

Artigo Original

Corporate Distance Education In The Age Of Digital Transformation

Abstract

This study aims to verify how much digital transformation has influenced the process of corporate distance education and driving the process of teaching and learning in the workplace. Based on the case study of four companies, this work sought to verify how the digital learning environment is increasingly intrinsic to day-to-day work, transforming not only the model in which the activities are developed, but also how it is learned in the corporate environment. One of the main contributions identified is the way in which the corporate education area anchors its technological educational strategies in line with the organization's strategy. It was not possible to identify any major educational trend based on digital technology establishing itself, but it was possible to gauge how much technological evolution has contributed to the evolution of educational tools and causing changes in educational methodologies and models that now have more active participation that learns.

Keywords: corporate distance education, digital transformation, professional learning

I. Introduction

The digital transformation has had great impacts on the job market, changing business models, the way activities are carried out and the way people interact. For an economy that is being impacted by the digital transformation, it is also necessary to think about the educational area, which is going through the same transformation process. It is necessary to take into account the challenges encountered in relation to the ability of professionals to transform already established mental models and acquire new ways of learning, teaching and carrying out their activities.

It is increasingly seen that, in the Information Age, the teaching-learning process needs new knowledge in relation to the traditional ones used before the advent of digital technologies (CHIGONA, 2018).

The new Information and Communication Technologies (ICT) contribute to the transformation of learning (MAIA; MEIRELLES, 2007). The need to satisfy multiple learning requests and individual competence levels makes the training and learning management process more complex and costly. According to Wan, Compeau and Haggerty (2012), the development of information systems (IS) has contributed to the resolution of training problems in the workplace. A significant part of the learning transformation is related to the application of such technologies with the already known educational resources in distance education (MAIA; MEIRELLES, 2007).

According to Katkalo, Moehrle and Volkov (2018), corporate education can become one of the great drivers of the transformation process of organizations, but, for Moscardini and Klein (2015), it still needs to go beyond the simple vision of training and content transfer, evolving to knowledge through practice, interactivity, creation and sharing of organizational knowledge.

Educational processes in the corporate environment are changing, especially since the introduction of digital technologies, and requiring new models that meet emerging demands (BECKER, 2019), which opens up new possibilities for acquiring knowledge, reshaping its standards of corporate education.

Educational strategies, in most cases, are disconnected from business strategies. In addition to being technology-centric, educational strategies have a low potential for employee engagement, are not connected with sustaining competitive advantage, and have no clear return on investment, among other aspects.

Educational methodologies, based on emerging technologies, are explored in isolation and do not correlate with the evolution of the world of work in a practical and structured way. The insertion of information technology, digital media and methodologies to leverage this process is still very incipient.

Due to the importance of the impact on the market in relation to the changes caused by the digital transformation, this study aims to verify how the digital learning environment and technology-based educational methodologies are contributing to this journey, transforming not only how the work is developed but also how you learn in the corporate environment. Exploring which digital trends applied to education are managing to establish themselves and how much companies are adopting these practices is part of the premises of this exploratory qualitative research.

Given this context, the question that guides the entire research arises: how is corporate distance education being impacted by the digital transformation?

The rapid technological evolution ends up promoting a gap between what the organization offers in terms of training and what, in fact, professionals need to develop (AS OPORTUNIDADES..., 2019), so that there is no use of opportunities that digital technology can provide in the teaching-learning process.

2. Distance education in the corporate environment

Corporate education, when properly designed, can become an ally in the organization's transformation process and promote a live and

dynamic environment that encourages people to incorporate training in a more natural way (AS OPORTUNIDADES..., 2019).

The changes caused in society by the development and democratization of Information and Communication Technologies (ICT) have required rapid and effective responses from education to keep up with the speed and demands demanded by information and capital flows (RIBEIRO et al., 2018), which promotes transformations and advances in education. According to Ribeiro et al. (2018), the expansion of the use of ICTs in the context of distance education (EaD) has been one of the solutions found by education to keep up with the accelerated pace imposed by the market for professional training. As noted by Machado-da-Silva et al. (2014), the benefits pointed out in programs based on EaD are related to student satisfaction and the intensity with which they use the learning system.

According to Longo and Murashima (2007), the creation of mechanisms that permanently favor the integration of the trainee to a society in constant transformation is, perhaps, the main goal of corporate education.

According to Kenski (2014, p. 27),

Digital technologies introduce a new dynamic in the understanding of relationships with time and space. The speed of changes, which occur in all instances of knowledge and which present themselves with the permanent offer of innovations, unbalances the predictability of clock time and serial production.

When we think about corporate learning tools and processes, Freyermuth (2020) points to a scenario with greater frequency of organizations that have an established foundation of knowledge management platforms (LMS – Learning Management System). As pointed out by Freyermuth (2020), the corporate learning technology market has already established itself with a certain maturity, with the implementation and implementation of a series of learning technologies. These organizations are evaluating layers of tools around the LMS to improve

the delivery of learning content, promoting the student experience, and enhancing reporting capabilities.

In this context, Learning Experience Platforms (LEP) arise, based on a cloud offering that provides a personalized learning experience, going beyond traditional LMS systems. Typically, these platforms function as a curation and content aggregation layer between an organization's internal digital learning assets, the vast amount of external content available on the internet, and user-generated content.

3. Information technology applied to corporate education

There are several trends in corporate education: some focusing on methodologies, others on tools and resources, but many of them are much more attractive than traditional formats for certain learning processes. Offering innovation, the new methodologies and technologies used have the advantages of quick responses to the organization's needs and the promotion of greater engagement and assimilation by employees.

The methodologies, when observed in a didactic way and in a planning scheme, seem to be independent of each other, but if observed more closely it is possible to see a common point between them: the student's protagonism is present in the four methodology groups (FILATRO; CAVALCANTI, 2018).

Schlemmer et al. (2020) point out that we live in an era in which lifelong learning becomes more relevant and the alliance between formal and informal learning contexts need to be considered in the challenges and digital learning ecosystems, creating dynamic and ecological networks capable of responding to the challenges of society and its digital ecosystems.

When evaluating concepts, methodologies, resources, tools and the broad possibility that are offered to leverage the learning process — especially with the advent of digital technologies —, a series of methods and resources can be listed that are not necessarily innovations, but

which prove to be great allies in the reinvention of corporate education. In addition, the type of material that the student uses in online studies varies according to the pedagogical proposal, which can provide a video class, a tutorial or even texts with a questionnaire in a virtual environment (HONÓRIO; SCORTEGAGNA, 2017).

The table below summarizes the main trends in corporate education that were highlighted in this work.

Table 1: Synthesis of the main trends in corporate education

Tendencies	Concept
<i>Mobile learning – Mobility</i>	Mobility gaining relevance and facilitating educational processes and strategies.
Social and Learning Networks	Social interaction and employee experience being valued in learning.
Learning Trails – Customized and Adaptive	Adaptive personalization meeting the individual's needs and promoting a better learning experience.
<i>Microlearning</i>	Based on the learning on-demand concept – it seeks content granularity, meeting the need for time and objectivity.
<i>Just-in-time learning</i>	It favors personalization, experience and the immediate need for learning, connecting the student to the real need of the moment.
<i>Work-based learning – On-the-job training</i>	Greater connection between work and learning. Student as subject of their own learning. Knowledge exercised in the practice of work.
<i>Learning analytics</i>	Data volume analysis for better educational decision making. Improved user experience, enhancing personalization. Improved scope and performance assessment.
Artificial intelligence/ <i>Machine learning</i>	Predictive analytics. Information used by algorithms, increasing the interaction between man and machine.
<i>Virtual gamification</i>	Virtual games in education to achieve greater engagement.
Virtual Reality/ Augmented Reality	Through omnipresent resources, it inserts the student in an immersed environment of knowledge and learning.

Source: Prepared by the authors.

4. Research Methodology

The methodological proposal conducted was exploratory research using a qualitative approach and inductive logic. The inductive logic was chosen in order to maintain the focus on the quality and depth of the data and information collected and not be restricted to existing theoretical concepts, since this method uses the observation of facts to validate or not the concepts (COLLIS; HUSSEY, 2013).

In this proposal, the study of multiple cases was chosen, due to the highly diversified and complex context in which the importance of an innovative corporate education to help accelerate and influence the transformation of the organization is inserted.

The researched cases comprise four organizations that are involved with the journey of digital transformation of their business and internal processes and rely on digital technological educational strategies in their actions. The interviews took place between December 2020 and February 2021. For this study, the triangulation of data obtained from semi-structured interviews, document analysis provided by the companies and multiple sources of evidence were used. The proposed level of investigation in relation to the organizational environment and the unit of analysis were the leaders and managers of the educational area, responsible for the implementation of corporate educational strategies.

Among the selected organizations are a food industry, a telephone operator, a financial institution and a national provider of corporate educational solutions based on digital technology in Brazil. The choice was based on two basic criteria: accessibility to carry out the survey with companies and the variability of organizations from different segments. The idea of choosing organizations from different segments aimed to explore how the theme of this work is characterized in different environments, through the crossing of cases, and to demonstrate how organizations can benefit from corporate education regardless of their field of activity.

Companies A, B and C were interviewed with the objective of understanding the organization's moment in terms of corporate educational practices, in the view of those inside the organization and directly or indirectly involved in the projects. On the other hand, company D brought the contribution of those who are a technology-based education provider and are outside organizations, with a comprehensive view of the market. The idea of bringing the eyes of a supplier who works directly with the educational areas of companies was to try to understand, from a partner's point of view, how much the companies are involved in this journey and how much they share the same horizon in relation to the topic.

5. Presentation and analysis of cases

Case Company A

It is an industry with around 339 thousand employees, which is part of a multinational business complex that has more than 150 years of experience in the market. The corporate education area operates as a competence center, offering training and development solutions for employees in an institutional and regional operating manner. The solutions offered are both in person and online and develop all training and development programs in accordance with the organization's strategies.

Among the professional training solutions mentioned, the company has e-learning solutions, with synchronous and asynchronous teaching, instructional videos, e-books, podcasts on various topics, etc. On the learning platform (LMS), in addition to accessing mandatory courses, employees can also customize the training path according to topics of interest and their organizational development needs, which allows each employee to have a unique training plan. Among the tools mentioned for training, virtual classrooms with Skype, Adobe Connect and Microsoft Teams are used. LMS platforms (Cornerstone and New Edge) are also used, which carry out all the management of technical/functional training and concentrate institutional programs, promoting a mixture of solutions.

Technology-based educational strategies permeate all of the company's educational actions. This is relevant because there is exchange with other countries, considering technology as one of the fundamental pillars for strategic educational decisions, which are well aligned with digital business strategies. Programs are being developed that already rely on new technologies so that the employee, through the digital learning experience, can begin to get used to both the evolution of learning and the business strategy.

Case Company B

It is a mobile telephony concessionaire with around 100 thousand employees, with 17 years of experience in the market. The corporate education area presents a strategy that goes beyond employee leadership and technical-operational training, opening up horizons for a scope focused on continuing education, agreements and partnerships with educational companies.

Valuing the constant learning of employees, the corporate education team has been dedicated to a process of transition of training content, in which the area no longer provides development content to curate the content. This change made the content portfolio much more attractive, offering what is most relevant and updated in the educational market.

The corporate education area considers that the educational platform and internal programs alone cannot meet all the learning needs at the speed required by the market. We work hard with content curation, which has become a strategic tool and with a differential that contributes to the constant training of employees in this changing environment driven by digital transformation.

The training platform (LMS) has a series of courses and programs based on training paths that serve an audience ranging from functional technician to leadership development.

Case Company C

It is a financial institution specialized in granting credit and services to medium and large companies. In addition to operating for over 30

years in Brazil and with a staff of approximately 710 employees, the institution also has a global structure and local operations.

The corporate education area is responsible for technical and functional training actions, organizational and leadership development programs, and training of new talents with the institutional and commercial internship program. In recent years, efforts have focused on organizational culture programs and the development of the sales team, which has adopted a blended team development strategy, using online actions and on-site workshops with the aim of leveraging focused products and services. in business strategy.

Educational technologies are perceived as one of the main allies in the training process. Currently, most programs have a blended development action, in which the training strategy presents an in-person part and other online activities, in order to take advantage of the best that each technology has to offer in terms of ease of access, information sharing and personalization of learning. It is believed that a good educational strategy that takes advantage of the best of methodologies and technologies, combined with new concepts promoted by digital advances, can contribute to the transformation of the organization.

Case Company D

It is an education technology company, part of a business group that represents the largest Brazilian technology, content and digital services company, with approximately 7,000 employees and which has been operating in the market for over 24 years. With a broad portfolio of technology-based educational solutions, the company offers off-the-shelf content created in partnership with renowned authors in the market, tailored content development, consulting on program structuring and an LMS platform for knowledge management.

Educational solutions based on technology with the use of platforms (LMS) have reached a certain maturity regarding their use in companies: no one questions the need or the effectiveness of online content and the facilities promoted in educational management anymore. What is emerging now is the need to take the next step to innovate with new layers, in order to expand the offer and management.

Practices focused on mobile devices, such as cell phones and tablets, have prevailed, as well as content personalization has used the facilities made possible by the advancement of digital technology. Educational content in lecture model tends to gain more strength in the audio version via podcast.

Below, we can see Table 2, with the summary of the cases described, by category of analysis.

Table 2 : Summary of cases by analysis category

Category	Company A	Company B	Company C	Company D
Corporative education	<ul style="list-style-type: none"> - LMS for knowledge management; - Centralized corporate education management; - Educational methodology with practical experience in learning; - Content curation; - Educational Power BI for data-based decision. 	<ul style="list-style-type: none"> - LMS for knowledge management; - Decentralized educational process with governance in corporate education; - Educational methodology that values practical experience via collaboration tools; - Online content curation to accelerate development. 	<ul style="list-style-type: none"> - Matured LMS for knowledge management; -Decentralized educational process; - Blended educational methodology that values practical experience in learning through online courses and in-person workshops; - Online content curation. 	<ul style="list-style-type: none"> - Educational needs, including the student/ employee at the center of the process; - The platforms (LMS) gained maturity in the corporate environment, giving space for their own evolution and the inclusion of new features.

<p>Digital technology in the teaching-learning process / Trends</p>	<ul style="list-style-type: none"> - Mobility: use of smartphone and tablets; - Microlearning, videos and mobile apps; - Greater effectiveness of program customization; - RA, game-based methodologies and predictive analytics; - Possibilities: machine learning and chat bot; - Educational Power BI for decision making. 	<ul style="list-style-type: none"> - Considered essential; - Customization of the trails; - Possibility of using chat bot and employee data; - Algorithm-based educational support and support; - Content curation automatically through Artificial Intelligence; - Access to educational content via multiple devices and in multiple formats. 	<ul style="list-style-type: none"> -Mobility gaining relevance; - Microlearning as a big trend; - Webinar and virtual classroom as practices in the educational process; - Gamification as an educational strategy; - Predictive analytics for personalized content offering; - Access via multiple devices and in multiple formats. 	<ul style="list-style-type: none"> - Social learning; - Practices focused on mobile device and content personalization; - On-the-job training; - Data analysis that should better guide educational decisions.
<p>Capacity for innovation and corporate education challenges</p>	<ul style="list-style-type: none"> - Proposes technological solutions when it makes sense in the educational strategy; - Costs as obstacles to the evolution of educational practices; - Pandemic: helped drive the technology-based training process. 	<ul style="list-style-type: none"> - Partnership with innovation hub in educational processes; - Resistance to the use of technology by leaders and executives; - The command and control culture makes it difficult to change the mindset; - Pandemic: has been driving digital practices in corporate education. 	<ul style="list-style-type: none"> - Budget restriction for new methodologies; - Command and control present, mainly by regulatory bodies; - Partnership with key players to leverage innovative solutions; - Technological ecosystem for HR management under implementation. 	<ul style="list-style-type: none"> - Slow decision makers' mental model, losing market speed; - Profile of the HR professional in transformation; - Collaborator at the center of the educational process; - Greater focus on course control and learning assessments.

Source: Prepared by the authors.

6. Conclusions

One of the main contributions that were identified is the way in which the corporate education area reinvents its strategies in line with the organization's strategy in search of solutions for the journey of digital transformation. The corporate education area, as it defines its strategies in accordance with the organization's strategy, is able to leverage its practices, since the alignment with the new approaches, which are necessary for the evolution of the business itself, helps to shape the education process, which will be the transforming agent for the organization as a whole.

It can be seen how much technology-based educational actions and educational methodologies need to be well planned to add value to the organization. Analyzing the cases, it can be said that the learning environment and educational methodologies change as they influence and are influenced by the organization's transformation strategy.

Figure 1 - Digital technology in the teaching-learning process/Trends



Source: Prepared by the authors.

A learning process based on innovative practices and which promotes greater access to digital resources and technologies seems to have been the alternative found by companies to help influence the mental model of employees and obtain greater value and success in the digital transformation of the organization. The educational processes that must remain relevant for the organization are those that promote a significant experience and contribute to the development journey, being

more integrated into everyday practices via the flexibility and personalization provided by the transformation of digital technology.

It was contacted that companies recognize the strength that LMS platforms have been gaining and the evolution that their technologies provide in relation to more interactive courses and more efficient tools for sharing information and knowledge among employees, promoted by the collaboration network - social learning.

While it is difficult to explore what digital trends applied to education are taking hold, the four companies consider not only the strength and evolution of educational platforms for knowledge management, but also the personalized offering and sharing tools. Although with mature LMS, companies are still exploring the effectiveness of the new layers of platforms (LEP and LRS) as complementary investments, in order to improve data capture and go beyond the organization's existing LMS platforms. Thus, they manage to evolve a little more in data collection and in the use of analytics tools, for a more effective decision-making on educational proposals and actions focused on the individual.

Companies recognize that the use of digital technology for the development and distribution of educational content is nothing new. What seems to have gained ground are the collaborative digital learning environments, although they do not show maturity in relation to the cases presented. Although the companies have considered, in their methodologies, practical experience and the exchange of knowledge to generate learning, none of them presented measurable and consistent results in relation to this practice.

Among the main themes highlighted by the interviewed companies, there is a great tendency for educational programs to have the collaborator at the center of the educational process. The customization of the development paths portrays the protagonism of each one, making it possible to choose strategies from the set of tools and contents that develop them for their current role or to meet the desired career plan. This makes LMS platforms look for technologies that support the customization of trails more automatically, based on artificial intelligence and reports that point to more effective information analysis, promoted by big data and analytics capabilities.

Mobility has also emerged as a major factor, with the advent of consumption of educational solutions by mobile devices, whether cell phones or tablets. The need to develop educational strategies started to have this resource no longer as a complement to the presential action or as an alternative to the desktop, but as the main means of content consumption, in which they are defined as mobile first.

It became clear that it is not what information technology does, but how the organization uses it to transform its value. Although some educational practices based on technology are presented in an isolated way and, at times, with a more focused look at the use of technology itself, it is still perceived that it has a strong influence, changing the dynamics of work and of corporate education itself. This makes a resurgence of some educational practices with the use of tools and technologies that were little explored, but that reinvent themselves with technological evolution and with the change in work dynamics.

Corporate education has been and should be one of the main pillars of change in the coming years, becoming true digital learning ecosystems that challenge us to provide better usability and educational experience for those who learn, causing changes in technology, society and our culture.

This research was conducted in the midst of the covid-19 pandemic. The four cases explored reported that the pandemic helped to boost the technology-based teaching-learning process. It was possible to transfer most of the face-to-face programs to the virtual world, although organizations have not commented on the adequacy of the methodology used. Although the cases demonstrate some positive points, attention and care are needed in relation to the practices adopted, since, in order to include digital technology in the educational process, it is necessary to rethink the proposed model and build a methodology that is supported by technology and that makes sense. Transferring only educational practices based on face-to-face models to digital ones can jeopardize the educational process itself and the technological acculturation of the individual in the process.

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