

The impact of work environment variables on the transfer of learning acquired in training: the case of the company MENTAL**أثر متغيرات بيئة العمل في تحويل تدريبات التكوين: دراسة حالة مؤسسة MENTAL****Zerrouki Mohammed Amine**

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Received: 18/10/2024**Accepted:** 30/12/2024**Published:** 31/12/2024**Abstract:**

Algerian private and public companies, aware, more than ever, of the challenge of training as a profitable investment to support and anticipate change. Given the centrality of the transfer phenomenon and the importance of the work environment. This study focuses on this category and particularly on analyzing the role played respectively by the variables of the work environment in the application in work situations of learning and behaviors developed in training.

The field study was conducted at the MENTAL company. The results of the analyses confirm that the use of what is learned in training (transfer) depends on four conditions, the person must find the training useful and relevant and feel the support of their workplace, have the means to apply, and have the opportunity to apply.

Keywords:In-company training, Transfer of learning, Work environment variables, Work performance, Transfer climate.

JEL Classification Codes: M1, M12, M14

ملخص:

تدرك المؤسسات الجزائرية الخاصة والعامة، أكثر من أي وقت مضى، التحدي المتمثل في التكوين باعتباره استثماراً مربحاً يجعل من الممكن مرافقة التغيير. هذه الدراسة تركز على تحليل الدور الذي تلعبه متغيرات بيئة العمل في تطبيق على مستوى العمل كل ما توصل إليه العمال من تدريبات في تكوين.

أجريت الدراسة الميدانية على مستوى مؤسسة MENTAL. تؤكد نتائج التحليلات أن استخدام على مستوى العمل ما تعلمه العمال في التكوين يعتمد على أربعة شروط، يجب على الشخص أن يجد التدريب مفيداً وذو صلة، وأن يشعر بدعم بيئة عمله، وأن يمتلك الوسائل اللازمة للتقديم، وأن يمتلك فرصة للتقديم.

كلمات مفتاحية: التكوين في المؤسسة، المؤسسة الجزائرية، الفعالية في العمل، تحويل التدريبات، متغيرات بيئة العمل، بيئة التحويل.

تصنيفات JEL: M1, M12, M14

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Introduction :

With open borders and economic globalization, Algerian companies need to be competitive. Businesses therefore need to improve their performance to remain competitive, survive and grow. Training is most often understood from a company's point of view, to enhance its performance, meet the competition, and adapt to the evolving technical and technological advancements it faces.

Training activities in Algerian public and private companies have grown slightly in recent years. This growth would seem to be due on the one hand to the support of the state for the development of the training of the staff of the Algerian company and on the other hand to the particular interest that companies are beginning to give to training.

As Algerian companies dedicate significant time and large financial resources over the years, the question of the impact and profitability of training emerges as a genuine concern for entrepreneurs. The ultimate goal of training is to enhance the company's efficiency (increased sales, increased productivity, reduced absenteeism, reduced losses, etc.). To do this, it is necessary that the training provides new skills to employees (knowledge, know-how, interpersonal skills), that these skills are subsequently used in the context of their work and this transfer enhances the organization's functioning. However, the company cannot control the return on investment from training, as it cannot guarantee retaining the trained human capital (Karnas .G, Dellobbe .N, Vandenberghe. C, 2003, P509).

This paradox of the obligation to invest without return assurance highlights the dialectical relationship that the organization must establish with employees, by creating favourable conditions that facilitate the transfer of learning outcomes from performance training to the workplace. The current central challenge is how to influence training to improve performance.

Aim and research question

The authors confirm that the research in training and human resources development of the last decade is now made interdisciplinary and richer in methods and theory. These theoretical advances have made it possible to establish a forum for debate, analysis and better understanding of this field. Companies have started to question the added value of human resource training activities and pay more attention to the human capital of the company. Answers to topical questions: How does the training work? Skills are acquired. What is the Role of the and more particularly how to ensure the transfer of knowledge and its maintenance in the work? These are now aspects that gradually have empirical findings that can inspire further research and guide practitioners.

In this context, The aim of this article is to explore any connections and overlaps between the variables of the work environment and the outcomes of a training program. This leads us to consider the following question: To what extent can the variables within the working environment of an Algerian company facilitate the application of training achievements in the workplace?

This problem includes a set of sub-questions which can be formulated as follows:

- what role does the transfer climate conveyed in the company play in the transfer of learning acquired in training?

- How Support and assistance from colleagues and supervisors promote the transfer of learning to the workplace following training?
- How motivation to apply knowledge promotes the transfer of learning to the workplace following training?

Research hypotheses:

To answer this problem, we posed the following three research hypotheses:

H₁: The motivation to apply new knowledge has a positive effect on the transfer of learning to the workplace following training.

H₂: Support and assistance from colleagues and supervisors positively influence the application of what has been learned during training back in the workplace.

H₃: The supportive climate for transferring knowledge in the Algerian company positively influences the application of skills learned during training in the workplace.

1- Study Conceptual Framework

In this theoretical framework, we will successively present the Kirkpatrick evaluation model, then the factors likely to influence the effectiveness of the training. On this basis, we will propose a theoretical model for the purposes of our research.

1-1 Training evaluation

The effectiveness of training actions is now more than ever an obvious necessity. No organization (company, administration, association, etc.) can be satisfied with "training to train". Training is expensive and time consuming. Even more than for a material investment, it is important to know or locate the return on investment of the training to be sure to make it profitable.

The evaluation of training often sparked discussions. According to Donald Clark, evaluation is "a process to assess the value and effectiveness of a training program. It specifically focuses on determining whether the initial objectives of the training are met by the participants and measuring the practical outcomes of the training within the workplace" (VIAL. M, 2006)

1-1-1 Centrality of the DONALD KIRKPATRICK model :

Of the work in training evaluation, Kirkpatrick's is undoubtedly the best known. Kirkpatrick's four-level hierarchy is often referred to as a training assessment model, but it is important to remember the origin of this proposal. As president of the American Society for Training and Development, Kirkpatrick made a set of proposals in 1959 in response to repeated requests from association members for suggestions on how to evaluate trainings. At that time, very few guidelines were available to guide researchers and practitioners in the area of training evaluation.

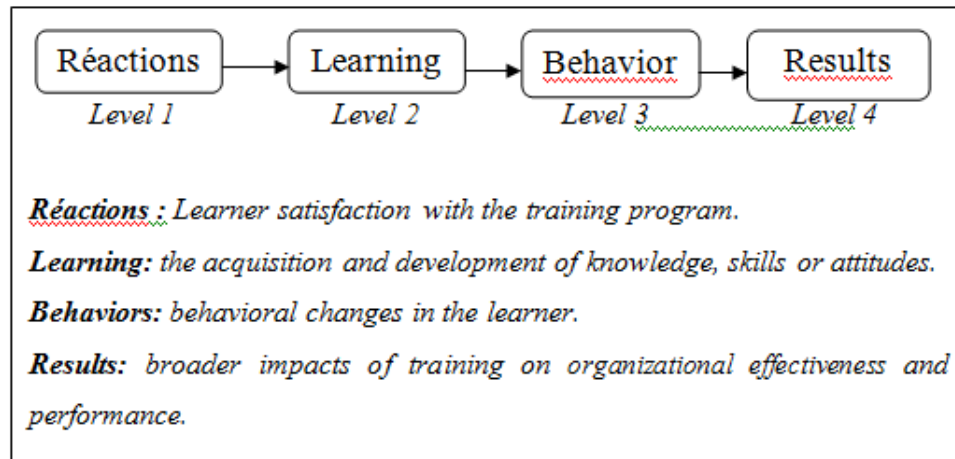
Thus, based on his personal experience, Kirkpatrick authored four articles that appeared in the Journal of the American Society for Training and Development. Since then, his work has been referred to as Kirkpatrick's four-level model, and it is still today the benchmark in the evaluation of training that is best known and most used by professionals and researchers in the field.

To assess the effectiveness of a training program, Kirkpatrick (1967) proposed evaluating four levels of criteria. The initial three levels concentrate on the learner, while the fourth level examines the organizational impact of the training. The first level, known as reactions, pertains to how satisfied learners are with the training program. The second level called learning refers to the acquisition and development of knowledge, skills or attitudes. The third level, behaviors,

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refers to behavioral changes in the learner. Finally, the fourth level, results, corresponds to the broader impacts of training on organizational effectiveness and performance (Meignant . A. 1991, P80).

Figure 1: KIRKPATRICK model



Source: Camus .M. 2006, P 33.

The contributions of Kirkpatrick's work in training evaluation are considerable. Kirkpatrick explains the popularity of his approach in two words: simple and practical. Authors interested in the field abound in its direction, as evidenced by the five main contributions presented here that have been listed in the documentation.

- Kirkpatrick's model, its simplicity, clarity and accessibility have significantly contributed to demystifying the evaluation of training and increasing its prevalence within organizations.
- By suggesting indicators and straightforward methods for evaluating each of the four levels, Kirkpatrick has made it easier for professionals to assess training effectiveness.
- This is an approach that makes it easier to promote to leaders the importance of evaluating training by speaking for them.
- The distinction between learning (level 2) and behaviours (level 3) has increased the community's awareness of the importance of learning transfer so that training investments bear fruit.

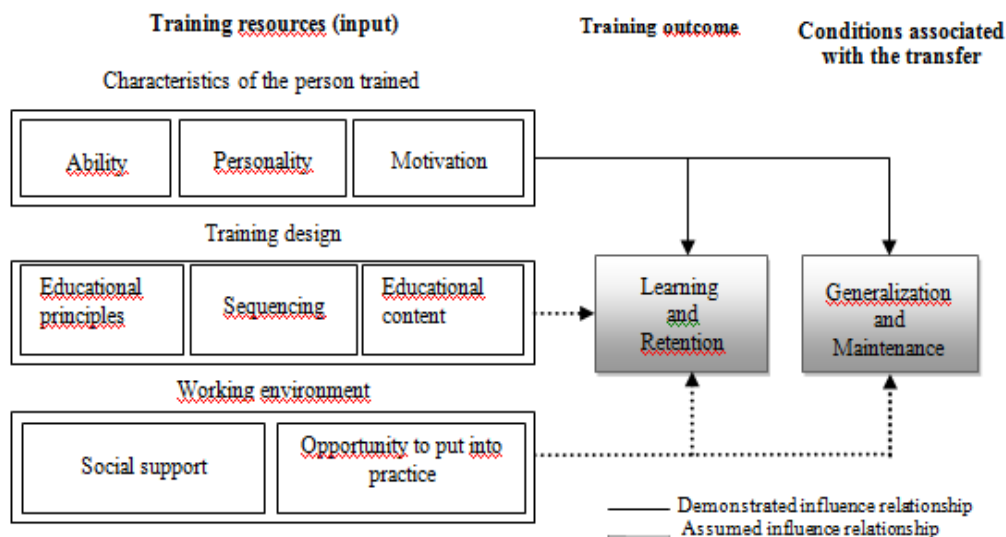
This model paved the way for the development of several other taxonomies and models of training evaluation (Boutteiller .D, Cossette .M, 2007, P60).

The multiple challenges to the strictly hierarchical nature of the Kirkpatrick model have of course opened the field to more sophisticated modelling to take into account new variables in reasoning. Criticism at this level has been all the easier to justify as many researches over the last thirty years have highlighted, far beyond mere questions of formation, the contingency of psychological, social and organizational phenomena. In fact, Kirkpatrick offers us in his initial model only a "skeleton" of causal relationship.

1-1-2 Variables influencing the results of a training

This Kirkpatrick model opens the field to other research to take into account new variables in the reasoning. Baldwin and Ford (1988) identified in their literature review empirical research on the transfer of learning outcomes, three categories of factors that interact with each other and that can be described as a "system of influences" (Figure 2), namely the design of the training, the characteristics of the learners, and the factors related to the work environment. The first factor addressed the selection of learning strategies, the organization of teaching materials, and the relevance of the training content to the actual work performed. The second factor focused on the skills, motivation, and personality traits of the learners. Lastly, the work environment included aspects such as the climate for transferring knowledge, social support from colleagues and supervisors, along with the constraints and opportunities for applying newly developed behaviors in the workplace (Chochard. Y, 2012, P125).

Figure 2: Model of BALDWIN & Ford (1988)



Source: Baldwin, T. Ford, J. K. 1988, P 63.

The identification of these influence variables encountered during the transfer led to the development of strategies or measures to be put in place to counter and minimize their negative impact. These strategies can involve multiple training actors, each with a specific role at each stage of the training. Techniques, methods, approaches and integrated action or intervention schemes before, during and after the training are proposed by different authors to anticipate transfer problems and situations. Although there is no shortage of proposals, it is still a question of convincing decision-makers of the importance of putting them in place at the various stages of training and the merits of these interventions, while the energies and especially the budgets are often directed towards the organisational and design stages of the training programme and its implementation, often leaving far behind the concern for the aspects involved in the post-training phase, while it is at this critical moment that the transfer and application of training materialize (Kirkpatrick, D. 2007).

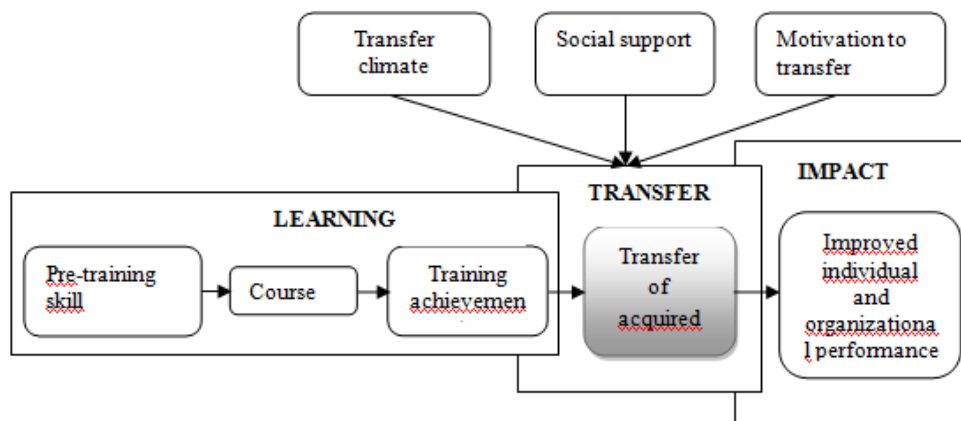
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Increased attention is being paid to the work environment since this category had been little considered some fifteen years ago and research results increasingly confirm its critical role in the post-training phase. Ford and weissbein estimated in their update of Baldwin and Ford's 1988 literature review that a greater effort had been devoted to measuring the characteristics of the work environment (Vicki L. A, 2008, P20). Considering the central role of the transfer phenomenon and the significance of the work environment, our research in this article emphasizes this category. Specifically, it examines the characteristics of work environment variables that enhance the transfer of learning outcomes in the workplace.

1-2 Search template

Based on our theoretical framework and the research question we formulated. We could indeed try to build an explanatory model (Figure 3) focused on a few key variables as do a large number of research aimed at explaining the phenomenon of learning transfer.

Figure 3: Reference model



Source: Diagram designed by us

The effect that training can have can be broken down according to our research model at the three upper levels of the Kirkpatrick model, either by taking up our diagram of the figure at the level of learning which will have an effect on the competence capital of the individual himself (his knowledge, his know-how, his know-how), At the level of transfer, the interaction between an individual and their work is affected. Similarly, at the level of impact, there is an effect on how the individual's work interacts with their immediate environment.

This reference model aims to assess the second subsystem and its connection to transfer, aligning with level 3 of the Kirkpatrick model. The focus is on gaining a deeper understanding of the dynamics involved in optimizing the transfer level of learning outcomes once individuals return to work.

In this model, transfer is structured around three main blocks of variables: social support, the motivation to transfer, and the climate of transfer. The overall dynamic of our reasoning is then as follows: an employee who, upon returning from his training, evolves in an environment where he feels supported by social support, will tend to see his motivation to transfer his learning increase. In return, being motivated to apply his new knowledge and know-how and

feeling supported by his community, will promote the active mobilization of certain personal transfer strategies, which in turn, should result in a significant mobilization of his training achievements.

2-Research methodology :

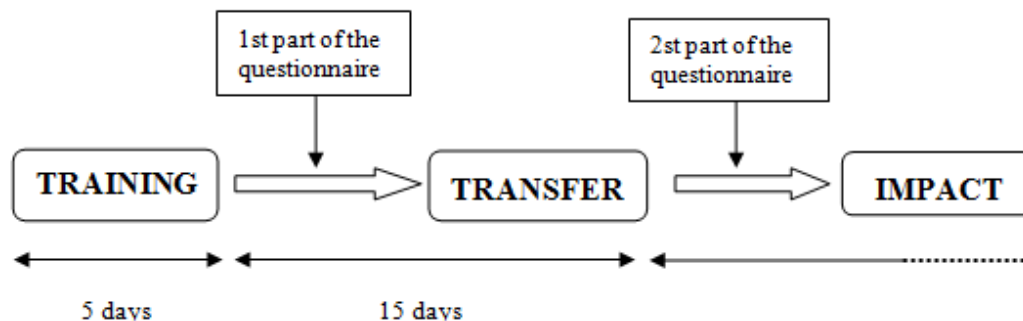
Now that we have a frame of reference to guide us, we move on to translating that vision into reality on the ground. The practical study was carried out at the level of the company MENTAL spa, a metalloplastic study and realization company created in 2001 at the industrial zone of Tlemcen as part of the subsidiaryization of the ENTC, National Telecommunications Company. It is part of the portfolio of the Société de Gestion des Participations (SGP CABELAQ). MENTAL has started its activity since its creation by making metal furniture in different forms and for different uses. This year, it achieved a turnover of 900 million Algerian dinars with a staff of 229 agents.

2-1 Data collection

Our research begins with the collection and analysis of data and information (documents, regulations, etc.) about the company being studied. We deepened this information through meetings with responsible executives. A questionnaire was then administered to a sample. The sample size we selected is 40 employees participating in a 5-day training on the theme of "employee health and safety at work". The goal of this training is to enhance employees' performance in applying workplace safety methods. This is part of implementing an integrated management system that combines the ISO 9001 standards for occupational safety and health within the framework of sustainable development.

The data from this two-stage measurement study was collected through a questionnaire by closed questions with answers on 4-point L IKERT scales. A first questionnaire was distributed to participants at the end of the training (time 1) measures the learning acquired in training (14 items). Then, two weeks after the training, participants received a second questionnaire measuring the transfer of learning (time 2) influenced by three sets of variables: motivation to transfer (4 item), social support (8 item), and climate of transfer (9 item). A confidential personal code allowed the matching of questionnaires from the two measurement periods, ensuring the participants' anonymity was maintained.

Figure 4: Questionnaire Distribution Timeline



Source: diagram designed by us

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2-2 Results :

Below is a table displaying the socio-demographic characteristics of the employees who took part in the training:

Table 1: Socio-demographic data

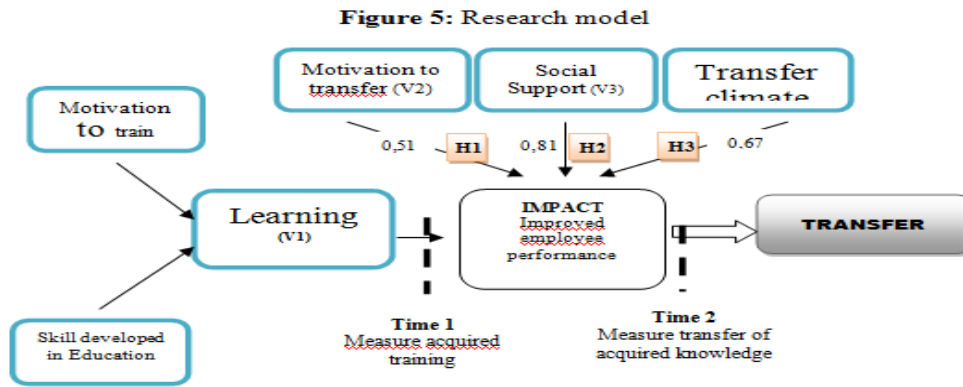
Sex	Age	seniority	scolarité
Man: 82%	-20 years : 0%	-5 years : 25%	university: 15%
Woman : 18%	20 – 30 : 30%	5 – 10 : 20%	Professional Training: 32%
	30 – 40 : 25%	10 – 15 : 17%	high school: 30%
	More 40 : 45%	More 15 : 38%	secondary: 23%

It has been observed that 82% of the employees who responded to the questionnaire are men. This gender disparity is linked to the nature of the work and the specific activities of the company, which involve working conditions that may not be suitable for women. The average age of this sample is 38, which brings us back to the assumption that managers send the most stable group of their staff to training as a priority. In terms of seniority, a significant number of respondents 38% exceed 15 years of seniority. Nevertheless, there is a certain balance between the young and the old. We can confirm this idea with the results cited in the age pyramid. The majority of respondents have an average or secondary level with a rate of 85% which means that the questionnaire was completed by workers who work in the workshops since the training organized on "safety at work" is intended for this category of workers.

After counting all that remains in the questionnaire answered by this sample. We used an SPSS program to measure the model variables. First, we measured the learning perceived by the learners, which will determine the entire training process (V1). The second part measures the influence of variables related to the working environment (V2, V3, V4) on the degree of application or transfer of learning acquired in training.

We applied the hierarchical regression method, enabling us to identify the relative contributions of each independent variable in explaining the dependent variable. The results of this analysis are presented in Table 5.

These quantitative results of the correlations between the different variables are presented in our basic model.



Source: diagram designed by us

Table 2: Correlation matrix

Variables	2	3	4	5	6	7
Motivation to train	0.65*	0.75*	0.32*	0.55*	0.49*	0.52*
Skill developed in Education		0.62*	0.35*	0.52*	0.42*	0.56*
Learning			0.22*	0.34*	0.40*	0.45*
Motivation to transfer				0.62*	0.66*	0.73*
Social Support					0.45*	0.77*
Transfer climate						0.52*
Transfer (degree of application)						1.00*

Source: the charges of SPSS.V. 22

The process journey was started by the learning variable or learning outcome. This learning is a function of the motivation to learn and the competence developed by the learner during the training. These two variables allowed us to measure the learning acquired. The results find that the learners in our sample clearly developed knowledge and skills during the training activity. These initial analyses confirm the presence of some learner learning. But when we have the variable "learning" in competition with the other variables of the model, it was less related to the variable "transfer". It was therefore concluded that the learning carried out in training does not explain much of the transfer, compared to the other variables in the model. It is therefore important to test our three research hypotheses mentioned in the model and proposed from the beginning of this work.

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Table 3: Regression relative to the influence of motivation to transfer on the transfer of learning

Model	Coefficients			t	Meaning B
	Unstandardized coefficients		Standardized coefficients		
	B	Standard errors	Bêta		
Constant	2,61	0,361		8,822	0,0000
Motivation to transfer	0,51	0,089	0,571	5,768	0,0000

The first hypothesis is verified since we observed a statically significant correlation $R=0.73$ and a statically significant effect $B=0.51$ between the motivation to transfer and the transfer of learning since the value of $\text{sig} = 0.000$ is less than 0.05 . We found in the speeches of the interviewees, the many forms that could take these motivations relating to training: increased chance of obtaining a promotion, an increase in his autonomy at work, use of machines with greater safety.

Table 4: Regression on the influence of social support on the transfer of learning

Model	Coefficients			t	Meaning B
	Unstandardized coefficients		Standardized coefficients		
	B	Standard errors	Bêta		
Constant	4,51	0,472		7,632	0,0000
social support	0,81	0,095	0,781	4,745	0,0000

The significant correlation $R=0.77$ and the statically significant effect between social support and transfer since the value of $\text{sig} = 0.000$ is less than 0.05 further leads us to confirm the second hypothesis. The behaviour adopted by the supervisor towards the employee participating in the training is a variable that we have identified as having a strong impact on the transfer of learning.

Our interviews also highlight the influence that the behaviour of co-workers plays in the transfer of learning. Colleagues provide the trainee with information that is complementary to the training and useful for the transfer. They offer him concrete solutions to facilitate the transfer of learning. These exchanges become opportunities to use the content of the training

Table 5: Regression relative to the influence of the transfer climate on the transfer of learning

Model	Coefficients			t	Meaning
	Unstandardized coefficients		Standardized coefficients		
	B	Standard errors	Bêta		
Constant	2,95	0,420		9,671	0,0000
transfer climate	0,67	0,065	0,661	5,553	0,0000

The correlation between climate and transfer is moderately significant $R=0.52$ and the effect between these two variables is statically significant since the value of $B=0.67$ and $\text{sig}=0.000$ is 0.05 lower. In light of this result, we can confirm our 3rd hypothesis but several explanations can be provided for the results obtained. The moderate correlation between the two variables resulted from inadequate working conditions within the organizational culture of the company, as well as the limited application opportunities affecting the extent to which learning outcomes are implemented.

3- Discussion:

This study, set within the training environment, underscores a significant finding about the impact of organizational variables on learning transfer dynamics. The characteristics of the organizational context where training occurs, combined with the support of the line manager and the transfer climate, largely explain how learning is transferred in the workplace. Specifically, an environment that promotes lifelong learning boosts employee confidence, indicating that management practices focused on explicitly acknowledging and valuing the outcomes of training are strong inducements for continued learning. Additionally, support from superiors plays a crucial role in easing the transfer of learning. It could also indirectly influence the dynamics of learning transfer by strengthening the trainees' sense of personal effectiveness, the trainees who are most confident in their abilities are also those who benefit most from the attention of their supervisor.

The results of this study can be summarized in the following points:

- Learning is a necessary but not sufficient condition to generate the transfer of learning. In other words, just because an individual learns something in training doesn't mean they'll use it when they return to work.
- The management style of the supervisors noticed in the company under study could qualify as mobilizers. This management style is more likely to be associated with a transfer of more intense learning and to reinforce the desire to apply the things learned.
- The climate conveyed in the company under study could be considered favorable to the transfer of learning. It is composed of a sense of stability, solidarity, harmony, team spirit and in some cases, a sense of commitment from management.
- The results indicate that the Algerian worker likes to work in a favorable work environment characterized above all by good relations with his colleagues and his supervisor.
- The findings from this study emphasize the significance of further investigating how work

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environment factors mediate the connection between learning and the transfer of prior learning.

- These results lead us to conclude that the use of what is learned in training (transfer) depends on four conditions, the person must: 1) find the training “good” (useful and relevant), 2) feels the support of their workplace, 3) has the means to apply, and 4) has the opportunity to apply. This clearly defines the responsibilities of the Algerian company in terms of transferring learning in the workplace.

For the transfer of learning to be sustainable and yield the desired organizational benefits, it is crucial for organizations to engage actively in the training initiatives they support. This involvement ensures a greater return on their investments. This study highlights the importance of examining the work environment variables that impact training outcomes. We have demonstrated that when the training product is carefully targeted and effectively designed, the focus shifts from mere access to training to achieving competence and observing positive effects in the workplace.

Conclusion :

Formative effectiveness appears to be the result of a complex structuring dynamic and a combination of individual and organizational factors. The outcome is evidently the result of shared responsibility among the employee and their own motivation to learn and transfer skills, between the employee and their immediate supervisor, and between the employee and their immediate work environment. Competence must therefore be approached as a co-production, co-responsibility and co-investment. Our study reinforces the idea that it is not enough to offer good training to employees so that they are more competent and work better, it is also necessary, and above all, to put in place the conditions conducive to the transfer of these learnings.

However, The study's findings should be viewed with caution due to several methodological limitations. One primary issue is the lack of a control group in the experimental setup. The second corresponds to the small sample size and that the research was carried out from a single company. The third refers to the fact that participation in the study by employees was on a voluntary basis. The fourth concerns the evaluation of the variables of the work environment. It would have been preferable for other aspects of these to be assessed in order to better understand the results obtained, such as practice opportunities, organizational culture as well as other aspects of the working climate.

Despite these limitations, this study nevertheless opens up interesting research prospects for future work. First, it confirms the importance of better understanding how motivational and organizational factors intertwine to facilitate or hinder the transfer of learning after training.

However, more research is needed to better measure the influence of certain variables such as learner characteristics and those of post-training activities on transfer.

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