TRAINING ASSESSMENT: A PREMISE FOR TRAINING TRANSFER IN ENTERPRISES

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Abstract: The technical literature tackled the issues of training transfer and training assessment from two distinct research directions that sometimes happened to intermingle; in the light of recent discoveries, we considered these issues were interrelated via a causal connection. We used an analysis of the approach of these two topics in 30 enterprises that constantly provided their employees with training in the past two full years. The present paper demonstrated the fact that the training transfer rate is: a) strongly influenced by the extent to which training evaluation methods were used; b) moderately influenced by the support employees received when they returned to work in order to implement what they had learned; and c) it is not influenced by the proper training evaluation methods (which may be different depending on the specific of the training and the expertise of the human resources specialist who undertakes the assessment).

JEL classification: C89, L80, M53, M59.

Key words 5: training transfer, training assessment, causal connection, influencing factors, Pearson correlation.

1. INTRODUCTION

In the technical literature, training assessment is treated more in terms of the methodology used (levels of assessment, assessment tools, ways of quantifying the tangible and intangible benefits), while the training transfer issue is tackled through external or internal influencing factors that lead to a higher or lower transfer rate. Very few research papers study the connection between training assessment and the training transfer rate, their conclusion being that the two are positively correlated. Through this paper, we provide empirical evidence in order to support the positive correlation between training transfer and assessment.

2. LITERATURE REVIEW

2.1 TRAINING ASSESSMENT LITERATURE REVIEW

In literature, training assessment has been a topic of debate since the 1960s. The importance of evaluating the training programmes beyond cost payback is highlighted

in most of the speciality papers that approach the training evaluation or most updated the assessment topic (Kirkpatrick, 1959, 1994, 2006; Silberman, 2006; Phillips &Stone, 2002; Fitz-enz, 2009). Probably the most cited and criticized model at the same time was the Kirkpatrick model (1994). This suggests that the training should be evaluated on four progressive levels:

1. The participants' reaction to the programme (satisfaction level);
2. Learning itself – meaning the knowledge and the skills acquired by the participants;
3. The behaviour at work – after the completion of the programme;
4. The results generated from the change of behaviour and their impact on the organization.

While some authors (Silberman, 2006, Laird, 2003) adopt or explain exactly the Kirkpatrick model, contributing only through a critical analysis or additions in hue, approaching up-to-date examples or case studies, other authors, such as Philips and Stone (2002) built a new complex model, starting from the Kirkpatrick updated model (1994 version). They included in the new model six key indicators, thus in addition to the four indicators within the Kirkpatrick model, the ROI model suggested by Phillips and Stone discloses two new indicators, namely: the return of investment and the intangible benefits that cannot be easily quantified in the return rate. The mentioned authors focus on methods and instruments with a higher degree of accuracy which implies "harder" data, measurable and convertible into monetary value; through their efforts they actually add another evaluation level that substantially modifies the initial model (Olteanu, Dabija, 2014). Their simple formula, namely *ROI= (Net benefits/Costs)*100%*, became a point of reference for researchers, consultants and human resources specialists.

Still, some of the evaluation models do not explain the low or the high impact of a certain training programme. For example Bates (2004, p. 342) states that the Kirkpatrick model can lead to incorrect decisions about the effectiveness of the training programmes, because the model leaves out important variables (the Kirkpatrick model ignores the characteristics of the work environment, the climate for learning transfer, and the individual's characteristics - which would influence the training effectiveness before, during, or after the training) (Bates, apud. Laird, 2003, pp. p. 255-257). This is one of the reasons why a new debate topic was developed, namely the transfer of learning.

2.2 TRAINING TRANSFER LITERATURE REVIEW

The training transfer has been a matter of concern to the academic community for less time than the training assessment. Training is regarded as one of the most important contributions to human resources development, but in order to make it relevant to the enterprise to the same extent as it has brought benefits for the employee and to bring the company a competitive advantage, the training must be transferred from the course room to the organization (Saks & Burke, 2014, p. 105). The training transfer "refers to the application, generalization and maintenance of learning skills and the behaviour accumulated in the learning environment within the organizational environment" (Baldwin & Ford, 1988, as cited. Saks & Burke, 2014, p. 105). In short, without this transfer, training efforts cannot contribute to the organization's effectiveness (Kozlowski et al, 2000 apud. Saks & Burke, 2014, p. 105).

Some studies showed the fact that very little of what was taught during a training programme was used at work (Broad and Newstrom, 1992 apud. Saks and Burke, 2012, 119), thus most of the expenditure on these programmes is not transferred to the company (Grossman and Salas, 2011 apud. Saks and Burke, 2012, p. 119), and this issue has already concerned the scientific community for decades (Broad, 2005; Grossman & Salas, 2011). This phenomenon has become known in the literature as the transfer problem, being the impetus of research on strategies and interventions to improve the training transfer (Baldwin and Ford, 1988, Burke, 2001 apud. Saks and Burke, 2012, 119).

The transfer is a problem for organizations because a programme is likely to have no effect upon the organization's performance since the transfer is considered the first lever of control through which the programme can influence the performance of the organization (Kozlowski et al, 2000 cited. Saks and Burke, 2014, p. 105). A strategy still not refined is the programmatic assessment of the training process that is also a challenge for organizations (Twitchell et al, 2000). Numerous authors (Fitz-enz, 2009; Laird, 2003) reported the lack of any assessment programmes in practice. The difficulty of the assessment process and the high costs remain two of the main reasons why the company that provided its employees with training does not always undertake an assessment of each training programme implemented. But the assessment problem is not the same with the transfer problem; they are just interrelated topics via a causal connection, as we shall further on demonstrate.

The models of training transfer include variables that relate to the subject of learning, to the design of training intervention, working environment or transfer environment (Baldwin and Ford, 1988 Ford and Weissbein, 1997, Salas et al, 1999, APUD Saks and Burke, 2014). Based on these transfer models, researchers studied many strategies meant to facilitate the training transfer. Certain authors demonstrated that climate and culture were directly related to post-training behaviours (Tracey et all, 1995). Using a consistent sample of 505 supermarket managers from 52 stores, the mentioned authors demonstrated through a series of LISREL analyses that In particular, the social support system appeared to play a central role in the transfer of training. Still, another meta-analysis of similar studies shows that the level of the forecast effects was low to moderate (Blaum et al, 2010, p. 1078). Based on another 89 empirical studies, Blume et al (2010) found that both the characteristics of the trainees (cognitive skills, conscientiousness, motivation) and environmental characteristics (transfer environment and the support from superiors) are positively linked to the transfer rate. But this type of analysis that tries to make a prediction of the transfer tackles only the horizontal transfer, i.e. the transfer at linear levels or contexts, located on the same plan. Much fewer authors have studied the vertical transfer, meaning the link between individual results and the results at the organizational level (Kozlowski et al, 2000 apud. Saks & Burke, 2014, p. 106). For example, among the situational variables, the size of a construct effect that refers to the general working environment was 0.23, and the situational variables did not predict the transfer better than the various individual variables.

This finding leads to the initiation of new research studies that seek other factors which improve the training transfer. One of them (Saks and Burke, 2012) studied the link between the training assessment (in terms of both individual and organizational

results) and training transfer. Even if the training assessment is needed in order to determine if the transfer took place, the research on assessment and transfer tend to treat these issues separately, representing two distinct research directions that sometimes happened to intermingle (Saks and Burke, 2012, p. 119). The quoted study, carried out by the Canadian researchers mentioned above, validates three hypotheses, two of which are relevant to our study:

- H 1: There is a positive connection between the frequency of training assessment efforts and the rate of training transfer;
- H 2: The last two levels of Kirkpatrick's assessment model (behaviour and results in the organization) are more closely related to the transfer than the first two (participant satisfaction and the training in itself);

The study carried out by Canadian researchers Saks and Burke (2012), using Kirkpatrick's four levels (1994), revealed the extent to which the training assessment predicted the training transfer in organizations at three different time periods. Through a survey among specialists in human resources development, they showed that 89% of those surveyed considered that the training assessment efforts improved the efficiency of training programmes (White and Branch, 2001 apud. Saks & Burke, 2012). The connection is easily highlighted and explained, as it results from the very formulated purpose of the assessment, i.e. assessment efforts aim at showing to what extent training was effective or efficient, to make decisions about it (Brown and Gerhardt 2002, Brown and Sitzmann, 2011). Decisions may involve repeating the training, its improvement or elimination from the intervention programme of the organization. The soft and hard data collected during the assessment process allows specialists to make those changes in objectives, content or design, to improve the training's efficiency and to produce a greater training transfer within the organization.

This study has a dynamic character, due to the fact that, even if initially the authors had established two variables of control (the size and maturity of the respondent company), during the data interpretation process, it was found that the variables of control were not correlated with the training transfer for none of the time periods set to analyse (immediately after the training completion / after six months / after one year) so they were not included in the study, in the phase of data analysis. We also consider relevant the discovery that Burke and Hutchins (2008) made in their study, according to which the design strategies of training accounted up to 46% of good practices to influence the training transfer in the organization (Saks & Burke, 2014). Canadian authors' study starts precisely from the hypothesis that the variability of stimuli (through the mix of methods - in-house training, training in the course room and e-learning) leads to a higher transfer rate. Another hypothesis, which is actually at the centre of the scientific concern of the present study, states that "organizations that have a higher rate of transfer will have greater performance (Saks and Burke, 2014, p. 108)." The authors tested this hypothesis on a sample of 150 specialists in human resources and training in big companies and institutions in Canada, which employed between 500 and 1,000 people. The response rate was 11.5% (150 questionnaires received out of the 1,300 transmitted), comparable to the average response rate in the macro / meta literature on training.

In conclusion, the authors found that the training transfer is positively related to the firm performance and mediates the connection between training methods and the

performance of the firm. Thus, the authors' recommendation is to implement effective in-house training, a method they discovered as being linked to the training transfer and the performance of the firm (Saks and Burke, 2014, 114).

The studies that tested the connection between the training transfer and the performance of the firm tackled both the employees' performance (Rothwell, 2005; Khan, 2012) and the enterprise's performance (Harel&Tzafrir, 1999; Zwick, 2006; Sum, 2011; Ebeda-Garcia et al., 2013; Saks & Burke-Smalley, 2014; Yazdanfar et al, 2014), in the same way that the literature on training assessment tackled both the employees' performance and the enterprise's overall performance. However, very few studies dealt with the two topics together, regarding the training transfer as a dependent variable and training assessment as an independent variable, which could explain the evolution of the former.

3. METHODOLOGY

To examine the correlation between the rate of the training transfer and the different facets of training assessment, we formulated the following hypotheses:

Hypothesis 1: There is a strong connection between the rate of training transfer and the extent to which assessment methods are implemented in enterprises.

Hypothesis 2: The training evaluation method used directly influences the rate of training transfer

Hypothesis 3: There is a moderate connection between the training transfer rate and further support given to employees in order to apply the new knowledge.

The hypotheses were tested and validated using a synthetic questionnaire distributed to some companies that provided their employees with training in the past two full fiscal years. The questionnaire was distributed to 280 enterprises in several counties, most of them SMEs operating in the services sector, between January and April 2015. The questionnaire was sent back fully filled in by 35 enterprises, 31 of which were validated with an answer rate of over 90% and simultaneously meeting the following conditions: they have provided their employees with continuous training in the past two fiscal years and have proven consistency in their answers, validated through applying control keys. The data collected was processed in SPSS Statistics 20 by applying some methods of descriptive and analytical statistics, through which we wanted to establish the coefficients of the correlation between the dependent variable (the transfer rate) and other independent variables (the extent to which training evaluation methods were used - scalar variable, the evaluation methods used - 5 nominal dichotomous variables and the further support given to the trainees within the organization to implement the new knowledge/ skills/ attitude - scalar variable 1-5 on the Likert scale). The profile of the 31 valid respondents was as follows: higher education, more than 7 years of experience in the organization, management staff, including 3 HR directors / managers.

4. ANALYSES AND RESULTS

The first variable studied (i.e. the evaluation), which can be related to the transfer rate, refers to the extent to which training evaluation methods were used/ implemented in the analyzed enterprises. In general, if a company does not apply evaluation methods at all, you cannot further analyze what would be the most effective

methods or what would be the best time when to evaluate the training in order to achieve an as high as possible transfer rate. Having defined two scalar variables, with values from 1 to 5 on the Likert scale, we applied the Pearson correlation. The first variable, the transfer rate, included values from 1 to 5 (1 - employees completely failed to implement what they had learned in the enterprise, 5 - employees mostly implemented what they had learned at work), and the second variable, the extent to which training evaluation methods were implemented (1- there is no evaluation method, 5 - many evaluation methods are applied).

We note the distribution of the 31 valid responses in Table no. 1. As shown in Table no. 2, of the respondents who said that their company did not apply training evaluation methods at all, 7 stated that it applied very few methods, 9 stated that there were some methods applied, 12 stated that it mostly applied evaluation methods and only 1 respondent stated that it applied evaluation methods to a large extent. Of the two that did not apply evaluation methods at all, one declared a transfer rate of learning of 3 on the Likert scale (employees managed to implement to a small extent what they had acquired during the training) and the second a rate of 4. Furthermore, of the 12 who said they largely applied evaluation methods, 6 stated a high transfer rate (4), and the others stated a very high transfer rate (5 on the Likert scale).

Table no 1. The distribution of the 31 responses to analyze the first variable

Transfer rate * Degree of training evaluation implementing Crosstabulation							
Count							
		Degree of training evaluation implementing					Total
		1	2	3	4	5	
Transfer rate of learning	1	0	1	0	0	0	1
	2	0	1	0	0	0	1
	3	1	1	3	0	0	5
	4	1	4	5	6	0	16
	5	0	0	1	6	1	8
Total		2	7	9	12	1	31

Thus, we found a strong positive relationship between the two variables, the Pearson correlation coefficient being +0.575, for $p<0.05$ (Approx. Sigma .001c), represented in Table no. 2. The Spearman correlation coefficient is within the range .60 and .79, which also means a strong correlation, confirming the Pearson correlation.

Table no. 2. The correlation between the training transfer rate and the extent to which training evaluation was implemented

Symmetric Measures					
		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Range by Range	Pearson's R	.575	.080	3.780	.001[c]

Ordinal by Ordinal	Spearman Correlation	.631	.088	4.386	.000[c]
No. of Valid Cases		31			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Taking into consideration the fact that of the 31 respondents, two stated they did not apply training evaluation methods at all in their enterprise, we removed them from the analysis of the efficiency of evaluation methods upon the transfer rate, analysis that verifies Hypothesis 2. To the multiple choice question What evaluation methods did you apply after each course in order to measure the effectiveness of training?, respondents had to choose among the following answers:

- The measurement of labour productivity
- The measurement of the progress obtained after a period of time (in the field of the course)
- Written evaluations given to employees after a period of time from the completion of the course (e.g. quizzes checking their knowledge)
- The monitorization of absenteeism/ late arrivals at work
- Other

Each of the five answers - representing distinct methods of assessment - was introduced in SPSS as a different variable that was binary encoded for each respondent, with 1 (if they used that method) and 0, if they did not used it. Two of the 29 remaining respondents in the analysis did not answer this question, so for them, to the 5 variables we associated the value 99 in Missing column in SPSS. Having to deal with a scalar variable (quantitative) - the transfer rate and a nominal dichotomous one (each of the evaluation methods above), we tried to find a point-biserial correlation coefficient, which is a specific case of the Pearson correlation. Thus, it resulted that each of the evaluation methods selected by the respondents is in a negligible relationship with the transfer rate, the correlation coefficient for each of the pairs of variables being under -.19, according to the Table No. 3.

Table no. 3. The correlation between the transfer rate and the training evaluation methods

Correlations							
		Transfer rate	**EM1**	**EM2**	**EM3**	**EM4**	**EM5**
Transfer rate	Pearson Correlation	1	-.144	-.138	-.138	-.144	-.150
	Sig. (2-tailed)		.455	.474	.475	.457	.438
	N	29	29	29	29	29	29

Legend:

EM=Evaluation method

EM1=The measurement of labour productivity

EM2= The measurement of the progress obtained after a period of time (in the field of the course)

EM3=Written evaluations given to employees after a period of time from the completion of the course (e.g. quizzes checking their knowledge)

EM4=The monitorization of absenteeism/ late arrivals at work

EM5=Other

**. Correlation is significant at the 0.01 level (2-tailed).

In other words, corroborating the fact that H 1 proved to be a valid hypothesis and that H 2 is invalidated, it follows that the evaluation method applied is not necessarily relevant for a high transfer rate of learning. What is important is that these training evaluation methods should be mostly applied or applied to a great extent in the respective enterprise.

To test the hypothesis no. 3, respondents were asked to what extent superiors or colleagues supported the trainees to implement what they had learned during the course (new knowledge, skills / attitudes). We scaled the possible answers from 1 to 5 on the Likert scale (1-employees did not receive any support, 5 - trained employees received a lot of support). As shown in Table no. 4, there was no missing response.

Table no 4. Percent of responses

Case Processing Summary						
Learning transfer rate* Support of staff for the trainees at their return	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
	31	100.0%	0	0.0%	31	100.0%

As we had two scalar variables in the analysis, we applied the Pearson correlation in order to determine the strength of the linear relationship between the pair of data - training transfer rate and the support of the staff for the trainees, when they returned to work.

Table no 5. Correlation between training transfer rate* Support of staff

Symmetric Measures					
		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Range by Range	Pearson's R	.400	.113	2.352	.026[c]

Ordinal by Ordinal	Spearman Correlation	.466	.125	2.835	.008[c]
No. of Valid Cases		31			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

As shown in Table No. 5, the training transfer rate and the support for trainees when they returned to work are positively correlated at .400, $p < .05$, indicating a high degree of confidence of Pearson correlation. A Pearson correlation coefficient with values within the range +.40 to +.69 naturally indicates a strong positive relationship. The score given by respondents to the employee support rate could be slightly higher than the real one, as it has to do with measurements of perception, which, more often than not, proved to be slightly higher than the objective ones, calculated based on indicators in empirical studies. However, taking into consideration the above mentioned and the fact that the value of our coefficient is at the lower limit of this range, we shall conclude that there is a moderate correlation between the two variables, and not a strong one.

5. CONCLUSIONS

Even if the topic of the transfer of learning from the classroom to the organization was mostly treated in the literature as being different from training assessment, we believe that the empirical evidence obtained in this study may be an argument in the direction of deepening the research of the two topics as being related. This study demonstrates that a high or very high use of training evaluation methods, no matter which they are, predict a high or very high transfer of learning. This means that the investment in training serves a greater purpose if training is followed by an evaluation phase and follow-up (follow-up also meaning staff support for trainees at their return at work), so this should be conceived as an integrated organic activity in the learning process even from the planning stage.

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