QUALITY ASSURANCE IN DISTANCE LEARNING
A Study in Higher Education

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Abstract: The preoccupation with forming graduate students of distance learning courses in Brazil, and those which aim at forming teachers, have raised concerns, especially with regards to formation consistency. According to our viewpoint, formation consistency is linked to two factors: reliability, which relates to the ability of the Higher Education Institution to provide a service in a correct, safe and careful manner; and applicability, which we understand as the possibility of applying the knowledge acquired during the professional and social life of the graduate student. This study presents the preliminary results of a research aimed at verifying the students' perception of a Licentiate in History about formation consistency in higher education offered at the distance learning modality.

1 INTRODUCTION

To assess the quality of an educational program, we must ponder over the definition of the term quality. On a broader sense, it can be defined as the ability of an object or action to correspond to its purpose.

The different mechanisms for assessing the courses adopted by the Education Ministry (MEC) in Brazil aim at revealing the programs' quality. For presential or distance undergraduate courses, the quality is verified using a few instruments, such as the National System for Assessing Higher Education (SINAES) and the National Student Development Exam (ENADE). Although the instruments exist, issues related to the quality of Higher Education are still broadly discussed and incite a few concerns. In Distance Learning (EAD), it is even more preoccupying, given the very few results available–considering that distance graduation in Brazil is still very recent–and the accelerated growth of this

teaching modality. In addition to the assessment by SINAES and by ENADE, distance learning courses in Brazil must comply with the Quality Referentials for Distance Learning in Higher Education defined by the Distance Learning Education Secretary of the Ministry of Education (SEED/MEC).

The purpose of this article is to verify the issues involving quality assessment of undergraduate distance learning courses and to present an on-going research aimed at understanding the students' perception of the quality of the course in which they are enrolled.

2 QUALITY IN DISTANCE EDUCATION

The preoccupation with the quality of graduate students, whether in presential or distance courses, is not exclusive to Brazil. Around the world, new

society demands have required the implementation of several measures that seek to improve undergraduate degrees. For example, the Bologna Protocol, signed on June 19, 1999 by 29 countries of the European Union (EADTU, 2007). One of its objectives is to develop a quality assurance process that somehow ensures a qualification and performance standard for undergraduate and graduate degrees in all signatory countries.

Nevertheless, the issues at the core of the debate about quality in Higher Education, according to Santana (2007), are discussed under two perspectives: the critical viewpoint, which reflects on social inclusion and human development; and the instrumental viewpoint. The author affirms that "the instrumental vision makes education a business comparable to any other commercial enterprise. But the critical vision is concerned with understanding quality as having a social function to be fulfilled" (Santana, 2007, p. 61). In other words, in the instrumental perspective, quality in education is geared towards processes and results, while in the critical vision it refers to the social relevance and the pertinence of the formation. This distinction affects the evaluation that the educational programs are subjected to.

This research focuses on undergraduate programs offered in the Distance Learning (EAD) modality. This is justified because the programs in this modality have been presented as a quality alternative to a higher education degree for a large number of individuals seeking both insertion in the labor market and improvement of their initial formation.

In the last 6 years, there has been a 1,980% increase in the number of enrollments in distance learning undergraduate degrees in Brazil (INEP, 2008), while for presential programs this percentage was only 25%. This fast growth in EAD leads us to inquire about the way in which the quality assessment procedures in these courses have been implemented and whether these programs promote innovations noticeable to the students and that result in a transformation in their professional life.

In order to guide and regulate an EAD program in Brazil, a document has been developed, titled "Quality Referentials for Distance Higher Education Learning" (MEC, 2007). These referentials outline the guidelines for certification, offer and follow-up of distance learning courses, and are based on the following assumptions: there is no single distance learning model; the best technology and methodology depend on the nature of the course and the target audience.

3 FORMATION CONSISTENCY

The Brazilian Government has invested massively in the distance learning modality. From 2008 to 2010, there has been a 78% increase in the number of undergraduate programs offered by public institutions in this modality. Current higher education distance learning programs in Brazil include, primarily, the Pro-Licentiate I and Pro-Licentiate II programs, which began in 2005, in addition to the programs linked to the Brazilian Open University System (UAB), which began in 2006. One of the objectives of the UAB System is to offer, through the use of information and communication technologies (ICTs), higher education to a large number of teachers of the public school system.

Gatti and Barreto (2009) raise a few issues with regards to governmental programs oriented to teachers formation, more specifically, the licentiate programs offered through EAD. Among the issues raised, they mention the accelerated and disorganized growth of program offers in this modality, considered by the authors as an attempt to establish a system that reverts the situation of inequality in access to higher education in Brazil. It is evidenced by the multiplication of consortiums, presential facilities, and offer of courses without a consistent political and pedagogic project for teacher formation.

In practice, one verifies that the evaluation of these programs emphasizes the infrastructure, i.e., classroom conditions, libraries, laboratories, and technological resources; faculty; technical qualification of human resources, for example, librarians and technicians; management, which includes coordination of the facilities, the pedagogic project, the geographic location, and others.
However if the government proposal is to develop a policy to improve education and to reduce social inequalities, besides the infrastructure we must concern ourselves with the issue of formation consistency of graduates. This, in our view, relates to two factors: a) **Reliability** of the higher education institution (IES) and the program offered, which is related to the ability of the IES to provide a service in a correct, safe and careful manner, and b) the **applicability** of acquired knowledge, considered as the possibility of applying it to the student's social and professional life.

Each of these factors, in turn, is verified through different analysis dimensions, as shown in Figure 1.

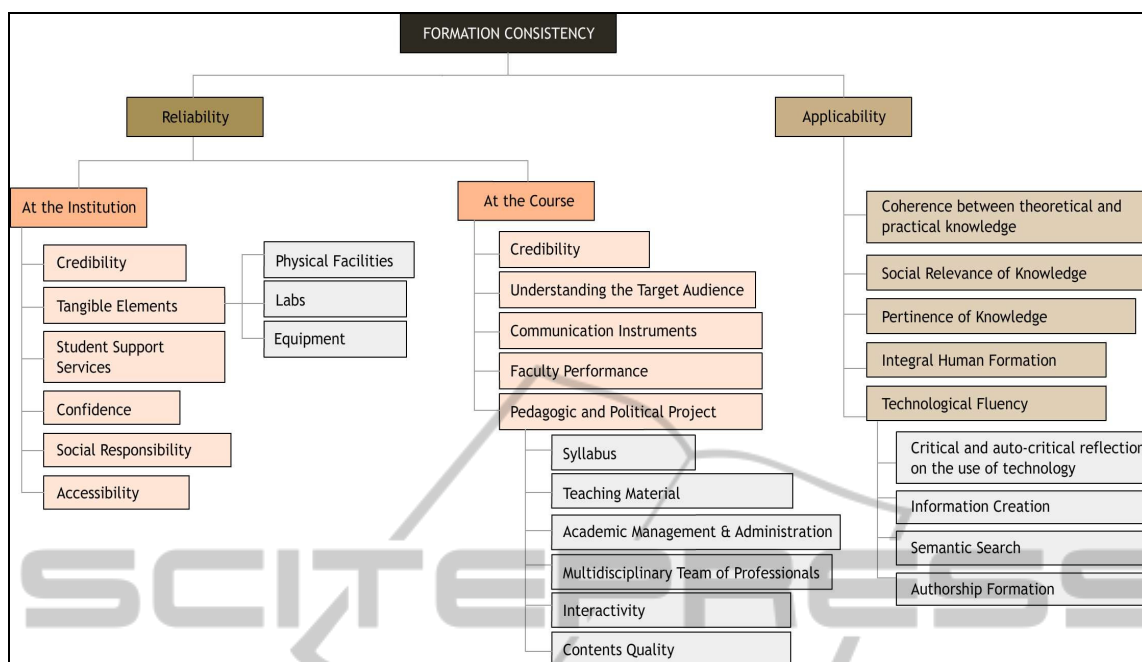So, in addition to the infrastructure, which certainly is fundamental for the good development

Figure 1: Diagram of Formation Consistency and its relation to the factors of reliability and applicability.

of a course, and is represented by reliability factor, whose indicators are distributed into different dimensions, including "tangible elements" and "pedagogic and political project", we also consider as important categories for the assessment of a course quality for a distance learning undergraduate program, which are directly related to the applicability factor, through its analysis dimensions:

- The efficient use of technology, not only instrumentally, but in a way that the student may benefit from the technology for his/her own personal and professional growth;
- Knowledge creation, not only in the discipline but, above all, in a practical context;
- Relevance of knowledge, competencies, and abilities acquired to the reality of the work environment;
- Impact of using the EAD modality in relation to effective professional learning.

4 RESEARCH SCOPE

The pilot case study developed for this researchused as a reference a Licentiate Program in History in the distance learning modality. The program was created with the support of MEC's Pro-Licentiate Program– through the Fundamental Education Secretary (SEB) and the Distance Learning Secretary (SEED), and is part of the Pro-Licentiate II Edict. Its objective is to improve the fundamental education quality through consistent and context-based initial formation of the teacher in his/her work area. The target audience was initially formed by 1,000 (one thousand) laymen teachers, that is, with no legal qualification to practice the profession, and who lectured History in the fundamental and high school public system, distributed among several Brazilian states. To be a student in this program, the applicant must be working as a teacher of the public school system. It is, therefore, an in-service formation.

Currently, the program counts a total of 790 students, having began its activities in August 2006 and should end them in December 2010.

The program objective is not only to enable teachers but, above all, to invest in their academic formation, giving the students a better understanding of the world from the knowledge acquired in experiences of different societies, in diverse time and space conditions. This formation involves the production and transmission of historical knowledge, through differentiated practices, such as: school-teaching, historical research, advisory and consulting activities. It also involves the use of several supports: History books and magazines; annals of congresses; museographic or non-museographic exhibits; catalogs, videos, films, CD-Roms, etc.

The program was developed with an emphasis in the adoption of EAD procedures, and the teaching-

learning process was structured in a bi-directional way, with media predominance.

To assess the students perception about the formation consistency offered in the distance learning modality, which is the focus of this article, we developed a questionnaire, composed of 3 (three) open questions and 48 (forty-eight) closed questions. This questionnaire was sent on-line to all active students. We received 208 answers, representing 26.3% of the total students regularly enrolled at the time of research.

The procedure for analysis includes quantitative and qualitative methods. Quantitative analysis was performed considering the 208 answers to the 48 closed questions. Quantitative data handling has been done with the statistical software package *Statistical Package for the Social Sciences* (SPSS). This step is done to verify the validity and trustworthiness of the data collection instrument, that is, the applied questionnaire, by means of the analysis of data variability and its internal consistency. This analysis, however, is not part of this article scope. The qualitative analysis includes contents analysis, i.e., the interpretative analysis of respondents' textual records, from the open questions in the form. The contents analysis is achieved with the Analyse Lexicale par Contexte d'un ensemblement de Segment de Texte (ALCESTE)[1]software. This software product analyzes co-occurrences of words in the text, to organize and summarize the information it deems more relevant.

In this article, we present the preliminary results obtained by analyzing the contents of one of the open questions in the form: *In what way has the acquired knowledge in the program disciplines enhanced your professional performance?*

5 RESULTS

To compose the research *corpus*, object of this study, each response by a student-teacher to the open question in the questionnaire is considered a Initial Context Unit (UCI). The set of all UCIs constitutes the analysis *corpus*, which will then be processed by ALCESTE. For the study in question, the *corpus* is formed by the set of answers to the first question.

According to Bauer (2007), the procedures for contents analysis recreate representations in two primary dimensions: syntactic and semantic. The former can identify, by means of "the way something is said or written", a likely type of audience. But the semantic dimension verifies "what is said in a text", identifying connotative and denotative meanings in a text by analyzing co-occurrences of words that, to this author, "is a statistical analysis of frequent pairs of words in a corpus of text" (Bauer, 2007, p. 211). The analysis will also identify "words with function," such as articles, verbs, pronouns, etc. and "words with contents," which denote relevant information.

ALCESTE classifies in a semi-automatic manner the words to the inside of a *corpus*. The words classification, named by the software product as "reduced forms," occurs after the establishment of matrices. To achieve this, the text is segmented and the similarities between the segments and hierarchies of word classes are defined. This method is called the hierarchical descending classification method. To the study analyst, these categories are not the objective per se, but they establish assumptions or interpretation trajectories.

In the analysis of the resulting *corpus* of the set of answers to the question under study, we established 243 UCEs (Elementary Context Units).
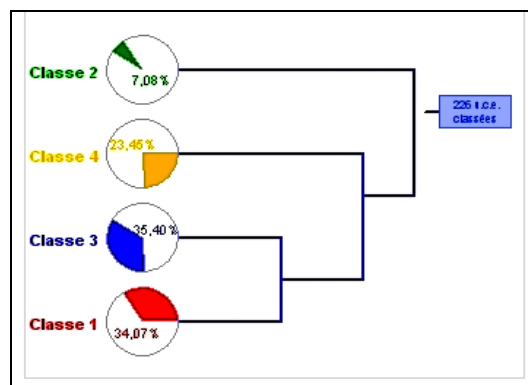

Figure 2: Dendrogram of the classes found.

These are defined according to text size (number of words parsed) and/or sentence score. Of the 243 defined UCEs, 93% were parsed and 4 (four) fully hierarchical classes were identified (Figure 2), based on the reduced forms found in each of them (Table 1).

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[1] The ALCESTE software was developed in France in 1979, by Max Reinert, of the National Scientific Investigation Center (CNRS), at Jean Paul Benzécri's laboratory, and was made available to the market by IMAGE society. In the glossary of *Pesquisa Qualitativa com texto, imagem e som: um manual prático*, by Martin Bauer and George Gaskell, ALCESTE is defined as a "computer program for qualitative research which distinguishes different types of speech in natural text, through an automatic statistical analysis" (BAUER, 2007, p. 491).

Naming these classes in function of the reduced forms found, we have:

- Class 1 – Professional growth
- Class 2 – History knowledge
- Class 3 – Confidence in the contents
- Class 4 – Teaching material

Table 1: Reduced forms of each class.

Reduced Forms			
CLASS 1	**CLASS 2**	**CLASS 3**	**CLASS 4**
being	historic+	contents+	also
is+	fact+	confidence	of the
how	before	student+	colleagues
profession			
+	do	work	subject+
learning	new+	to the	tutor+
my	teach	in	experience+
liv+fe	many	have	didactic+
stop+ping	one	critical	helped
improve+	this	quality	elaboration
growth	vision	more	exchange+
were	no	past+	had
professor+	be+	with	doubts
th+	studied+	transmit	am
already	one	mouvoir.	book+
performan			
ce	learn+	of the	enough
import+an			
t	history	oth+er	didactic+
great+		are	because
in the		relation	in the
improving		history	mainly
my+		vision	material
		good+	helped
		our+	by
		all+	especially
		worked+	but

Notice in the dendrogram (Figure 2) that Classes 1 and 3 contrast with Class 4, and these three classes contrast with Class 2. The grouping of classes 1 and 3 denotes that both have common meanings which distinguish them from the other classes. This meaning (professional growth and confidence in the contents) points exactly to the issue of improvement of the quality of student formation and his/her effective professional performance.

Despite having the lowest number of co-occurrences of words (only 7.08% of u.c.e.), Class 2 is formed by the reduced forms "fact" and "historic". "Historic" is the first dimension present in the answers, and it signals to the focus of the Licentiate in History program. It is worth reminding that the question analyzed inquires about the way in which the knowledge acquired in the disciplines of the Licentiate in History distance program have enhanced the student's professional performance.

5.1 Knowledge Applicability

The question analyzed by ALCESTE is directly related to the "applicability" factor, more specifically, the following analysis dimensions: a) coherence between theoretical and practical knowledge; b) social relevance of the knowledge; c) pertinence of the acquired knowledge (Figure 1).

The dimension of coherence between theoretical and practical knowledge is concerned with encouraging the student, throughout the program, to build a body of knowledge in the disciplines, but especially one that can be applied in the context of the work practice.

Because this program is about in-service formation, the dichotomy between theory and practice is minimized by the daily activities of the students themselves. They are teachers who teach History and at the same are pursuing a Licentiate in History. Thus, theoretical knowledge acquired throughout the program is used in practice, resulting in improvements in their performance. This dimension touches the speech of the interviewees, especially those classified by ALCESTE in Class 2, in which the reduced forms identified provide a new look at the theoretical knowledge of a historical fact, and that is reflected in new History teaching and learning practices.

*"The differentiated look at **History**, considering there is no single explanation for one **historic fact** (an absolute truth) and that by researching, investigating, collecting data and analyzing sources we can make **History**. This is not to be kept only with me, because I can encourage my students to always do a critical reading of **historic facts**."* (Interviewee no.143)

The dimension of the social relevance of knowledge is related to the importance to society of the knowledge produced by the students and the relevance of the effects it produces on the social and economic development of the populations for which it is generated.

For the analyzed program's target audience, which is comprised of History teachers from the public school system, the importance of the effects of the acquired knowledge is reflected in their pedagogical practice, and is perceived through the analysis of the context in which Class 1 reduced forms are inserted.

*"This course was very **important** in my **professional** life, has opened up now horizons that further **improved** my **professional development**, providing me with more knowledge and a more critical look at things"* (Interviewee no.119)

Therefore, the social relevance of knowledge is

based on the formation of technically competent subjects.

The **dimension of pertinence of the acquired knowledge** verifies if the social values of the knowledge that are produced, selected, and transmitted do correspond to the expectations of the society which it proposed to create. In other words, it verifies the adequacy of the knowledge built throughout the course.

Considering that our target audience is composed of practicing teachers, the reduced forms included in Class 3 analyzed by Alceste point to the confidence students acquire with regards to History contents. This becomes more evident when analyzing these forms in context, i.e., in the answers given in the questionnaire. For instance:

> *"It helped me to have more **confidence** when transmitting the **contents** to be **worked** on and to present it with assurance, and I find myself more prepared to research and develop them in class"* (Interviewee no. 200).

The dimension of pertinence of the acquired knowledge, in our understanding, is closely related to the way in which student-teachers have managed to improve their lessons, since this dimension signals the adequacy of the acquired knowledge throughout the Licentiate in History program.

The reduced forms in Class 4 refer to the course itself, i.e., to the didactic materials employed, the adopted methodology, the tasks that were performed, among other aspects. This class, therefore, does not add value to the analysis of the question at hand.

6 FINAL CONSIDERATIONS

In recent discourses about Education in Brazil, a strong connection is noticed between the quality of Fundamental Education and Higher Education, through the offer of distance learning courses geared towards teachers continuous education. The offer of these courses has grown very rapidly in the last few years. Nonetheless, the assessment of their quality has focused on the infrastructure offered by Higher Education Institutions, especially the presential support infrastructure that is available to the students.

We believe, however, that it is essential to assess the course program in terms of how adequate the knowledge acquired by students and if they are effectively applied in the student professional life. This issue is evident in our research results, in which

the students express how important it is to apply the knowledge acquired throughout the course.

When the students are asked how it has affected their professional performance, they have pointed to four speech categories: their professional growth; the theoretical knowledge of a historical fact; the confidence in relation to the contents they learned; the quality of the course's didactic material.

In 3 (three) of these classes found, it is clear how important the acquired knowledge pertinence and relevance are to the reality of the work environment, from the moment in which this knowledge is put to practice. The students' speech signals to a sense of personal fulfillment. Therefore, we consider it important to verify the manner in which the assessment of the quality of distance learning courses has been implemented, so that we can propose new indices that point to formation consistency.

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