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An evaluation of the effectiveness of teacher training: some results from a study on the transfer factors of teacher training in Barcelona area

Anna Ciraso a *

*a Department of Systematic and Social Pedagogy, Faculty of Science Education, Autonomous University of Barcelona, Bellaterra 08193, Spain

Abstract

Teacher training is a key component for a high quality education (Buchberger, Campos, Kallós, Stephenson, 2000); and transfer of teacher training, as it shows how trainees apply the competences they have learnt, is a relevant aspect to assess the effectiveness of trainings in the schools. In this paper we present a study on the transfer factors, through a questionnaire for teachers (N = 107) of primary and secondary schools. Results indicated a high motivation to transfer; but a lack of a transfer orientation in the organization of the schools, and a perceived low level of support of the educative administration.

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1. Introduction

Every kind of strategic change in schools should be supported by an effective in-service training program for teachers; as the Catalonian educational public administration stated, teacher training is a basic resource to implement improvements to the education system, particularly inclusive methodological approaches, curricular innovations, and the improvement of learning results in foreign languages and new technology (Departament d’Educació, Generalitat de Catalunya, 2004-2005).

We define “training transfer” as the degree to which training participants apply to their job the knowledge and skills they learnt thanks to the training, and its stabilization (Pineda, 2002); this is a core aspect of training effectiveness, and its measurement can allow us to understand the conditions through which teachers’ use of new knowledge are enhanced, and through which training helps to improve teachers’ and schools practices.

Although the importance of teacher training has been recognized by both the public administration and the academic sector, still it is complicated to implement a model in order to evaluate its results, among which the learning transfer. Some of the evaluation strategies that have been applied in companies, as Kirkpatrick’s (2009), hardly be performed, because of their cost in both economical and human terms; besides, they did not consider the
specificity of the organizations in educational field, and in particular in the political and cultural context of Catalonia.

Given the complexity to evaluate direct transfer, some authors (among others: Noe, 1986; Holton, 2005; Pineda, Quesada & Moreno, 2010) suggested to use an alternative way to study transfer; that is, the indirect measure of transfer, through the factors that facilitate or hinder it; another advantage of this approach is that it can provide keys to operate actively on the causes of a eventual low transfer. This approach has being applied by Pineda, Quesada & Ciraso (2011), who developed the FET model (Factors for Evaluation of Transfer) to assess the effectiveness of training in Spanish public administration.

The aim of this paper is to present some of the quantitative results from a larger evaluative study of teacher training transfer factors; the scope of this research, which is still in development, is to create a model for the local educative administration delegations (the Zone Educational Services), to evaluate the effectiveness of teacher training in schools.

2. Methodology

We developed an own instrument to evaluate transfer factors of teacher training, based on the literature review on training evaluation, transfer factors, and change processes in schools; to prioritize and contextualize the variables, we also conducted interviews and focus groups with some important agents in this topic (mainly teachers, trainers, and members of the Zone Educational Services).

The instrument we designed was a questionnaire composed by 54 Likert items, measured on a scale of 4 points (1: agree; 4: disagree), and 6 open-ended questions. We validated the tool by a content validation procedure, in which we asked a committee of experts to match every item with the variable it referred to. The final questionnaire included the following variables: school organizational structures, school willingness to change, school planning, school climate, training design, link between training and school projects, motivation to transfer, personal implication, legitimacy of the change (De Miguel, 1996), usefulness of the change, and the role of the Zone Educational Services. Besides, we included the variables of individual transfer; and centre transfer, a concept that emerged from the qualitative part of the research, which was referring to the application of the new knowledge by the school as a learning organization, and its consolidation in the centre practices.

We applied the tool to a sample of 107 teachers, from 37 schools in Barcelona area, who participated in training during the academic year 2010-2011. We used a non probabilistic sampling process, with the criteria we established: to study only training activities developed at the schools, with just the teachers of that centre; to get information from public (88,8% in our sample) and charter schools (10,3%), both part of the public education system; and we decided to exclude some training activities formats, such as conferences and short workshops, because they could have very different grades of transfer results. The 72,9% of the teachers of the sample were working in nursery and primary schools, the 15% belonged to the secondary schools, and the 9,3% to schools with both stages. With regard to the contents of the different training activities we analyze, they were very heterogeneous; the most relevant training area was ICT (46,7% of trainings in our sample).

Once we obtained all data, we used a text processor to analyze qualitative information, and the SPSS statistical package to carry out exploratory factor analysis, reliability test, descriptive analysis, ANOVA, simple and multiple regressions. In this paper, we are only presenting some of the most relevant results of the exploratory factor analysis and descriptive analysis.
3. Results

We applied an exploratory factor analysis to get evidence of validity based on construct; this analysis did not include individual and centre transfer, as they were considered independent scales. We followed a maxim likelihood method, with an Eigen value greater than the unit, and Varimax factor rotation; we had a KMO (0,793) and Barlett’s significance (0,000) that indicated the possibility to continue the analysis. During the process, 9 items were deleted, because they did not have a correlation with the factors.

From this analysis, a model of six factors emerged, which explained 51,24% of the variance. All the initial variables were included in this model, although some of them spitted up in different factors, as we explained below.

The first factor, that we called transfer motivators, was mainly based on the variables of motivation to transfer, usefulness of the change, and training design; it took into account different elements which could be internal, of the training, and of the change that is being led, that teachers consider that motivate them to apply new learning in their job.

Factor 2, that we called school climate, was composed by the same variable, and referred to the cohesion, the teamwork, and the sense of belonging of the teacher to their school.

The third factor included items from the variables of school structures, legitimacy of the change, and role of the Zone Educational Services; we called it transfer organization, and we defined it as the way how the school plans and manages the application of the new knowledge, and the way how school intermediate structures, such as departments, take into account the new learning. Within this factor, consensus between teachers about the introduction of innovations had a great weight.

The fourth factor was mainly based on the variable personal implication, and it kept the same name; it represented the engagement and the sense of responsibility of the teacher to the school centre.

Factor 5 corresponded to the variable willingness to change, and it referred to the attitude of the school towards changes.

Finally, the last factors was composed by items of the variables role of the Zone Educational Services, and legitimacy of the change; we called it relationship with educative administration, as it represented basically the perceived support that the gives to the school, during the planning of training and of the different school projects.

To analyze the reliability of the scales, we performed the Cronbach’s alpha coefficient, and we obtained the results that we are presenting in table 1. According to Nunnally (1978), the variables had a sufficient or good reliability.

Table 1. Reliability results

<table>
<thead>
<tr>
<th>Scale</th>
<th>Alpha</th>
<th>N° items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factors</td>
<td>0,928</td>
<td>37</td>
</tr>
<tr>
<td>Individual transfer</td>
<td>0,845</td>
<td>4</td>
</tr>
<tr>
<td>Centre transfer</td>
<td>0,864</td>
<td>4</td>
</tr>
</tbody>
</table>

We performed a descriptive analysis of the transfer factors, and we obtained the results shown in table 2.
To interpret the results shown in table 2, we considered factors with values above 3 as facilitators of transfer; factors between 2.5 and 3 as weak factors, that may be facilitate transfer but that still did not work appropriately; and we considered that factors below 2.5 as hindering transfer. As we can see, the only two facilitators are teachers’ personal implication in school, and transfer motivators; while the perceived relationship with the educative administration obtained a low score, and the higher deviation. We also notice that the two facilitators are factors belonging to the personal dimension, while willingness to change, school climate and transfer organization, which refer to the school centre dimension, were not acting clearly as transfer facilitators.

We also analyze values of individual and centre transfer, as we can notice in table 3.

As shown in table 3, individual transfer obtained a rather high score, while the value of centre transfer is lower; that could be explained by the factors belonging to the school centre dimension.

4. Discussion

The results we obtained shown us some of the aspects where we can act, to improve teacher training transfer. Particularly, we observed that there is a lack of transfer orientation in the organization of schools; although teachers seem to be very motivated and implicated in the introduction on changes, the way how schools are organizing the processes of analysis of training needs, planning training, evaluating it and establishing ways to integrate the new learning and skills to the centre, are missing some core aspects. Some qualitative results of this research are confirming this interpretation, suggesting that teachers are learning and applying knowledge to innovate in their class; but there is still a lack of knowledge sharing between teachers of the same school and between different schools; and the school structures, as the departments, needs to learn how to apply the new learning in creating didactic material, leading new methodologies, driving the new curricular approaches, etc.

Another suggestive result is the low score of the factor relationship with the educative administration. First of all, we have to consider that the support that the Zone Eduative Services is not always visible to the teacher, because these services interact more with the school direction. Nevertheless, both with quantitative and qualitative results in this research, we saw that this factor may be affecting negatively teachers’ transfer; according to this results, it would be advisable for the educative administration to act in a way, so that teachers can see how school’s projects are supported, and that the role of the teacher is valued as a key agent for changes in the educative system. Furthermore, we have to consider that the Eduative Services could act significantly in other factors, such as school willingness to change, transfer organization and school climate.
We also remark that this research confirmed some variables which had already emerged in the literature, as the motivation to transfer (Burke & Hutchins, 2007); other factors that we found, like transfer organization and centre transfer, sprang from the fieldwork, and they consequently need to be studied in deep with further researches.

Finally, we acknowledge that these results can represent just a first approach to the topic. After finding out the predictive power of the transfer factors, the next phase of the research will be the application of the tool to a larger sample, and an accurate qualitative study to know exactly hay factors interact and have an impact of individual and centre transfer, in order to triangulate all the data we have been recollecting, and obtain a more comprehensive point of view.

References