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Exploring OHS trainers' role in the transfer of training

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ABSTRACT

Safety training (ST) is essential for workplace safety and to be effective requires that the learned knowledge and skills are transferred to the job. Research on transfer mechanisms and its predictors has neglected trainers' influence, despite their privileged position on decisions related with training. This study is aimed at identifying: (1) trainers' perspectives on best practices for enhancing ST success; (2) unexplored transfer factors based on reported best practices; and (3) the trainers' sense of self-efficacy and personal responsibility regarding ST results. Twenty semi-structured interviews were conducted with experienced and first-line safety trainers, all OHS professionals. Content analysis revealed that trainers attribute training success to factors related to trainees' individual characteristics, workplace environment and mainly to training design and delivery. OHS professionals' presence in the workplace emerged as a critical transference trigger suggesting future research to explore under what conditions that effect occurs. Participants reported feeling responsible for training results but revealed a low sense of control. These results confirm that trainers decide on training design and deliver but their role should be expanded so to support training application in the work context. For that purpose, companies must empower safety trainers for enhancing their control over the transfer process.

1. Introduction

Safety training (ST) is an important preventive measure and a common element in safety management systems, hazard control and preventive programs. Research results already presented evidence regarding supporting the effectiveness of OHS training on targeted OHS behaviours and attitudes of workers (e.g. Colligan and Cohen, 2004; Robson et al., 2012; Ford et al., 2014). There are high expectations regarding the transference of ST to the workplace since it involves the appropriate application of learned safety knowledge and skills to protect workers from existent or probable hazards. The transfer of training (TT) has been studied for almost thirty years and literature reviews and meta-analyses (e.g. Grossman and Salas, 2011; Blume et al., 2010) report important advances in the knowledge of transfer predictors. However, the trainer's role in the transfer process remains very unexplored, without disregarding the few and meritorious studies and the calls for research on the subject: namely, the trainer's knowledge, beliefs and best practices in fostering training success (e.g. Hutchins and Burke, 2007; Burke and Hutchins, 2008; Hutchins, 2009) or the 'self-perceived responsibility' and 'self-efficacy' regarding training transfer (e.g. Kopp, 2006; Burke and Saks, 2009).

The present study extends previous empirical work on trainers' role on TT (Burke and Hutchins, 2008; Hutchins, 2009) through a deeper and more comprehensive understanding of the trainers' practices toward training success, including: the trainers' perceptions of themselves in the transfer process i.e. their senses of responsibility and control over it; also, previous works did not consider the specificity of the trainers' areas of expertise and the possibility that it could add some insights. In the present study participants are in-house first-line safety trainers, all OHS professionals, departing from the assumption that the particularities associated with safety training will reveal new or neglected facets of TT. To these ends, the following research questions were formulated: (1) What are trainers' views on the best practices for enhancing safety TT? (2) Is there a consistency between the trainers' suggestions and existing theoretical transfer models? Do they add any new aspects to the phenomenon? (3) How do trainers perceive themselves in the transfer process? Do they feel they can control it and manifest some sense of obligation regarding safety training effectiveness?

To answer these questions, an exploratory and qualitative study was designed, supported by the accounts obtained during

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semi-structured interviews of OHS professionals who are also responsible for activities as in-house trainers.

1.1. Transfer of (safety) training

Transfer of training (TT) is a complex, dynamic concept and means the extent to which an individual can generalize the knowledge and skills acquired in a learning context to a performance context (Baldwin and Ford, 1986). Efforts have been made to understand how safety TT can be promoted and evaluated. For example, Cohen and Colligans' (1998) examined how organizational and social/psychological factors affect safety training effectiveness and Burke and Sarpys' (2003) enhanced a linkage between fundamental training programs and worker's behaviours/attitudes. The systematic reviews on safety training effectiveness of Clemes et al. (2010) and Robson et al. (2012) found evidences of training interventions effects on workers. More recently, Laberge et al. (2014)departed from the ineffectiveness of safety training traditional approaches (cognitive and behavioural) to proposed a training design based on a socio-constructivist paradigm. All these studies noted gaps in the available information and other limitations suggesting a need for further research into the effectiveness of training interventions in attaining OHS objectives.

Baldwin and Fords' (1986) theoretical model, probably the most prevalent reference for general research on transfer, presents three main influences: 'work environment' – includes the existent climate and support for transfer, the workers' opportunities for transfer and training and follow-up initiatives; 'individual characteristics' – the trainees' previous competencies, personality traits, motivation to learn and transfer this knowledge and their attitudes to their job and 'training design'–the most studied (Blume et al., 2010) source of transfer influences, which includes the appropriateness of training contents and methods.

Research has gathered a considerable body of information on transfer predictors (e.g. Grossman and Salas, 2011). One could suppose that an increase in knowledge about the transfer process would result in its effectiveness but this seems not to be happening because organizations still find TT difficult, leading to the belief, among others, that practitioners are not using the available information. In consequence, training is not applied to the job and the "transfer problem" (Baldwin and Ford, 1986) remains. This gap between research and practice has motivated authors to seek alternative perspectives (e.g. Segers and Gegenfurtner, 2013) and to examine what happens in organizations and what professionals believe and do to bolster transfer (e.g. Donovan and Darcy, 2011; Hutchins, 2009).

1.2. Trainers' role in transfer

Although some suggestions that trainer's characteristics are a relevant factor (e.g. Burke and Hutchins, 2008; Khamarko et al., 2012), in general, trainers' contributions to transfer are underrepresented in the literature. Efforts to fill this lacuna are important, given that trainers design training programs and influence trainees' engagement and motivation (Towler, 2009). In the case of in-house trainers, their contribution to TT is potentially larger since they can be intimately involved in several stages of the training process (before, during and after training) that can influence successful training application, in particularly related to work environment and to the transfer climate, for example: preparing activities for after training to facilitate training transfer (e.g. individualized follow-ups); promoting a "transfer agreement" among stakeholders (trainee, trainer, and supervisor) for commitment to applying trained knowledge and skills on the job (Salas et al., 2012; Burke and Saks, 2009). Also, to report and to compare safety trainers' transfer practices may stimulate a greater use of research findings by OHS practitioners since the data have been gathered from those who they may closely identify with and value their opinion. Special attention to trainers' good practices and their strategies to increase training effectiveness should be expected but, as Burke and Hutchins (2008, p. 108) noted, "Best practices reports in training transfer are limited and often anecdotal" and outdated.

In two related, qualitative studies, Burke and Hutchins (2008) and Hutchins (2009) analyzed, respectively, trainers' suggestions to enhance transfer and their self-reported practices for supporting it. The authors compared the data gathered by open-ended survey questions with established transfer models and the results highlighted the trainers' skills and attributes as an emergent factor. Using a qualitative approach and 16 in-depth interviews, Khamarko et al. (2012) also found three main transfer enhancing strategies used by clinical trainers: tailoring training activities to trainees' needs; previous knowledge of trainees' work environment; and post-training support.

Thus, research results suggest that the trainer's role in the transfer process is a promising avenue that may lead to a deeper understanding of TT.

1.3. Trainers' felt-responsibility and self-efficacy in TT

Burke and Saks (2009) proposed that future research should appraise training stakeholders, such as trainers (trainees and supervisors), their feelings of accountability to external parties and their sense of responsibility for the application of their training. Before them, Kopp (2006, p. 353) holds trainers as "primarily accountable" whose role should also ensure training application. Although recognizing that the trainer alone cannot guarantee TT, Kopp (2006) views this professional as being absolutely necessary and therefore not free from primary accountability. Departing from accountability as a powerful engine to foster transfer, Burke and Saks (2009) proposed the study of related psychological mechanisms: 'sense of control or efficacy' and 'sense of obligation or personal responsibility' for transfer actions and outcomes.

Personal or felt-responsibility is an internal state reflecting how much a person feels personally accountable and responsible for her/his work results (Hackman and Oldham, 1976; Behson and Eddy, 2000). If individuals (e.g. safety trainers) feel responsible for a past or future situation/event (e.g. safety training effectiveness), they are essentially holding themselves accountable for it. Additionally, Schlenkers' et al. (1994) theoretical model views responsibility as a transaction between an event/situation (e.g. TT), the prescriptions or rules that govern it (e.g. organizational regulations regarding training effectiveness) and the individuals' image of his/hers own identity relevant to an event and prescriptions (e.g. perception of the trainers' role). The trainers' felt-responsibility for transfer can be understood as their perception of the results of the combined strength and links between these three elements. Furthermore, it is assumed that felt-responsibility can be influenced by diluting or mitigating circumstances of a personal (e.g. perceived organizational support) or contextual nature (e.g. access to resources) (Lauermann and Karabenick, 2011, 2013).

Few studies have examined the training stakeholders' (trainees, supervisors, trainers) sense of responsibility and accountability regarding training results: Burke and Saks (2009) identified a positive relationship between training evaluation frequency and TT. In Burke and Hutchins' (2008) work, training professionals reported post-training measurement as a best practice for supporting transfer. Both qualitative studies suggest that evaluation creates greater accountability among stakeholders for training outcomes, besides improving the training program. Related to self-responsibility is

self-efficacy, a concept derived from Banduras' (1977)social cognitive theory: behaviour influences and is influenced by individuals' beliefs in their ability to perform certain tasks and the environmental consequences of their behaviour. Trainers' self-efficacy beliefs concerning transfer are judgments about their ability to help trainees apply what was learned during work training. Research has scrutinized the role of self-efficacy as a transfer predictor but has mainly focused on trainees (e.g. Simosi, 2012; Chiaburu and Lindsay, 2008), ignoring trainers' self-efficacy regarding the transfer process and training success.

Stimulating TT to the workplace is a natural concern to the community of trainers, including individuals who sometimes develop training activities to achieve organizational health and safety goals: OHS professionals.

1.4. OHS professionals and trainers

OHS professionals play an essential role in safety training, management and implementation. Specifically, studies on OHS professionals' roles and tasks (e.g., Hale and Guldenmund, 2005; Hale et al., 2006) and competencies (e.g. Daud et al., 2010; Chang et al., 2012) confirmed training as a core activity and a major competency. Moreover, different research, aimed at revealing OHS professionals' strategies to promote new organizational practices, identifies training as a strategy to influence the players' knowledge, behaviour and attitudes (e.g. Olsen, 2012; Ford et al., 2014). The OHS profession is still understudied yet it is rapidly expanding, posing new research challenges (e.g. Olsen, 2012; Minnick, 2013). Currently, there is sufficient evidence to emphasize the important role training plays in fulfilling safety goals while it remains a lack of knowledge concerning OHS professionals' dynamics in organizations, i.e. the strategies used by these professionals to exert influence in intra-organizational processes in order to maintain, improve or create a good working environment (Olsen, 2012; Daudigeos, 2013). For instance, regarding initiatives they develop to foster training success. It is intended that the study contributes to filling this gap.

This study was designed to answer our research questions by analysing OHS professionals' views on the best practices to enhance safety TT and also their self-representation in the process to uncover potential factors not provided by theoretical models.

2. Method

2.1. Participants

Participants were selected from the database of a public health organization that provides continuous OHS training (OHS practitioners from 2010 to 2013). The first sample contained 68 individuals. External consultants (29) were excluded assuming that direct employees would provide a more detailed picture of safety training dynamics in organizations. The remaining 39 were invited by email to participate in the study. The email message presented the study broad goal (to identify OHS professionals' experiences and opinions regarding safety training) and the selection criterion: being an in-house OHS trainer. A second message was sent one week later to individuals who had not responded to the first. Ten days later, we had 20 positive answers, all confirming the internal trainer criterion.

Participants were: employees in private companies (5), public hospitals (10), and local government (5). All the companies/organizations were large, comprising between approximately 750 (local government) and 3500 (public hospital) workers. Eight were heads of OHS units. The average age was 36. Twelve were female and 8 male. Nineteen had a degree plus a post-graduation in OHS and one a degree in safety engineering. All 20 were experienced (9 year average) and certified safety trainers but only one stated to be familiarized with the TT concept. As required, all participants had operational roles in performing training activities and were first-line safety trainers. Training activities occupied different amounts of time in the participants' global working schedules: 8% for the participants from local government, 17% and 25% for participants from, respectively, hospitals and private companies. Along with training delivery as internal trainers, all individuals designed training programs, prepared learning materials (e.g. handouts, slides) and assessed training needs. Only participants from private companies stated performing tasks related to organizing training (e.g. contacting trainees or supervisors) or maintaining records on workers' training, tasks usually performed by the HR department in local government and public hospitals.

2.2. Data collection

Face-to-face semi-structured interviews were conducted in each participant's organization by a single researcher, thus avoiding interviewer variability in data collection. An interview schedule (Table 1) was followed to strengthen data reliability and comparability:

Topical trajectories flowed according to participants' responses and pursuing their lines of thought, returning to each theme whenever appropriate (Gillham, 2000). Typically, the interview started with the question: "Could you please tell me about your professional trajectory till this present job? I would like to know you a little better." By interview number 15, it was clear that saturation had been achieved, i.e., extending the sample and collecting new data would not shed any further light on the issues under investigation (Mason, 2010). However, the initial objective of 20 interviews was achieved.

The interviews lasted an average of 45 min, were recorded with the interviewees' permission and fully transcribed, comprising a total of 13 h and 50 min of conversation and 159 A/4 pages with a standard layout.

Table 1
Interview schedule.

Content topics	Description
A – training related activities	Topic aimed to identify training related tasks developed by the participants, and some characteristics of the organizational training system, such as the existence of training evaluation procedures
B – best practices in supporting transfer	It asks about participants' experiences and approaches to stimulate the transfer of the training they provide in their work organizations. It seeks to identify factors that appear to exert a decisive influence on the application of the workers' learning in job contexts
C and D – self-efficacy and sense of responsibility in supporting transfer	Follows Burke and Saks' (2009) suggestions for the study of trainers' psychological accountability mechanisms: their felt-responsibility and perception concerning the organization's judgment regarding safety training success; their perceived ability to help trainees to apply the safety knowledge and skills they learned to the job
E – statements on internal trainers' role in the transfer process	Intended to summarize the participants 'views on how they approach the transfer process. The statements were based on the three items Burke and Saks (2009) proposed to measure the trainers' sense of responsibility and self-efficacy concerning transfer. Subject were asked to respond, justifying, to each statement (e.g. I have some degree of control over trainees' applying what they learn in this training program in their job)

2.3. Design and data analysis

A mixed qualitative-quantitative content analysis procedure was used, guided by the research questions, due to its advantages in efficiency and empirical grounding (Krippendorff, 2013). All questions meet Krippendorf's (2013) quality criteria: be answerable, concern inaccessible phenomena and permit, at least in principle, (in) validation. CAQDA (MaxQDA, version 11) was used to categorize the 20 transcribed interviews. Stand-alone and smallest meaningful text segments were considered as a coding unit, to facilitate further agreement among different analysts, fostering reliability (Krippendorff, 2013). The previous question and/or the participant's full answer and/or earlier portions of the interview were defined as a context unit.

Based on the literature and research questions, an initial category scheme was developed. It was expected that some categories would be found resulting from the interview schedule. Criteria of mutual exclusiveness and exhaustiveness were established to enhance empirical validity, i.e. "the degree to which available evidence and established theory support intermediate stages of a research process and its results" (Krippendorff, 2013, p.334). To verify semantic validity, an experienced TT researcher, expert on content analysis, was consulted and confirmed the appropriateness and accuracy of the analytical categories. Furthermore, procedures and findings are fully detailed in this study, to make validation viable.

The initial category scheme was allowed to expand, as themes emerged from data (i.e. inferred categories) to capture relevant aspects (White and Marsh, 2006) from the participants' reports.

2.3.1. Coding scheme

The first aprioristic categories to contextualize the accounts in participants 'work organizations and to provide scenarios for a better description and understanding of their training dynamics were:

'Trainers' training related activities'. Considers as least four core tasks-setting safety training policy; designing training programs; delivering training; maintaining and updating records of workers' safety training-inventoried by Hale et al. (2005, 2006);
'Organizational training system'. Intended to capture the existence of formal regulations or procedures to foster training effectiveness or to evaluate it (Burke and Saks, 2009).

The following aprioristic codes were developed to identify factors related to three primary influences, widely accepted in existing and recognized TT theory (e.g. Baldwin and Ford, 1986; Blume et al., 2010):

'Individual characteristics'. Includes trainees' psychological traits or aspects with a strong and consistent relationship with transfer, such as cognitive ability, self-efficacy and motivation to learn;
'Design and delivery'. Concerns those options with a significant impact on learning and transfer outcomes, such as behavioural modelling, error management and realistic training environment;
'Working environment'. Concerns critical components (transfer climate, social support, opportunity to transfer and follow-up) that interfere in the trainees' ability to use the targeted behaviours.

The last two aprioristic categories are inspired by Burke and Saks' (2009) proposal to study the influence of sense of responsibility and self-efficacy on trainers' actions to enhance training success:

'Transfer stakeholders'. Feeling responsible and accountable for training success may explain trainers 'investment in helping trainees apply newly acquired skills and knowledge. Also trainees and their supervisors can be made accountable for TT;
'Self-efficacy in supporting transfer'. Relies on Banduras' (1977) self-efficacy theory but from the trainer's point of view, i.e., the individual's beliefs in their ability to foster transfer.

A sample of 200 coding units was selected and examined for intra-observer inconsistencies between two categorizations (test-retest) with an interval of 20 days to calculate coding scheme stability/reliability. The final score was an agreement of 91%. Although necessary, stability is too weak as a reliability measure (Krippendorff, 2013) so interrater agreement was also analyzed with an external researcher, working independently with another random sample of 200 segments. Krippendorfs' alpha (Kalpha) reliability in SPSS (version 20) was computed with Hayes' macro (Hayes and Krippendorff, 2007). Initially, a Kalpha of 0.64 (for nominal variables and with a bootstrap sample of 2000) was obtained, a low reliability attributed to scheme extension and possibly unclear category definitions. The scheme was revised leading to the collapse of inferred subcategories into larger and broader ones, followed by a revision of the definitions. Kalpha was again calculated and a coefficient of 0.76 was obtained, an acceptable reliability.

3. Findings

Our data were very rich and diverse and lead to a large number of emergent categories with a different heuristic value. This section examines the results regarding our three main research questions as follows: Section 3.1 reports the trainers' views of best practices for enhancing transfer as well as the consistency between their suggestions and the current theoretical framework models (research questions 1 and 2); Section 3.2 presents participants' perceptions of themselves in the transfer process (research question 3). The results of the content analysis are outlined in Tables 2–4 indicating the number of subjects sharing a view or opinion ("n") and the total of coding units ("freq.") for each category. The dictionary of emergent categories is in appendices (Table 5).

Table 2
Transfer predictor factors.

Category	Subcategory	n	Freq.
Individual characteristics [a]	Age	14	44
	Cognitive abilities	11	30
	Personality	9	27
	Motivation to learn	6	16
			117
Work environment[a]	*OHS professionals' support*	12	43
	Supervisor support	16	78
	Peer support	9	25
	Opportunity to transfer	9	44
	Performance assessment	4	9
	Organizations' safety culture	8	28
			227
Training design and delivery[a]	*Trainers' qualities*	13	50
	Tailored contents	13	83
	Timely training	5	15
	Realistic training environment	13	62
	Error management	6	27
	Short sessions	7	21
	Engaging methodology	17	84
	Retraining	10	29
			371
			715

[a] Aprioristic (sub)categories; emergent (sub)categories in italic.

Table 3
Self-efficacy and stakeholders' personal responsibility concerning transfer.

Category	Subcategory	n	Freq.
Sense of control over the transfer process[a]	With (some degree of) control[a]	13	46
	With no control[a]	16	53
			99
Trainers [a]	Accountable, according to others	12	30
	Not accountable, according to others	12	28
	Accountable, according to ones 'self	20	147
	Not accountable, according to ones' self	15	36
			241
Trainees [a]		9	19
Supervisors [a]		12	40
			399

Note:
[a] Aprioristic (sub)categories.

Table 4
OHS professionals' organizational dynamics concerning training.

Category	Subcategory	n	Freq.
Training related activities[a]	*Convincing supervisors*	7	14
	Definition of safety training policy[a]	16	91
	Program design[a]	10	35
	Training delivery[a]	20	67
	Training organization	12	25
	Workplace visits	15	77
			309
Main obstacles[a]	*Unsupportive senior management*	8	17
	Workers' unavailability for safety training	10	32
	Direct supervisors not receptive to OHS training	14	60
	Complex organization	11	41
	Lack of (human, financial, and material) resources	12	32
			182
Training regulations or procedures[a]	There are formal training procedures[a]	15	53
	There are formal training evaluation procedures[a]	5	22
	There are no formal training procedures[a]	5	10
	There are no formal training evaluation procedures[a]	15	43
			128
OHS training organizational policy	*OSH training has an instrumental value*	8	24
	Training fulfils formal requirements (e.g. legislation, accreditation)	11	50
			74
			693

[a] Aprioristic (sub)categories; emergent (sub)categories in italic.

3.1. Training transference, best practices

The participants reported best practices for enhancing safety training success based on their own experiences as trainers, indicating specific factors believed to exert a positive influence on transfer. Only one safety trainer was familiarized with the TT topic. However, results showed that their perceptions were very consistent with literature and common transfer models, falling into one of three known transfer dimensions: individual characteristics, work environment and particularly training design and delivery which represented over half of all the unit codes related to predictor factors. Table 2 presents in italic the transfer influences that emerged.

Four individual characteristics of the trainees were reported as influences on the transfer process, all well known by TT literature (e.g. Blume et al., 2010; Yamkovenko and Holton, 2010). The participants recognized some less well-explored factors that enhance training success, for example:

- trainers' qualities or attributes - in particular, clarity of speech and use of easily understood language,

  In terms of language, a very accessible language.
  If the trainer is clear enough in training. . ..

A genuine concern for the employees' safety was also considered a trainer quality, enhancing the trainees' motivation to learn, a well-known transfer key predictor (Gegenfurtner, 2011):

> This is important because they feel that someone is taking care of them: - maybe she's right, this cannot be like that, I have to see how I can do better

- *timely training* (time chosen for training), (*short sessions* and *retraining*), together with trainers' characteristics, represent almost half of the coding units in the category training design and delivery, suggesting a considerable weight in the participants 'reported best practices. Segment examples are:

  It has to be short for them to pay attention.
  In terms of hospital environment, I think you need to do a lot of training: repeat, repeat, repeat. . ..

The importance of trainers' characteristics is not completely unfamiliar to research (e.g. Ghosh et al., 2012; Khamarko et al., 2012), nor training length/frequency (Colligan and Cohen, 2004). However, in both cases a need for more studies and knowledge persists.

Twelve participants reported their presence in workplaces as having a positive effect on workers 'behaviours and being stronger than peer support although not as powerful as supervisor support (*Work environment* - Table 2), two well-known transfer factors (e.g. Blume et al., 2010). OHS practitioners perform field visits to monitor work conditions and workers 'behaviours and despite being routine and not part of the training procedures it makes it possible to gather information for its further development and analyse its effectiveness (*Workplace visits* – Table 5, in appendices). Participants interpreted their effect on the workers' behaviour in two different ways:

- an accounting influence regarding safety rule and procedure compliance. OHS professionals are not workers' peers or supervisors but must report all safety non-compliances identified, including workers' irregular safety behaviours,

  And monitoring work also for them to feel a bit of pressure;

- a reinforcement of the workers' previous learning,
  When we go to the field. . .it's what I always say, we keep doing the training, making them aware of what we talked about before, a little bit so they don't forget.

This interpretation is discussed further in the Discussion section.

3.2. Safety trainers' perceived role in the transfer process

Results regarding trainers' perceived self-efficacy in supporting transfer (Table 3) ranged from low to very low according to one of two roles:

- As safety trainers, they feel the ability to influence transfer but only through training design/ development.

  I have some degree of control because if I do it right as a trainer during training, I am sure that they will strive to apply it.

- As OHS practitioners, they see monitoring visits (*Workplace visits* – Table 5, in appendices) as opportunities to follow and support transfer. However, previous training is never the primary motive for being in the trainees' workplace and observations of behaviour related to training contents are unstructured and unplanned:

  Usually what we do is, within a visit that has to be made for any other reason, occasionally we observe these behaviours as part of the visit.

These results reflect the participants' perceptions of their and other stakeholders' (trainees and supervisors) responsibility for transfer. All interviewees expressed being partially accountable for training success (according to ones' self and according to others): an OHS professional's role implies developing tasks or interventions to create a safe environment. Thus, safety-training interventions implicitly create an organizational expectation concerning their effectiveness, although never formalized as a standard or goal.

Results confirmed the *training related activities* (Table 4) usually performed by the OHS professional (e.g. Hale and Guldenmund, 2005). Most participants reported their routine in the *training delivery* and their efforts toward a *definition of a safety training policy*:

So, last year we defined that this would be our direction, [to intervene] at the level of the special facilities, the showers and the washing uniforms and we are doing it [training] internally.

Additionally, the participants mentioned other activities (*Convincing supervisors, workplace visits*) they reported as necessary to promote safety training effectiveness. These aspects will be further developed in the Discussion section. The participants' evoked certain organizational obstacles and circumstances that diminish their ability to support, or be accountable for, transfer (*Main obstacles*, Table 4). The most cited obstacle was supervisors' negative attitude toward training (*Direct supervisors not receptive to OHS training*) by constraining workers' access to training opportunities,

There are heads of unit that literally say: "if you want to go, go in your own time, go in your holidays".

The absence of an evaluation system of training in their organizations (*Training regulations and procedures*), despite the existence of *formal procedures for training* activities was reported by most participants, and when asked to describe their training related tasks, participants also described some of the main characteristics of the safety training systems in their organizations (*OHS training organizational policy*). Training interventions related to the bureaucratic accountability of safety (Dekker, 2014) were emphasized, i.e., the use of safety training to fulfil formal legal requirements and ongoing accreditation processes:

In some cases, [training is provided] because some units are in a certification process and must have a certain number of safety training hours.

Due to lack of time, often the methodology is based on legislation compliance, which is also true.

No differences were found in trainers' perspectives according to their working organization (private companies, public hospitals and local government).

4. Discussion

Overall, the results enabled us to achieve this study's objectives. They highlighted safety trainers' role as a transfer process facilitator in the work environment, although only perceiving themselves as being able to control it through training design and delivery.

This is a well-studied source of positive influences on transfer and using an engaging methodology is a recognized factor. Our participants' beliefs in the power of behaviour modelling principles, hands-on demonstrations associated with behavioural simulations and the trainees' active participation, are consistent with guidelines in the literature (e.g. Burke et al., 2006; Brahm and Singer, 2013).

Safety trainers' qualities emerged from the data as having a positive influence on TT, although it is an aspect related to training delivery but, so far, underestimated as a transfer factor by major research reviews (e.g. Blume et al., 2010). The scholars who have sought to identify which trainers' attributes or skills contribute to an effective performance, assumed trainers' effectiveness as a key instructional factor in facilitating transfer (e.g. Ghosh et al., 2012; Gauld and Miller, 2004). Among other attributes, the quality of trainers' communication skills is referred to as influencing the training process, for example, by using the appropriate intonation and speech fluency. This study's participants emphasized speech organization, i.e., the safety trainers' ability to provide a clarifying and tailored content that is easy to follow (Towler, 2009; Towler and Dipboye, 2001).

Timely training was referred to as a good practice fostering TT but not in the sense that skill decay is reduced by people attending training shortly before they start applying it, as Salas) proposed. Our participants' sense of "timely concerns organizational factors" (i.e. the trainees' and supervisors') availability and openness for training which will be higher if there is no conflict with the functioning of work units or if it facilitates the fulfilment of certain organizational goals, such as quality certification.

Training length and *frequency* are not particularly valued aspects in general transfer literature (e.g. Blume et al., 2010; Grossman and Salas, 2011). However, authors such as Burke and Sarpy (2003) emphasize the significance of these two variables and Colligan and Cohen (2004, p. 238) argue that "frequency-and-length factor is the basis for defining refresher [safety] training needs as well as establishing the type of training regimen necessary to meet and sustain standards of performance in critical-skills/emergency situations".

Workplace environment is a recognized transfer predictor (e.g. Blume et al., 2010; Chiaburu et al., 2010) that includes a social dimension: peers can encourage the application of learning; supervisors can be supportive in a variety of ways before, during and after training. Govaerts and Dochy (2014) proposed 24 behaviours and attitudes to describe "supervisors' support", all aimed at optimizing the trainees' use of knowledge, skills and attitudes gained in training. In our study, supervisors' support was understood as an important influence, mainly through encouragement and by providing opportunities (e.g. individual protective equipment) to apply safety knowledge and skills. But supervisors' support goes beyond training and covers a global contribution to achieving the OHS organizations' goals, which is also a perspective consistent with the literature (e.g. Fruhen et al., 2014).

Another influence on the application of training and also related to the social dimension of the work environment emerged from our data: OHS professionals' support. Their (predictable) presence in the work context, for monitoring purposes, appears to function both as a motivational antecedent, prompting workers to act according to what was learned in training, and as an opportunity to act as an 'informal trainer' (Poell et al., 2006).

Informal trainers (facilitators, coachers) are organizational actors who significantly contribute to the workers learning in their workplace, although with no formal position in the organizational learning system (Poell et al., 2006). Usually, experienced colleagues and direct supervisors occupying a formal position related to the employees' work, perform such roles. By promoting a safe working environment, OHS practitioners can influence the workers' behaviours by reinforcing previous training and contributing to the workers' learning of safety issues. Examining OHS professionals' influence on the transfer process, by using the existent knowledge on the role of informal trainers and actions as a theoretical framework, might be a promising line of research.

However, as our study participants noted, the power of influence over TT will be different in the case of an in-house or external OHS professional/trainer: employees hold an organization-specific knowledge that can be used to create more tailored and personalized training interventions (Martin and Hrivnak, 2009), which in turn is a well-known transfer predictor (e.g. Grossman and Salas, 2011).

The participants' perception of various constraints such as the organization's complexity and lack of resources, among others, may be in accord with their sense of inability to support safety TT. As self-efficacy influences perceived felt-responsibility (Dose and Klimoski, 1995), it was thought unlikely that our participants would feel personally responsible for safety TT. However, all the interviewees reported feeling partially accountable for the success of the training, which is only apparently a contradiction: the trainers' role is interpreted as being limited to planning and delivery activities. When safety training ends, the OHS professionals' role takes over, sharing a responsibility in the workers safety performance with the trainees and especially with supervisors.

The belief that following the trainees' return to the workplace exceeds the trainers' role did not take us by surprise nor their unfamiliarity with TT issues, despite all being certified safety trainers. This certification is obtained through an almost standardized program that ignores transfer mechanisms. The results of our study emphasize the need to revise the theoretical framework of trainers' certification programs to integrate contents on transfer and its promotion: trainers are less likely to foster transfer if they consider it an extra-role activity.

The participants' reserves in accepting responsibility for transfer should also be interpreted remembering the (almost total) absence of training evaluation systems in their working organizations to track and measure post-training behaviours (*Training regulations or procedures* – Table 4). The literature recognizes a relationship between transfer and training evaluation and suggests that feedback on training evaluation enhances the stakeholders 'sense of accountability and transfer (e.g. Burke and Hutchins, 2008; Burke and Saks, 2009; Saks and Burke, 2012). Lack of post-training feedback creates an alibi in the sense of "if you cannot know, you cannot answer for it".

As in Daudigeos' (2013) qualitative study, our participants reported spending time and energy convincing direct supervisors of the relevance of safety training and the need for the workers to attend it (*Convincing supervisors* – Table 4 and Table 5, in appendices). The supervisors' low receptiveness to OHS training, constraining the workers' access to training opportunities, is a familiar situation in the literature which considers the supervisors' support to be a key determinant of TT (e.g. Scaduto et al., 2008; Govaerts and Dochy, 2014).

Management commitment to OHS is also necessary requisite for positive organizational safety performance, an idea supported by studies on leadership and its role in safety performance (e.g. Hofmann and Morgenson, 2004; Fruhen et al., 2014) and mostly by research on safety climate and culture recognizing management/supervisors' attitudes and behaviours regarding safety as major factors (e.g. Zohar, 2010; Frazier et al., 2013). Only eight participants reported having no support from top and middle management for safety issues (*Main obstacles* - Table 4) but as Vecchio-Sadus and Griffiths (2004, p.608) note, even when senior managers show personal commitment to OHS it currently "loses impact as it filters down through the organization to the point where it may not be all evident on the shop-floor".

5. Conclusions

As any research, our study has limitations mainly associated with sample selection constraints due to researcher availability, time and resource limitations. However, considering the characteristics of our sample, it is possible to anticipate that similar results will be obtained from other studies with other OHS professionals. Other limitations of this study are consistent with qualitative research and the scope of the researchers' interpretations. Future research can compare our results with other studies on trainers' practices that highlight the ones with a positive impact on transfer. Also, further studies should extend this work by exploring the possibility of generalization and prevalence.

This is an innovative study focused on the hitherto almost unknown role and dynamics of a professional group whose efforts are essential to occupational health and safety. It examines OHS professionals' practices and influence, as internal trainers, on safety training success, a common undertaking to protect workers from hazards in the workplace.

When reporting best practices to foster TT, the participants emphasized: the trainers' qualities and training frequency-length, both related to training design and delivery and yet underexplored in the general literature on transfer; as well as OHS professionals' support in the workplace, helping former trainees apply the safety knowledge and skills learned.

Most participants established a clear division between their roles as trainers and OHS professionals, regarding training issues. The trainer's' role is perceived to include only design and development activities, and none related to the level of the work environment. Since almost all the participants are certified safety trainers, the results suggest that certification programs underestimate or neglect the results of research on TT and need to be updated.

Though unaware of safety TT issues, from a theoretical point of view, our OHS professionals' perceptions were very close to the literature models and guidelines. This suggests that the effectiveness of the safety training they prepare and deliver would be much enhanced if sustained by a technical domain of the transfer predictors, based on research results.

Safety trainers also expressed a perceived restricted sense of control (suggesting low self-efficacy) over transfer, centred only on decisions relating to design and delivery. However, a feeling of personal responsibility concerning training results was stated. This apparent contradiction was explained in the light of the participants' role as OHS professionals: training is used to obtain gains in safety, a mission that defines these practitioners' global performance in organizations. If safety training fails its purpose, it jeopardizes the main objective.

OHS professionals' presence in work environments is not a constant variable but a fluctuating one, yet it seems to function as a critical element in the workers' performance and post-training behaviours. This opens up a wide avenue of research aimed at understanding how and under what circumstances OHS professionals' can exert their influence on the effectiveness of safety training.

6. Practical implications

The participants of our study were not familiarized with the problematic of TT and interpreted their role as trainers as limited

Table 5
Dictionary of emergent categories.

Theme	(sub)Categories	Definition	Coding unit sample
Transfer predictor factors	OHS professionals' support	When they're in the work environment, trainees feel pressured and tend to apply what they have learned in training. Also, OHS professionals complement previous work as trainers	"For their part, there has to be a concern like 'she'll come here to see how we are doing. So, it is better to do it properly'..."
	Trainers' qualities	Mainly, a speech easily understood by trainees, and a genuine concern with workers well-being and safety	"If the trainer is sufficiently clear and explicit in training, the worker, when in the workplace, has ... will naturally remember those words"
	Timely training	Training should happen in a timely manner for the trainees and organization	"And waiting for the opportunity means, for example, waiting for a unit to start a quality certification process"
	Short sessions	Long sessions are not suitable due to the trainees' discomfort and lack of availability	"Normally, the longest training is in a classroom... using slides and all of that... they are not used to that routine."
	Retraining	The need to repeat the training with and without additional elements to promote TT	"In terms of a hospital environment, I think you need a lot of training: repeat, repeat, repeat"
Transfer stakeholders 'personal responsibility in transfer	Trainers are accountable, according to oneself	As a trainer, he/she must support transfer through proper training design and delivery decisions. As an OHS professional, he/she must ensure that training, like other safety interventions, is successful. However, he/she only feels partially accountable for the training success	"I think I have some responsibility, specifically in this area given my function, my function as a safety professional"
	Trainers are not accountable, according to oneself	As a trainer and even as an OHS professional, he/she cannot support workers in the transfer process because he/she cannot oversee the workplace on a daily basis	"Responsibility can never be mine because I'm not there [in the workplace] and I do not check whether it is being applied or not"
	Trainers are accountable, according to others	The organization implicitly considers trainers to be accountable for transfer and training effectiveness	"If we are OHS technicians they expect us to help those workers"
	Trainers are not accountable, according to others	The organization is not expecting trainers to support transfer or to be responsible for it	"I have the impression that this is the view, nobody will tell me anything. Blame the trainer? No."
	Trainees are accountable	Workers should be answerable for their own behaviour, including applying the newly acquired skills and knowledge on the job	"All workers are adults and responsible, yes sir."
	Supervisors are accountable	Ultimately, top managers are responsible, but mostly it should be the direct supervisor who follows daily work that should ensure workers transfer the acquired training	"The direct supervisor knows what they are doing, therefore, he/she has an obligation to report, to ask for help if needed"
OHS professionals' organizational dynamics concerning training	Convincing supervisors	It concerns the OHS professionals' initiatives to convince supervisors that safety training is relevant and that workers should participate	"Sometimes I have to force myself to show them that it is worth doing [training] that it is good to do it and we have advantages or we will have advantages in the short or medium term"
	Training organization	When the training is on the job, it is the OHS professionals who organize it, instead of the organic unit with formal responsibilities for the organization's training system	"In these situations [on the job training] we do the planning, the organization ...it means a lot of work"
	Workplace visits	Monitoring workplaces is an OHS professionals' activity and despite not being a training procedure it allows us to gather information to design and develop it as well as to appreciate its impact	"Imagine I give training on cleaning in the organization, if I get to the place and it is disorganized and dirty the training was not effective, period"
	Positive balance as an internal trainer	Makes a global positive assessment of his/her role as an internal trainer, emphasizing the differences from an external trainer	"I'm also an external trainer... and it's completely different, completely"
	Unsupportive senior management	Supervisors do not communicate safety information to others or reinforce interventions, cooperating with the OHS professionals' efforts	"And sometimes they [management] think safety technicians only come to ask for things for them to spend more money on"
	Workers' unavailability for safety training	Workers are overloaded, with no availability and motivation to engage in OSH training	"They do 24 h a day frequently. How is it then possible to attend training?! They don't go!..."
	Direct supervisors not receptive to OHS training	When supervisors resist collaborating with OHS professionals, for example, by facilitating workers' access to training	"There are supervisors who literally say, if you want to go, go in your own time, go in your holidays."
	Complex organization	The organization is very large and complex, with many professional groups and units, very different from each other including the receptiveness and transfer of safety training.	"Because there are so many professionals, each unit has its peculiarities: Internal Medicine [unit] is different from Surgery [unit], from the Infirmary ... it is very different"
	Lack of (human, financial, and material) resources	The lack of human, financial and material resources in the field of OHS makes it difficult to act, including doing OSH training	"The physical conditions and the surroundings, because sometimes we are encouraging certain kinds of attitudes and behaviours in a given task and then they often say they have no resources or something like that."
Organizational OHS training policy	Training has instrumental value	Training helps to achieve OHS goals, as well as others' safety interventions	"Training is a way for us to communicate with the workers, to explain how to work safely so we don't get there and point the finger – 'you are doing this wrong'."
	Training fulfils formal requirements	It is mainly developed to respond to legal and certification requirements	"Due to the lack of time, often the methodology is based on [legal or certification compliance], this is also true."

to training design and deliver activities. Both characteristics reduce their potential contributions in promoting TT, especially if they are in-house trainers as the OHS professionals of the study whose dynamics in organizations provides a privileged position to influence TT in the workplace. Trainers' role should be expanded, in a theoretical and also practical sense, so they will be able to foster training success outside the boundaries of training design and delivery. And for that purpose, companies should empower safety trainers so to enhance their control over the transference process.

The results describe OHS professionals' monitoring visits to the workplace as not being guided by objectives of transfer support, although having a positive effect on workers behaviours. This information strongly suggests that the OHS professionals' "trigger effect" in TT can be optimized if developed in an oriented and structured way.

Appendix A

See Table 5.

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