

Artigo Original

Guideline for Distance Learning Courses

Diretrizes para Concepção de Cursos em EAD

Pautas para el Diseño de cursos de educación a distancia

Andreza Regina Lopes da Silva¹, Juliana Bordinhão Diana I,¹ Fernando José Spanhol²

Abstract

This paper aims to identify the Management students' choice motivations and their subareas in distance learning. The survey was collected from a structured questionnaire from students already enrolled in the management courses, from bachelor and technologist programs, with 1953 answers from all over Brazil. The collected data received quantitative treatment, being the main techniques, Descriptive Statistics, Multivariate Analysis and Exploratory Factor Analysis. The result of the analysis pointed as main motivations the personal vocation (career) and financial motivations, as much of the distance learning modality as in comparison with other courses like the Engineering. It was possible to verify the existence of interest on the part of these Management students to continue studies with emphasis in the exact and engineering courses in the future, as another undergraduate and postgraduate in the distance learning modality.

Keywords: Distance education. Management. Engineering. Baccalaureate and technologist.

¹ Universidade Federal de Santa Catarina – Florianópolis – SC – Brasil

² Universidade Federal de Santa Catarina – Araranguá – SC – Brasil

Resumo

O objetivo deste artigo é apresentar diretrizes para a concepção de cursos a serem ofertados em Educação a Distância de modo que contribuam com o desenvolvimento de competências do aprendiz. Como procedimento metodológico, trabalhou-se com abordagem exploratório-descritiva e análise qualitativa dos dados. Para a coleta dos dados, considerou-se a combinação do método indutivo e da abordagem fenomenológica, que teve como base a orientação teórico-prática advinda dos autores, emergentes de uma década de acompanhamento e participação em projetos públicos e privados e de pesquisas na área. Como resultado, identificaram-se dimensões fundamentais a serem contempladas por instituições que buscam desenvolver recursos educacionais diversos a serem utilizados para ofertas de cursos na modalidade a distância. Este trabalho se inicia pela delimitação do projeto instrucional e deve se estender a partir da gestão do conhecimento e mapeamento de boas práticas desenvolvidas no contexto institucional. Nesse sentido, um dos grandes desafios de conceber cursos na modalidade a distância está no trabalho interdisciplinar realizado por uma equipe multidisciplinar que se deixa desafiar pela visão sistêmica do projeto.

Palavras-chave: Educação a distância. Recursos educacionais. Planejamento. Gestão.

Resumen

El objetivo de este artículo es presentar pautas para el diseño de cursos que se ofrecerán en educación a distancia para que contribuyan al desarrollo de las competencias de los alumnos. Como procedimiento metodológico, trabajamos con un enfoque exploratorio descriptivo y un análisis de datos cualitativos. Para la recopilación de datos, consideramos la combinación del método inductivo y el enfoque fenomenológico, que se basó en la orientación teórico-práctica proveniente de los autores, que surgió de una década de monitoreo y participación y proyectos públicos e privados e investigación en el área. Como resultado, identificamos dimensiones fundamentales que deben contemplar las instituciones que buscan desarrollar diversos recursos educativos

para ofrecer cursos de educación a distancia. Se infiere que este trabajo comienza con la delimitación del proyecto de instrucción y debe extenderse desde la gestión del conocimiento y el mapeo de buenas prácticas desarrolladas en el contexto institucional. En este sentido, uno de los grandes desafíos de diseñar cursos de aprendizaje a distancia es el trabajo interdisciplinario realizado por un equipo multidisciplinario que se ve desafiado por la visión sistémica del proyecto.

Palabras clave: Educación a distancia. Recursos educativos. Planificación. Gestión.

1. Introduction

Distance Education (DE) has become frequent in the educational scenario, from the evolution and intensive use of digital information and communication technologies and media, expanding more intensely in the 21st century, when it assumed the force of public policy. Since then, the incentive for the development of educational resources that contribute to the construction of knowledge and, consequently, the development of competence, has been the subject of attention for those who promote courses in this modality. This care is highlighted in different surveys that address the quality of distance courses offered, as, in this environment, educational resources stand out as relevant artifacts in the mediation of knowledge, since for many of the students, learning occurs through dialogue simulated by the educational resources made available.

In this sense, the objective of this article is to present guidelines for the design of distance learning courses in order to contemplate a proposal for the development of technical and pedagogical skills of the apprentice. Therefore, an exploratory-descriptive approach was started to understand the complexity of the elements integrated in the design of educational courses for distance learning, which allowed the description of the development aspects of an instructional project for a new distance education course (MARCONI ; LAKATOS, 2010). Then, we worked with multiple cases, based on technical and informational records resulting from the participation of authors in distance education projects in the area of production of educational resources, developed

between 2011 and 2017, in public and private Brazilian institutions, from the perspective of formal and informal education. This work refers to the perception of the phenomenological approach, because, as stated by Dartigues (1992, p. 79), this allows “researchers to highlight their experience, that is, to highlight phenomena in the world in which we live, act, make projects”. For the organization and analysis of the data, we worked with the concept of central idea, defined by Lefevre and Lefevre (2012, p. 76) as “linguistic expression that reveals and describes in the most synthetic and precise possible sense [.. .] of the analyzed speech”.

The analysis of the results followed the qualitative approach in order to recognize the phenomena of the study in depth. In a complementary way, the method defined for this research, of a theoretical-practical nature, was inductive, since it allowed the authors to propose the guidelines as a phenomenon for the design of a distance education course. The entire induction process followed the structure of Marconi and Lakatos (2010), organized in three stages: observation of the phenomenon; discovery of the relationship between them; generalization of the relationship.

This organization was worked with fluidity, integrating the theoretical discussion, which is presented in section 2 of this study, integrated with the observation and the practical experience of the authors in the area, which add up to a walk of more than a decade in the context, as presented in section 3. The discussion continues with the presentation of the final considerations, in section 4, and continues in the bibliographic references, used as a theoretical basis for this conception.

In view of the discussion, the relevance and originality of the result presented and constructed from the improvement, through the collection of the area, in relation to the practice of this universe is highlighted. In view of this reality, each educational institution has been developing its own guidelines, in “the perspective of promoting the alignment of the preparation of these materials with the peculiarities of this modality” (SOUSA, 2018, p. 2). These authors, as well as Silva (2013, 2017) and Brasil (2007), also reinforce concerns in the area by highlighting that when planning the production of the didactic resource for distance education, it is necessary to take into consideration “the relationship

between the number of pages and hours of study ”(SOUSA, 2018, p. 40). In this gap, expressed in bibliographies and documents specialized in the area, they highlight the importance of the discussion. Thus, it appears that this study directly contributes to researchers in the area and to professionals interested in or already involved in the process - for example, a multidisciplinary team and managers who want to expand their practice with regard to the design of quality educational resources. Thinking about Education is a big challenge. Planning Distance Education is a double challenge. And elaborating educational resources is even more challenging, as it implies preparing materials in line with the pedagogical objective, meeting the needs of different audiences. Therefore, when discussing a theoretical trail combined with an empirical trail, the authors, together with the vast experience in the area, show the essential guidelines when the subject is “designing a distance education course”.

2. Theoretical track

Educational resources in distance education assume a prominent role in the teaching-learning process, in which learning is largely autonomous and individuals need to be highly motivated, independent, autonomous and proactive. As Litto (2010) points out, it is wrong to imagine that studying distance is easier than in person. In this sense, when planning a course in distance learning, one should not imagine that such practice is limited to transposing the existing content in the classroom to distance education. Among other tasks, it implies making the appropriate use of available technologies in line with the objectives of teaching and learning, a challenge that requires the participation of a multidisciplinary team that looks to it for the best result under interdisciplinary practice.

Thus, educational resources are understood as the set of strategies to facilitate learning (MASETTO, 2015). Seeking to conceptualize in general, Filatro and Cairo (2015) bring the educational resource as a fluid and didactic element that, interspersed by a clear structure, regardless of whether it is axial or networked, allows the student to identify where it starts, where it ends and, mainly, which competence should

be developed. When dealing with educational resources for distance education courses, it is necessary to decide on the set of provisions that favor the teaching-learning process (MASETTO, 2015). The author explains that the variation of resources favors the development of the most diverse points of view of the student, which is considered fundamental for meaningful learning, that is, that process of construction of knowledge that “involves the acquisition of new meanings” from of pre-existing (AUSUBEL; NOVAK; HANESIAN; 1980, p. 34).

The development of educational resources for distance education should involve different aspects that can be contemplated with the design of the instructional project of the course, with the description of elements such as: definition of target audience, teaching and learning objective, course load and disciplines, course structure, types of media and assessments to be developed, among other elements that need to be in line with the pedagogical project of the course, so that the necessary skills are developed respecting the expected workload.

Silva (2017) elucidates that the instructional project can be understood as a first structured document of the course proposal, and for that purpose it must contemplate questions related to: learning need, teaching objectives and description of possible limitations, such as the course offer being for a public whose internet access is limited. Romiszowski and Romiszowski (1998) define the instructional project as a relevant element in the design of the teaching-learning system and all its operational aspects to be acquired or developed - as didactic material. Therefore, it is highlighted that an educational resource can only be considered of quality and relevant when it is organized and programmed (AUSUBEL, 2000). Silva (2013; 2017) corroborates that the quality of the educational resource is related to its potential to allow the construction of knowledge; for this, it must have form, content, language and activities planned based on the student's profile, the course proposal and the skills to be developed. Cairo and Filatro (2015) warn that thinking about an instructional project is thinking about “the scope and limitations of the educational solution itself”. Thus, it is understood that to plan a quality distance education course is to predict the congruence of elements such as form, content, language and activity. Consequently,

this delivery will only be possible if the multidisciplinary team involved considers this perspective as the essence for the delivery of any quality educational solution. According to the Quality Framework for Distance Education, it is also important that an educational resource is developed, the general guide of the course, a material that is able to guide the student about the teaching-learning characteristics, as well as their rights and responsibilities during the course (BRASIL, 2007). This orientation imposes the need to pay attention to the provision of planned didactic elements in order to enhance the interaction between the different actors involved in the project, in order to ensure the rights of enrolled students (BRASIL, 2007; 2017).

In order to attend to these aspects, it is evident that the educational resources must adhere to the teaching-learning objective and to the pedagogical conception of the course, which requires the interaction of different actors and the different phases of its conception and development, so that in the end, resources are used as a unit of knowledge without being limited to simply being a means of transmitting information. In this way, the effective development of competences requires distance education from systemic planning, taking into account the institutional structure, the media and interaction system as well as the political and administrative system that guides the institution (GUIMARÃES; CARVALHO, 2015). In addition, it is necessary to consider some specific characteristics of the modality, such as: geographical and temporal distance; communication made flexible by digital technologies and student autonomy.

Moran (2010) points out that there are two models for planning a distance education course. Communication can occur based on the traditional participation of the teacher, appearing in a video lesson or recorded class, a practice that can be added to the integration of readings and activities or through educational resources, printed or digital, written in a dialogical way. In this sense, it is highlighted that, despite the various digital communication resources available today, the textbook still plays a fundamental role as a facilitator of learning in teaching based on autonomy (SILVA, 2013). However, Mattar (2014, p. 109) states that the multimedia principle is the most recommended, considering

that “people learn more deeply” with the combination of “words and visual resources”.

At this threshold, in the planning phase of the distance education course, the conception of educational resources can be understood as an element of order, and some factors will influence the good performance of the course: planning based on the student's profile; development from the experience and knowledge of the multidisciplinary team; skills for writing content; choice of appropriate technology; monitoring and evaluation of the developed proposal (GUIMARÃES; CARVALHO, 2015). Mattar (2014) suggests that, in order to meet these challenges, some precautions, such as collecting updated data on the topic and the target audience, using images and analyzing the amount of information, can contribute to the way in which knowledge is represented to promote learning.

This whole discussion is highlighted by Silva (2017) as an emerging need in the knowledge society, which is characterized by a network connection and continuous transformation. Therefore, to plan a quality distance education course, it is not enough to have experience with face-to-face courses. The experience can facilitate some perceptions, such as the relevance of dialogue, the integration of theory and practice and the use of different resources, but the work of a multidisciplinary team will guarantee the quality of the production of these resources, given the singularities of the modality. It is necessary to understand distance education based on “careful planning, systemic work and the involvement of a multidisciplinary team” promoting an interdisciplinary performance of the entire team involved in the process (GUIMARÃES; CARVALHO, 2015, p. 6; SILVA; SPANHOL, 2018).

3. Empirical trail

The vision of systemic planning in distance education is an extremely important component when it comes to offering a quality course that enhances the development of the learner's skills. That is, planning is one of the main elements related to the success of a course. In this sense, it is necessary to know and analyze the learning needs and, from

the identification of the course objective, it becomes a relevant exercise to be adopted as a first step, and it must be described in the organization that presents the essential elements of an instructional project. Chart 1, elaborated from the concatenation of the theoretical and empirical analysis experienced by the authors, presents the elements and information necessary for the construction of the instructional project.

Chart 1: Essential elements of an instructional project

Elements	Necessary information
Course	What is the central theme of the course? What is the name of the course?
Introduction	What is the course development context?
objective	What is the objective of training the course?
Target Audience	Who are the possible students of this demand?
Bibliography	What is the basic bibliography needed to meet the objective of the course?
Methodology	What will be the procedures used to promote teaching and learning? For example: will you have tutoring or is it self-instructional?
Materials	What educational resources will be used? Examples: video, digital book, narrative?
Course structure	What is the didactic-pedagogical organization? For example, will it be organized into modules divided by theme?
Evaluation	Is there an evaluation forecast? If so: will it be in person or online? Per module?
Workload	What is the number of hours needed to complete the course? For example: four modules, each module 10 hours -> total: 40 hours.
Schedule	What is the start and end date of the course? What is the start and end date of each module?

Certification	Will a certificate of achievement be issued? Will there be a certificate of participation in the virtual environment?
Production modeling	Is there a team allocated to this demand? Will educational resources be developed in partnership with another institution?

This organization, which presents thirteen elements defined as guidelines for the planning of an instructional project, is part of an analysis of the central ideas identified in the reports and in the record of participation of the authors in several projects of offers in the distance modality at national level. It is recognized that for an effective organization of these elements, the participation of a multidisciplinary team with experience and knowledge in offering courses in this modality is essential. Thus, it appears that designing quality courses in distance education is a process that requires an interdisciplinary practice - and not disciplinary or modular of isolated interests.

The uniqueness of a distance learning course offer directly affects the time needed and the essential elements of the elaboration of educational resources, so that they do not act as transmitters of information, but as builders and modelers of knowledge, directly reflecting on the training competencies, whether individual or organizational.

In a complementary way, it is emphasized that it is important to go further and consider the development of a reference standard for the volume of educational resources to be made available to the student. Therefore, the organization presented is extremely relevant, especially for beginners in the field of producing a distance learning course, since the theory does not yet have a discussion in this regard. Therefore, based on the authors' experience and good practices, Chart 2 describes a reference proposal on how to work with the quantity of educational resources with a view to the quality of training.

Chart 2: Resource elaboration reference educational and workload

Elements	References	Example
Workload	20 hours	20 class hours
Learning units	1 unit for every 10 class hours	2 units
E-book	From 2 to 3 pages per hour / class	40 to 60 pages in text editor
Screen presentation	From 3 to 4 screens (slides) per hour	60 to 80 screens in presentation file
Video	From 3 to 5 minutes, with a maximum of 8 minutes	Up to 4 8-minute videos

In this sense, it is inferred that, regardless of the media, the elements cited should guide the process of designing educational resources. It is noticed that the design of educational resources for distance education courses includes complex and knowledge-intensive activities, as evidenced in the research by Silva (2013; 2017), which consider the need for an interdisciplinary approach from a multidisciplinary team, suggesting at least, a content teacher, educational designer, proofreader, graphic designer, virtual environment programmer, plagiarism analyst to monitor the process; these last two roles can be developed by another professional, such as the educational designer - a junior and a full or senior, for example.

It is also considered that, in order to meet the different processes and activities in the production of educational resources in a systemic, congruent and effective way, knowledge related to the estimated time of different activities is important. A reference was organized, based on the authors' records, in Chart 3. It is understood that it can be customized, when necessary, and adjusted throughout the process, since distance education, in addition to requiring systemic planning, requires, given its singularities, flexible structure. In this meander, to direct the initial planning, the main processes and deadlines to be followed were mapped.

Table 3: Processes and deadlines for the production of educational resources

Processes	deadlines
Content development	20 to 30 days for subjects with a workload of 60 hours / class
Plagiarism analysis	1 hour for every 20 pages of text
Educational Design	4 hours for every 20 pages of text
Review	4 hours for every 30 pages of text
Graphic design	4 hours for every 60 pages of text; if there is a need for image treatment, it is suggested to add 1 hour
Scripting	7 days for the production phase and 5 days for editing for every 2 pages of initial content, 8 min forecast. of video
Programming the virtual teaching-learning environment (AVEA)	30 days for organizing a low complexity course (up to 40 hours)
Multidisciplinary manager	4 hours / daily for a course of up to 80 hours of medium complexity

It is suggested that the adaptation of these practices to the context of the project can be done effectively by an experienced professional in education and management, that is, a multidisciplinary professional, such as an educational designer. The use of management software can contribute; however, it is clear that those available on the market do not include such specificity and need to be customized. Specificity occurs in the context of processes and activities that do not follow a linear flow and need to be considered because they are knowledge intensive. For those who are starting or have specific demand for projects, an alternative is to map and use an electronic data spreadsheet shared with the project team, so that the integration of these steps has been mapped in real time.

Based on the elements so far presented and discussed in the present study, Chart 4, with four specific dimensions, with defined criteria to guide the study, was organized based on conceptual concepts, quality

reference documents and empirical aspects experienced by the authors, designing a distance learning course that promotes the development of skills.

Table 4: Criteria for designing distance learning courses

Dimensions	Criteria	Justification
Project	Objective of the course	Defines the parameters and essential elements to be considered for the elaboration of educational resources, bringing together essential elements to an educational project organized from the predefined start and end date.
	Workload	
	Target Audience	
	Methodology	
Educational resources	Organization	It relates to the content and media that will contribute to teaching and learning, according to the project's objective, in addition to enabling the identification of the effective team needed for the project.
	Used media	
	Volume of material	

People	Manager	List of the main professionals involved in the design and elaboration of educational resources that will be made available to students
	Content teacher	
	Educational Designer	
	Reviewer	
	Graphic designer	
	Virtual environment	
	programmer	
	Screenwriter	
	Plagiarism Analyst	
Processes	Production flow	It describes the processes and estimates the deadlines foreseen for the work of the production team, in order to present to the institution a material that is in accordance with what was foreseen in the project, whose greatest challenge is to enhance the construction of the student's knowledge.
	Deadlines	

With this understanding, the theoretical discussion proposed by authors like Guimarães (2015) is evident, which alert to the need to work with a systemic planning when looking for the design of a distance learning course. In this sense, in order to contribute to the theoretical-practical advancement in the area, it is understood that the guidelines described and systematized in four dimensions favor the design

and development of quality distance education courses with scientific rigor, clarity, depth, updating and relevance according to the learning objectives, organized in a first document that can be defined as an instructional project.

4. Final considerations

The objective of this study was to present guidelines for the design of distance learning courses so that they can meet the proposal for the development of apprenticeship skills that in distance education, through unique characteristics, assumes the role of protagonist in their training history. Thus, without the intention of defining a single model of guidelines for the design of quality courses, it is possible to define guidelines for those who are starting in the area of planning a course in distance education with a focus on promoting meaningful training or also for those who work in the area and feel the need to review the essential elements for the offer of distance learning courses that are committed to teaching and learning.

Therefore, it is suggested that studies and publications be expanded in this area of management and development of educational resources, since theory and practice lack directive elements for beginners in the design of distance education courses. It is also suggested to revise the distance education quality framework, since it, despite not having the force of law, is the reference document for this line of work. In addition, the sharing of good practices for the development of quality educational resources is essential for the provision of quality education, as studies in the area that describe their reality are still relevant.

In view of the discussion, it is inferred that in practice, in view of the need for continuing education arising from the knowledge society, two elements are essential when it comes to developing resources for quality training: teaching objective and training skills. They are pillars that must be considered as minimum elements when talking about the design of a distance education course. Finally, it is inferred that quality courses in distance learning can present different designs in different combinations of resources, processes and people involved; however, the

defined criteria are considered references for planning and offering that look after the core of this discussion - "student learning".

References

AUSUBEL, D. P. *The acquisition and retention of knowledge: a cognitive view*. Amsterdam: Kluwer Academic, 2000.

AUSUBEL, D. P.; NOVAK, J.; HANESIAN, H. *Psicologia educacional*. Rio de Janeiro: Interamericana, 1980.

BRASIL, Ministério da Educação. *Referenciais de qualidade para educação superior a distância*. Brasília: MEC/SEED, 2007.

CAIRO, S.; FILATRO, A. *Produção de conteúdos educacionais*. São Paulo: Saraiva, 2015.

DARTIGUES, A. *O que é a fenomenologia?* São Paulo: Moraes, 1992.

GUIMARÃES, T. R. da C.; CARVALHO, M. de L. *Planejamento e desenvolvimento de cursos em EaD*. Viçosa: Ed. UFV, 2015.

LEFEVRE; F.; LEFEVRE, A. M. C. *Pesquisa de representação social: um enfoque qualiquantitativo: a metodologia do discurso do sujeito coletivo*. 2ª ed. Brasília: Liber Livro, 2012.

LITTO, F. *Aprendizagem a distância*. São Paulo: Imprensa Oficial do Estado de São Paulo, 2010.

MARCONI, M. de A.; LAKATOS, E. M. *Fundamentos de metodologia científica*. 7ª ed. São Paulo: Atlas, 2010.

MASETTO, M. T. *Competência pedagógica do professor universitário*. 3ª ed. São Paulo: Summus, 2015.

MORAN, J. M. A gestão da Educação a Distância no Brasil. In: MIL, D.; PIMENTEL, N. M. (Orgs.). *Educação a distância: desafios contemporâneos*. São Carlos: EdUFSCar, 2010.

ROMISZOWSKI, A. J.; ROMISZOWSKI, H. P. *Dicionário de terminologia de Educação a Distância*. Rio de Janeiro: Fundação Roberto Marinho, Superintendência do Telecurso 2000, 1998. Disponível em: <http://www.abed.org.br/revistacientifica/_brazilian/dicionario_terminologia_ead/dicionario.pdf>. Acesso em: 8 ago. 2019.

SILVA, A. R. L. da. Diretrizes de design instrucional para elaboração de material didático em EaD: uma abordagem centrada na construção do conhecimento. Dissertação (mestrado) – Programa de Pós-Graduação em Engenharia e Gestão do Conhecimento – Mídia do Conhecimento, Universidade Federal de Santa Catarina. Florianópolis, 2013.

SILVA, A. R. L. da. *Design educacional para gestão de mídias do conhecimento*. Tese (doutorado). Programa de Pós-Graduação em Engenharia e Gestão do Conhecimento – Mídia do Conhecimento, Universidade Federal de Santa Catarina. Florianópolis, 2017.

SILVA, A. R. L. da; SPANHOL, F. J. *Design educacional para gestão de mídias do conhecimento*. São Paulo: Paco, 2018.

SOUZA, J. V. de. *Guia de elaboração de material didático para uso na educação a distância*. Brasília: Enfam, 2018.

HOW TO CITE THIS ARTICLE

ABNT: SILVA, A. R. L. da; DIANA, J. B.; SPANHOL, F. J. *Guideline for Distance Learning Courses*. Revista Brasileira de Aprendizagem Aberta e a Distância, V19, n. 1. 2020. doi:<http://dx.doi.org/10.17143/rbaad.v18i1.320>

Autor Correspondente

Andreza Regina Lopes da Silva
E-mail: andrezalopes.ead@gmail.com

Received: 12/3/18

Accepted: 7/12/19

Published: 6/2/20