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Chapter 12

Can Safety Training Contribute to Enhancing Safety?

Corinne Bieder

Abstract Training has always been an obvious response to any operational issue and safety issues are no exception. Further to an accident, training, and more specifically safety training, almost always forms part of the recommendations. More than that, safety training has always been considered by many as one of the major pillars for ensuring the safety of hazardous activities. This is the case in regulatory requirements as well as in many internal safety policies. Although this seems to make sense intuitively, intuition is not always of sound advice when it comes to safety. In reality, safety training conveys a number of implicit assumptions as to what contributes to making the operation of an organization safe. These assumptions, once made explicit, become debatable. However, unravelling them makes it possible to examine potential ways forward to reach beyond what seems to be the current safety training escalation dead-end.

Keywords Work practices • Regulatory requirements • Compliance • Safety performance

As provocative as it may sound, the discussions during the academic seminar led us to raise this fundamental question: can safety training contribute to enhancing safety?

The initial doubt was expressed by FonCSI's industrial partners, questioning the relevance of their safety training based on the perception or belief that their increasing investment in such training was no longer paying off as expected. However, in the light of the discussions, it appears that rather than asking how to deliver better or more efficient safety training, a more relevant question would be: are safety training courses an appropriate way to actually enhance safety?

This question emerges in reality from a deeper philosophical disconnect between two apparently opposite appreciations of safety:

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- On the one hand, those who defend the concept of safety as fully embedded into work practices. This then translates into: doing your job well includes doing it safely where the idea of safety is built from experience following the theory of Aristotle. As such, safety can neither be thought out from scratch nor imposed by an external party. It is an intrinsic part of each singular situation and cannot be disconnected from its manifestations in the real world.
- On the other hand, those who defend the concept of safety as a distinct dimension of any job that can be thought out in a generic manner. It then translates into: working safely means comply with safety rules deriving from what would be the ideal Form of Safety in Plato's world of Ideas (Plato).

This disconnect has a number of implications that go beyond the skills and competences needed to operate safely. Indeed, it affects the very definition of what is considered to be a normal situation as opposed to an abnormal one and raises too wide a scope of questions for them all to be addressed in this chapter.

The academics invited to the workshop¹ confirmed this disconnect between these two understandings of safety in a significant number of big organizations with an often clear difference between the operational functions and the top management/support functions.

For those in operational roles, safety is seen as one dimension among all the others of their job (Cuvelier and Falzon 2011). In terms of training, it means that there is no such thing as a “safety training course” that would address the safety dimension in isolation from the rest of the job's requirements, environment or constraints.

Conversely, top managers or support functions envisage safety as an independent dimension of work, merely consisting of compliance with a number of exogenous requirements. Safety competencies can then be described and assessed regardless of the specific job and operational context. Safety can thus be taught in a generic manner independently from the rest. In other words, safety training courses are what is needed to enhance safety.

Indeed, once a training program is called or considered to be “safety training”, it assumes to some extent that safety can be isolated from work practices, and even more so if the content of the safety training is generic to a number of industrial activities.

Although this approach is fully in line with a belief that fulfilling safety requirements is enough to ensure a safe performance, it is pointless in a belief that ensuring safety is about doing one's job well since the safety dimension cannot be dissociated from the other dimensions of the job (Bieder and Bourrier 2013).

From this common apparent deadlock, is there a way forward?

Before reflecting on possible avenues to explore, it is essential to return to the initial question from the industrial players: why is the increasing investment in safety training no longer paying off?

¹The two-day international workshop mentioned in the preface, organized by FonCSI in November 2015 and highlight of the project that led to this book (editors' note).

We will not explore the actual safety benefits, or their absence, which often seem to rely on a perception or belief rather than on an actual measure, for this would require a whole paper. While existing safety trainings may seem to fail to produce results safety-wise, they nevertheless allow organizations to comply with regulatory requirements that call for safety training. Indeed, most regulatory authorities in hazardous activities are defenders of the “safety exists as such” belief. Or maybe should we say they used to be. Indeed, the evolution from an exclusively compliance-based approach to a more performance-based approach in some hazardous activities such as aviation may be initial evidence that the doubts expressed by FonCSI’s industrial partners are shared, at least to a certain extent, by Authorities as well.

Up to now, the tension between the two apparent beliefs on safety, or safety models, has led to an increase in the effort in the direction of mandatory “safety trainings”, often to the detriment of other initiatives focused on training courses that are better suited to enhancing safety. Yet, some initiatives in this latter direction were presented during the workshop with promising results.

Thus, the question becomes: is there a way of maximizing the resources dedicated to training (in a broad sense) that actually contribute to enhancing safety while complying with regulatory requirements? The most obvious answer would be through reconciling the two. Yet, regulatory requirements are developed to ensure that the minimum acceptable level of safety is ensured by all organizations of a given domain. Although they may stem from a safety model closer to one extreme than to the other, they are designed in a one-size-fits-all manner whereas each organization is unique.

Eventually, depending on the existing gap between the regulatory/oversight approach and the organization’s maturity safety-wise, there may be different avenues to explore as ways forward:

- If the regulatory requirements and the oversight approach leave some leeway for interpretation, there may be a way to reconcile both aspects, actually enhancing safety and complying with regulatory requirements. By giving preference to the ultimate objective of the safety training rather than to a reductive interpretation of “acceptable means of compliance”, revisiting the content, format... of these so-called “safety trainings” can be an opportunity to improve the actual safety performance.

The introduction of mandatory CRM (Crew Resource Management) training in aviation following the most deadly accident in this domain in Tenerife is a very good illustration of how a similar requirement was translated into very different training courses by different airlines around the world. Interestingly enough, although it had a strong safety root, the requirement was not called “safety training”.

Regulatory requirements referred to a number of topics to be addressed during this training such as communication, leadership/followership, individual factors... Depending on the airline, CRM training courses ranged from strict basic ‘teaching’ on the various topics to more sophisticated and interactive sessions

around these topics addressed through real-life examples. In other words, at one extreme, CRM trainings were generic theoretical lectures on communication and all the other required topics, disconnected from any realistic flight context, facilitated by human factors specialists with no aviation background or knowledge. At the other extreme, CRM training courses took the form of debates among professionals, initially pilots, based on anecdotes brought by participants taken from their own experience, facilitated by a pilot with additional human factors background or a human factors expert with additional flying background. Tricky situations, tips, procedure limitations and external pressures were discussed openly and shared among a group of professionals leading to a translation of regulatory topics into real work situations. Practices were discussed in the light of some theoretical inputs and a dialogue was engaged between professionals to cross-fertilize theory and practices (qualifying some theoretical aspects based on their limits in some singular experienced situations, as well as qualifying some practices that hadn't yet led to any unwanted events but could do so in slightly different contexts).

- If the regulatory requirements and the oversight approach provide strong incentives to develop training courses disconnected from work situations, isolating safety from the other dimensions, the key question becomes: can “safety training” resources be allocated differently, i.e. limiting the investments to the strict minimum necessary to comply with these requirements and investing further in something else than “more of the same” to actually enhance the safety performance? This would also mean dismissing the illusion that there is any safety benefit from mandatory “safety trainings” ...

In his chapter, Vincent Boccara gave an illustration of a possible complementary approach through the creation of a discussion space around safety in work situations between defenders of the two apparently opposite beliefs on safety, to enable the debate as to how to actually ensure the safety of operations.

However, in the case of a significant disconnect between regulatory requirements and actual safety enhancement, a parallel avenue would be to explore whether there would be a way to revisit the regulatory framework and the safety training requirements—be it in their philosophy, focus, format...—so that they provide incentive to develop training that actually contributes to enhancing safety whatever the organization's initial maturity level in terms of safety?

Revisiting the regulatory and oversight framework requires a holistic approach in terms of all the dimensions that are impacted by switching from a compliance-based approach to a performance-based approach to safety. While the issues of empowerment, accountability, control, expertise, etc., were discussed extensively in relation to how safety is managed within an organization, there is a mirror situation at the level of the regulator or between the regulator and the organizations it oversees that needs to be considered in its complexity, keeping in mind the additional challenge of not belonging to the same organization or sharing the same goals... What is the actual work practice of a

regulator and how does safety as a situated work practice translate in this environment are important preliminary questions to analyse.

In this framework, working on an adaptation of Boccara's approach, which seeks to stimulate debate between operating organizations and their regulator with regard to work situations (to be defined or extended) could possibly contribute to making regulatory requirements evolve, at least in their flexibility.

The shift from a compliance-based regulation approach to a performance-based one initiated in some hazardous activities (ICAO 2013) should allow the regulatory and oversight approaches, including the "safety training" requirements, to be significantly revisited. However, if the regulatory approach is to develop in this way, this will also involve evolutions in a number of areas that reach far beyond the wording of the regulatory requirements themselves, whether they refer to external requirements developed by the institutional external Regulator or by the internal relays of the Regulator's exogenous requirements (e.g. Quality department...). How to make the practices of "rule-makers" (both external and internal) evolve in an appropriate direction to support a performance-based approach to safety is not an easy question. Part of the answer is probably based on "training" in a very broad sense, but maybe not on "safety training".

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