

Production Management of Evaluation Instruments for Distance Education

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Abstract: Distance education is an educational mode that enhances access to professional education within graduation and specialization. In this scenario, evaluation takes on a major role in the teaching-learning process. A quality evaluation is the work result of a multidisciplinary team in tune. From this premise, the aim of this work is to present the production model of evaluation of a specialization course in the area of public safety offered as a result from the partnership of two federal agencies in Brazil. The methodology used to meet this goal was a qualitative approach, descriptive and exploratory applied to a case study in order to generate knowledge for practical application to the solution of a limiting factor in the production process of evaluation for courses offered in distance mode. Considering the magnitude and complexity of the topic the processes that contribute to the development of evaluation for distance mode students were mapped from a case study. As result there is the contribution of mapping process, as practice of knowledge management, for professional work and educational quality of the final product – in-person evaluation.

Keywords : Distance education. Evaluation. Management.

I. Introduction

Promote learning through distance mode is a challenge, especially in Brazil where distance education is considered a symbol of innovation. Distance Education had its recognition as public educational policy with the enactment of the new Law of Guidelines and Bases for National Education (LDB), Law #9.394 of 1996. However, only in 2005, Decree #5622 brought legal basis for distance education and the guidelines for its accreditation, then there was a significant increase in the number of distance learning courses. Brazil has advanced in offering courses in this mode, at all levels, potentially offering graduate and postgraduate courses in the last decade.

Considering the relevance of vocational training, it is necessary to think about evaluation as quality practice in a distance education course. To [1] in-person evaluations "in distance education are still a problem looking for one or more solutions" which justifies the analysis and sharing of practice of preparing evaluations as one of the ways to evaluate in-person in this educational mode. According to the current legislation the specialization courses must be offered by accredited institutions in the area in which they have competence, experience and ability to offer with quality the course which should include, according to Resolution CNE/CES #1, 2001, article 11, first paragraph "necessarily, attendance evidence" and resolution CNE/CES, #1 of July 8th 2007, which establishes the obligation of attendance also for evaluation of postgraduate courses lato sensu, specialization level [2] [3] [4].

The management of in-person evaluation process can be considered a strategic point in the maintenance and continuity of the system of a course offered in distance mode. [5] points out that the legislation, the multidisciplinary team and the commitment of managers with the evaluation process on distance education is required in order to improve the process and the qualification of learning. In this sense, the goal of this article is to present the model used in production management of in-person evaluation for distance education from actions carried out by the multidisciplinary team of a specialization course for the professionalization of public safety professionals. It is understood that "Public Safety" is one of the nation's development tripod pillars along with "Education" and "Health".The methodology used to meet this goal was qualitative approach, descriptive and exploratory applied to a case study. The case study, according to [6] allows to explore and understand the meaning attributed to a situation by analyzing non-quantifiable data, in a specific and real context, in search of knowledge. This way, the contribution here is in enabling the production of new knowledge into practical application in the process of elaborating in-person evaluation.

II. Management processes

Processes are a set of logically interrelated activities that transform inputs into outputs, adding value to them [7]. [8] defines process as "any activity or set of activities that takes an input, add value to it and provides

an output to a specific client." The processes are composed by macro process, its sub-processes, as well as the activities necessary for its execution. Sub-processes are divisions of macro process with defined entry and exit; and the tasks are consistent and logical units of work on a project, which are not too large or too small to be accompanied [9]. Process management can be understood as a way to reduce time between the identification of a performance problem in the processes and the implementation of necessary solutions. The complexity and dynamism of a distance education project requires a dynamic management model, interconnected and of multidisciplinary character, anchored in different assumptions, involving the teaching-learning process to meet students' needs with quality.

Processes and practices adopted by institutions to increase their value, increasing the effectiveness of generation and application of intellectual capital are directly linked to the use of intellectual capital and technologies today. Thus one should not observe processes as isolated elements, but interconnected by practice of multidisciplinary knowledge supported by technology. Therefore, it is considered that process management contributes to the continuous improvement of teaching practices. [10] corroborates when pointing that in the case of material, management must be based on multidisciplinary expertise of specialists taking into account aspects such as production capacity and the specific needs of a particular which requires first of all planning and strategic decisions.

III. Evaluation in Distance Education

Evaluation is an essential factor for the success of an educational project, regardless of the mode. Evaluation allows to redirect learning and rethink teaching and so over the last few decades the discussion of the theme has leveraged many studies in the field. In distance education the concern intensifies in the pedagogical doing conducted by "action-reflection", not in the possession of knowledge by the teacher and punitive evaluation of student memorization mode. The evaluation should be contextualized with the goal of promoting the construction of knowledge [11]. In the teaching-learning process, the evaluation should contribute to the process of knowledge construction. [5] emphasizes that evaluation in distance education should not be a thermometer to identify the degree of knowledge of the apprentice but a tool to modify practices and learning strategies. For the author it is essential that we have the evaluation as an instrument for inclusion and not a classification and restrictive instrument. In this sense, the great challenge is to elaborate evaluations that challenge cognitively the students, promoting the development of skills and competencies essential to the process of formation.

A process of evaluating should value the progress made and not just the result. So in-person evaluation in distance education should not be the end in itself. For [12] some precautions must be observed regarding evaluation, because this as centralization of learning does not meet its improvement function, but works as a social selection. Considering the precept that distance education is based on quality training, for many it is important to rethink the evaluation practice from an emancipatory perspective from conscious and organized action of the joint process of teaching and learning, promoting what [12] argues, that the evaluation should stimulate growth and assist in learning.

Evaluation in the teaching-learning process stands out as an element that enables the quality of teaching and intensifies itself when planned in the framework of distance education, ensuring the student different learning possibilities for the actual construction of new knowledge, as well as the reconstruction of pre-existing knowledge. For [1], the good practice of distance education goes away from the memorization process and shows that in-person evaluation must act as a technical tool used to build the success of learning and teaching. [5] points out the evaluation in distance education as a way of comprehensive evaluation that provides feedback for the student, the teacher and the system in order to create opportunities and redirect strategies whenever necessary.

In this sense, the development of in-person evaluation in a course of distance education is presented as a complex process that requires attention. Understood as a dynamic flow process with sub-processes and defined tasks, the team involved in this scenario should consider some specific elements of inputs and outputs. As input elements we can highlight the profile of the student and as output element can be considered a formative evaluation, defined by the Law of Guidelines and Bases of National Education, as an essential practice of Brazilian education, so that work can be reoriented allowing the proficiency expected from all students. For [5] formative evaluation is the most used in distance education as guiding mode, regulator and especially motivating.

[1] points out that in addition to the formative assessment, relevant in distance education, there is also the summative evaluation conducted on a periodic basis for assessing the learning. For the author what is important is to have clear that the term evaluation should go beyond the discussion of value attribution of performance, and thus allow the student to understand, from their context, what they know and what they do not know. The evaluation should encourage the student and the teacher's observation about the teaching and learning process. Evaluation in distance education is required to be in-person and may take place in the

institution that offers the course or a representative site of the institution, as stated by Decree #5622/05 article 10, paragraph 1. To meet this demand, it is considered important the work of a multidisciplinary team for an interdisciplinary approach to develop an evaluation that contributes to the construction of knowledge that according to [11] consists of three basic guidelines, namely: questions with critical-reflexive approach of the content leading the student to position themselves from the reflection of the subject; overlap to a passive response from the content (result of memorization) and stimulation of questions that allow the contextualization of learning so that the student becomes co-responsible in this process that should be of training and not exclusion.

As highlights [13] distance education is related to change, so the model of offer and evaluation of the process of teaching and learning must overcome traditional models of education and there for it is considered that the multidisciplinary team of production of teaching materials as well as the mentoring team, responsible for monitoring the student in virtual teaching and learning system may participate in the success of the evaluation initiative, while an inefficient system of evaluation will certainly lead to failure of the course [13]. The team should be organized so that the actions are carried out to design a final product that adds value to the distance education project, as an in-person evaluation that leverages learning and allows the development of skills and abilities, while respecting the diversity of distance education.

In this case, the production team of teaching material and the mentoring team are responsible for in addition to elaborate the material from the raw version delivered by the professor, enhance mediation through form, content and language as the suggested guidelines of [11] for teaching materials and the interdisciplinary work also with the mentoring team that assists in building and mediating content once the tutor-student interaction is considered the second type of interaction in distance mode [13]. The first interaction is with the educational content and to enhance this process the tutors are responsible for assisting the student in learning, being these, in many projects, responsible for formal and informal evaluations that allow to evaluate whether the student is progressing in their learning process, mediating from educational level to the philosophy of the teacher responsible for the discipline in addition to other situational and organizational factors of the educational process, says [13], because there are several ways to arrange a production system of student evaluation.

Thus, the student evaluation should be developed in an integrated manner with teacher, multidisciplinary team of production of teaching materials and must still rely on the intervention in the evaluation of the content by the mentoring team, so that the evaluation is a tool of support in the process of construction of knowledge of the individual. This article is limited to the preparation of in-person evaluation in its process and activities, which can vary according to the staff and structure of the organization, for a specialization course in the area of public safety. Considering the specifics in this process is presented in the following topic the case study of this research.

IV. Figures and Tables

The case study presented in this paper reports a guidance model for the development of in-person evaluations for a specialization course, organized in 468 hours, including 80 hours for the preparation of the course conclusion work, offered from the partnership of two federal public institutions, to meet and train public safety officers. The partnership is relevant for understanding that technical knowledge was in possession of one of the partners and knowledge for academic-pedagogical implementation and management of the course, in contrast to a proposed financial budget from the other institution involved.

The discussion for the creation of this course began in 2014 by different meetings of administrative nature and the creation of a specialization course in Science Teaching, *lato sensu*, from the effective partnership of federal educational institution in its reference and training centre in distance education created in 2013 in an educational institution that was already known for working with distance education, showing broad experience which allows the recognition for the excellence of its mission and management. The course was organized on pilot basis with the intention of offering training nationally in the future.

In the second half of 2014 began the process of production of teaching material with the training of teachers and coordination of production of these materials, through workshops, accompanied by the course coordinators, made the mediation of the preparation of the evaluations concomitant with the didactic material. Deliveries of these materials are given at an early period, on average, six months preceding the start of the course. However, the elaboration of the evaluation included a review of contents of the mentoring team in the advanced course so that these already had the condition of contributing with the teacher through an initial evaluation (diagnostic, prognostic and predictor) from the student profile and the material already reviewed and ready for the student.

The course was taught to a class of 180 students of the State of Santa Catarina, through the platform Moodle, as Virtual Teaching-Learning Environment (VTLE), and in-person evaluations organized by module took place at the support sites. The course was organized into five curriculum modules and a final module with two disciplines for the preparation of the course conclusion work. At the end of each module, an evaluation of

the course in pedagogical meeting involving the multidisciplinary team and coaching staff, along with the management team, helps to identify best practices and to correct possible problems in order to improve constantly the performance of the teaching-learning process.

Summarizing, the course was organized into five modules, each with three disciplines to contribute with a solution to a problem that affects the country in the area of public safety increasing the satisfaction of society's desires. The curriculum organization followed a theoretical construction of knowledge. At every three disciplines that make up a module, the student goes through an in-person evaluation at a site as shown in Fig. 1 below.

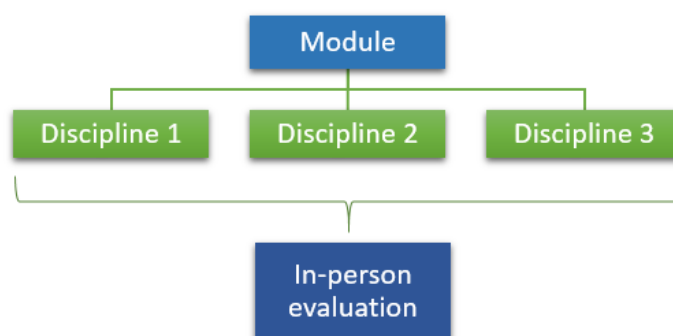


Figure 1 – Organization of module and in-person evaluation

Source: Prepared by the authors (2016).

The course began to be offered in the second half of 2015 with a class in the city of Florianopolis. The first evaluation took place in December of the same year, this time with the participation only of the multidisciplinary team (educational designer, reviewer, graphic designer coordinated by the management of production and in constant communication with the teacher responsible for the course content). With this experience was noted the need to expand the so-called multidisciplinary team with the participation of a mentoring team for contribution and content review from their knowledge and monitoring of students' learning process, the application of the second set of evaluations in March happened with higher quality reflecting the concern with the process of teaching and learning. With the awareness that evaluation is not only of the student in quantitative mode but qualitative from the action of teaching and learning.

Thus, in order to promote the expansion of distance education through quality evaluation, especially when related to the quality of professional training courses featuring the consistency of the course structure and also the pedagogical model for the correct understanding of the student in training their skills and expertise, the development of in-person evaluation model has become essential with the presence of a multidisciplinary team of production of teaching materials and tutoring composed by the following professionals: materials production coordinator, Professor-author, Educational Designer (ED), Graphic Designer (GD), reviewer and mentoring team. The activities carried out by each member of the team are presented in Table 1.

Table 1 – Main activities of the team in the preparation of in-person evaluation

Multidisciplinary team	Activities
Materials production coordinator	Responsible for training staff and teachers. Manages the elaboration process of didactic material and evaluations.
Professor-author	Expert responsible for preparing the base content and evaluations for the discipline.
Educational Designer	Responsible for adequacy of didactic-pedagogical material in order to enhance material mediation and student.
Graphic Designer	Responsible for graphic design and layout of the material.
Reviewer	Professional graduated in Portuguese Language whose goal is to ensure quality and consistency in the text, in accordance with the current regulations of the Portuguese language.
Tutors	Content mediators and motivators in the process of teaching and learning. In this process of evaluation they are also responsible for reviewing the content of the evaluation.

Source: Prepared by the authors (2016).

The professionals involved in the production of in-person evaluation are present in the preparation of teaching materials for the course not acting only in the elaboration of the evaluation, which through constant interaction, in person or online, contributes to the development of an evaluation that has in its core the formative role of the individual in training. The mapping of the production flow, carried out by the production team of educational materials, has as one of its main actions the communication and interaction between the team during all flow of activities, as well as the clarity of all the actors about their participation in the process and happens in a linear and interactive way, in which each professional develops their action based on the material presented in

the previous step. Given the complexity in designing in-person evaluations, motivated mainly by the desire to present the student with an evaluation that contributes reflexively with their training, it is considered that process management practices contribute to increasing the value and efficiency in the production of this resource which should also contribute to learning. From these issues, it was mapped the in-person evaluation process, as shown in Fig 2.

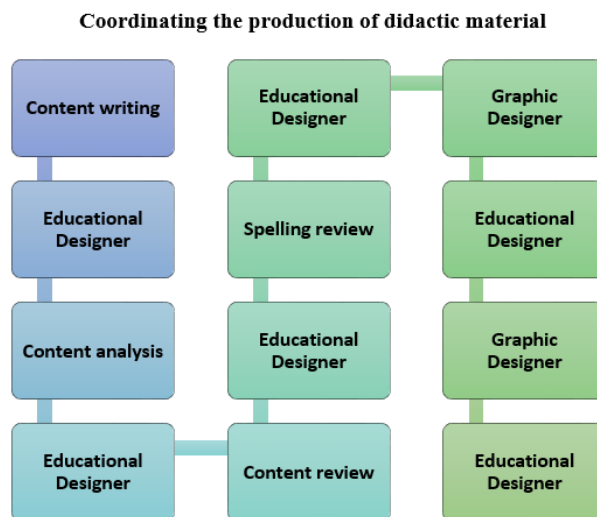


Figure 2 – In-person evaluation production flow
Source: Prepared by the authors (2016).

Based on Fig. 2, it is noted that the production process of in-person evaluation involves twelve defined procedures and each of these procedures present some specific actions, as described below, from the performance of the professional responsible for the process.

Table 2 – Production process of in-person evaluation

Coordination of production of didactic material	<ul style="list-style-type: none"> Accompanies the whole process of preparation of educational material that also includes in-person evaluation
Professor-author	<ul style="list-style-type: none"> Content expert responsible for in-person evaluation
Educational designer	<ul style="list-style-type: none"> Works with the material standardizing and adapting the language Sends to content analysis
Mentoring team	<ul style="list-style-type: none"> Performs content analysis Returns the material reviewed for distance education
Educational designer	<ul style="list-style-type: none"> Sends the evaluation (educational designer and mentoring team) for the teacher to observe the notes and make the adjustments when necessary
Professor-author	<ul style="list-style-type: none"> Validates the material Returns to educational designer
Educational designer	<ul style="list-style-type: none"> Performs adjustments that may still exist, and forwards for review
Reviewer	<ul style="list-style-type: none"> Review grammar, spelling and rules according to cultural norms Returns the reviewed material to the educational designer
Educational designer	<ul style="list-style-type: none"> Performs minor adjustments that may exist, and forwards the evaluation to layout, with a copy to the mentoring team so they can have access to the evaluation commented
Graphic designer	<ul style="list-style-type: none"> Performs the layout of the material Returns to educational designer
Educational designer	<ul style="list-style-type: none"> Validates the material and see if there is a need for adjustment Without the need of adjustments the material is considered complete
Graphic Designer	<ul style="list-style-type: none"> Elaborates the answer sheet and feedback Send to the educational designer
Educational designer	<ul style="list-style-type: none"> sends the final version (pdf) for the mentoring team, who will monitor the printing date set on calendar

Source: Prepared by the authors (2016).

The practice of management in the evaluation production is needed to follow up a number of issues, ranging from educational instance to logistics instance permeating the organization and flow of activities in order to meet the summative and formative specificities in the educational organization for effective learning that goes beyond a purely bureaucratic grading instrument.

All this concern and organization that requires management is performed to allow students the systematization of theoretical and practical foundations worked in the discipline in order to ensure the development of skills and competencies. The evaluation is made in-person in the support site and is composed of 10 objective questions. On the same day the student is evaluated on three disciplines, i.e., 30 questions, representing a number that shows the need of planning for a result of training. In addition to the regular in-person evaluations the team works preparing substitution and recovery evaluations. To evaluate learning is also to evaluate teaching which puts this process as a major challenge in pedagogical practice of distance learning.

V. Conclusion

Faced with the growing expansion of distance education in the country the need for discussion of actions in different dimensions of this universe is latent, bypassing the area of preparation of in-person evaluations that should not be presented as an appendix of the teaching-learning process, but as an instrument that contributes to the consolidation of the process of knowledge construction of the individual which must go beyond the quantitative results expected as course "average". Here we highlight the importance of preparation of contextualized and discursive questions to practical representation in which the course is to form. The evaluation is needed to exercise the role of critical formation of active citizens in a knowledge society.

As stated by the practice of the course in question, there is no justification for an evaluation in distance education to be prepared individually by the teacher who writes the material, because often they have no contact with the class in training. The development of evaluation for distance education involves different processes that should be organized into well-defined flows in order to ensure the quality of this moment to contribute significantly to the quality of the educational proposal. In this sense, it is very important that the processes of elaboration of a distance education project evaluation are identified, mapped and managed. In this study the focus was the development of in-person evaluations, but when it comes to distance education the evaluation should be continued and this can be done by means of activities planned and organized in different media and with different goals throughout the development of the course.

In light of this discussion, this study reported the management model of the development of in-person evaluation drawn up for a specialization course, which seeks excellence in forming the student. Manage the process of elaboration of didactic and evaluative resources is a responsibility of management in distance education so that can be increased the effectiveness of services contributing to the formation in society and the effectiveness of cross-cutting and cross-sectoral public policies in the area through the potentiality of student learning. Thus, it is evident that the use of management concepts favors the development of the processes which in this scenario is guided by intensive knowledge practices from multidisciplinary work, which in this context is relevant and necessary.

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