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Perceptions of organizational change by actions of training: systematic literature review

Percepções de mudança organizacional por ações de treinamento: revisão sistemática da literatura

Cláudio Gaspar de Mello¹ , Thaís Zerbini¹ 

¹ Universidade de São Paulo, Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto, Programa de Pós-Graduação em Psicologia. Ribeirão Preto, SP, Brasil. Correspondence to: C. G. MELLO. E-mail: <claudiomello@hotmail.com>.

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Abstract

Objective

The systematic review presented in this study aimed to investigate the educational actions that impacted on organizational changes and their results.

Method

The search for articles was conducted in the databases: Web of Science, Scopus, ProQuest, Education Resources Information Center, PsycINFO, Scientific Electronic Library Online, in addition to the dissertation and thesis banks of Universidade de São Paulo and Universidade de Brasília considering the works published between 1999 and 2019.

Results

Of the articles found, 24 met the inclusion criteria. Self-reported positive improvements in teamwork; increased job satisfaction; willingness to assume a leadership role, motivation to work, and change in the organizational climate; were some of the results found.

Conclusion

Although there is an extensive literature on organizational change, theoretical, methodological, and empirical gaps on the topic still exist and need to be explored. The review identified the main results perceived by training actions in organizations, as well as the impact of such actions on organizational changes.

Keywords: Distance training; Organizational change; Systematic review; Training; Training evaluation.

Resumo

Objetivo

A revisão sistemática apresentada neste estudo teve como objetivo investigar as ações educacionais que impactaram nas mudanças organizacionais e seus resultados.



Método

A busca de artigos foi realizada nas bases de dados: Web of Science, Scopus, ProQuest, Education Resources Information Center, PsycINFO, Scientific Electronic Library Online, além dos bancos de dissertações e teses da Universidade de São Paulo e Universidade de Brasília considerando os trabalhos publicados entre 1999 e 2019.

Resultados

Dos artigos encontrados, 24 atenderam aos critérios de inclusão. Melhorias positivas autorrelatadas no trabalho em equipe; aumento da satisfação no trabalho; disposição para assumir papel de liderança, motivação para o trabalho e mudança no clima organizacional foram alguns dos resultados encontrados.

Conclusão

Embora exista uma extensa literatura sobre mudança organizacional, lacunas teóricas, metodológicas e empíricas sobre o tema ainda existem e precisam ser exploradas. A revisão identificou os principais resultados percebidos pelas ações de treinamento nas organizações, bem como o impacto dessas ações nas mudanças organizacionais.

Palavras-chave: Treinamento a distância; Mudança organizacional; Revisão sistemática; Treinamento; Avaliação de treinamento.

The transmutations that have occurred in the last decades in the world are getting faster and more complex. Changes in economic, social, and technological contexts affect organizations and the world of work due to several factors, among them: globalized and increasingly competitive market, rapid technological advancement, consumers that are more demanding, unemployment, and new management models (Mourão & Borges-Andrade, 2005; Pantoja & Borges-Andrade, 2009). In the face of this scenario, organizations outline change plans in order to keep up with such changes and remain competitive (Picchi, 2010). Thus, investment in training and development actions has gained prominence as a strategy (Araujo et al., 2019; Massenberg et al., 2017) to boost organizational performance and it is necessary to identify advances in research focused on Organizational Change arising from training actions in organizations.

In Brazil and worldwide, the study on Organizational Changes is not a recent topic among scientific researches, however, the speed and intensity of demographic, cultural, social, economic, and technological changes are transforming the way organizations work (Andrade, 2019; Mourão & Borges-Andrade, 2005; Picchi, 2010). In this context, human resource management is highlighted for assuming a strategic role in the development of knowledge, and the Training and Development (T&D) area becomes essential for the maintenance of competitiveness and organizational survival (Meneses, 2007; Picchi, 2010). The T&D area follows the changes in the world of work and the advancement of technology, becoming a scientifically anchored field due to its theoretical and methodological progress (Andrade, 2019; Bell et al., 2017; Pilati, 2004; Salas et al., 2012).

Increasingly, individuals and organizations invest in training actions, yet, investments made in training activities often tend to be wasted, as there is a mismatch between scientific studies on T&D systems and the application of this knowledge by professionals in organizations (Meneses, 2007). Thus, it makes room for robust studies in the field of T&D aimed at assessing the effectiveness of results at the organizational level (Meneses, 2007; Picchi, 2010).

The classic and pioneering models for evaluating training outcomes in the T&D literature (Hamblin, 1978; Kirkpatrick, 1976) show the training effects on the individual levels (Reaction, Learning, and Behavior in Job) and organizational (Organizational Change and Value) levels final. However, there is a lack of studies in the field of evaluating training results at the organizational level (Andrade, 2019; Meneses, 2007; Picchi, 2010). Andrade (2019) and Mourão and Borges-Andrade (2005) tested, in their studies, an evaluation model of educational actions aiming to identify predictor variables that influence the effectiveness of training in labor organizations including impacts the

level of Organizational Change. The findings in the studies of these authors relate positively the relationship between T&D actions and *Mudança Organizacional* (M.O., Organizational Change).

The literature (Andrade, 2019; Freitas & Mourão, 2012; Picchi, 2010) indicates that strategic training, when well planned and implemented, can cause significant changes in organizations. According to Freitas and Mourão (2012) the effects produced by T&D actions impact the organization's processes and are related to organizational changes. Thus, a positive relationship between T&D and Organizational Change is expected, as training plays a key role in facilitating and supporting change in organizations.

From the context introduced, the present study aims to investigate the scientific productions on educational actions (classroom and distance training) that affected organizational changes and what their results are. To achieve this goal, a systematic bibliographic review was carried out, in the last 20 years (1999 to 2019), in scientific productions from different areas of knowledge, seeking to answer the questions: what does the literature present about the impacts (results) of educational actions (training) in organizational changes? Moreover, what organizational changes were the result of the training? It is worth noting that no empirical research on T&D was identified that included the M.O. variable in the multivariate models before the year 1999.

This work analyzes articles, dissertations, and theses, selected through electronic databases, which were chosen for the comprehensiveness and consistency of the scientific content found in such databases. After the careful selection that will be presented in the topic Method, this work carries out a systematic review of 24 works published between the year 1999 and 2019 that presents a relationship between organizational changes and training actions, as well as their results.

Organizational Change and Training

The definitions found in the literature for Organizational Change are diversified (Picchi, 2010). In the context of T&D, when presenting the Training Actions Evaluation Model, Hamblin (1978) subdivides the Results level presented by Kirkpatrick (1976) in Organizational Change and Final Value. Thus, the author predicts that educational actions may generate results at the organizational level. Hamblin (1978) defines Organizational Change as shifts that may have occurred in the functioning of the organization due to the effects of educational actions (training) offered by itself, in which the participants of such actions work. As the present study starts from the field of T&D, that author uses as reference the definition of Organizational Change.

Just as Organizational Change is a widely researched topic, training is an important topic discussed and studied by the area of Organizational and Work Psychology in the T&D system (Mourão & Borges-Andrade, 2005). Among the most traditional objectives of training, it is evident the identification and overcoming of deficiencies in the performance of employees, their preparation for new functions, and the adaptation of professionals to new technologies (Borges-Andrade & Abbad, 1996). According to Latham (1998), Training can be defined as the systematic development of behavioral patterns of knowledge, skills, and attitudes that are necessary for the individual to adequately perform an activity, task, or job in the organization.

Picchi (2010) brings a relationship between Organizational Change and Training by defining "Perception of Organizational Change attributed to Educational Action" as the individual's judgment as to the occurrence of changes resulting from the participation of employees in the educational action in the organizational components (people, work, structure, cultural structure) or in the relations between the organization and its environment, which have relevant consequences, of

positive or negative nature, for the efficiency, effectiveness and/or organizational sustainability. Thus, if the effects produced by T&D actions influence the institution's processes, without configuring the fulfillment of organizational objectives, there is an impact on the level of Organizational Change. This relationship is in line with the definitions presented for Organizational Change and Training.

Even with the relationship between Organizational Change and T&D, the increase in interest in the two areas happens in parallel, with little exchange between the two fields of study (Andrade, 2019). The interaction between the two areas would bring considerable advances (Picchi, 2010) both for the literature and for organizational practice and as explained above, the study and evaluation of training results at the organizational level is lacking and requires robust studies due to the difficulty to researching at this level (Andrade, 2019; Meneses, 2007; Picchi, 2010). Thus, this study arises from the objective of identifying in the literature the advances on the Organizational Changes perceived as a result of Training actions in Brazil and in the world using as methodology the Systematic Review. The following is the research method pathway, the results and their discussion.

Method

The data featured in this study are the result of a systematic review and follow the recommendations of Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Moher et al., 2009). For its accomplishment, the following steps were followed: (i) planning and formalization of the research via Study Protocol; (ii) carrying out the research following the Study Protocol; (iii) summarization of the collected data, and iv) analysis and discussion of the selected articles.

Based upon the Study Protocol for the systematization of research results on the topic of interest, the selection of electronic databases with national and international scientific productions in the last 20 years (1999 to 2019) was implemented. The selected databases were Web of Science, Scopus, ProQuest, Education Resources Information Center (ERIC), PsycINFO, Scientific Electronic Library Online (SciELO), in addition to the databases of dissertations and theses at the University of São Paulo (USP) and the University of Brasília (UnB). The selection of such databases occurred due to the concentration of works published in the areas of knowledge and interest of the present study. The search in the Banks of dissertations and theses of USP and UnB is because they are national reference in studies in the area the Organizational and Work Psychology, specifically works on T&D.

The searches in the databases took place during the months of October and November 2019. The descriptors were used in all fields: Organizational Change linked to Training, Distance Training, Teaching Distance Learning (E-Learning), Educational Actions, and Training Evaluation (Training Evaluation).

The following inclusion criteria for publications were listed, based on the research objective: (a) empirical, theoretical studies, theses, and dissertations; (b) studies published since 1999 (last 20 years); (c) in English and Portuguese; and (d) studies that presented research results with organizational changes perceived by training actions. According to the exclusion criteria, publications that did not present organizational changes deriving from training changes outside the organizational context, evaluation of training, or non-empirical studies.

After consulting the databases and applying the search strategies, the search results were transferred to the StArt tool in order to make the systematic review more agile, accurate, and replicable. StArt is a free support tool for systematic proofreading, developed by *Laboratório de Pesquisa em Engenharia de Software* (LaPES, Laboratory of Research in Software Engineering)

at Federal University of São Carlos and is available at (<http://lapes.dc.ufscar.br/ferramentas/start-tool>). The tool contemplates the three stages of systematic proofreading: planning, execution, and summarization, which involves the filtering processes, extraction of content from publications, and some quantitative analyzes, which contemplates the phases of research execution and summary of the results.

From here onwards the inclusion and exclusion criteria in the databases, 3,781 studies were found, among which 796 duplicate studies were identified in one or more databases, leaving 2,985 for their selection and analysis. Table 1 shows the results, in quantitative terms, of the searches carried out in the aforementioned databases (Table 1).

Table 1

Distribution of articles according to the researched databases

Keywords	Web of Science	Scopus	ProQuest	ERIC	Psycinfo	SciELO	USP	UnB
Organizational change and Training	341	836	350	358	1,155	16		
Organizational change and Distance Training	0	2	12	3	1	0		
Organizational change and E-Learning	12	39	320	37	13	1		
Organizational change and Distance Learning	2	11	183	16	5	1		
Organizational change and Educacional Actions	0	0	2	0	0	0		
Organizational change and training evaluation	1	7	31	0	3	0		
<i>Mudança Organizacional and treinamento</i>						4	4	5
<i>Mudança Organizacional and treinamento a distância</i>						0	1	0
<i>Mudança Organizacional and Ensino a distância</i>						0	0	7
<i>Mudança Organizacional and Ação Educacional</i>						0	0	0
<i>Mudança Organizacioanl and Avaliação de Treinamento</i>						0	0	2
Total	356	895	898	414	1,177	22	5	14
Total Studies Found	781							
Duplicate Studies	796							
Total Studies For Selection And Analysis	2,985							

Note: ERIC: Education Resources Information Center; SciELO: Scientific Electronic Library Online; UnB: Universidade de Brasília; USP: Universidade São Paulo.

The stage of execution of the selection of studies started from the 2,985 studies found. The pre-selection of the studies was based on reading the title and summary of the studies and the exclusion criteria resulting in 332 pre-selected studies. Among the main justifications for the exclusion of studies in the pre-selection can be highlighted: the recognition of training as an important factor for Organizational Change (28%), studies that did not identify Organizational Change through the training action (19%), the use of the term M.O. for other contexts such as the need for changes to depression, mental health, drugs, etc. (18%), organizational leadership training as a factor for M.O. (16%), Evaluation of training in organizations (4%), non-scientific studies (4%), others (6%), The justification for the exclusion of the 2,653 studies is described in Table 2.

Subsequently, the pre-selection was refined from the detailed reading of the abstracts, verifying the adequacy of the content of the studies to the objectives of the review, and, in the end, 24 studies met all the inclusion criteria. Among the justifications for the exclusion in this stage can be mentioned: it does not evidence effective results of the training in the M.O. ($n = 112$; 36%); training as a practice for M.O. ($n = 66$; 21%); low results due to lack of training ($n = 56$; 18%); Training Needs Analysis ($n = 27$; 9%); Implementation of new management systems, 6 Sigma, ERP, Lean ($n = 21$; 7%); Training for the implementation of IT ($n = 18$; 6%); and studies without full access ($n = 8$; 3%).

Table 2*Justification for pre-selection exclusion*

Justification	Quantity	%
• Training as a factor for Organizational Change (M.O.)	753	28
• They did not determine M.O. by training action	510	19
• Use of M.O. as the need for changes in other contexts (depression, mental health, drugs, etc.)	499	18
• Organizational Leadership Training for M.O.	424	16
• Non-scientific studies	203	9
• Training assessment without M.O.	115	4
• Others	149	6

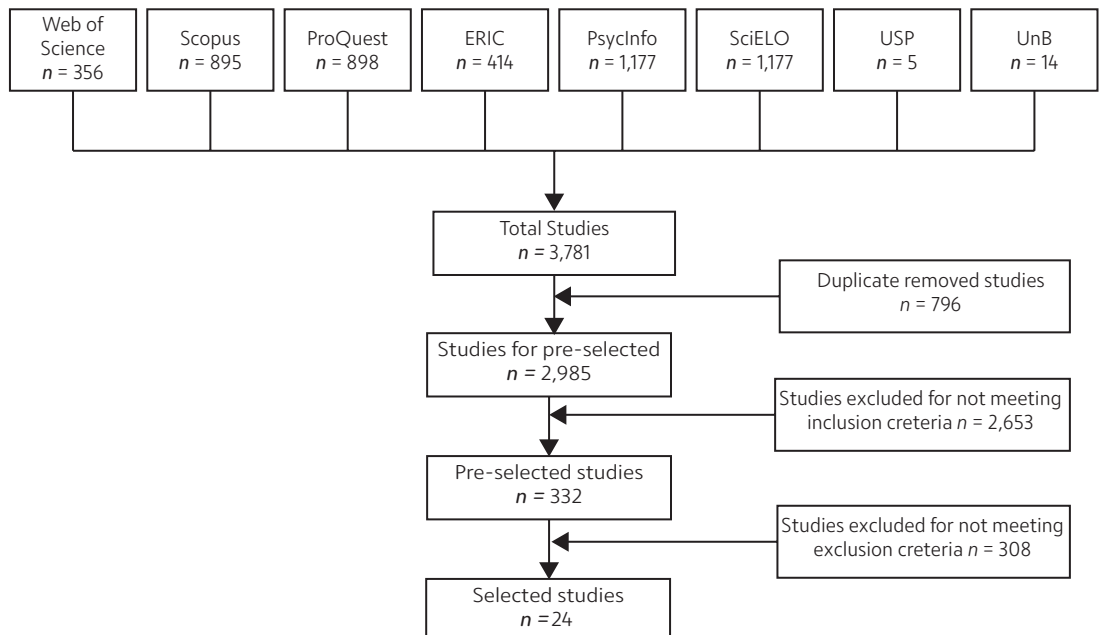
Note: M.O.: *Mudança Organizacional*.

In the last step, for the analysis and compilation of the results, an in-depth examination of the studies was carried out from their full reading, highlighting the method and the results of the same, in order to raise the Organizational Changes as a result of actions of training in organizations.

Results and Discussion

From the inclusion and exclusion criteria established for this study, and after analyzing the titles and abstracts, 332 studies were preselected and underwent a floating reading to identify consonance with the inclusion and exclusion criteria. Of these, only 24 studies were selected, including 20 articles and 4 theses that make up the sample of this study. The flowchart with the result of the steps performed in the process of obtaining the sample is shown in Figure 1.

The following will present the main results of the selected studies related to organizational changes perceived by training actions in organizations.

Figure 1*Flowchart of information on the steps performed in the systematic review*

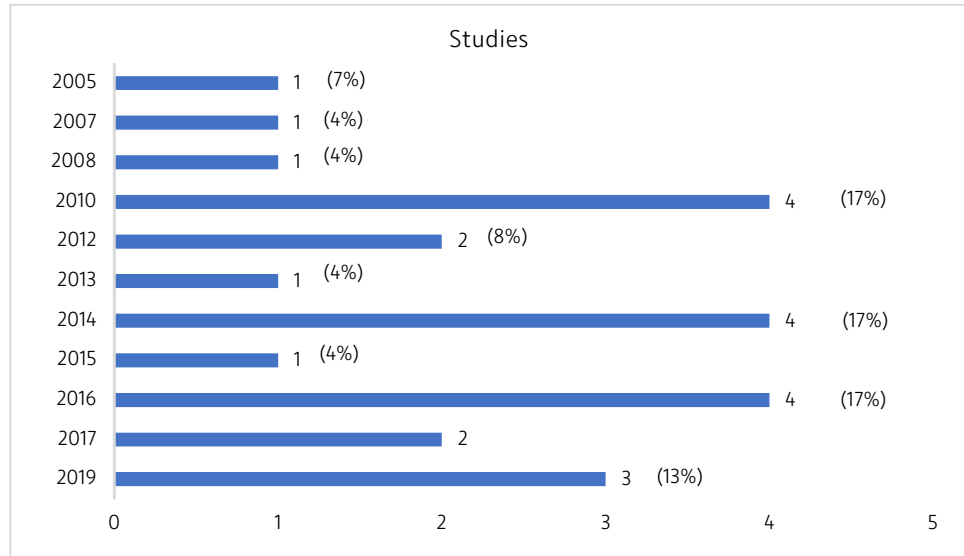
Note: ERIC: Education Resources Information Center; SciELO: Scientific Electronic Library Online; UnB: Universidade de Brasília; USP: Universidade São Paulo.

Characterization of the Studies

From the searches in the databases, initially, 3,781 studies were found. It was found that in all these journals they have publications on the theme Organizational Change and Training, showing a great interest in the theme. After reading the titles and abstracts, 24 studies were thoroughly read because they met the inclusion and exclusion criteria guided by the Study Protocol for systematic review. Such studies were distributed by year and the results are shown in Figure 2.

Figure 2

Graph of distribution of publications by year



There is an increase in publications on organizational changes noticed by training actions in organizations since 2010, totaling 21 studies (88%), which represents a greater concern in evaluating the effective results of training actions in organizations and that organizational learning started to be widely considered as an important determinant for change, the performance of organizations, competitiveness and return on investments (Andrade, 2019; Antonietti, 2016; Meneses, 2007; Moffatt-Bruce et al., 2017; Picchi, 2010; Scorsolini-Comin et al., 2012; White et al., 2017). The years 2010, 2014, and 2016 had the largest number of publications (15% each).

Regarding the area of knowledge of the studies of the researched sample, there is a diversity of areas that presented studies on organizational changes and training, among them: Medicine ($n = 10$; 42%); Psychology ($n = 6$, 25%); Administration ($n = 5$; 21%); Economy ($n = 1$, 4%); Education ($n = 1$, 4%); and Pharmacy ($n = 1$, 4%). The areas of Medicine and Psychology present a large concentration of published studies, together they represent 66.67% of the publications ($n = 16$). The concentration of studies in the health field can be related to databases that mostly present works in such areas.

When setting the sample regarding the country of origin of the studies, it is possible to verify that the largest number of published studies with organizational changes noticeable through training in organizations are studies brought about in the United States and Brazil, with six studies each country, together representing 44.4% of the sample, followed by England, Romania, and Australia, two studies each (8%), and in sequence Germany, Canada, Chile, Denmark, Italy and the Republic of Congo with one study each (3.7%).

Regarding the language, most studies were published in English, corresponding to 18 studies (75%) and the other 6, in Portuguese (25%). The inclusion of the Portuguese language was a strategy to find studies carried out in Brazil.

Articles with quantitative (15), qualitative (7) and mixed (2) designs were part of the review, a result that was expected due to the diverse areas of knowledge (Psychology, Administration, Health) and the use of different methodological paths for scientific research. By analyzing and synthesizing the results of these studies, it was possible to develop a deeper understanding of the current state of research on Organizational Change arising from T&D actions.

Relationship of Organizational Change and Training

The training of people capable of modifying the organizational context, turns into competitive advantages for organizations, by developing through trained employees, differentiating elements, objectively classifiable as rare, valuable, and difficult to be replaced (Andrade, 2019). In the face of a highly competitive market, such capacity represents an interesting attraction for carrying out corporate education programs (Scorsolini-Comin et al., 2012).

Antonietti (2016) presented effective results of the productivity ratio in the work of outsourced companies in Italy and the training, companies that invested in training showed higher productivity concerning others that did not make the same investment. The author compared the results of small and medium-sized companies with large companies. Unfortunately, as in Brazil, it is known that small companies are less inclined to offer training to the workforce and it was found that small and medium-sized companies have lower productivity. Yet, the study pointed out that productivity is affected through the training of upper and middle managers. In his study, the main research hypothesis was confirmed: outsourcing is related to increased productivity only if companies provide training to their employees.

The increase in productivity due to training was also noticed in the study by Blaga and Gabor (2016), as well as the increase in the quality of the organization, followed by increased customer satisfaction, increased sales, cut costs, increased satisfaction of employees. Such results are highly related to the increase in productivity. The study by Chang (2010) indicated that after the training, the improvement of the CHA increased sales agents' reserves and sales, generating significantly more sales.

The results related to Organizational Change after the educational action in the studies of Mourão and Borges-Andrade (2005) was the increase in the number of workshops and trainees in professional education, yet, there was a greater increase in the number of people with mental disabilities employed related to the experimental group in the study period when compared to the control group.

The study by Čudanov et al. (2012) analyzed the organizational changes perceived by employees and the learning improved by technology was facilitated by Information and Communication Technologies (ICT) and the results show that the application of modern learning technologies, predominantly from field of ICT, is a new and promising field. ICTs are perceived as tools and have a notable impact on organizational change in the areas of organizational structure, culture and knowledge management processes in the organization. In addition, it was possible to note the differences in the perception reported by the groups in relation to the frequency of use of these tools.

The research results by Rose and Pollitt (2014) show that the training helped to ensure support for e-learning among a workforce that previously had less knowledge of technology than the average and was dispersed in technology. The training helped to transform organizational culture and individual performance. It is important to emphasize that technological innovation reflects effective action of processes and activities at work and requires specific knowledge and skills.

Several studies have pointed out the perception of Organizational Change after training in the behavioral field. Veloso-Besio et al. (2019) analyzed the effectiveness of training for supervisors to face the effects of resistance to organizational change of their direct employees, an experimental group and a control group were compared. The training action resulted in greater motivation for work and improvement in the organizational climate and there was a statistically significant increase from the pre to the post-test in the variants of the two groups. The organization considered the training effect to be moderately high.

The results of the study by Lange and Rowold (2019) indicated a significant reduction in the level of stress and an increase in the attention skills of employees in which direct leaders participated in an educational action focused on leadership behavior in the sense of abusive supervision. The results also pointed to the quality of leadership in terms of high transformational leadership behavior and low abusive supervision.

The study by Potworowskia and Greenb (2016) conducted with facilitators of Primary Care Practices (PFs) who underwent training in Cognitive Task Analysis (CTA), indicated that PFs spontaneously transferred the use of CTA skills to other areas of work, applied what they had learned during the training to situations where their regular facilitation work was proving difficult and the PFs spontaneously began to teach the basics of PF to less qualified personnel, called Facilitator Improvements (FIs).

Picchi (2010) investigated Organizational Change as a result of formal educational efforts undertaken by the organization. The descriptive results related to the trainees' perception of organizational changes through training were course participants perceive the effects of actions at the individual level and a moderate perception of organizational change attributed to educational action; even so, a large part of the people (60%) attributed organizational changes to the training actions.

The study by Skogan et al. (2014) sampled police officers from the city of Chicago who underwent training action with the aim of organizational changes, demonstrated that even the employees responsible for the training were not optimistic about relying on a training day to change the organization. However, training resulted in practical changes perceived in post-training among them: in the short term, training increased support for officers for all dimensions of procedural justice included in the experiment and in post-training, officers were more likely to endorse the importance of giving citizens a voice, granting them dignity and respect, demonstrating neutrality and (with the least enthusiasm) trusting them to do what is right.

As previously mentioned, the health area (Medicine $n = 10$ and Pharmacy $n = 1$) has the largest number of studies. The study by Moffatt-Bruce et al. (2017) evaluated the costs and Return on Investment (ROI) of a training program for managing a technical team at an academic medical center. The results showed satisfactory indicators, among them the reduction of avoided adverse events ($n = 735$), a reduction of 25.7% in the expected observed events, there was an estimated conservative saving and the ROI for training was in the range of 9.1 to \$ 24.4 million. The course was considered financially feasible, after analyzing the results.

White et al. (2017) evaluated the results of a pilot training program for the implementation of the Surgical Safety Checklist (CSC) of the World Health Organization. Seven employees of the operational medical team of the Doliseie hospital in the Republic of Congo attended. The training took place over 4 days in February 2004. An impact assessment of mixed methods was carried out based on the Kirkpatrick model (1976) in May 2015. All participants reported positive changes in teamwork, communication, and safe anesthesia. The main results showed significant improvements in certain processes, among them: six basic safety processes were being followed by approximately 86% of the participants, a 47% reduction in mortality and 50% of postoperative infections.

Like White et al. (2017), training in epidemiology and control of Non-Communicable Disease (NCDs) applied to public health professionals in Tanzania in 2011 was evaluated by Davila et al. (2015) using Kirkpatrick's (1976) training effectiveness model. In such training, significant improvements were noted in self-reported knowledge and skills. Changes in behavior and results in the workplace were evident, although the authors' assessment was limited to a small sample of trained professionals. In addition, the supervisors reported improvements in the performance of the interns as a result of the training, and are satisfied with the results (qualitative data), and the trainees reported changing their work practices as a result of the training.

The research by Blaga and Gabor (2016) on the quality of distance training offered to professionals in the Romanian pharmaceutical industry, established in their questionnaire some items to measure the organizational changes resulting from the training that was entitled "Quality Management". The results showed a perception of a moderate change in the organization because of behavioral changes after the training, and the interviewees estimated that the benefits related to the organization of the activity achieved after the training was the increase in employees with job satisfaction.

Wilkinson et al. (2016) measured the effect of training on organizational changes in the Evidence-Based Practice (EBP) measures among 201 staff members of the Australian health hospital. The results showed a significant increase in EPB's self-efficacy over time among employees who completed the survey.

Also in Australia, MacPhail et al. (2015) evaluated an interdisciplinary Clinical Leadership-training Program (CLP) in the workplace that aims to increase the willingness to take on leadership roles. The results showed that the CLP significantly increased the willingness to assume leadership roles among the participants. Five of the 11 program participants took on a new leadership role after 18 months of training and 93% of participants reported a greater willingness to assume a leadership role for their team.

Gilburt et al. (2013) evaluated training aimed at implementing recovery-oriented practices in a health care system. The training program had a positive impact, showing a change in the content of patient care. Team leaders in post-training interviews also pointed out evidence of change, as well as identified changes in team approaches to care and practice. However, in some cases, supervisors reported that the training had a low impact.

The study by Nielsen et al. (2010) verified whether the impact of the intervention could be increased by providing training to leaders during the change process. The sample consisted of 188 nurses and health assistants. The results indicated some significant positive effects, however, modest, incremental that can be attributed to the training of the manager, as well as the employees started to participate in the work decisions resulting in the improvement between staff members and the patients.

Sekyia and Luz (2010) identified the main organizational changes that occurred in two hospital institutions, located in Minas Gerais, which implemented the *Iniciativa Hospital Amigo da Criança* (IHAC, Child-Friendly Hospital Initiative). Personnel training implied changes and improvements in management, mainly by establishing standardization of procedures through training. There was a perception that cultural and technological changes occurred more intensely and that the least perceived were political and strategic changes.

Education studies have also contributed to the perception of organizational changes derived from training actions. Andrade (2019) evaluated educational actions offered at a distance from a course for incoming training teachers – PEB I, in the state of São Paulo. The content analysis demonstrated several organizational changes arising from the target course, among them the course contributed to improvements in Learning Recovery, with the use of the Teaching Plan, presented in the Entrants course, the use of active teaching methodologies, which are presented in the program and its use is encouraged, as well as the teachers perceived changes in their pedagogical practices after the course, highlighting better lesson planning and more diversified activities for the students.

Austin and Harkins (2008) evaluated the effectiveness of training in an educational organization founded with a learning organization in an urban area. The results presented are the results of the second phase of the 4-year work (2001 to 2005) to assess changes across the organization. The results showed a reduction in turnover and an improvement in organizational learning, to a lesser extent the organizational climate. However, the analysis of the results shows relationships between changes in the dimensions of the organizational climate, among them: supportive leadership, evaluation, and recognition, congruence of objectives, and change to organizational learning.

Finally, Damasceno (2007) empirically investigated a training carried out in a state-owned company, in the field of electric energy in Brazil, in order to identify the effects of training on the levels of Organizational Change and Final Value. The results found confirmed the findings of previous researches that reveal positive results in the levels of Reaction, Learning, and Behavior in the Position, and in the more complex levels (Organizational Change and Final Value) the test of the proposed model endorsed the difficulties traced by researchers in the definition of the causal relations of social phenomena.

When analyzing the empirical studies found in the literature review, it was found the perception, both by the participants of the educational actions and the others involved in such actions, significant organizational changes, from the trainings offered by the organizations. A large part of the studies pointed out changes in behaviors that affected routines and processes of the organizations (Andrade, 2019; Blaga & Gabor, 2016; Čudanov et al., 2012; Daniels et al., 2014; McPhail et al., 2015; Potworowskia & Greenb, 2016; Scorsolini-Comin et al., 2012; Skogan et al., 2014; Veloso-Besio et al., 2019; White et al., 2017; Wilkinson et al., 2016). Among the results one can highlight: self-reported positive improvements in teamwork; spontaneous transfer of skills acquired in training into other areas of work; increased job satisfaction; willingness to take on leadership roles, improvements in learning recovery, increase in the number of workshops and apprentices in vocational education, work motivation and change in organizational climate; etc.

Few studies on the results of training at the level of Organizational Change using educational actions applied at a distance were found. In only four selected studies (16.6%) in the literature review, with organizational changes perceived by training, the participants performed the training at a distance (Andrade, 2019; Blaga & Gabor, 2016; Čudanov et al., 2012; Rose & Pollitt, 2014), such a result indicates a lack of scientific studies of this nature in such an educational modality.

Although the focus of this study was to evaluate the results of T&D actions at the level of Organizational Change (evaluation of changes in the functioning and daily life of organizations), presented by Hamblin (1978), it was possible to see that some studies also brought results at the level of Final Value by presenting the impact of T&D actions on the social and financial results of organizations, presenting a contribution of this study. Among the results, referring to the Final Value level, presented in the studies selected for the literature review are: ROI in training; reduced mortality and postoperative infections; increased productivity and sales, etc. (Antonietti, 2016; Chang, 2010; Moffatt-Bruce et al., 2017; White et al., 2017). Thus, one research suggestion would be to conduct a systematic review on the outcomes at the end-value level (Hamblin, 1978).

Final Considerations

The objective of this systematic review was to analyze the scientific production between the years 1999 and 2019, about the Organizational Changes perceived as a result of educational actions offered by organizations – Training. From the literature review it was possible to verify that few studies ($n = 24$) presented in their results the perception of Organizational Change arising from training, compared to the large number of studies ($n = 2,985$) found on the subject. This result signals the interest of organizations and researchers around the world, especially in the last decade, on the impact of T&D actions on organizational results, as well as demonstrates a lack and need for robust scientific studies that investigate the effectiveness and impact of T&D actions on the results of organizations. There were also few studies on the results of training actions offered at a distance at the Organizational Change level and some results at the Final Value level. Such questions may become future research agendas in the area.

The main contribution of this study was to bring the results perceived in the Organizational Change arising from Training actions, and the confirmation that the area of T&D in organizations, by training and developing people, becomes an area of strategic importance by increasing the degree of efficiency imposed by the social transformations that have occurred and consequently by the new demands of the competitive market. This systematic review has some limitations regarding the descriptors used, and the choice of databases with concentration of published works in the areas of knowledge and interest of this study.

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Contributors

Conceptualization: C. G. MELLO. Data curation: C. G. MELLO and T. ZERBINI. Investigation: C. G. MELLO. Methodology: C. G. MELLO and T. ZERBINI. Writing – original draft: C. G. MELLO. Writing – review and C. G. MELLO and T. ZERBINI.