with the tweaker to make further improvements. The embed on the experimental line also observed that as bottlenecks arose, the workers responded as a team and moved fluidly to reduce them, and that operators, when they were not busy, switched roles so that they could learn multiple tasks, thereby improving their capability to tweak. The reduced transparency offered by the curtain permitted tweaking but it was the improved transparency *inside the curtain* that allowed the tweaking to be effective.
2 *Experiment* with new ideas that could deliver permanent improvements to the line prior to explaining them to management. The curtain made it easier for operatives to collaborate on the development of new ideas and develop and test a prototype process without attracting the attention and interference of outsiders.
3 *Avoid waste* by removing the need to engage in many non-value-added hiding activities. On the curtained lines, there was less need for look-outs to spot the approach of outsiders and, when they were spotted, for everybody to assume the less productive but officially sanctioned working practices.

This study offers support for Bernstein's notion of a transparency paradox, whereby increasing the level of observability of workers can (counterintuitively) reduce their performance by encouraging them to conceal their tweaking and experimentation through costly hiding behaviours, whereas creating zones of VIII