

COURSE MATERIALS PRINTED FOR DISTANCE LEARNING: EXPERIENCE ON CONCEPTIONS OF TWO PROJECTS BY THE FEDERAL INSTITUTE OF ESPÍRITO SANTO

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SUMMARY

This article reports the experience of the Distance Learning Center of the Federal Institute of Espírito Santo (Cead/Ifes) in the conception of printed course materials (MDI), focused on meeting the objectives and characteristics of the course level, as well as be material with good didactic, educational and printing quality for the students.

Key words: Printed course material; Distance Learning; conception of creation

1. Introduction

In relation to the Distance Learning model (EaD), in order for the teaching process to meet its objective and the learning process happens with the students, apart from the involvement and work of various persons, it is necessary that various resources are developed. Among these resources, one that is of paramount importance is the course material.

The course material corresponds to various objects that are used as learning tools, such as for example: animation, games, videos, tutorials, illustrations, web conferences, video lesson, learning virtual environment and the printed course material (MDI) itself.

The role of the MDI has been a big one in education for many years. Also, “we can say that the history of school systems with teaching networks in institutions runs in parallel with the history of the learning printed material.”^[1]

However, it is clear that the production of didactic resources for Distance learning requires its own focus towards this learning category, and it's about this that we will present the experience and production by the Distance Learning Center of the Federal Institute of Espírito Santo (Ifes), of two pedagogical and graphic MDI projects.

2. Context

Cead was created in 2006 and currently has 8 Distance learning courses: 1 technical (Information technology technician), linked to Rede E-tec; 3 graduation courses (Technology in System Analysis and Development - TADS; Information Technology undergraduate course; Languages undergraduate – Portuguese); and 4 Post-graduation courses (Municipal Public Management; Information Technology in Education; Professional and Technological Education; Professional Education integrated to Basic Education for the Young and the Adults - PROEJA), all linked to the Program of the Open University of Brazil (UaB).

The offer of graduation and post-graduation courses demanded from Cead the development of MDI that met the needs of the EaD modality and mainly of the target public of each of these courses. The production of these materials occurred at different times, namely: at a first moment, a project was

produced for the graduation levels and at a second moment, the Post-Graduation courses.

3. Problem

The production of the pedagogical and graphic proposal of these two materials, even if executed at different times, was based on the same focus: to be the type of material that met the objectives and characteristics of the course level, as well as have good didactic, educational and graphic quality for the students.

The basis for the MDI is traditional technology, but Averbug is emphatic in stating that:

As the result of the creativity of its developers, the printed course material can and should always be renewed, and new possibilities must be sought. The MDI uses a technology that is not new but its template and content can be current and in some cases, innovative. The MDI shall reflect a pedagogical proposal that breaks the barriers of ready-made formulas and creates cognitive challenges for the students. It is necessary to dare and search for new possibilities for the MDI, designing courses where the use of materials is not done in a linear fashion, that are innovative from the structure, the activities proposed, the language used and the ways to assess the learning offered. ^[2]

In order to better visualize the differences between the two levels in order to make it easier to understand the problem, table 1 shows a comparison.

Table 1- Basic comparison between course levels.

Topics	Graduation	Post-graduation
Course length	From 3 to 4 years	1 year and 6 months
Average age of students	Between 18 and 35	Between 25 and 60
Number of hours – disciplines	30, 45, 60 and 90 hours	20, 30 and 40 hours
Focus of the course	Two are Undergraduate courses and one is degree	<i>Lato Sensu</i>
Duration of one discipline	From 8 to 18 weeks	From 3 to 6 weeks
Number of disciplines	43 to 47	13 to 15

Source: Cead/lfes

For the development of the graphic and methodological proposal of the material, concepts and ideas by Landim^[3], Almeida^[4] and Furtado^[5] were taken into consideration, which present pedagogical characteristics that are important for the Distance Learning MDI, such as: spatial flexibility, the possibility of being used, possibility of manipulation, capacity of drawing the attention and motivation to the students, present instructional objectives, relate new content with previous knowledge and the students' interests, present encouragement linked to learning, guide and structure learning, activate and allow feedback, promote transferring provisions and also ensure knowledge retention.

Considering the above, we will separately present how the development and result of this challenge occurred in relation to the Graduation and Post-graduation levels, respectively.

4. MDI of the Graduation courses

Cead's graduation courses have the focus on the higher education of professionals that work both in the teaching and baccalaureate areas. We notice that, due to this, these courses have a great volume of disciplines, as well as the hours distributed within them. Therefore, due to these first characteristics, it was decided the MDI type that would be used for this public. According to Oreste^[1] there are various names for MDI, amongst which are: **notebook** –relates to the idea of “student material” and is linked to a short term course; **module** – has a sense of “elements or a set of inter-related elements”, which creates a relation with the MDI per knowledge area and not per discipline; **fascicle** – from the latin word *faixe*, gives the idea of collecting contents in thematic units that are interconnected and form a set. The fascicle presents and discusses themes without the need to depend on another fascicle (theme); **handout** – originated from the Latin word *post Illa* (after those words, *postscriptum*), related to the material that was developed so that the student can follow the teacher's explanation.

Amongst some of the names presented, the **fascicle** is considered the most appropriate for the pedagogical and organizational proposals of the course.

The next step was to link the maximum number of pages with the

discipline's number of hours in order to guide the teacher during the development of his material and to keep a volume of content that is always proportional to the number of hours. Based on the analysis from other materials produced, the relationship between the number of pages and the number of hours of each discipline was determined, presented in Table 2 and defining that, for a different number of hours, a simple mathematical formula should be applied.

Number of Hours	Number of Pages
40h	60
60h	90
80h	120

Table 2- Relationship between the number of hours with the number of pages of the MDI.
Source: Cead/lfes

The next step was the definition of the organization of the fascicle within a standardized structure in order to enable its production by the teacher and the reading by the student. Figure 1 presents the organization of the fascicle.







Figure 1- Organization of the Graduation MDI.
Source: Cead/lfes

This structure presented was developed with the objective to have the student follow a line of knowledge, primarily going from the information to the identification of the discipline, the teacher author, the course's multidisciplinary team, as well as the learning institution and other editorial information. After this, the information on the course is presented, the iconographies used, the teacher of the discipline and the summary of the fascicle, therefore completing the pre-textual information. After this introductory set of information, the student will have access to the whole content prepared by the teacher for that discipline. And closing the fascicle, there are the references and attachments which are part of the textual content.

After completing the more organizational information of the material, the resources are developed with more pedagogical guidelines. The first guideline is related to writing. In this one, the teacher is instructed to write a didactic text, i.e. a text that shall be produced with teaching purposes, always in a dialogue with the student, and not intended only to pass on information. Oreste ^[1] mentions some of the important functions that the course text should have, making it different from scientific texts. These are: favor the development of skills, competences and attitudes; anticipate possible difficulties, doubts, mistakes and errors; relate new knowledge with previous one; integrate theory and practice; lead to reconstructive questions and the capacity for independent studying; encourage the connection with other teaching means to increase and deepen the content, show clues to new sources; exemplify various knowledge applications; propose analogies, problems and questions; propose experiments and present learning activities, issues or problems related to self-assessment; allow the student to assess his/her own learning; enable pleasant and understandable reading; maintain dialogue with the student; motivate and serve as permanent consulting material.

The second resource developed in order to assist the teachers in the development of their text and enable a bigger interaction and shorten the distance between teacher and student is related to iconographies. In total, 7 iconographies were prepared, presented in Table 3.

Name of Iconography	Pedagogical Function
 <p>Fala Professor</p>	Used compulsorily in the beginning of each chapter so that the teacher can present to the student what will be studied in that unit. But its use during the chapter is also interesting to make a pause a discuss with the student.
 <p>Conceitos</p>	Used when the teacher presents an important concept within the content, allowing to highlight the information to the student.
 <p>Atividades</p>	During the MDI, the teacher will propose activities to consolidate learning whether they are used for assessment or not and will use this resource to identify them.
 <p>Indicações</p>	The printer material for Distance Learning does not have the objective to discuss the whole content but to present the main concepts and key knowledge of the discipline. Therefore it is important that in the material,




	the teacher recommends reading, videos, movies, films, sites, etc that complement the topic.
	Used to indicate the part of the content that deserves special attention by the student so that learning happens in a satisfactory way.
	It has the objective to lead the student to a moment of thinking about something related to the content, whether it is a thought related to the labor market, the use of the content in his personal life, its impact on the social life and even to the various concepts studied.
	Space in which the student can make his own notes on the content.

Table 3 – Iconographies and their pedagogical use.

Source: Cead/lfes

In relation to the technical provisions of the material, the graphic design of the MDI was defined from the visual communication standard (chapter markings, page numbering, text marking, header and footer information, illustrations, cover, etc.), followed by typography and color. In a general manner, in this phase we tried to create a communication graphic standard and relate it to Ifes, strengthening the relationship of the student with the institution. In picture 2, some images on the pages of the graphic project created are presented.



Figure 2 – Images of the MDI for the graduation courses

Source: Cead/lfes

5. MDI of the Post-Graduation courses

The post-graduation level courses *Lato Sensu* focus on specialized education for the students and education managers in a certain area. As it can be observed in Table 1, these are short courses and with a reduced amount of disciplines and hours, compared to the graduation courses. This is due to the fact that the post-graduation courses don't have as the main focus of their

disciplines a great volume of content and the objective is to provide the relevant points within the proposed themes and lead them to the discussion and reflection by the students. As a result of this, it was noticed that, for this type of course, the fascicle would not be the best type of MDI. Therefore, based on the final object of the course, which is the construction of the course completion work (TCC), written as an article, it was decided that the MDI would be an article produced by the teacher on the subject, and to complement the discussion, other articles by other authors would be presented to the students during the course. This way, the course would bridge the gap between the student and reading this type of text, making it easier for the student to, at the end, produce his own.

Following this proposal, the development of the more technical part of the material started, and it was defined that each article would have between 15 to 20 pages. Due to this reduced number of pages, it was decided that one single book would be produced which had all the articles, i.e. a collection of the articles written by them, and therefore each student would get one book that would have the content of the whole course.

The organization of the book followed the standard book structure, such as the one presented in Figure 5. The guidelines in relation to the writing were that the text produced should keep its main learning objective which is to teach, i.e. it could not simply expose ideas. But because it is an article, something that in itself is more serious and has a more defined format, the non-use of iconographies within this MDI was decided.



Figure 5 – Organization of the Post-graduation MDI
Source: Cead/Ifes

Given this context, a graphic project of the material was produced with: chapter marks, page numbering, text highlights, header and footer information, figures, author's curriculum vitae, typography, cover etc. In this phase, we tried to create a communication graphic standard which can be visualized in Figures 6 and 7 presenting some images of the pages of the developed graphic project.

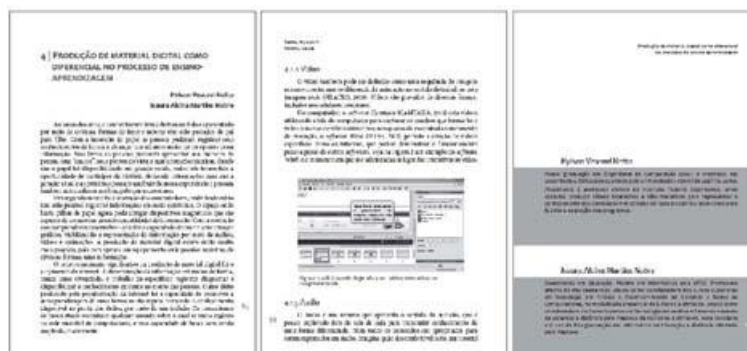


Figure 6 – Images of the MDI for Post Graduation level courses
Source: Cead/lfes



Figure 7 – Covers of the MDI for the Post-graduation courses
Source: Cead/lfes

6. Conclusion

Based on the experience shown in this article, we tried to demonstrate the importance and need to produce MDI that focus on the type of public and the organizational and pedagogical proposal of the course. This is so that we can provide quality education, be it in person or distance learning; all the components involved in the student's learning process must interact and walk together.

In an informal way, the two materials by Cead/lfes received a positive feedback by the students and the multidisciplinary team of the courses, and currently Cead is in the process of producing four books (one for each course)

with the best TCC articles by the Post-Graduation students, following the same MDI standard presented in this article.

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