Learning Theories in Textbook Production in Distance Education

As Teorias de Aprendizagem na Produção de Livros Didáticos na Educação a Distância

Abstract

Distance Education has shown significant numbers in the expansion of student enrollment in Brazil in recent years. It is evident in studies and research, the concern of managers with the quality of teaching and teaching materials used by the institutions. The Ministry of Education defines quality benchmarks for distance education, including indicators for the production of teaching materials. In addition, the development of teaching materials in distance education should be based on learning theories to achieve the learning outcomes desired by institutions. In this context, the present study aimed to investigate the learning theories used in the production of textbooks in an undergraduate course offered by a higher education institution in the extreme south of Santa Catarina. The research is qualitative in nature, and as for its objectives, it is exploratory. The case study methodology is used and documentary data are used. The research results point to a standardization in the elaboration of the analyzed didactic materials, although some changes in the format and layout features have been identified. The behavioral approach is evidenced, since the analyzed material is focused on the exposure of the contents and the method of exposure of this content occurs with continuous repetition in repetitive format.

Keywords: Distance education. Courseware. Learning theories.
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Resumo

A Educação a Distância tem apresentado números significativos na expansão de matrículas de alunos no Brasil, nos últimos anos. Evidencia-se nos estudos e pesquisas, a preocupação dos gestores com a qualidade do ensino e dos livros didáticos utilizados pelas instituições. O Ministério da Educação define referenciais de qualidade para a educação a distância, incluindo indicadores para a produção de material didático. Além disso, a elaboração dos materiais didáticos na educação a distância pode ser embasada em teorias de aprendizagem para que se alcancem os resultados de aprendizagem desejados pelas instituições. Neste contexto, o presente estudo objetivou investigar as teorias de aprendizagem utilizadas na produção dos livros didáticos em um curso de graduação ofertado por uma instituição de ensino superior do Extremo Sul de Santa Catarina. A pesquisa é de natureza qualitativa e, quanto aos objetivos, é exploratória. Utilizou-se a metodologia de estudo de caso e utiliza dados documentais. Os resultados da pesquisa apontam para uma padronização na elaboração dos materiais didáticos analisados, embora algumas alterações no formato e recursos de diagramação tenham sido identificadas. Fica evidenciada a abordagem comportamentalista, uma vez que o material analisado é focado na exposição dos conteúdos e o método de exposição deste conteúdo dá-se com repetição continua em formato repetitivo.


1. Introduction

The expansion of Distance Education (DE) in Brazil has achieved significant advances for decades, and has intensified in recent years. The managers’ concern is turning to aspects of the quality of teaching resources and, above all, to the quality of teaching materials. Considered as one of the determining factors in the success and quality of a course, the didactic material assumes a significant role in the teaching-learning process in distance education, in the adequacy and meeting the needs of the public involved.

To meet the complexity of production and preparation of teaching material in distance education, it is necessary, in the management and development of it, the involvement of different actors, processes and technologies to achieve the desired objectives, skills and competences. In this sense, the management of the didactic material production process can be considered a strategic factor in their quality, according to Silva et al., (2015).

According to Brasil (2007), the didactic material must be produced in order to mediate the dialogue between teacher, student and object of knowledge, contributing to the elaboration of knowledge. Therefore, in the focus of the content approach, the didactic material must express the epistemological, methodological and political principles explained in the course pedagogical project of a course (CPP). These principles can be based on learning theories. Understanding how this process occurs in distance education motivated the present study, whose problem lies in: what is the learning theory used in the production of the textbook in an undergraduate course offered by a higher education institution in the
extreme south of Santa Catarina? The objective of the research was to investigate the learning theories used in the production of didactic material in the higher course of Technology in Commercial Management at this University.


1.1 Didactic Resources in Distance Education

In distance education, according to Arruda (2013, p. 262), didactic materials act as mediators “of the teacher’s speech about the concepts he intends to discuss in his speech.” Fernandes and Nunes (2015, p. 76) point out the role of didactic materials in the teaching-learning process that are constituted as “artifacts or resources with pedagogical connotations incorporated in the pedagogical context in order to collaborate in the mediation between teachers, students and knowledge.”

The didactic material thus acts as a mediator between the study material, teacher and student, paving the way for a discussion of the pertinent subjects that are part of the content belonging to a given discipline. In the quality references for higher distance education, established by MEC- Ministry of Education, it is stated that:

The Didactic Material, both from the point of view of the content approach, as well as the form, must be designed according to the epistemological, methodological and political principles explained in the pedagogical project, in order to facilitate the construction of knowledge and mediate the dialogue between student and teacher, who must undergo a rigorous prior evaluation process (pre-testing), with the objective of identifying needs for adjustments, aiming at their improvement. (BRASIL, 2007, p.13).

In addition, the didactic material, in line with the pedagogical project of the course, must develop specific skills and competences. For this reason, a set of media compatible with the proposal and with the socioeconomic context of the target audience must be used, according to Brasil (2007).

Trimer (2012) highlights that, despite the wide use and diversity of advantages, the production of teaching material is not a simple process, as it involves research, context analysis, planning, execution and continuous evaluations. In addition, it requires a graphic and instructional project with the function of guiding the organization of the contents of all textbooks produced for a given course.

The textbook is commonly used as a basic resource in the development of subjects and guides other educational resources. Assumes the role of teacher advisor in their organization and planning of the discipline and the student in their studies. The DE Census report of the Brazilian Distance Education Association (ABED, 2014) corroborates the above and highlights that, according to Panidini et al. (2015):

[...] among the main media used in distance education, practically all Brazilian institutions (91.6%) make use of written (textual) works in their courses, with approximately 40% making their written texts available for download and / or printing; 32.1% make use of handouts, books, guides in printed form (PANIDINI et al. 2015, p. 181).
Nowadays, even with the great diversity of digital technological resources and access to the internet, printed teaching resources still have advantages in their use, whether due to the possibility of access to the most diverse geographic, cultural contexts and profiles of teachers and students (MOORE; KEARSLEY, 2013; BELÃO; BRITO, 2012; FERNANDEZ, 2009).

1.2 Learning Theories

Learning theories are guiding for successful teaching practice at all educational levels. Distance education (DE), with its learning and teaching dynamics, uses different pedagogical perspectives to guide its curricular matrix, exposure and teaching methods for success in its education proposal (PIVA JR. Et al., 2011, p. 47).

In a not very comprehensive way, theory is a “human attempt to systematize an area of knowledge, a particular way of seeing things, explaining and predicting observations, solving problems” (PIVA JR. Et al., 2011, p. 47).

Learning theories can be divided into four major streams according to their philosophical principles, according to Piva Jr, et al., (2011) and they are: Traditionalist, Behavioralist (behaviorism), Cognitivist (constructivism) and Humanist. Below, we will see each one of them with their specificities and the developments that they may have within themselves.

The main focus of traditionalist theory is the teacher, a central character in the educating process. The figure of the student in traditional education is secondary, the student being a mere passive agent for the figure of the teacher in the classroom. Corroborating the concept of the teacher as a transmitter and student as a receiver Maia, Scheibel and Urban (2009, p. 71) says that: “[...] education is seen as a product with the transmission of selected and logically organized ideas. The teacher is the transmitter of the content and the student, the receiver”. Therefore, knowledge is schematized in a way that the student absorbs the content in a linear way, thus contemplating the acquisition of information and content.

The basic theory of behaviorism is centered on the subject’s observable and measurable behavior, in other words, on its responses to external stimuli and the consequences of those responses. In behaviorism there is a centralization in teaching, with an emphasis on the transmission of knowledge and the repetition of what is ready. In this learning theory, the teacher teaches and the student learns through training, repetition and fixation exercises. The evaluation process occurs after the content is exposed in order to verify the degree of retention of what was transmitted to the student (PIVA JR. Et al., 2011, p. 49).

This conception of teaching is based on the teacher as an active agent in the transmission of content, while the student is a passive being who must assimilate the knowledge presented by the teacher, therefore the external factors are more important than the internal factors of the individual. For Sommerman (2003), the structuring of teacher-centered content is based on behaviorist theories, which consider learning as a conditioning, privilege the educating process and the transmission of information. John Watson, who was one of the first scholars on reactions to stimuli and responses, tells us that “behaviorism is dedicated to
the study of interactions between the individual and the environment, between the individual's actions (his responses) and the environment (the stimulations) “(TEIXEIRA, 2007, p. 45). For Watson, the human being is a blank slate and his answers are predictable; therefore, they can be anticipated by previously determined stimuli. This theory, therefore, makes use of a positive reinforcing stimulus when a student reaches an objective, which does not occur when the learning objective is not reached.

The cognitivist approach is focused on the process or on the faculty of acquiring knowledge on the part of the student, on the variables between stimuli and responses, on the mental processes, his reasoning mode, his interpretation and how the student solves the problems, that is:

The term cognitivist refers to psychologists who investigate the so-called central processes of the individual, which are difficult to observe, such as: organization of knowledge, information processing, thinking styles or cognitive styles, behaviors related to decision making, etc. (MIZUKAMI, 1986, p.59).

In this philosophical conception, the student has an active role in his learning process. Cognitive philosophy finds two methodological lines of approach, which are: centralization in the institution and centralization in social groups (PIVA JR. Et al., 2011). In the centralization of the educational institution, the teacher is the technician of knowledge who selects, organizes and applies the material to be studied; therefore, it guarantees the effectiveness in the learning process through the method that will be used in the presentation of this material. This method was also known as technicist pedagogy, in which subjectivity is excluded, and the student is the focus in class preparation (PIVA JR. Et al., 2011).

With centralization in social groups, the learning objective will be defined according to the needs of the group to which the class will be directed. In this way, the teacher conducts the class considering determinant aspects in which the group is inserted, such as social, political, economic and individual factors. This approach takes into account the construction of the knowledge of the individual inserted in a society as a whole (PIVA JR. Et al., 2011).

Jean Piaget was a great scholar on the subject. According to this theorist, “according to the individual's development, the exchanges that occur between him and his social environment are of a very different nature and, therefore, modify his mental structure in an equally different way” (PIAGET, 1972, p. 207). One of the aspects that must be taken into account in the cognitive approach is that the subject learns by interacting with the environment, that is, in the exchanges between the subject, the teacher, as well as the classmates themselves, who are fundamental parts in the construction of their knowledge (NUNES and SILVEIRA, 2008, p. 89). Other scholars of the theory of cognitive learning were Lev Vygotsky, with his “Cultural Theory”, and David Ausubel, with “Meaningful Learning”, according to Nunes and Silveira (2008).

Humanist theory focuses on the subject's self-realization, that is, the subject as the producer of his knowledge, thus differing from the behaviorist approach, which prioritizes stimuli as the main factor for learning, and the cognitivist approach, which values cognition as externalization of knowledge. student assimilation in relation to school content. In this theory of learning, the student is a being with feelings, thoughts and actions, and she contemplates, above all, his personal growth. In this approach, it is up to the teacher to encourage the student to develop his autonomy, self-knowledge and self-perception, articulating the teaching knowledge with expository and interactive classes, thus triggering learning (NOGUEIRA, 2013, p. 229). This philosophical line was also known as student-centered teaching or an open school. The three main thinkers of humanistic learning theory are Carl Rogers, George Kelly and Paulo Freire.

Paulo Freire was one of the greatest thinkers in Education in Brazil and in the world, and his criticism of technical education is one of the pillars for humanization within the school environment. His view of
education as a liberating and emancipatory practice is explored in several of his books. According to Freire (1976, p. 34), “To achieve the humanization that supposes the elimination of dehumanizing oppression, it is absolutely necessary to transcend the limit situations in which men are reduced to the state of affairs”. He emphasized that teaching practice needs to be meaningful, and teacher and student must adopt a questioning, dialogical and non-alienating stance.

2. Methodology

In order to achieve the objective of the present study, field research was used, having as study object the didactic materials (printed books) developed to offer disciplines in the distance modality. The research is exploratory with an essentially qualitative approach.

Documentary research was used with the manipulation and analysis of didactic materials produced by the Business Technology course offered at distance, at the University under study, as well as the analysis of the Course Pedagogical Project (CPP) and the guide for production guidance for teaching material.

The choice of the object of study, textbooks of that course, was due to the fact that the authors are professors and academics from the University connected to the course. The undergraduate course in Technology in Commercial Management (TCM) was the first undergraduate course offered at distance by the University, which, through an institutional decision, opted for its own production of didactic material, that is, the books were written by the institution’s professors, with essentially face-to-face experience. This fact aroused the interest of researchers to develop a Scientific Initiation Program (PIBIC) project, carried out between 2017 and 2018, which culminated in this study, which was developed with the aim of investigating the learning theories used in the production of books didactics in an undergraduate course. For that, it was decided to analyze two subjects, among the different subjects of the course, considering that the production process of them took place in a similar way.

Distance Education at the University officially started with the emergence of the Distance Education Sector (DES) in 2003, through Resolution number 09/2003 - 08/21/03. In 2013, with the University’s accreditation by the Ministry of Education, to work in Distance Education, according to Ordinance no. 45/2013, the offer of higher education courses began in this type of education. The distance learning course in Business Management Technology (BMT) offered by the University and its printed textbooks will be the focus of analysis for this article.

In the analysis of the CPP, it was found that the higher education course in TGC is aimed at the market in the commercial area. It aims to train professionals for business management, providing contact with current management, communication, sales and entrepreneurship tools. The teaching methodology consists of face-to-face classes online, online monitoring and assistance, face-to-face assistance and attendance, face-to-face assessments, didactic material in digital media and in book format and, finally, video lessons.

Among the subjects that cover the course and that have printed didactic material, we can highlight Fundamentals of Administration, Fundamentals of Sales, Fundamentals of Marketing, Scientific and Research Methodology, Sales Force Management, Entrepreneurship, among others. As a criterion for selecting the material to be analyzed, and to highlight which theories of learning can be found in the preparation of printed teaching material, we opted to analyze the first two chapters of the books Fundamentals of Sales (FS) and Fundamentals of Marketing (FM).

The disciplines selected were Fundamentals of Sales and Fundamentals of Marketing. According to Gil (2010), documentary research, similar to bibliographic research, is differentiated by the nature of the sources, by using materials (reports, tables, etc.) that have not yet received an analytical treatment or that can still be reworked in according to the research objects.
It is worth mentioning that one does not seek to highlight one theory as being better than another and, much less, to quantify the values that a learning theory could add up in the elaboration of the printed didactic material analyzed here. It seeks only to analyze which learning theory is evidenced in the textbooks exposed here, without any value judgment to the detriment of the others.

3. Results and Discussion

3.1 Sales Fundamentals Book Review

The Sales Fundamentals (SF) textbook is divided into six chapters, organized the following way: Chapter I – Introduction to Sales Management; Chapter II – Sales Process; Chapter III – Sales in the Organizational Context; Chapter IV – Sales Professional Profile; Chapter V – Sales Planning; Chapter VI – Structuring the Sales and Negotiation Force.

In each chapter, the organization of the content exposed is made by themes and, in one of the analyzed chapters, the themes are (1) A Sales Vision; (2) Personal Selling Revolution; (3) Sales Administration; (4) Sales and the Marketing Compound; (5) Administrative Processes and Sales Functions. All chapters have a presentation, objectives and proposed themes. In the case of the chapter Introduction to Sales Management, the objectives are to understand the stages of the evolution of Sales Management, as well as their implications for the business environment; Assess the importance of the figure of the sales man for the development of society and organizations; Discuss the importance of the seller in the current economic scenario, in order to define competitive strategies.

It is noted, by the format, that the content is exposed, that the linearity in the exhibition of the themes presented is a constant in the construction of the textbook presented here, showing signs that the theoretical presentation of concepts is more evident in the elaboration of the didactic material. It is worth mentioning that, throughout the first chapter, four authors are cited to corroborate the ideas of the author of the textbook SF.

In the analysis of the Introduction to Sales Administration chapter, it was found that, with regard to Theme 1, A Sales Vision, its theme is to position the sales professional these days and its importance in the business world, beginning the paragraph with the following phrases: “We always emphasize the importance of the sales professional in a business environment. In the past, the focus of companies was on the product. ” (SCHNEIDER, 2013, p. 10). Throughout the theme, the importance of the professional qualification of a sales manager and the basic functions that he is expected to have, such as planning, organization, control and direction, are exposed.

The last paragraph of this Theme ends with the following sentence: “These fundamentals help to achieve goals, especially if the sales professional develops his skills of relationship, negotiation, leadership and motivation”, thus showing what is expected of the professional of the area. Theme 2, Personal Selling Revolution, begins with the historical rescue, over the ages, of the topic sales, beginning with Ancient Greece, going through the Industrial Revolution, Era of the Industrial Revolution, Post-Industrial Revolution Era, Era of the Great Wars and Depression, ending with the Modern Era. It follows with the explanation of some topics, correlating them with the Sales Manager and its importance, such as Society, Market, The Salesperson and the Customer, and some skills that are expected of the Sales Manager and other related professionals, such as Knowing , Provider, Helping, Pleasant Personality and Coordinator. The items in this theme are exposed as a way to situate the professional in front of a consumer society and how he should behave in the face of this - an exhibition made in a description format.
Chapter 1 ends with Theme 5, Administrative Processes and Sales Functions, starting with the explanation of the Administration principles presented by Henry Fayol. Here are presented the administrative processes that include forecasting, organization, command, coordination and control. Theme 5 follows the definitions of the sales functions, understood in: planning sales activities, identifying and visiting potential customers, identifying who are the decision makers, sales presentation, preparation to overcome customer objections, when launching new products, after sales. It also covers the functions of a salesperson.

As can be seen, the printed didactic material analyzed is focused on the exposure of the contents. The method of exposition of this content occurs with continuous repetition in a repetitive format of the exposition of the contents. The same way that a content is presented is repeated in the method of presenting other content. About this, Silva (2017, p. 105) tells us that “The behavioral approach can be useful in tasks that require a more repetitive character”. In this approach, the premises of “solving problem situations in which actions and rules are applied in unfamiliar situations or in situations in which more instantaneous reflection is necessary” are favored.

The behavioral learning theory seems to give an account of how the printed textbook of SF is structured. The structure as the content to be studied by the student is exposed throughout the analyzed chapter occurs in a repeated way; the way in which one content is exposed is repeated for the exposure of other content.

Last but not least, at the end of the chapter, the author presents three questions as a way of returning to the themes presented - questions that must have essay answers. For demonstration, an example follows: “Throughout this chapter, we found that the sales profession has undergone several changes throughout history. In addition, we studied that this professional directly influences the economy and the companies in which he is inserted. So, summarize the eras of the evolution of personal selling and the roles played by salespeople.”

3.2 Marketing Fundamentals Book Review

The Fundamentals of Marketing (FM) textbook is divided into six chapters, similarly to the book previously analyzed, organized as follows: Chapter I - Introduction to Marketing; Chapter II - Strategic Marketing Management; Chapter III - Marketing Mix: Products and Prices; Chapter IV - Marketing Mix: Plaza and Promotion; Chapter V - Consumer Behavior; Chapter VI - Consumer Purchase Processes. Chapter 1, which is the object of analysis here, is divided into two Themes: (1) Evolution of Marketing and Principles Concepts, (2) Central Marketing Terms. It is observed here that the structure of the FM book follows the same production orientation as the PV book. At the beginning of each chapter, there is a presentation, objectives and proposed themes.

The FM book presents more than ten authors to attest to the ideas and statements that its author exposes throughout the first chapter, diverging from the four authors presented in PV. Different from the exposition of the previously analyzed book, the themes will not be worked out in such a detailed way, since the construction of the books follows the same principle; rather, the differences and additions that the FM book presents throughout the first chapter will be addressed.

The first difference between the two chapters is their size, SF has 14 pages and FM 17 pages, the book SF was launched in 2013 and FM in 2014. Some innovations were launched in the 2014 book; one of them is a highlight in the middle of page 11, entitled Learn More I. Its format, in the form of a table, presents information and a web page link for the student who wants to check something beyond the textbook.
Another picture that appears in abundance throughout the first chapter is Think About! This highlighted topic presents some questions for the student, asking him about what he knows about the subject presented, for example: “How do you evaluate the value of a product?” or “When does a product make you happy?” These statements give the feeling that the author talks directly with the reader, making him reflect on his common sense regarding the theme presented.

Another contribution was the examples that are presented after some definitions of concepts, bringing companies and real or fictitious facts to the student's reality, bringing a little reality to the theories presented. The other items presented in the FM book follow the same standards of SF, content exposure, definition of concepts, descriptions of the historical recovery of the evolution of the theme and current job market for the highlighted professional. In the FM book, exercises are not presented at the end of the chapters, unlike the SF textbook.

The FM book repeats the content exposure formula as in the SF book, although it brings new elements for a questioning of the student on the subject. The behavioral learning theory is once again present here, mainly due to the structure as the content is exposed in the book. Skinner's theory of programmed teaching is again evident in this textbook, according to Sommerman (2003, p. 3), in which the teacher-centered programmed content “is based on behaviorist theories, which consider learning as a conditioning, privilege the process of educating and the transmission of information.” Regarding the structuring of content in behaviorist learning theory, Altet (1999) states that, in behavioral theory, the role of the teacher consists in providing learning conditions in the structuring of situations and reinforcement contingencies, aiming to accentuate the need to learn. Substituting a teacher for a textbook, since it is he who is exposing the content to be learned by the student, one can manifest behavioral theory as more present in the two textbooks analyzed.

4. Conclusion

This article sought to analyze how the textbooks of the distance course in Technology in Commercial Management at the University of the Extreme South of Santa Catarina are structured, in the light of learning theories. We sought to expose the four main theories of learning, namely: traditionalist, behaviorist, cognitivist and humanist. As a part of the research, the analysis of the first two chapters of the books Fundamentals of Sales and Fundamentals of Marketing was carried out.

As a result of the analysis, the behavioral approach is present in the development of the content exposed in the two textbooks. The repetitive character as the content is presented throughout the two chapters analyzed shows us that the focus of the books is the transmission of information. Despite some changes between the two books, in general they present the same structure in the presentation of the material.

The present study was limited to the analysis of two textbooks produced by professors of the Technology in Commercial Management course in the Distance modality, from the University of the Extreme South of Santa Catarina. As future studies, it is suggested to extend the studies to the other books of the course, as well as to the other didactic materials produced.

The results of this study can serve as a basis for guiding the production of didactic materials, bearing in mind the learning objectives of the course and the subjects, as well as presenting bases for learning theories, especially for teacher-authors who do not have studies in this field. knowledge area.
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References


