

Learning transfer: the views of practitioners in Ireland

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Considerable expenditure on human resource development (HRD) has not necessarily resulted in a significant impact on organizational performance, and research suggests that the failure to transfer learning may be an important explanation. The search for factors affecting transfer has been extensive, as shown in Grossman and Salas's article in this issue, but, as they also show, more research is needed. The purpose of the present study is to ascertain the views of HRD practitioners (in Ireland) about the factors that they believe are relevant to the transfer of learning in the workplace. The aim is to discover whether practitioners have identified potential factors which researchers have not explored or not explored sufficiently. This group of practitioners was chosen because of the considerable control they wield over significant tranches of organizational resources. The method first involved engagement with 28 senior HRD practitioners in a workshop setting to create a transfer inventory based on their expert opinion. The initial inventory was then responded to online by a group of 314 practitioners indicating the relevance of the items to the question of transfer. Factor analysis was used to achieve parsimony among items, and 21 potential factors were identified. This study focused on the 15 factors adjudged by practitioners to be most relevant. It is concluded that trainer effectiveness, organizational linkage and training event climate, all deemed relevant by practitioners, may justify further research.

Introduction

The ultimate objective of human resource development (HRD) is to produce desirable behavioural and/or organizational change through learning (Al-Khayyat & Eigamal, 1997). Indeed, HRD consumes significant resources; for example, it has been calculated that organizations in the United States invest between US\$53bn and US\$200bn

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annually in training (Bassi & Van Buren, 1999), and in 2002 alone, US employers invested 2.2 percent of payroll in training (Sugrue, 2003). However, HRD has not delivered to organizations the kind of returns they might expect either materially or in terms of improved skills of the workforce (Barrett & O'Connell, 2001; Cromwell & Kolb, 2004). Several authors report poor transfer of learning from training applications back into the workplace (Baldwin & Ford, 1988; Broad & Newstrom, 1992; Facticeau *et al.*, 1995; Kaufman, 2002). Some research suggests that only 40 percent of content transfers immediately following a training intervention, and this figure falls to 25 percent after 6 months and to 15 percent after 1 year (Wexley & Latham, 2007).

There has been extensive research identifying factors that affect transfer of learning. However, it has been suggested that further factors may exist (Colquitt *et al.*, 2000; Gaudine & Salks, 2004; Kontoghiorghes, 2004; Subedi, 2006; Yamnill & McLean, 2001). Yamnill and McLean (2001) suggest that more research is required because transfer factors have not yet been widely studied with large populations and across very different settings. Chiaburu *et al.* agree, suggesting an expansion of the 'nomological net' to include constructs not heretofore examined (Chiaburu & Marinova, 2005). The views of stakeholders that are under-represented in the literature may also be of value. Practitioners make financial and developmental decisions with regard to learning. Given the extent of resources expended globally on HRD, it is important to understand what factors are deemed more relevant for those decisions and how this understanding may inform the research agenda. The purpose of this study is to gather the views of practitioners, under-represented in the literature, on the factors that influence the transfer of learning.

Much of the research into transfer of learning, to date, has also been focused on the North American context (Van der Klink *et al.*, 2001). As a result, the body of work on transfer may be culture specific, and Hofstede's seminal work on culture suggests that this factor is a significant differentiator in organizational behaviour across the globe (Hofstede, 2001). Other results suggest that culture will differentially impact the importance of various transfer factors (Subedi, 2006). In support of this, such calls could be answered through studies on transfer which are situated outside of the United States.

The next section outlines the theoretical development in evaluation from its inception to briefly describing subsequent evolutions and continuing up to and including the more recent focus on broadening the model to consider the organization. The research design section describes how we set about eliciting the views of practitioners in Ireland, including the use of an expert group for instrument creation and a broader group for instrument development. The results section specifies the evidence we uncovered including the identification of factors relevant to the practitioners. Finally, the discussion section evaluates these factors, considers the limitations of the present study and suggests avenues for future research.

Literature review

This section outlines the development of research into evaluation of HRD from its original atheoretical stage in the middle of the last century, e.g. Kirkpatrick, (1959a,b) to the more comprehensive and systemic approaches such as Colquitt *et al.* (2000) and Kontoghiorghes (2004) of later years. The original literature focused mainly on the outcomes of the training intervention, whereas the later approaches introduce the element of context. Finally, we discuss recent work that touches on practitioner perspectives on transfer.

The most popular and most enduring contribution to the field of HRD evaluation has been shown to be the model developed by Kirkpatrick in a series of four articles for the *American Society of Training and Development Journal* (Kirkpatrick, 1959a,b, 1960a,b). Perhaps because of its simplicity and ease of understanding, it has become the most widely known and accepted approach to the subject among practitioners (Alliger & Janak, 1989; Bates & Holton, 2004; Salas & Cannon-Bowers, 2001). This model is not without its critics partly due to its focus on outcomes and its lack of consideration for the variables that affect these outcomes (Holton, 1996). Subsequent research has

examined these factors, especially those relating to the system and climate surrounding the training intervention. This introduction of context has significantly enhanced the Kirkpatrick approach to evaluation (Baldwin & Ford, 1988; Broad & Newstrom, 1992; Colquitt *et al.*, 2000; Holton, 1996) and has greatly improved its applicability.

Baldwin and Ford (1988) suggested that transfer had become a major issue in organizational training and that despite significant investment in training (\$100 billion annually then), not more than 10 percent of these expenditures actually resulted in transfer to the job. They identify three domains that affect the transfer from a training intervention back into the workplace, notably: trainee characteristics, training design and work environment. Trainee characteristics include individual elements such as ability, personality and motivation. Training design refers to the relationship between the activities engaged in on the training programme and the actual job requirements of the trainee. Work environment is concerned with the degree to which the trainee has the opportunity to use and practice what has been learned in training.

Whereas the (Baldwin & Ford, 1988) model of transfer concludes with the maintenance and generalization of learning, subsequent models carried on to describe the impact of learning on individual and organizational performance (such as Yamnill & McLean, 2001). Earlier approaches to the transfer of training perceived it as a direct link between training and behaviour (Yamnill & McLean, 2001). However, the purpose of training and development is to improve the performance of the organization and the individual (Torraco & Swanson, 1995). Unless learning is transferred back into the workplace in the form of effective performance, it is of little value to organizations (Bates *et al.*, 2000).

More recent research into transfer has continued to highlight the importance of context in terms of the work environment for the transfer of training (Alvarez *et al.*, 2004; Cheng, 2000; Ford & Weissbein, 1997; Holton *et al.*, 2003; Tannenbaum & Yukl, 1992). However, there continues to be a lack of consensus on the nomological network of factors affecting the transfer of training back to the workplace (Chiaburu & Tekleab, 2005; Holton *et al.*, 2000).

Accordingly, Holton *et al.* (2000) proposed the Learning Transfer System Inventory (LTSI) as a measure of 16 transfer climate dimensions: perceived content validity, transfer design, opportunity to use learning, personal capacity for transfer, motivation to transfer learning, transfer effort–performance expectancies, performance–outcome expectancies, supervisor/manager support, supervisor/manager sanctions, peer support, openness to change, positive personal outcomes, negative personal outcomes, supervisor feedback/performance coaching, learner readiness and performance self-efficacy. The authors make significant claims for the LTSI stating that it assesses ‘all factors in the person, training, and organization that influence the transfer of learning to job performance’ (Holton *et al.*, 2000, pp. 335–6). Noe (2000) suggests that the inventory is incomplete as it does not adequately measure principles of learning, sequencing and training content. Holton *et al.* further claim that although diagnosis of the transfer climate is important, ‘to date, no tool has emerged to conduct such diagnosis’ (Holton *et al.*, 2000, p. 334). Holton was not, however, alone in developing a model to describe transfer of learning.

Colquitt *et al.* (2000) provide an integrative module of motivation to transfer learning shown in Figure 1. This model includes a description of the relationship of personality, situational and job–career variables on the motivation to learn which consequently affects learning and, ultimately, transfer.

The General Training Climate Scale (GTCS) is a three-factor transfer model including managerial support, job support and organizational support, and it provides a useful conceptualization of the transfer climate construct (Tracey & Tews, 2005). However, its authors admit that due to deficiencies in research procedures (lack of opportunity for subject matter experts to add items to the scale), the transfer climate domain may not be fully captured. The introduction of new organizational elements such as continuous learning brings a more systemic approach to the GTCS than previous measures. Further research is needed to identify additional factors involved in the transfer of training that are, as yet, undiscovered.

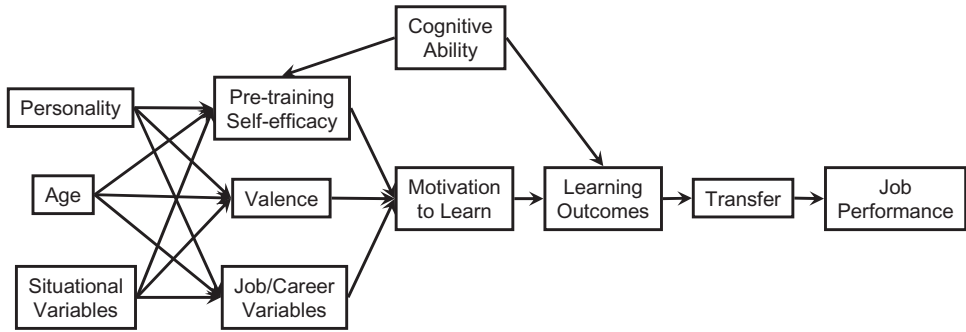


Figure 1: Integrative model of motivation to transfer training, adapted from Colquitt et al. (2000).

The extant transfer of learning approaches relies on existing models from the literature (Kontoghiorghes, 2004). Using expectancy theory from Vroom (1964) in the transfer of training, we can suggest that trainees will be motivated to attend and learn from training programmes if certain expectations or beliefs are present. These beliefs are: (1) that their efforts will result in learning the new skills or information; (2) that by attending the programmes and learning new skills, they will increase their job performance; (3) that doing so will help them obtain desired outcomes or prevent unwanted outcomes (De Simone *et al.*, 2002). Thus, pre-training motivation is strongly related to effective transfer of learning (Chiaburu & Lindsay, 2008; Chiaburu & Marinova, 2005; Green & Skinner, 2005).

Kontoghiorghes (2004) further suggests that the existing transfer research pertains to trainee characteristics or elements which are directly related to the training context or training-related outcomes. The implications of this criticism are that the transfer factors that have been identified, to date, do not provide enough grasp of the entire spectrum of influences on transfer as existing research concentrates mainly on the immediate context of the training initiative. Thus, training is being described as a 'non systemic phenomenon' (Kontoghiorghes, 2004, p. 211). By focusing only on climate, in this restricted sense, previous research has neglected important factors which affect the belief of trainees that training can actually result in performance.

Others have broadened the search for transfer factors by describing a wider net of factors and the transfer system that also comprises the transfer climate within it (Kontoghiorghes, 2004). However, it is ironic that authors who propose the transfer system as a more holistic way of considering evaluation of a training intervention may also inadvertently be ignoring the systemic nature of what they study.

The search for this more holistic model has led to a conceptual framework of training transfer to encompass these expanded work environment factors (Kontoghiorghes, 2004). The model presented in Figure 2 provides a view of the learning transfer process that is broadly inclusive of the previous work on transfer. It suggests individual and organizational performance as the common link between learning transfer and work environment characteristics. It also suggests that the work environment is a very important element in learning transfer (Kontoghiorghes, 2004). The more the trainee believes that the work environment is conducive to high performance, the more the trainee will believe that his or her efforts will result in an attainable and desirable outcome (Kontoghiorghes, 2004).

This model can be contrasted with traditional approaches to transfer that, to a large degree, ignore the systemic factors that affect the transfer of training. Transfer can only be understood and predicted by examining the entire system of influences (Ruona *et al.*, 2002). The concentration on trainee characteristics and attributes which are directly related to the training context or training-related outcomes suggests that training is viewed as a non-systemic process. Some variables which affect performance are

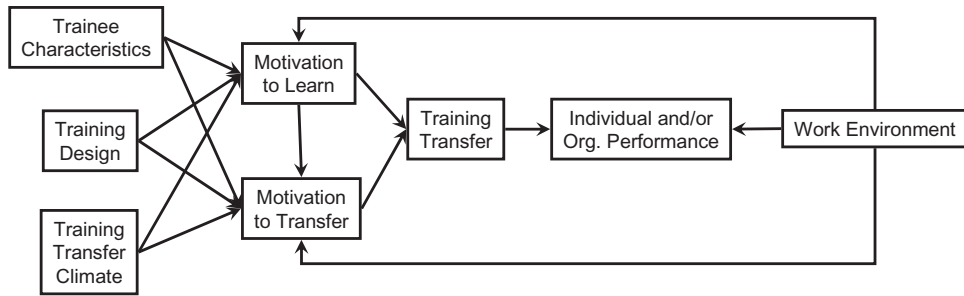


Figure 2: Systemic model of training transfer, adapted from Kontoghiorghes (2004).

missing from the traditional approaches to transfer. In addition to these factors, there is a need to review systemic issues in the search for transfer effectiveness.

Yamhill and McLean agree and appeal for such research, suggesting that what is needed is 'an examination of systems wide components that determine whether a training program can yield meaningful change . . . and . . . an examination of contextual constraints and barriers that trainees face in applying learning in the workplace' (Yamhill & McLean, 2001, p. 206). The need for attention to the organizational context in researching transfer has gained broad support (Gaudine & Salks, 2004). This is supported by Colquitt *et al.* who bemoan that 'the examination of situational characteristics remains surprisingly rare' (Colquitt *et al.*, 2000, p. 700). This regard for context is, significantly, absent from the practitioner literature which has focused principally on outcomes (Kirkpatrick, 1994). This divergence in focus between practice and theory is a principal stimulus for this current research.

Despite these debates concerning the relevance of various factors of transfer, it is likely that these factors may vary according to context. Geographical and other context elements such as the business sector may play a role in deciding which of these factors influence the transfer of learning and to what degree. Our research objective, therefore, was to explore what factors those in the field of practice believe are most relevant to the transfer of learning back to the workplace. In doing so, we may usefully inform the research agenda.

Research design

The research was conducted in the Irish Management Institute (IMI), an executive education institution in the Republic of Ireland. The decision to locate the research in Ireland was, in part, one of convenience. However, there have been calls in the literature for research to be conducted outside of North America (Van der Klink *et al.*, 2001). This research therefore enables researchers and practitioners to compare and contrast transfer factors in different settings, something that is, however, outside the scope of this study. This research, which is exploratory in nature, is designed to establish the views of practice rather than contrast views from various stakeholder groups, although a preliminary comparison is made between the factors derived from the perspective of practice and those in the literature.

For the practitioners' view to emerge as unrestricted as possible, a decision was made to create and rate an original inventory. In order to rigorously generate the relevant constructs, the research was executed in two phases. In the first phase, 28 senior HRD executives participated in a half-day workshop to unearth items relevant to training transfer. The workshop generated an inventory of 103 items. During the second phase, an online instrument was developed and was responded to by 314 HRD professionals. Their responses were factor analysed for parsimony, and the final set of factors was categorized. This method on transfer research had been used in the past (Kontoghiorghes, 2001). Similar to Hutchins and Burke (2007), the factors were then

examined to see how the identified factors were rated in terms of their relevance. Finally, the set of relevant factors was compared to those suggested by the literature.

Phase 1: Instrument creation through expert workshop

A letter of invitation was sent to potential workshop participants. The invitees were drawn from the IMI's database of 1600 organizations in Ireland. Two hundred organizations were randomly selected from the database, and 28 participated in the workshop at the IMI. Within each organization selected, the individual with the most senior HRD role was selected. Such an individual would be in decision-making roles and have control over budgets which may be used to purchase training programmes from IMI, and they would be relatively senior in rank. Evidence for the experience accessed through the workshop can be seen in the range of participant titles including HRD director, HRD manager, learning and development manager, training manager, training and development manager, training director and director of development. No data were collected on ethnic origin; however, an inspection of surname data revealed that respondents were principally of Irish ethnic origin.

At the commencement of the workshop, participants were given a description of the proposed research. The question considered by the workshop participants was: 'What factors affect the transfer of training from the intervention back into the workplace?' Four teams, each of seven participants, developed items. From discussion during and follow-up after the workshop, an inventory was produced comprising 103 items. Each item of the inventory was written in the form of an assertion as an aid to clarity and to prepare for its dissemination, e.g. 'I am motivated to use this new learning in my job'.

Phase 2: Online item relevance assessment by HRD professionals

To assess practitioners' views of the generated instrument, a wider audience of general HRD professionals was sought. Specifically, to increase viability of applying a factor analysis to produce interpretable factors, a target of more than 300 respondents is suggested (Gorusch, 1997). Assuming a response rate of 15 percent common in such research, the sample pool should therefore include 2000 potential respondents. The aforementioned IMI database includes 1600 potential responding organizations. To this was added the membership organizations of the Irish Institute of Training and Development. This added the needed 400 (non-redundant) potential responding organizations to the set. Within each organization, a general HRD professional was identified and an email invitation to participate (and one reminder) was issued to that individual. The inventory was prepared for an online survey (<http://www.freesurveyonline.com>) and the invitation included the survey's URL. Three hundred fourteen responded for an actual response rate of 15.7 percent.

The instrument asked the question: 'How relevant you think the statement is to the transfer of learning from training events to the job in your organization'. The instrument utilized a five-point Likert scale that included the responses of 'very relevant', 'relevant', 'neither relevant nor irrelevant', 'irrelevant' and 'very irrelevant'. The responses were factor analysed to increase parsimony and extract the latent factor structure. The preliminary structure was further refined with reference to component items and provided factor titles. The factors were then analysed in terms of relevance as rated by the profession. The results can be seen in the next section.

Results

Factor analysis led to the identification of 21 factors. Of those 21, 15 were rated as relevant by the HRD professionals. A comparison of the 15 factors (and, indeed, the 6 rated as less relevant) with factors suggested by the literature reveals interesting patterns.

Respondent demographics

Demographics for the 314 respondents and their respective organizations to the online survey are described in Tables 1–6.

Exploratory factor analysis

In preliminary analysis, inspection of the correlation matrix revealed the presence of many coefficients of 0.3 and above. From the factor analysis, the Kaiser–Meyer–Oklin value was 0.91, exceeding the recommended criterion of 0.6 (Kaiser, 1970, 1974). Bartlett’s test of sphericity (Bartlett, 1954) was significant ($p = 0.000$), supporting the factorability of the correlation matrix.

Principal components analysis revealed the presence of 23 components with eigenvalues exceeding 1, explaining 70.15 percent of the variance cumulatively. An inspection of the scree plot did not reveal a clean break (Catell, 1966). It was thus decided to retain all 23 components for further analysis. To aid the interpretation of

Table 1: Respondent profile by job category (n = 314)

Job category	% of respondents
Learning and development	21%
Training	45%
HRD	4%
HR	19%
Other	11%

Table 2: Respondent profile by hierarchical level (n = 314)

Hierarchical level	% of respondents
Managerial	55%
Specialist	37%
Administrative	8%

Table 3: Respondent profile by sector (n = 314)

Sector	% of respondents
Financial services	12%
Manufacturing	26%
Public sector	26%
Services	24%
Other	12%

Table 4: Respondent organization profile by number of employees (n = 314)

Number of employees	% of respondents
50 employees or fewer	14%
51 to 250 employees	21%
251 to 1000 employees	30%
1001 to 5000 employees	22%

Table 5: Respondent profile by tenure in current organization (n = 314)

Tenure in organization	% of respondents
Less than 1 year	14%
Between 1 and 5 years	51%
Between 6 and 10 years	22%
More than 10 years	13%

Table 6: Respondent profile by tenure in current post (n = 314)

Tenure in post	% of respondents
Less than 1 year	9%
Between 1 and 5 years	40%
Between 6 and 10 years	27%
More than 10 years	24%

these components, varimax rotation was performed. The rotated solution revealed the presence of simple structure (Thurstone, 1947) with all components showing a number of strong loadings (Fabrigar *et al.*, 1999).

One of the objectives of using principal components analysis is to achieve parsimony in the number of items, perhaps reducing the overall inventory (Stevens, 2002). It is common practice to retain items that load most highly and beyond a certain criterion, often 0.40 (Gorusch, 1997), although Stevens (2002) reports the minimum significant loading to be $|0.298|$. In order to maintain a reasonable balance between detection of coherent factors and cross loadings, it was decided to retain items that yielded factor loadings of above 0.50. The rotated solution revealed the same simple structure with all components showing a number of strong loadings. All items with a cross loading greater than 0.5 loaded on only one factor. One factor (factor 23) was removed as it consisted entirely of cross loadings from items that were loaded on other factors.

The factors were further examined for theoretical parsimony and to name them. In particular, we used the models and factors detailed in the theoretical background to understand and label the factors that we had derived from the factor analysis. One factor (factor 12 from the original 23, containing two items) had no theoretical meaning and it was deleted. Some of the factors had only one or two items loading on them. Such factors are usually described as being 'poorly defined' and interpretation of such factors can be hazardous (Tabachnick & Fidell, 2001). However, given the exploratory nature of this research, it was decided to retain all factors due to the interesting possibilities that they presented for the research; such practice is common in exploratory factor analysis. This left 70 items distributed among 21 factors as can be seen in Table 7.

The table includes factor titles, a representative item for each factor, the number of items constituting the factor and factor reliabilities (measured by Cronbach's alpha). Factors are numbered from 1 to 21 in terms of the order in which they emerged from the principal components analysis. Although most of the factors are highly reliable with alpha scores greater than 0.7, some are less; all of those with alpha scores of less than 0.7 are two-item factors that were found to have sufficient theoretical merit to continue using. The complete item loadings are reproduced in Appendix 1.

Assessing factor relevance

Table 8 provides the factor relevance scores, ordered in terms of those rated most relevant first, with 5 representing highly relevant. The relevance scores in Table 8 were calculated using arithmetic means from items in each factor. A natural break can be

Table 7: Factors and items emerging from factor analysis

No.	Factor	Items	Representative item	Loading
1	Learning transfer management	19	My manager prepared me for this training	0.96
2	Peer support	6	My colleagues support me in the use of new skills learned in training	0.87
3	Perceived relevance	4	I can see the relevance of this training for my job	0.72
4	Trainer effectiveness	5	The trainer provided good feedback	0.89
5	Organizational support for learning	4	Training is valued in my organization	0.89
6	Job autonomy	2	I have a lot of freedom in the way I do my work	0.60
7	Quality focus	3	There is a commitment to excellence in my organization	0.79
8	Opportunity to use	5	I'm under too much pressure to apply this learning	0.77
9	Career utility	3	I can see how this training will enhance my career	0.77
10	Job design	3	My job requires a range of talents and abilities	0.80
11	Organizational structure	1	My organization has a flat hierarchical structure	n/a
12	Training event climate	2	This group of participants worked well together	0.81
13	Individual rewards	2	This training will enhance my earning potential	0.72
14	Organizational linkage	2	This training is driven by important changes in my organization	0.68
15	Management expectation	2	My manager was responsible for deciding on this training	0.56
16	Location of training function	2	The training function is run by an internal department in my organization	-0.72
17	Clarity of individual's job	1	My job is clearly specified	n/a
18	Training linked to job purpose	1	Training is always conducted with a specific job purpose in mind	n/a
19	Motivation to attend	1	This training is something I have looked for	n/a
20	Decentralization of training function	1	The training function resides within each department in my company	n/a
21	Trainer understanding of context	1	The trainer understood what I do at work	n/a

Table 8: Factor relevance rating, highest relevance listed first

Factor	Title	<i>n</i>	Min	Max	Mean	Std Dev
4	Trainer effectiveness	313	2.2	5	4.336	0.558
3	Perceived relevance	314	2	5	4.162	0.554
10	Job design	308	1.67	5	4.071	0.644
5	Organizational support for learning	312	1	5	4.034	0.767
19	Motivation to attend	311	1	5	4.019	0.823
7	Quality focus	309	1	5	4.011	0.707
12	Training event climate	311	1	5	3.950	0.716
21	Trainer understanding of context	313	1	5	3.907	0.906
6	Job autonomy	310	1.5	5	3.823	0.713
17	Clarity of individual's job	306	1	5	3.801	0.960
2	Peer support	312	1.33	5	3.787	0.635
18	Training linked to job purpose	308	1	5	3.604	0.985
9	Career utility	314	1	5	3.554	0.801
14	Organizational linkage	314	1	5	3.525	0.791
1	Learning transfer management	314	1.26	5	3.502	0.805
15	Management expectation	312	1	5	3.120	0.908
11	Organizational structure	306	1	5	3.098	1.042
8	Opportunity to use	314	1	5	3.083	0.823
16	Location of training function	309	1	5	2.972	0.672
20	Decentralization of training function	308	1	5	2.860	1.117
13	Individual rewards	314	1	5	2.705	1.019

observed at 3.5, the point where the Likert scale altered from 'Neither Relevant Nor Irrelevant', scored at 4, to 'Relevant', scored at 3. There is also a natural disconnect in the form of a 0.4 gap between factor means at the point separating the top 15 factors from the bottom 6. Thus, the first 15 factors appear to play significant roles in decision making by practice, whereas the last six are deemed less relevant. We now examine each of the 15 factors deemed of greater relevance with a brief comment on the six deemed of less relevance.

The factor which had the highest mean rated by the profession is trainer effectiveness and consisted of five items that were related to the perceived effectiveness and activity of the trainer delivering the content. This factor comprised elements of preparation, commitment and relating the training content to the job needs of the learner. This construct is similar in some respects to trainer characteristics identified in previous literature. For example, trainer characteristics refers to 'knowledge of the subject matter, professional experience, and knowledge of learning style and teaching principles' (Burke & Hutchins, 2008, p. 115). In other research, the role of the trainer is referred to under training design and includes activities and exercises used (Holton, 2005). Trainer effectiveness as elicited in this study comprises the following items:

- The trainer was well prepared
- The trainer was enthusiastic about the subject matter
- The trainer showed commitment to the goals of the training
- The trainer tried to relate the training content to my job needs
- The trainer provided good feedback

This construct includes some items detailed in previous research as well as some items not described in previous research, perhaps suggesting that the construct is under-researched and may merit further research attention.

Four items loaded on to the second factor, entitled perceived relevance, which is evocative of the existing construct of perceived content validity identified by Holton *et al.* (2000). Although similar to Holton's construct, it is also close to Clark *et al.* (1993)

in their development of job utility. It differs slightly from this construct in that there is a motivational element in the participant's regard for the learning.

Job design was the factor which attracted the third highest ranking in the set. This component loaded three items referring mainly to the skills required to do the job and the significance of the job. These items are related to traditional job design issues. This construct has been recognized in previous transfer research (Kontoghiorghes, 2004).

Organizational support for learning attracted four items which were synonymous with the existence of a climate of learning in the organization. This construct is similar to that of organizational support which had previously been identified by Facticeau *et al.* (1995) and Tracey and Tews (2005).

Motivation to attend came fifth in order of means of the factors from this research. This factor is similar motivation to learn, a well described construct in the transfer literature (Kontoghiorghes, 2002; Mathieu *et al.*, 1993; Tracey *et al.*, 1995). Only one item loaded on this slightly different construct which refers to the participants' desire to have the training.

Three items loaded on to a component which was labelled quality focus. This construct is analogous to quality management, a systemic concept described by Kontoghiorghes (2004).

Training event climate had the seventh highest mean. This was another of the components identified in the research which did not have obvious analogous constructs or items in the extant literature. Training event climate referred to the atmosphere which existed between participants on the intervention and included how participants worked together and shared information willingly. Only two items loaded on this factor as follows:

- This group of participants worked well together
- There was a free and useful exchange of information between participants in this training

Trainer understanding of context which was a single-item factor came eighth in the ranking of means. This construct refers to the level of understanding the trainer had of the workplace context of the learner. This factor, although not recorded in previous literature, seems intuitively appropriate to successful transfer of learning.

Two items loaded on to the next component which has been named job autonomy and this is somewhat similar to a broader construct of job design that was identified by Kontoghiorghes (2004). This may also be related to job involvement (Mathieu *et al.*, 1992; Noe & Schmitt, 1986).

Only one item loaded on to the next component which was labelled clarity of the individual's job. There are certain echoes of task cues here as identified in previous research (Rouiller & Goldstein, 1993).

The eleventh component, in terms of mean, loaded six items and was labelled peer support. This seems analogous to the construct entitled co-worker support and peer support identified in previous literature (Chiaburu & Marinova, 2005; Clark *et al.*, 1993; Colquitt *et al.*, 2000; Facticeau *et al.*, 1995; Holton *et al.*, 2000).

Training linked to job purpose is a systemic factor which related to the cultural belief within the organization that training should always be linked to a job purpose. No identical constructs were found in the literature; however, this factor may be somewhat similar to the existing construct of perceived content validity identified by Holton *et al.* (2000).

Three items loaded on to the next component which has been named career utility. This is analogous to a similar construct of the same name describing the perceived usefulness of training in facilitating the attainment of job goals (Clark *et al.*, 1993).

Two items loaded on to a further component which was entitled organizational linkage. This factor referred to organizational problems and important changes which were to be addressed by the training. The items which loaded on to this factor were:

- This training is driven by important changes in my organization
- This training will solve some of my organization's problems

Some attention has been given to this general area in the literature (e.g. Lim & Johnson, 2002; Montesino, 2002). However, the topic requires further research (Hutchins & Burke, 2007).

Learning transfer management was listed as fifteenth in the set of factors identified. This construct is broadly analogous to supervisor support, the extent to which supervisors and managers support and reinforce the use of training on the job (Holton, 1996; Kontoghiorghes, 2001, 2002, 2004; Tharenou, 2001). However, learning transfer management is a much broader construct including preparation by the manager of the participant, supply of resources and opportunity to use resources to apply the learning. Therefore, it is not simply supervisor support but an organizational construct which speaks of managerial and organizational attention to, and management of, transfer.

The remaining factors followed a natural discontinuity in the rankings with means ranging from 3.1 down to 2.7 (see Table 8). These were: management expectation regarding whether or not the training was compulsory; organizational structure which referred to the flatness of the organizational hierarchy; the opportunity to use which means the opportunity the learner had to use the learning (Rouiller & Goldstein, 1993); the location of the training function and decentralization of the training function referred to the location of the training function within the organization and the degree to which it was centralized or decentralized; individual rewards referred to the presence of financial incentives and outcomes for the learner for using the learning back at work. These relatively low means suggest that these factors were seen by the respondents as not being relevant to the transfer of learning.

Discussion

This research identified the key factors in the transfer of learning from training interventions according to HRD practitioners in Ireland. Twenty-one factors comprising of 70 items were identified from an exploratory factor analysis examining the factors relevant to the HRD practitioner. Of those factors, 15 were deemed relevant or highly relevant, whereas six were viewed as being less relevant.

Limitations of the study

Before discussing these results further, we specify limitations that may impact the generalizability of the results. In this exploratory factor analysis, some of the factors are of potentially questionable validity. Further research will be useful in expanding or deleting them. The degree to which the findings are attributable to national cultural factors is unclear to us. Validation across other cultures will enable examination of this issue. The HRD profession was well represented both by span and depth of experience of the field, as were a wide variety of industries and firm sizes. Despite the broad range of organization sectors and sizes, consideration of national culture could suggest differences between the set of factors identified by Irish HRD practitioners and those commonly applied in transfer research, for example Subedi (2006). Although the choice of dependent variable (relevance) could be construed as problematic, we believe that practice relies on the identified factors in their day-to-day operations of intervention choice and design.

The sample in this research is located in the geographical setting of Ireland. The sample comprised mainly Irish nationals, selected from what was, and still is, a predominantly indigenous population. The sample, like many others in social science research, is a convenience one. The location and the sample make-up provide a response to the calls from other researchers for transfer studies to be made in locations other than the North American one (Van der Klink *et al.*, 2001). The research thus provides an interesting comparison site to contrast Irish and European practitioner views on transfer with those contained within the mainly American literature.

Contribution of the study

Many of the factors identified in this study by the practitioners as being relevant to transfer of learning are well understood in the literature. However, three factors

identified here may be under-researched. Practitioners view the issue of trainer effectiveness as being the most highly relevant and suggested several dimensions not well represented by the extant literature. Given that the focus and concentration of the subjects of this paper, the practitioners, is contact with and management of the operational trainer, this result may be unsurprising. Nonetheless, there is evidence here to suggest that further research into this construct may be rewarding.

Two further factors, organizational linkage and training event climate, were identified by practitioners as being relevant to the transfer of learning. Exploration of the items loading on these constructs suggested that they may be not well researched. However, given that each of these constructs loaded only two factors, we are cautious regarding their interpretation.

In this current study, individual rewards is seen as least relevant by practitioners and yet it is central in the literature on transfer of learning (Holton, 1996; Kontoghiorghes, 2004). Although counter-intuitive, practitioners may conclude that the measurement of the transfer of learning and the making of rewards contingent upon its transfer, while theoretically crucial, is an extremely difficult exercise and its perceived relevance is thus much reduced.

Furthermore, this study lends some support to the identification of a wider set of transfer factors (Kontoghiorghes, 2004). The identification of training event climate and organizational linkage are worthy of future examination despite the caution expressed in this study around their interpretation.

Although the number of factors studied has been growing (e.g. Cheng & Hampson, 2008; Kontoghiorghes, 2004; Tews & Tracey, 2008; Velada & Caetano, 2007), the current study suggests that practitioners perceive a wider set of factors than is currently examined in research.

Implications

This research provides an interesting perspective on the issue of transfer of learning from training interventions back into the workplace. The research engages with HRD professionals in Ireland who work closely with management in the design and implementation of learning solutions in organizations today.

From the earliest writings of transfer researchers, there have been references made to training design, learning sequencing and principles of learning (Kontoghiorghes, 2004). Holton identified perceived content validity as the extent to which trainees judge the training content to reflect job requirements accurately (Holton *et al.*, 2000). However, trainer effectiveness has not been identified as an important element in transfer. This omission seems counter-intuitive. The trainer stands in the place of the manager as the principal tutor of the employee as learner, and therefore, it would seem illogical to treat this variable as a constant. We prefer to regard the performance of the trainer as a fluctuating yet critical element in learner performance and post-intervention behaviour.

Somewhat controversially, individual rewards were labelled as the least relevant by the respondents. This somewhat surprising result may however be explained in part by the vocation of the respondents and their decision to engage in a profession with the lofty ideals of human development at its core.

Future research

This research has shown that practitioners perceive relevance in factors that are under-researched in the literature. For example, the issue of trainer effectiveness was perceived by practitioners as being most relevant to transfer and, although the literature has given some attention to the characteristics of the trainer, this may be an area of fruitful research for the future. Organizational linkage and training event climate have received some attention in the literature but are also under-researched. Given the poor results of transfer of training from interventions back into the workplace, it may be useful for researchers to consider how these factors affect the transfer of training.

Conclusion

It has been established in the literature that transfer of learning back into the workplace is an important factor explaining why training may not be effective. Accordingly, it is vital that all factors that affect transfer be identified. The search for these factors should draw upon the views of a wide range of relevant stakeholders. This paper researched the views of practitioners, a highly significant stakeholder group, in order to inform the transfer of learning research agenda. Three factors emerged as under-researched, specifically, trainer effectiveness, organizational linkage and training event climate. Further study into these factors may enable a better outcome for transfer of learning.

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Appendix 1: Factor loadings

Item	Factor																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
Q55	0.847																					
Q27	0.823																					
Q54	0.796																					
Q28	0.761																					
Q34	0.759																					
Q56	0.754																					
Q35	0.736																					
Q26	0.732																					
Q97	0.687																					
Q60	0.686																					
Q96	0.682																					
Q25	0.680																					
Q23	0.644																					
Q11	0.600																					
Q21	0.593																					
Q20	0.574																					
Q30	0.536																					
Q106	0.527																					
Q70	0.520																					
Q90		0.754																				
Q91		0.721																				
Q89		0.642																				
Q92		0.639																				
Q108		0.541																				
Q109		0.537																				

Appendix 1: Continued

Item	Factor																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Q7			0.655																		
Q10			0.653																		
Q8			0.567																		
Q15			0.522																		
Q46				0.818																	
Q45				0.815																	
Q47				0.804																	
Q49				0.696																	
Q48				0.687																	
Q65					0.718																
Q64					0.675																
Q62					0.644																
Q66					0.591																
Q78						0.666															
Q79						0.572															
Q104							0.728														
Q105							0.671														
Q94							0.586														
Q22								0.793													
Q24								0.714													
Q61								0.697													
Q52								0.600													
Q95								0.573													

Q37	0.881
Q38	0.831
Q36	0.518
Q82	0.786
Q83	0.694
Q81	0.612
Q74	0.749
Q58	0.735
Q59	0.698
Q29	0.608
Q33	0.573
Q17	0.720
Q18	0.641
Q57	0.745
Q51	0.593
Q99	0.660
Q98	-0.548
Q87	0.547
Q102	0.520
Q32	0.686
Q100	0.703
Q42	0.643