

# International Journal of Human Sciences Research

Acceptance date: 16/09/2024

## EDUCATIONAL MANAGEMENT IN PROFESSIONAL AND TECHNOLOGICAL EDUCATION

---

### *Diego Soares Carvalho*

PhD from the Federal University of São Paulo, Department of Physiology. Professor of the Professional Master's Degree in Professional and Technological Education (ProfEPT); IFRO-Campus Porto Velho Calama, Porto Velho, Rondônia, Brazil  
<https://orcid.org/0000-0001-5982-3798>  
<http://lattes.cnpq.br/0214622546099341>

### *Emerson de Araújo Alves*

Master's degree from the Graduate Program in Professional and Technological Education - ProfEPT; IFRO-Campus Porto Velho Calama, Porto Velho, Rondônia, Brazil  
<https://orcid.org/0009-0002-9471-9114>  
<https://lattes.cnpq.br/5673504253221502>

All content in this magazine is licensed under a Creative Commons Attribution License. Attribution-Non-Commercial-Non-Derivatives 4.0 International (CC BY-NC-ND 4.0).



**Abstract:** Law 11.892/2008 created the Federal Network of Professional, Scientific and Technological Education in Brazil, which includes the Federal Institutes of Education, Science and Technology (IFs). In this context, a documentary analysis of articles, dissertations and books was used to build a knowledge base for the beginning of the epistemological construction of how educational management can influence the processes of improving Professional and Technological Education. Taking the creation and evolution of the Federal Network of Education, Science and Technology as a starting point, with a focus on the IFs, we briefly discuss work as an educational principle and how effective educational management can improve the institution's climate, structure, procedural flows and final results in terms of teaching, research and extension activities. In view of the above, we dealt with the positive points involved in good educational management in a bibliographical manner. We conclude that the Federal Institutes were founded on strong theoretical foundations, but it is important to emphasize that there is a long way to go to consolidate Professional and Technological Education (EPT) in Brazil. However, the improvement of the pedagogical and educational methodologies present in the (IF's) depends on a continuous process of improving the institutional activities and flows that strengthen the educational management model adopted by the educational institutions that offer EFA. Providing society with more complete individuals capable of managing their professional lives, making them individuals with an organic intellect.

**Keywords:** Federal Education, Scientific and Technological Network; Professional and Technological Education; Educational Management.

## INTRODUCTION

The Federal Education, Science and Technology Network has played a fundamental role in the development of Professional and Technological Education in Brazil. Based on solid theoretical foundations, this network has constantly sought to improve the quality of the education and training offered in order to meet the demands of contemporary society. To this end, an increasingly relevant field of study and practice is Educational Management, which is an essential tool for improving pedagogical and administrative processes and methods in the institutions linked to the Federal Education Network.

In this context, the aim of this article is to present a literature review on the influence of Educational Management on improving the pedagogical and administrative processes of the Federal Network's educational institutions. We understand that improving administrative flows and employing appropriate management tools can provide a review and improvement of the methodologies of Professional and Technological Education in the Federal Institutes (IFs), directly impacting on the quality of teaching, student training and social transformation.

Throughout this article, different aspects related to the evolution of the Federal Education, Scientific and Technological Network, as well as Professional and Technological Education in the Federal Institutes of Education, Scientific and Technological, will be addressed. Relevant bibliographical references will be presented that discuss the importance of Educational Management in the specific context of the FIs, considering the challenges and opportunities that arise in this educational environment.

Effective educational management that adopts work as an educational principle seeks to integrate the curriculum, pedagogy and professional practice. This can be achieved

ved through partnerships with companies, community organizations and higher education institutions, providing opportunities for internships, technical visits, research and extension projects, among other activities that allow students to experience real situations in the world of work.

Lück (2009) states that school management is not just limited to the principal. The author emphasizes that democratic management also involves the effective participation of teachers in co-leading pedagogical responsibilities.

In addition, management should encourage critical reflection on work, its ethical, social and economic dimensions, as well as promoting psychosocial development, such as teamwork, leadership, resilience and responsibility. According to Ramos (2008, p. 4) “work is human interaction with reality in order to satisfy needs and produce freedom. Work is production, creation, human fulfillment”.

We propose that this research will contribute significantly to a deeper understanding of the importance of Educational Management in the Federal Institutes (IFs) and its impact on improving the pedagogical and administrative processes in the educational institutions of the Federal Education Network. We emphasize that these are institutions committed to the quality of learning in a critical, creative and transformative way, as advocated by Freire (1987), especially in contexts of oppression. Considering that these institutions are still relatively new, it is essential to carry out studies on their management. It is hoped that the results of this study will provide valuable input for improving educational policies and promoting quality education, meeting the demands of society and preparing students for the challenges of the contemporary world.

## METHODOLOGY

The literature review is an essential stage in scientific research, as it enables the researcher to map, understand and evaluate the scientific knowledge that already exists on a given topic, and from there it becomes possible to expand the field of knowledge. In this sense, a transparent and reproducible procedure is provided by systematic literature reviews, which not only improve the quality of the process, but also inform the reader of the steps followed by the researcher in selecting eligible literature. (Lakatos, 2021, p.129)

Initially, a literature search was carried out in order to build a knowledge base for the beginning of the epistemological construction on how Educational Management can influence Professional and Technological Education in Federal Institutes.

Searches were made for articles, dissertations and books using key words such as: “network” + “federal” + “education”; “institute” + “federal”; “management” + “educational”; “teaching” + “professional” + “technological”. However, it can be seen that this is a topic that does not have many studies or related research. We would like to point out that we searched the following sources: Brazilian Digital Library of Theses and Dissertations; Repository of Theses and Dissertations of the Federal Institute of Espírito Santo; Digital Library of USP-Theses and Dissertations, CAPES catalog of theses defended in 2020, knowledge area “education” and on the digital book platform Minha Biblioteca.

After the selection and eligibility process of the articles and books to be used in the research, content analysis was used to understand, categorize and interpret the data (Bardin, 2011).

## RESULTS AND DISCUSSION

### FEDERAL NETWORK OF PROFESSIONAL, SCIENTIFIC AND TECHNOLOGICAL EDUCATION

In Brazil, the Federal Network of Professional, Scientific and Technological Education was established by Law No. 11.892/08, which is made up of numerous bodies, such as: Federal Institutes of Education, Science and Technology - Federal Institutes, Federal Technological University of Paraná - UTFPR, Federal Centers of Technological Education Celso Suckow da Fonseca - CEFET-RJ and Minas Gerais - CEFET-MG, Technical Schools Linked to Federal Universities and Colégio Pedro II. Among these bodies, the Federal Institutes of Education, Science and Technology (IFs) have been considered of great relevance due to their objective of offering technical and vocational training courses that consequently enable incremental changes in the education of young people (technical integrated with high school) and adults through subsequent courses and initial and continuing training, with a focus on integrating professional knowledge and scientific knowledge (Ramos, 2014).

However, it should be noted that the Federal Education Network also works to verticalize the courses offered by offering undergraduate, graduate, postgraduate *lato sensu* and *stricto sensu* courses.

The Federal Network is currently seen as a benchmark for the quality of the education it offers society. Taking into account the technological axes in which it operates and the diversity of courses aimed at meeting the demands of the world of work in order to enhance the local productive arrangements of each region.

In order to better understand this evolution, we present in Table 1 the chronology of

the Federal Network of Professional and Technological Education during the period of Brazil's republic, given that training for work in Brazil has been taking place since the time of colonization.

In 2019, the Federal Network was made up of 38 Federal Institutes, 02 Federal Technological Education Centers (Cefet), the Federal Technological University of Paraná (UTFPR), 22 technical schools linked to federal universities and Colégio Pedro II. Taking into account the respective *campuses* associated with these federal institutions, there are a total of 661 units spread across the country's 27 federal units.

The current model for the organizational structure of federal professional and technological education institutions, with a few exceptions, is characterized as functional and vertical, comprising a pattern of departmentalization at various levels, which suggests the possibility of rigid hierarchization. Although some of these institutions already have more than one teaching unit, their organizational charts do not show any form of systemic articulation between these units. At a time when the network is being reorganized through the creation of the Federal Institutes, it is important to understand that the current departmentalized structures of the institutions that make it up are not suitable for the new management proposal. (Fernandes, 2009, p. 5-6)

Departmentalization is a way of using the chain of command to group people together to do their jobs. There are five approaches to departmental design. The traditional approaches are functional, divisional and matrix departmentalization, in which the chain of command defines departmental groupings and subordination relationships along the hierarchy. The two contemporary approaches are the use of teams and networks and have emerged to meet the needs of organizations in a highly competitive global environment. (Chiavenato, 1999, p. 396)

Year	Historical reference
1909	President Nilo Peçanha signed Decree 7.566 on September 23, initially creating 19 “Apprenticeship Schools” under the Ministry of Agriculture, Industry and Commerce
1927	The National Congress sanctions the Fidélis Reis Bill, which provides for compulsory vocational education in the country.
1930	The Ministry of Education and Public Health is created to supervise the Apprenticeship and Artisanry Schools through the Technical Professional Education Inspectorate.
1937	The new Brazilian Constitution is promulgated, dealing for the first time with technical, professional and industrial education. Law 378 is signed, transforming the Apprenticeship and Artisanry Schools into Industrial Lyceums for professional education of all branches and grades.
1941	1 A series of laws came into force, known as the “Capanema Reform”, which reshaped education in the country. The main points: - vocational education is now considered to be at secondary level; - admission to industrial schools is now subject to entrance exams; - courses are divided into two levels: basic industrial, craft, apprenticeship and mastery courses, and the second, technical industrial course.
1942	Decree 4,127 of February 25 transformed the Industrial High Schools into Industrial and Technical Schools, offering vocational training at a level equivalent to secondary school.
1944	The participation of the Brazilian Expeditionary Force in the Second World War and the consequent financial loan from the United States to Brazil under the Getúlio Vargas government boosted Brazilian industrialization
1956-1961	Juscelino Kubitschek's government marked a deepening of the relationship between the state and the economy. The aim was to train professionals oriented towards the country's development goals.
1959	The Industrial and Technical Schools were transformed into autarchies under the name of Federal Technical Schools, with teaching and management autonomy.
1961	Vocational education was put on an equal footing with academic education with the enactment of Law 4.024, which established the Guidelines and Bases for National Education. The period was marked by profound changes in vocational education policy
1967	Decree 60.731 transfers the Model Farms from the Ministry of Agriculture to the Ministry of Education and Culture, which will now function as agricultural schools.
1971	The Law on the Guidelines and Bases of Brazilian Education makes the entire high school curriculum compulsorily technical-professional. A new paradigm was established: to train technicians under the regime of urgency.
1978	Law 6545 transforms three Federal Technical Schools (Paraná, Minas Gerais and Rio de Janeiro) into Federal Technological Education Centers.
1980-1990	Globalization, the new configuration of the world economy, is also affecting Brazil. The scenario is one of profound and controversial changes: the intensification of the application of technology is associated with a new configuration of production processes
1994	Law 8.948, of December 8th: - establishes the National Technological Education System, gradually transforming the ETFs and EAFs into CEFETs; - The expansion of the supply of professional education will only take place in partnership with States, Municipalities and the Federal District, the productive sector or non-governmental organizations, which will be responsible for the maintenance and management of the new educational establishments.
1996	On November 20, Law 9.394 (Law of Guidelines and Bases of National Education/LDB) provides for Professional Education in its own chapter
1997	Decree 2.208 regulates professional education and creates the Professional Education Expansion Program (Proep).
1999	The process of transforming the Federal Technical Schools into Federal Technological Education Centers (Cefets) is resumed.
2004	Decree 5.154 allows for the integration of secondary technical education with secondary education
2005	Law 11.195 establishes that the expansion of professional education will preferably take place in partnership with states, municipalities and the Federal District, the productive sector or non-governmental organizations; the first phase of the Federal Network Expansion Plan is launched, with the construction of 60 new teaching units by the Federal Government. Cefet Paraná becomes the Federal Technological University of Paraná
2006	Decree 5.773 deals with the exercise of the functions of regulation, supervision and evaluation of higher education institutions and undergraduate and sequential higher education courses in the federal education system. The National Program for the Integration of Professional Education with Youth and Adult Education is established at federal level. The National Catalog of Higher Technology Courses is launched
2007	The second phase of the Federal Network Expansion Plan is launched. By 2010 there will be 354 units. Decree 6.302 establishes the Professionalized Brazil Program. The National Catalog of Technical Courses is launched.
2008	Articulation for the creation of Federal Institutes of Education, Science and Technology
2009	Centenary of the Federal Network of Professional and Technological Education

Chart 1. Timeline - Federal Network of Professional and Technological Education

Source: <http://portal.mec.gov.br/setec/arquivos/centenario/linha.pdf>. Accessed on: June 14, 2023.

In practice, the proposal for the Federal Institutes involves the structuring of an organization made up of several organizations, a situation typical of large institutions, which are based on hybrid structures, making it unfeasible for their management to apply a single type of organizational form. In this reality of a systemic approach, the Federal Institute becomes a set of units with interdependent management between the *campuses* and the rector, integrated by strategic institutional principles, including a single political-pedagogical project, with a focus on social justice and equity. (Fernandes, 2009, p. 6)

Law no. 11.892, of December 29, 2008, states in the head of its articles 9 and 11, respectively, that “each Federal Institute is organized in a multi-campus structure, with an annual budget proposal identified for each *campus* and the rector, except with regard to personnel, social charges and employee benefits” and that “the Federal Institutes will have the rector as their executive body, made up of 1 (one) rector and 5 (five) pro-rectors”.

The unique and differentiated model of the Federal Institutes in relation to other educational institutions in the country, due to the fact that they operate at different levels of national education and articulate teaching with research and extension, in addition to the multicampi and multicurricular structural organization, leads to a new institutionality and, consequently, requires new management procedures. (Fernandes, 2009, p. 6)

One of the pillars of vocational and technological education is integrated and *omnilateral* training, the development of scientific knowledge with professional practice in a single process with a focus on more humane training, not just unilateral training. “[...] as *omnilateral* education or training in all aspects of human life - physical, intellectual, aesthetic, moral and for work, integrating general education and professional education” (Ciavatta, 2014, p. 190-191).

With this in mind, Ramos (2014, p. 105) conceptualizes [...] as “professional knowledge, relating it to the concepts of culture and experience, followed by the characteristics and principles of professional ethnography, arriving at the practical elements of ethnographic research.” Based on this concept, we understand a relationship between the practical work acquired or transmitted over the course of a lifetime, without having yet acquired scientific knowledge.

On the other hand, training professionals with scientific knowledge means that they will have the theoretical form of the professional activity that they have developed so far only with their knowledge and experience acquired throughout their work. (Ramos, 2014, p. 105)

It should be noted that:

Professional knowledge is essentially knowledge in use by interacting subjects, guided by some motivation. Thus, scientific knowledge is not professional knowledge, but one of its sources. The other is the practical experience of subjects in social interaction (Ramos, 2014, p. 109).

This initial contextualization between professional and scientific knowledge is important in order to understand the objectives of professional and technological education (EPT), which is an educational modality provided for in the National Education Guidelines and Bases Law (LDB) with the primary purpose of preparing “for the exercise of professions”, helping citizens to enter and act in the world of work and in life in society.

This type of education is provided for in Article 39 of Law No. 9.394, of December 20, 1996, as amended by Law No. 11.741, of July 16, 2008: “Professional and technological education, in fulfilling the objectives of national education, is integrated with the different levels and types of education and with the dimensions of work, science and technology.”

As provided in “Art. 4 Technical professional education at secondary level, under the terms of § 2 of art. 36, art. 40 and sole paragraph of art. 41 of Law n. 9.394, of 1996, will be developed in conjunction with secondary education [...]” (TAVARES et al, 2016, p. 173).

As shown in Table 1, vocational education has gone through evolutionary battles over time, seeking to improve teaching methodologies, applicability, access and the destination of the human and intellectual product generated in this training process.

In 1990 there was a milestone of great importance for vocational education, which was the beginning of the “[...] restructuring of education and the specificity of Vocational Education. [...] the conception of the reformulations of the old vocational technical education began [...] which implicitly included the extinction of high school technical education” (Tavares et al, 2016, p. 169).

For Tavares (2016) based his studies on references such as Frigotto, Ciavatta and Ramos (2005), pointed out that integrated training is important and requires knowledge to interact with each other, with the aim of providing the individual with a more complete training built on “general and specific knowledge”. However, it is important to emphasize that one of the objectives of the Federal Institutes is to train workers, but through educational processes that still generate work and income, with a focus on socio-economic development based on local productive arrangements.

In 1997, Decree No. 2.208/1997, which was revoked by Decree No. 5.154 of July 23, 2004, regulated professional education, which was now treated independently, with no direct connection to basic high school education. Let’s take a look at Article 5 of the aforementioned decree: “Professional education at technical level will have its own curricular organization, independent of secondary education, and may be offered concurrently or sequentially with it” (Brazil, 1997).

And finally in 2004 through Decree No. 5,154 of July 23, 2004:

Art. 1º Professional education, as provided for in art. 39 of Law nº 9.394, of December 20, 1996 (the National Education Guidelines and Bases Law), observing the national curriculum guidelines defined by the National Education Council, will be developed through courses and programs:

- I - initial and continuing training for workers;
- I - professional qualification, including initial and continuing training for workers; (Edited by Decree No. 8.268 of 2014)
- II - medium-level technical professional education; and
- III - undergraduate and postgraduate professional technological education.

And in 2008, Law No. 11.892, of December 29, 2008, established “the Federal Network of Professional, Scientific and Technological Education, creates the Federal Institutes of Education, Science and Technology, and makes other provisions.” Based on Professional and Technological Education.

## **EDUCATIONAL MANAGEMENT IN EFA**

When talking about educational management in Professional and Technological Education (EPT), it is first necessary to understand what educational management actually means. Unraveling what this means is methodologically acceptable because it places the reader at the level of comprehensive knowledge of each element of the research, thus favoring the development of a full understanding of the subject. In this sense, educational management today is understood as a process that involves the entire reality of a school institution. In other words, school management is interested in processes that range from sectors such as administration, with their respective specificities, to the pedagogical sector, which carries with it the noble task of fostering knowledge in new generations.

Quality school management, if you can call it that, is when managers who are committed to the good performance of the school institution optimize the institution's day-to-day activities in order to increase efficiency and, above all, the quality of the education offered by the institution.

If educational management is faithful to its institutional mission and objectives, it will certainly produce significant results for society. In view of the possibility of better financial results for the institution itself. The very processes that involve teaching and learning have become more effective precisely because of the quality of the education offered. If there is an improvement in the quality of education, the institution will also be recognized as a model to be followed by other institutions committed to quality education.

Campos (2020) points out that the commitment of educational leaders is fundamental. Leadership training for principals and training for teachers and supervisors in specific areas such as planning, teamwork, daily management, methodologies and problem-solving are seen as essential for good management results.

The analysis by Gobbi et al. (2020) reinforces the idea that School Management has a positive and statistically significant impact on School Performance. The text mentions that there is a coefficient that directly relates the quality of School Management to student performance, indicating that improvements in management result in better school performance. This suggests that investments in training and capacity building for leaders and educational staff not only strengthen management, but also have a measurable effect on school performance.

In short, the importance of well-trained and committed educational leadership, supported by continuous training for all those involved in school management, as key fac-

tors in improving student performance.

According to Brito and Costa (2010), management is seen as a crucial agent which, through democratic management, community mobilization and strengthening the team, manages to promote a favourable working environment. The analysis of the teachers' reports corroborates this view, showing that management has a direct influence on building a good working climate. Democratic management, in particular, is highlighted as a factor that contributes significantly to teacher involvement in school activities, which in turn favors student learning. Community mobilization and team building are also mentioned as important aspects that help create an environment of greater collaboration and commitment among all members of the school community.

In this context, Brito and Costa (2010) point out that the effectiveness of school management and school managers in promoting a positive school climate not only improves the working environment, but also has a direct and positive impact on student learning. Democratic management and the mobilization of the school community are seen as essential strategies for achieving these goals.

Other benefits can also be cited with regard to adapting to the parameters of improved management, such as an increase in student loyalty rates and consequently a reduction in dropout rates, thus helping to achieve fundraising targets, whether in terms of resources or the number of students per semester or per year. This is essential for optimizing recommendation marketing because it once again highlights the quality of the teaching offered, such as teaching staff, motivated technical staff and high-quality classes.

You see, effective management tends to set off a real chain effect as far as the school institution is concerned, favoring an excellent organizational climate.



But with regard to Vocational and Technological Education, what is the role of educational management? This question is important because Vocational and Technological Education has a purpose that corresponds to the technical professionalization of the student community and management that is considered good needs to be in tune with this aspect. “[...] it is observed that the social changes existing in the current historical context presuppose the need to reorganize management in education, especially in relation to knowledge management and in the face of new educational policies” (Costa; Ribeiro; Alves, 2022, p. 819). In other words, self-respecting management in EFA education needs to consider this training, which is geared towards the world of work, as a way of guaranteeing society the training of a new generation of skilled labor to promote the development of that society.

In this sense, school management plays a vital role in planning and organizing professional and technological education courses and programs. This includes coordinating curricula that meet the demands of the job market and ensuring that the necessary resources, such as laboratories and equipment, are available and properly maintained. As well as ensuring that curricula are aligned with the skills required by the job market, promoting the training of technical and practical skills that are essential for students’ professional success.

The current paradigm requires more than the development of skills inherent in professional work, which are necessary for the performance of a productive activity. It is also essential to understand the scientific-technological, socio-economic and cultural foundations of work, which leads to a comprehensive technical-professional education that associates theoretical concepts with technological practices and the experience of real problems in society, stimulating the development of a critical, creative and citizenship spirit, which is essential for the indi-

vidual to play the role of transforming agent of social reality (Cardozo, 2010, p.31).

It is understood, therefore, that because Vocational and Technological Education has work as its source and educational principle, which aims to train qualified and up-to-date professionals for the job market, it is not unaware of the need for its newly trained professionals to leave without a critical and reflective education. In fact, the challenge lies precisely in forming protagonist subjects who are educated under the basic principles of technological, scientific, philosophical and historical knowledge, precisely with a view to providing an integral education for this human being who will soon be entering the job market.

## FINAL CONSIDERATIONS

The literature review carried out in this article highlights that effective educational management can positively transform the teaching methodologies and administrative processes of Federal Institutes (IFs). Management is not limited to day-to-day management; it involves a strategic approach that includes the integration of curriculum, pedagogy and professional practice.

The Federal Education, Scientific and Technological Network plays an essential role in strengthening Professional and Technological Education in Brazil, promoting training that combines technical and scientific knowledge. This network, based on solid theoretical foundations, is constantly seeking to improve itself to meet the needs of modern society. An important aspect of this process is Educational Management, which is proving to be an indispensable tool for improving pedagogical and administrative processes in the institutions of the Federal Network.

A historical analysis of the evolution of the Federal Education Network reveals constant progress and adaptation to the needs of the

market and society. From its origins as artisan apprentice schools to the creation of the Federal Institutes and their multi-campus structure, the Federal Network has adjusted to offer education that integrates technical and scientific knowledge, preparing students for contemporary challenges.

Throughout this text, we have tried to present the positive impacts that educational management can have on the Federal Network for Professional and Technological Education. We can therefore say that adopting good habits in educational management brings a series of positive points for educational institutions and relevant results for society.

Developing partnerships with companies and higher education institutions, and promoting practical activities such as internships and research projects, are examples of how educational management can enrich the academic experience and prepare students for the job market.

Quality improvement based on good habits contributes to improving the quality of the education offered by the institution. This involves setting clear objectives, establishing teaching and learning standards, implementing effective pedagogical practices and constantly monitoring student performance, all of which can ensure that students receive a high quality education, thereby increasing their engagement in school activities and achieving better academic results.

In this context, educational management has become a strategic element for the continuous evolution of Professional and Technological Education. It is essential that the managers of federal institutions adopt practices that take into account the comprehensive training of students, promoting an education that not only qualifies technically, but also develops critical and reflective skills. This balance between theory and practice is essential for training professionals capable of transforming

social reality and contributing to the country's socio-economic development, according to studies by Ciavatta (2014).

In addition, efficient educational management can attract new students, as the institution's reputation will be recognized as a benchmark in terms of teaching quality, attracting students and keeping them on track until they graduate.

It is important to emphasize that careful planning of investments, rationalization of spending, the search for partnerships and external fundraising, as well as continuous monitoring of the institution's finances, create solid financial management that contributes to the sustainability of the institution and to maintaining the quality of the education offered.

In view of the arguments presented, it is essential that everyone becomes aware that the organization or educational institution is made up of a group of individuals who need to feel that they are an integral part of the process of reviewing and improving processes, institutional flows and teaching methodologies.

It can be seen from the literature review, the historical basis: Federal Education Network; Vocational and Technological Education and Educational Management, that the Federal Institutes have their own organizational structure, and by observing the aspects analyzed, the application of management tools tends to improve the performance of the organization in general, in the case under study Vocational and Technological Education at the Federal Institutes.

We would like to stress that EPT Educational Management is committed to all aspects of the institution: educational policies, administrative, pedagogical and teaching, which prompted us to look for references on how educational management can influence the improvement of the organization's processes and flows, with a focus on reviewing and improving Professional and Technological Education, the theoretical basis of the Federal Network of Professional, Scientific and Tech-

nological Education. Remembering that, in addition to this concern with institutional bureaucracy, there is also a need to pay attention to the quality of the education being offered and the quality of life of the civil servants who provide this service. More than just providing a management service, the manager is responsible for maintaining harmony in the working environment with a view to a significant and gradual improvement in the duties and services provided.

The adoption of efficient practices and the constant search for improvements contribute to the achievement of educational objectives,

promoting quality education and training students prepared for the challenges of today's world with a critical understanding of reality in line with desirable technical qualifications.

Therefore, this research aims to provide valuable input for improving educational policies and improving the quality of training offered by the Federal Education Network. It is hoped that the results of this research will help to consolidate educational management that responds effectively to the demands of society, preparing students for a promising and challenging future.

## REFERENCES

AZEVEDO, Marcio Adriano de; SILVA, Cybelle Dutra da; MEDEIROS, Dayvyd Lavaniery Marques. Educação Profissional E Currículo Integrado para o Ensino Médio: elementos necessários ao protagonismo juvenil. **HÓLOS**, [S. l.], v. 4, p. 77–88, 2015. DOI: 10.15628/holos.2015.3190. Disponível em: <https://www2.ifrn.edu.br/ojs/index.php/HOLOS/article/view/3190>. Acesso em: 15 jun. 2023.

BARDIN, Laurence. **Análise de conteúdo**. São Paulo: Edições 70, 2011, 229 p.

BRASIL. Lei Nº 9.394, de 20 de dezembro de 1996. **Estabelece as diretrizes e bases da educação nacional**. Disponível em: [http://www.planalto.gov.br/ccivil\\_03/leis/l9394.htm](http://www.planalto.gov.br/ccivil_03/leis/l9394.htm). Acesso em: 12 jun. 2023.

BRASIL. Lei Nº 11.741, de 16 de julho de 2008. **Altera dispositivos da Lei no 9.394, de 20 de dezembro de 1996**: que estabelece as diretrizes e bases da educação nacional, para redimensionar, institucionalizar e integrar as ações da educação profissional técnica de nível médio, da educação de jovens e adultos e da educação profissional e tecnológica. Disponível em: [http://www.planalto.gov.br/ccivil\\_03/\\_Ato2007-2010/2008/Lei/L11741.htm#art3](http://www.planalto.gov.br/ccivil_03/_Ato2007-2010/2008/Lei/L11741.htm#art3). Acesso em: 12/05/2023.

BRASIL. Ministério da Educação. **Rede Federal de Educação Profissional, Científica e Tecnológica**. Disponível em: <http://portal.mec.gov.br/rede-federal-inicial/>. Acesso em: 06 jun. 2023.

BRASIL. Lei nº. 11.892, de 29 de dezembro de 2008. **Institui a Rede Federal de Educação Profissional, Científica e Tecnológica, cria os Institutos Federais de Educação, Ciência e Tecnologia, e dá outras providências**. Diário Oficial da União, Seção 1, p. 1, 30/12/2008. Disponível em: [https://www.planalto.gov.br/ccivil\\_03/\\_ato2007-2010/2008/lei/l11892.htm](https://www.planalto.gov.br/ccivil_03/_ato2007-2010/2008/lei/l11892.htm). Acesso em: 16 de Abr. 2023.

BRASIL. Lei n. 11.741, de 16 de julho de 2008. **Altera dispositivos da Lei n. 9.394, de 20 de dezembro de 1996**. Disponível em: <http://www.legislação.planalto.gov.br>. Acesso em: 14 jun. 2023.

BRITO, Márcia de Sousa Terra; COSTA, Marcio da. Práticas e percepções docentes e suas relações com o prestígio e clima escolar das escolas públicas do município do Rio de Janeiro. **Revista Brasileira de Educação**, v. 15, n. 45, p. 500-10, set./dez. 2010. Disponível em <https://doi.org/10.1590/S1413-24782010000300008>. Acesso em 13 de mar. 2024.

CAMPOS, Marco Antonio. Gestão escolar e IDESP: Análise do desempenho de escolas do interior de São Paulo / School management and IDESP: School performance analysis in the countryside of the state of São Paulo. **Brazilian Journal of Development**, Curitiba, v.6, n.10, p. 83255-83269, oct.2020. ISSN 2525-8761. <https://doi.org/10.34117/bjdv6n10-673>. Acesso em 01 Mar. 2024.

CARDOZO, Ricardo Magalhães Dias. **Gestão participativa na Educação Profissional e Tecnológica** – o papel do conselho diretor – um estudo do Instituto Federal do Norte de Minas Gerais Campus Salinas – MG. 2010. 151 f. Dissertação (Mestrado em Educação) – Universidade de Brasília, Brasília, 2010. Disponível em: <https://observatoriodeeducacao.institutounibanco.org.br/cedoc/detalhe/gestao-participativa-na-educacao-profissional-e-tecnologica-o-papel-do-conselho-diretor-um-estudo-do-instituto-federal-do-norte-de-minas-gerais-campus-salinas-mg,c4577c03-5f79-4a4b-ba85-98526bdd03cb>. Acesso 14 jun. 2023.

ClAVATTA, Maria. O Ensino Integrado, a Politecnia e a Educação Omnilateral. Por que lutamos?. **Trabalho & Educação** | Belo Horizonte | v.23 | n.1 | p. 187-205 | jan-abr | 2014. Disponível em: <https://periodicos.ufmg.br/index.php/trabedu/article/view/9303/6679>. Acesso em: 20 jun. 2023.

CHIAVENATO, Idalberto. **Administração nos Novos Tempos** - Os Novos Horizontes em Administração. [4. ed.] – São Paulo : Atlas: Grupo GEN, 2020. 9788597025729. Disponível em: <https://integrada.minhabiblioteca.com.br/#/books/9788597025729/>. Acesso em: 16 jun. 2023.

COLOMBO, Sonia Simões. **Gestão Educacional: uma nova visão**. Porto Alegre : Artmed: Grupo A, 2007. 9788536312590. Disponível em: <https://integrada.minhabiblioteca.com.br/#/books/9788536312590/>. Acesso em: 16 jun. 2023.

COSTA, Méloidy Hármony Bezerra da; RIBEIRO, Giann Mendes; ALVES, Sandra Maria Campos. Gestão na Educação Profissional e Tecnológica: tendências atuais. **Revista Thema**, Pelotas, v. 21, n. 3, p. 818–825, 2022. DOI: 10.15536/thema.V21.2022.818-825.1553. Disponível em: <https://periodicos.ifsul.edu.br/index.php/thema/article/view/1553>. Acesso em: 5 jan. 2024.

CREEMERS, Bert; KYRIAKIDES, Leonidas. Using the Dynamic Model to develop an evidence based and theory-driven approach to school Improvement. **Irish Educational Studies**. Vol. 29, No. 1, March 2010. DOI:10.1080/03323310903522669. Disponível em: [https://www.researchgate.net/publication/233327892\\_Using\\_the\\_Dynamic\\_Model\\_to\\_develop\\_an\\_evidence-based\\_and\\_theory-driven\\_approach\\_to\\_school\\_improvement](https://www.researchgate.net/publication/233327892_Using_the_Dynamic_Model_to_develop_an_evidence-based_and_theory-driven_approach_to_school_improvement). Acesso em 02 jan. 2024.

ClAVATTA, Maria; RAMOS, Marise. **Ensino médio integrado: concepções e contradições**. São Paulo: Cortez, 2005.

CLAVER, Leonardo. MOLL, Jaqueline et. al. Educação profissional e tecnológica no Brasil Contemporâneo: desafios, tensões e possibilidades. Porto Alegre: Artmed, 2010. **Boletim Técnico do Senac**, [S. l.], v. 38, n. 2, p. 80–81, 2012. Disponível em: <https://www.bts.senac.br/bts/article/view/170>. Acesso em: 05 jan. 2024.

FRIGOTTO, Gaudêncio; ClAVATA, Maria. **Educação Básica no Brasil na Década de 1990: subordinação ativa e consentida à lógica do mercado**. Educação & Sociedade, Campinas, vol.24, n.82, p.93-130, abril 2003. Disponível em <http://www.cedes.unicamp.br> Avaliado em 09 de março de 2013. Acesso em 04 abr. 2023.

GOBBI, Beatriz Christo; LACRUZ, Adonai José; AMÉRICO, Bruno Luiz; ZANQUETTO FILHO, Hélio. **Uma boa gestão melhora o desempenho da escola, mas o que sabemos acerca do efeito da complexidade da gestão nessa relação?** Ensaio: aval. pol. públ. educ. 28 (106). Jan-Mar 2020. <https://doi.org/10.1590/S0104-40362019002701786>

LAKATOS, Eva Maria. **Fundamentos de Metodologia Científica**. Rio de Janeiro - RJ: Grupo GEN, 2021. ISBN 9788597026580. Disponível em: <https://integrada.minhabiblioteca.com.br/#/books/9788597026580/>. Acesso em: 19 mai. 2022.

LIBÂNEO, José Carlos. **A Organização e a Gestão Da Escola: teoria e prática**. Goiânia: Alternativa, 2007.

LÜCK, Heloísa. **Dimensões da gestão escolar e suas competências**. Curitiba, PR: Positivo. 2009. Disponível em: [https://edisciplinas.usp.br/pluginfile.php/2190198/mod\\_resource/content/1/dimensoes\\_livro.pdf](https://edisciplinas.usp.br/pluginfile.php/2190198/mod_resource/content/1/dimensoes_livro.pdf). Acesso em: 02 mar. 2024.

MAXIMIANO, Antonio Cesar Amaru. **Teoria Geral da Administração** - Da Revolução Urbana à Revolução Digital. 8ª edição. Rio de Janeiro-RJ: Grupo GEN, 2017. 9788597012460. Disponível em: <https://integrada.minhabiblioteca.com.br/#/books/9788597012460/>. Acesso em: 25 jun. 2023.

MOURA, Dante Henrique. **Educação Profissional: Desafios Teórico-Metodológicos e Políticas Públicas**. Dante Henrique Moura. – Natal: IFRN, 2016. 244 p. il. Disponível em: <http://memoria.ifrn.edu.br/handle/1044/881>. Acesso em: 14 jun. 2023.

MOURA, Dante Henrique. A Formação De Docentes Para A Educação Profissional E Tecnológica. **Revista Brasileira da Educação Profissional e Tecnológica**, [S. l.], v. 1, n. 1, p. 23–38, 2015. DOI: 10.15628/rbept.2008.2863. Disponível em: <https://www2.ifrn.edu.br/ojs/index.php/RBEPT/article/view/2863>. Acesso em: 14 jul. 2023.

FREIRE, Paulo. **Pedagogia do oprimido**. 17ª. ed. Rio de Janeiro. Paz e Terra. 1987.

RAMOS, Marise Nogueira. História e Política da Educação Profissional. Curitiba : Instituto Federal do Paraná, **Coleção formação pedagógica**; v. 5, 2014. Disponível em: <https://ifpr.edu.br/curitiba/wp-content/uploads/sites/11/2016/05/Historia-e-politica-da-educacao-profissional.pdf> Acesso em: 20 jun. 2023.

SOUZA, Francisco das Chagas Silva; MEDEIROS NETA, Olivia Moraes de. Educação Profissional e Tecnológica no Brasil no Século XXI: Expansão e Limites. **Educação Profissional e Tecnológica em Revista**, [S. l.], v. 5, n. 2, p. 109-125, 2021. DOI: 10.36524/profept.v5i2.1222. Disponível em: <https://ojs.ifes.edu.br/index.php/ept/article/view/1222>. Acesso em: 29 jun. 2023.

TAVARES, Andrezza Maria B. do Nascimento. *et al.* Educação Profissional e Currículo Integrado a Partir de Eixos Estruturantes no Ensino Médio. – Natal : **IFRN**, 2016. 244 p. il. Disponível em: <https://memoria.ifrn.edu.br/bitstream/handle/1044/881/EDUCACAO%20PROFISSIONAL%20-%20Dante%20-%20miolo%20-%20ebook.pdf?sequence=1&isAllowed=y>. Acesso em: 14 jun. 2023.