

Communication and interaction between the actors in charge of the EAD management – experience in the Technology of Analysis and Development of Systems Degree Course at EAD – CEFETES

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ABSTRACT

The distance Education (the EAD) and the computer and communication technologies (TICs) used for its realization, are being spread and evolved each day. Along them, it increases the number of actors involved in the teaching-learning process. Thus, the necessity for greater projection and control of the communication between those agents increases. This paper brings a model of communication and interaction between the actors in charge of the EAD management, used by the CEFETES in the Technology of Analysis and Development of Systems Degree Course, in the UAB project. This model has been continually improved within the execution of the course

Key words: Distance Education; Communication; Interaction; TICs (computer and communication technologies).

1. INTRODUCTION

According to the decree 5.622, the EAD – Educação à Distância (stands for: *Distance Education*) – is an educational style in which the didactic-pedagogical mediation within the teaching-learning processes occur with the usage of the means of computer and communication technology (TIC), with students and professors developing educational activities in different places and time.

Among the referential systems of quality suggested by the MEC (stands for: The Education Ministry) for introducing distance courses, it is worth point out: conception of education and syllabus within the teaching-learning process; Systems of Communication; multidisciplinary team; among others [1].

We realize that the communication is presented as a key element in the projection, execution and assessment of the whole teaching-learning process. The attention is turned to the projection of the communicative acts which promote actions to guarantee the intra-personal, inter-personal and group communication, pedagogically, technically and administratively, which allow a distance education system work [2].

Among several kinds of communication, we stand out the one that exists between the actors of the EAD team management, which influences directly and indirectly the student's learning, leading a course to success or failure.

Therefore, this paper presents the actors in charge of the EAD management at the CEFETES, in the Technology of Analysis and Development of Systems Degree Course, as well as its attributions and interactions between them. We also stand out the problems initially occurred and the solutions we came up with in a way to lead us to get to this interactivity model.

2. THE CEFETES' ANALYSIS AND DEVELOPMENT COURSE IN THE UAB PROJECT

UAB – Brazilian Open University – is the name given to the Project created by the Education Ministry, in 2005, in which public institutions of degree education may offer distance degree courses, aiming at bringing quality public degree education to the Brazilian local authorities which does not have it or have not enough of it. [3].

To participate in this Project, the public degree education institutions present their proposal for distance courses to the MEC, individually or collectively organized. The same way, the local authorities interested in having the courses offered in their community build up presence supportive poles for serving the students.

The local authorities' and the degree education institutions' proposal are evaluated by a commission of specialists who analyze viability of the functioning of the courses within the poles. When the course is approved, any citizen that had concluded the basic education, was approved to the selective process and corresponds to the requisites demanded can study.

The CEFETES started its performance in the EAD in the year of 2004, when its distance teaching pedagogical Project was elaborated.

In 2005, the CEFETES submitted the Technology in Analysis and Development of System Degree course (CSTADS) to the first UAB edict. The course offered has a 2,540h-duration in 3 years (6 modules). This course is an adaptation to

the course's distance style that has been offered with the presence style since 2003 and that had the maximum grade in MEC's evaluation (decree n. 340, April 27, 2007).

The CSTADS pedagogical Project aims to contribute to the scientific and technological development in the computer systems Field to answer to the regional and national necessities in terms of formation of human resources with an entrepreneur and creative attitude. Besides that, it will allow the future professional contribute to the alignment between computer technology and organizational objectives.

The Professional graduated in this course will perform in the following functions: computer systems designer, systems analyst, business analyst, computer systems manager, and computer systems consultant.

Within the didactic-pedagogical organization, the following principles will be considered: flexibility, regarding the respect to the student's pace and conditions to learn, what Will be demanded from him; the student's autonomy and the learning self-management; interaction as a shared action in which there are exchanges, able to contribute to avoid the isolation and keep the learning motivating process; the contextualization, which is a resource to take the student off of a passive condition; articulation between theory and practice during the curricular path; among others.

In 2006, after the distance style course had been approved by MEC, we started the process for introducing the course, with the selection and training of all the people involved with the course and the first module (coordinators, professors, tutors, instructional designer and pedagogue). Besides that, the first module professors of content produced their discipline materials. In that very year, the Centro de Educação à Distância do CEFETES – CEAD was created. The first selective process was realized with tests on 09/16/2007 – edict 11/2007 – aiming to fill out 320 vacancies distributed in 13 local authorities of the State of Espírito Santo.

The learning virtual environment used by the CEFETES is the Moodle, which was integrated to the institution's academic system in 2007, in order to make the realization of distance education possible.

2. COMMUNICATION AND INTERACTION IN EAD

With the raising of the distance teaching, the communicational dimension of education has been pointed out as an integrative and transformational action. Freire [4] says that it is essential that, for each communication act to be effective, there is a deal between the subjects, in order to one's language be perceived within a significant situation common to both.

The EaD has assisted the technological development of communication since the usage of printed media to the learning virtual environments. This way, it has been evolved continually in terms of access to materials of the online courses

and communication , both in real time and in different moments, which can be established both from the one-to-one and the one-to-many perspectives [5].

Many works have been done in the communication Field, which of them we can mention the field *Educomunicação*, from the nucleus of Communication and Education of the University of São Paulo – NCE/USP. The *educomunicação* can be defined as a set of actions that aim to integrate the systematic studies of communication to the educational practices, create and strengthen communicative ecosystems in educational spaces and improve the expressive and communicative coefficient of educational actions. It is about the projection, introduction and evaluation of the processes, related to both communicative space and educational action, which strengthen the personal interrelationships, in groups and in broader social relationships, involving arts, expression, collective construction of meanings and intervention in society. The *Edocomunicação* field is includes not only the relationships in groups, but also activities connected to the use of computer resources in the teaching-learning, as the contact with the means of mass communication and its use and handling[6].

This way, we can see clearly that the EaD demands the reflection over the role of communication in the context of multifunctional and multidisciplinary teamwork, on the usage of means of communication and efficiency of communication between the actors, who can be students, professors, tutors and coordinators. We are led to the field of communication management [7].

In the presence teaching the physical contact itself diminishes or solves problems with communication many times, however, in the EAD any flaw can be determinant for greatly severe events. For instance, in a structure which roles such as presence tutor and distance tutor are present, a flaw in communications between them can be determinant for the student not to solve a certain local problem, feel despondent and drop the course.

Aiming to avoid the incident of those kinds of problems, in the introduction of the EAD at the CEFETES there is a great preoccupation in projecting and controlling the communicative acts, managing communication, between such teams, which we consider to be the actors of the EAD management.

4. ACTORS IN THE EAD AND THEIR RESPONSIBILITIES

In the EAD style we have important actors responsible for, through communication and interaction between them, establishing and managing the whole teaching-learning process. We can stand out:

Pole coordinator – acts in the local pole. He is in charge of managing the whole physical and human infra-structure for the efficient functioning of the Pole. He collaborates with the selection of presence tutors, the spread of courses and attendance of the whole selective process (vestibular).

During the introduction of the course, we realized the importance of the Local Pole having an active coordinator, so that this one becomes really provided of all resources needed to the progress of the course.

Course Coordinator – acts at the CEFETES. He is in charge of managing the introduction and execution of the course, according to its Pedagogical Political Project. The course coordinator is also supposed to select the content/specialist professors in charge of the elaboration of the didactic material and the conduction of the disciplines.

Another important task is the attendance the educational material elaboration, with the instructional designer, aiming to guarantee that they may have an interrelationship with the other works produced, in order to promote the interdisciplinary.

Besides that, the course coordinator is supposed to define the course schedule and promote periodic meetings with the team, as well as apply the didactic organization principles and the teaching regulation.

Content/Specialist Professor – Acts at the CEFETES. At this first moment we have selected professors for acting as specialist professors and of content of a certain discipline. The responsibility of this professor is producing the didactic material according to the schedule presented by the Instructional Designer, filling the requisites of copyright. Besides that, he is also responsible for solving doubts, serving and attending the distance tutors when doing their tasks.

We have looked for selecting these professors from the group of professors from the Technology in Systems Analysis and Development Degree Course (present), searching for using the experience of them for the preparation and teaching of the discipline content.

Present Tutor – Acts at the local pole, His main responsibility consists in attending the students' performance, looking for incentivizing them to fulfill the tasks proposed within the deadlines, generating the least evasion rate possible for the course.

Also it is his responsibility to solve doubts and guide the students at the compulsory meetings at the Pole, who may ask for the distance tutors, as a priority, and/or the CEFETES specialist professors, IF He may have difficulties in solving some student's and/or group of students' doubt.

Tutor de Laboratório - Atua no Pólo Municipal. Sua principal responsabilidade está em assessorar os alunos no cumprimento de suas atividades práticas em laboratório.

Distance Tutor – Acts at the CEFETES. The distance tutor is supposed to realize the mediation and assessment functions in the student's learning process, solving doubts related to the contents. For that, he is supposed to stimulate, motivate, and orientate the students to develop their self-learning and academic activities.

The distance tutor is compromised by the term of promise signed, to solve the students' doubts with at last 24 hours, except on Saturdays after at 1 p.m., Sundays and holidays.

The distance tutor is supposed to maintain the specialist professor always to inform about the students' level of preparation and development, and resort to him in the case He is in difficulty to solve doubts sent.

In Figure 1, we observe these other actors responsible for conducting the course's disciplines.

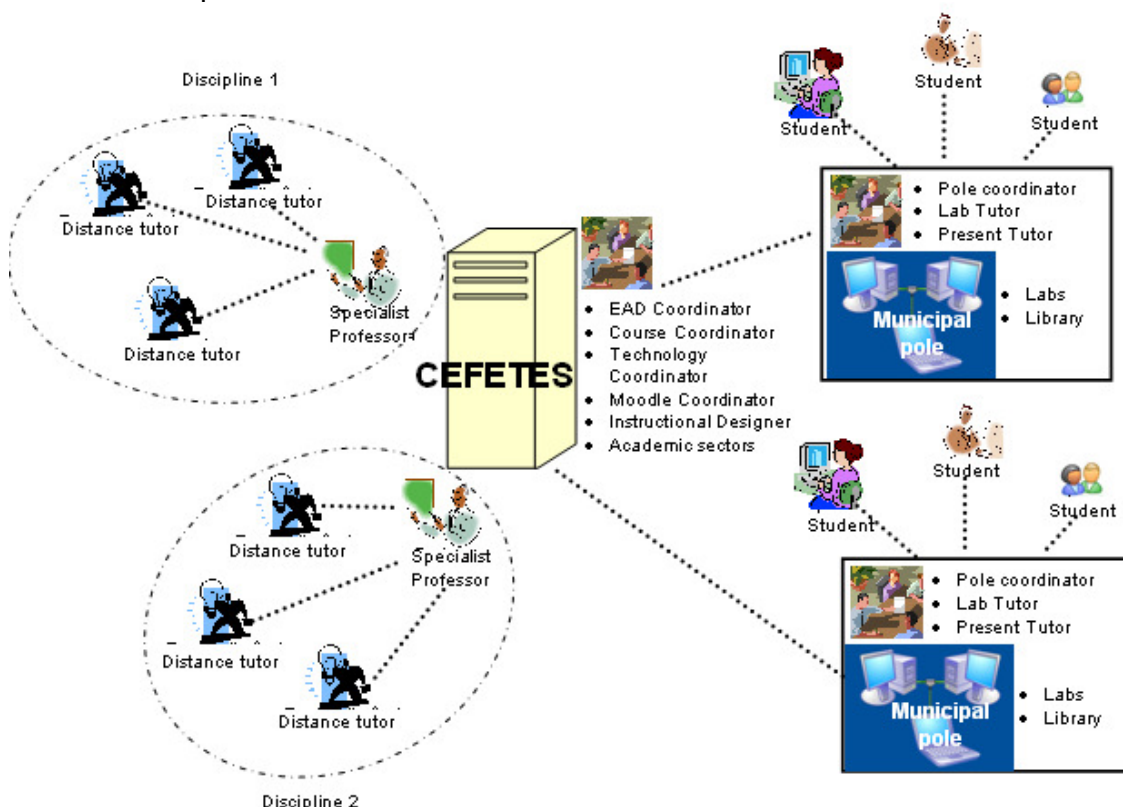


Figure 1 – Actors in EAD's course, introduced by CEFETES.

5. INTERACTION BETWEEN THE ACTORS

According to section 4, during the introduction of the EAD at the CEFETES, there was a great preoccupation with the communication between the actors of the management. The first step was to identify and describe such actors, as it is in the previous section. Then, we looked for identifying the several interactions between the actors. We projected several ways of communication, the means to be used and the products generated.

With the introduction of the course, the communication was established and controlled, putting into practice what was projected.

Interaction Present Tutor X Course Coordinator

According to the CEFETES's proposal, the course coordinator is in charge of managing the present tutorials and following the disciplines as for the adaptation to the course's pedagogical Project (attendance of the specialist professor). This way, it is the coordinator duty along with the specialist professors to manage the tutorial work realized by the present tutor.

The interaction between the course coordinator and the present tutor happens in several moments and different ways.

The first way to be mentioned is through present meetings for reporting problems and solutions, as for sharing experiences between tutors of several poles. Obviously, despite being an effective solution it just can be done sporadically due to the necessity of long shifting from the pole tutors.

There is still in the synchronized way, the possibility of meeting through software of communication. In the CEFETES case the Skype is used for online communication. It is also used sporadically because of schedule limitations of the involved ones.

Another way of interaction is through e-mails. However, an aggravating circumstance here is the fact of e-mails being mixed up with others that are not of the same subject, making IF difficult its future Access and usage as historic data.

The solution adopted was the creation of a "Sala de Coordenação" (Coordination Room) in the Moodle. In this room is not only the course coordinator, but the specialist professors and lab and present tutors.

Based on the performance of the tutors within the coordination room through the creation of forums and the registering of debates, the management process of the several disciplines, and mainly the attendance of the difficulties faced by the present and distance tutors in the poles, may be identified and solved contently, avoiding greater damages to the student and guaranteeing the quality of the teaching-learning attendance process.

In the coordination room, besides forums there are other resources such as files for downloading, surveys, assessment questionnaires, among others. The guarantee that the material is available in just one place and the possibility of establishing exchange of information and share of problems and solutions is of a great value as a way of guaranteeing the very methodology in poles geographically distributed. This guarantees the identity of the course no matter the location.

Interaction Specialist Professor X Distance Tutor

As being the manager of the learning process (knowledge manager), the specialist professor is responsible for the realization and quality of the mediation of the learning process between the distance tutor and the student within a certain discipline. He is the one who defines the tasks to be realized, the evaluations, and the criteria. On the other hand, the distance tutor is in charge

of the mediation of the process; since He is the one who interacts with the students corrects the evaluations and solves doubts. Thus, for the learning process to happen accordingly, the CEFETES adopts a strong interaction between the specialist professor and the distance tutor.

The first way to Interact is through periodic meetings between the specialist professor and the distance tutors of his discipline. The meetings can be present or distant. In our specific case, they have happened mostly present, on Saturdays, since the distance tutors are, in general, located near the CEAD/CEFETES.

It is also interesting that the specialist professor has a place to shares his ideas with his distance tutors. At the CEFETES, the place for this is called (Salas de Desenvolvimento” (development rooms); there is one room for each discipline. In a certain development room there are the specialist professor of a certain discipline, his distance tutors, besides the instructional designers and inspectors. This is the room in which the professor builds all the content to be applied in the future in the discipline’s room in each pole. In this room, the tutors get to know of everything that is being elaborated by the professor and get ready for the discipline. But its usage is not limited to that. In there rooms the tutors exchange ideas about correcting questions, mention problems found, share experiences, among others. The meeting happened in the presence way are set through the surveys in the room.

The specialist professor attends the students’ progress in the poles through weekly reports delivered by the distance tutor about the group of students He is in charge of. It is also possible to attend the tutor’s work through reports of Access to them, to the Moodle environment, once the Access has to be daily. The professor makes samplings in the rooms for each tutor to verify, for instance, the timing for answer of the same students’ questionings, the quality of the answers and its degree of certainty, the way of expression, the language used etc.

This management process of the discipline by the specialist professor guarantees the good progress of the discipline in the pole. Such as in the presence model, in which the professor adapts the content or evaluation to the specifications of a certain group, the communication with the distance tutor(s) of a certain pole can also guarantee the adaptation of the content or of a task and/or evaluation to a group of a pole in order to guarantee the apprenticeship.

Interaction Presence Tutor X Distance Tutor

At the CEFETES, the presence tutors are in every room, of every discipline, of their pole. The distance tutor is just in in his discipline’s room in a certain pole. This way, in this intersection room, the distance and the presence tutors can interact in order to avoid or solve problems that may occur. In each room there is an available forum for the tutors for this purpose. The distance tutor can, for instance, inform dates of activities and evaluations, go over notices again from the specialist professor, and suggest the formations of study groups of more complex issues, among others. The presence tutor can inform the distance tutor

the students' profile, learning deficiencies identified, those Who are not attending the pole, those who have greater learning difficulties, those who do not dedicate enough etc.

The more information exchanged, the better the quality of these, the better the attendance process and student's orientation in the specific discipline. It guarantees the quality of the process of the tutorial to be realized by the presence tutor, since this one can get the whole picture of the student when the situations in the several disciplines are identified. This way, the presence tutor may look for alternatives of guaranteeing the apprenticeship motivating the student and, even looking for study groups among the students with deficiency in certain contents.

Interaction Lab Tutor x Presence Tutor x Distance Tutor

The presence tutor is in charge of the attendance of the lab tutor's. As they stay physically in the same pole, the communication between them is the presence one most of the time.

However, we ought to remember that the distance tutors do not meet physically in the poles. Thus, the communication between them is through the discipline rooms related to the poles. For instance, a student may have problems with the installation of a necessary tool in certain discipline. The distance tutor can instruct the lab tutor regarding the installation of that tool in the pole for further instruction to the students.

The lab tutor guarantees the support, assuring the quality of the course to the distance course regarding the usage of certain software adopted as a didactic resource in some disciplines..

Interaction Specialist Professor x Presence Tutor x Lab Tutor

With all the communication mentioned above, the students Interact directly with the distance tutors (virtually) and with the lab and presence tutors (physically present). The problems detected in presence may be informed by the presence tutor to the distance tutor and to the course coordinator, who will finally communicates to the other tutors and students.

In order to treat the problems fast with communication between the distance tutor and the students, as these problems are first identified by the presence tutors, we established a direct communication between the specialist professor and the presence tutor, guaranteeing the student's apprenticeship.

In order to have the lab tutor well oriented about the installation and usage of specific software, and even about the study of these tools, we saw the importance of the interaction between the specialist professor and the lab tutor before the beginning of the discipline.

6. DUE CHALLENGES IN THE COMMUNICATION AND INTERACTION MODEL ADOPTED

When teaching the first disciplines of Systems Analysis and Development course at EAD, we could detect some problems regarding the initial proposal.

Before the distance tutors have access to the development room, they used to interact a lot with the presence and lab tutors, and with the specialist professor, but they ended up interacting less with each other. Thus, there was almost no exchange of experience between distance tutors, which was solved their inclusion to development room of the disciplines and incentivizing its usage as a means of interaction.

The same way, before the creation of the coordination room, the interactions between specialist professors and coordinators, as well as between coordinators and presence tutors, happened constantly by e-mail. Thus, the information did not use to stay stored in the Moodle, making their future access and usage difficult. The problem was solved through the creation of the coordination room.

Another problem detected was that, at an initial moment, the presence and lab tutors interacted only with distance tutors and coordinators of the poles and of the course. Within the experience, we realized that there was an time interval between the detection of the problem and its solution, which harmed the progress of the disciplines and ended up desponding the students, generating other problems. Thus, we saw the necessity of the interaction also with the specialist professor, in order to have the problems solved faster.

Some other problems were detected yet in the first meeting between coordinators of the pole and presence tutors a survey of the difficulties and direction to fast solutions of the problems. For instance, some problems that were informed by the presence tutor to the distance tutor simply were not directed to the specialist professor, even because some of them were related to flaws on the performance of the distance tutor.

As we could see, these problems were solved and we arrived at a model of interaction described by the previous section.

7. FINAL CONSIDERATIONS

We are still in an introductory stage of the Systems Analysis and Development course in the EAD and we are going to start the second semester. Based on the evaluation of the first semester, we observed that a good communication and interaction model becomes strategic for managing the teams involved in the EAD, without that is impossible to reach the promising results in the implementation of the EAD

As our next actions, we intend to have a Schedule with presence moments for partial and final evaluation of each semester involving coordinators of the pole, presence tutors and specialist professors. We also intend to establish meeting to Exchange experiences between specialist professors, looking for improving

even more the interaction with distance tutors and the mediation of the teaching-learning process, our main aim.

We also realized the necessity for automatizing some attendance reports in order to have them on line and attached to the Moodle environment. The same way, it is clear the strong necessity of having a management system for the EAD, able to give out several statistical reports related to the students' learning and the tutors' performance, besides the pure and simple personal management, automatized control of the bond of the several actors present in the process.

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