Improvements In The Learning Reached With The Use Of 
The New Methodologies And Technologies 
At Qualifications By E-Learning

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Abstract

The article mentions the research to it based on the data of the courses of Qualification in Virtual Environment for EaD, offered by EaD of the UNIFEI (Federal University of Itajubá) in the period of 2003 the 2007.

1 Introduction

The used model in the (EaD) of the Federal University of Itajubá (Unifei) is the virtual classroom, that if characterizes for the geographic separation of the students and the teacher. Many resources can be used in this model in search of the best performances of learning (Nunes, 2002).

This research shows the analysis of the methodological and technological improvement applied in the courses of qualification in virtual environment for EaD, it shows the main changes carried through in the tools of the virtual environment of Teleduc learning. The problems and solutions found during the execution of the courses in the period of 2003 the 2007, had contributed for the innovation in the methods and applied techniques in the courses given in six years. In the beginning EaD team of the Unifei found barriers and difficulties in evaluating and applying exercises in the courses, by this reason each inserted activity in the tools of the Teleduc had been renewed at the time that the doubts, solutions, appeared between students and tutorial professors/of the courses. The results are presented in graphs that show the evolution in the percentage of the abandon, accesses and approved in the courses. The performance of the learning of the students increased, and this result is important so that the strategies implanted for the EaD team continue to be argued and renewed to each course

2 Analysis of the evolution and perfectioning of the used strategies of learning in the tools of the Teleduc

The first groups of the course of Qualification in Virtual Environment for EAD had initiated in 2003. Many barriers had been surpassed with the search of better solutions in the applications of activities and evaluations.

The Teleduc is an environment that allows the creation, participation and management of virtual courses. It was developed by Nied (Nucleus of Computer science Applied to the Education) of the Unicamp. The first versions had errors that had been corrected at the time that the users interacted and communicated themselves through this environment (Amorim, Armentano, Miskulin and Rosana, 2005).

Below it follows the analysis carried through in each tool of the Teleduc point out the update of the technological resources, the improvement of the activities, the interactivity and the performance of the participants.

2.1 Course Dynamic
The dynamic of the course is a space where the tutorial/professor inserts the description of the course, with its objectives, methodologies, resources, etc (Ferreira, 2003). During the evolution of the course of qualification in virtual environment the team was worried in improving the applied activities and bringing up to date the technologies. The changes had occurred only in the type of technology, therefore with the addition of experiences, the team suggested to analyze other forms to produce the dynamics of the course. In the development beginning of the dynamic course was carried through the PowerPoint. At the time that executed the courses, perfected the use of the technologies exploring other tools for the production of the dynamics of the course, as example the Flash.

2.2 Agenda
The agenda is a place where the author of the course inserts information, tips and suggestions on subject treated in the lesson of the day or the week (Ferreira, 2003). The described guidance in the courses offered in 2003 were carried through in the publisher of text of the proper Teleduc. The EaD team of the Unifei observed many suggestions of the participants sent by the mail tool, and through the analysis of critical and the suggestions, the changes had occurred in the structure of the descriptions of the agenda. Before the edition was simple, without space between lines and without prominence of words, this formatting makes it difficult the reading of the text and interpretation. The alterations had occurred when the team perceived that these details are important for understanding of the reading, and had started to produce the directions of the agenda in files HTML, with break of line, emphasis in the main words, arrows, animations, etc.

2.3 Activities
In the tool activities the Course tutor organizes in folders the daily or weekly lessons and inserts the activities foreseen for each lesson or week (Tarouco, 2007). The lessons have instructions so that the students find the readings of the day and to make the considered exercises. The inserted directions in the executed courses of 2003 and 2004 so that the students elaborated the activities of the lesson, were described of simple form, but the structure and formatting of the course made it difficult the understanding of the text, had also little information to instruct the students to realise the activities.

The team prepared and applied evaluations on the level of satisfaction of the students in relation to the course, and with the results it looked for to improve the instructions of the lessons and activities. In the courses offered in 2005 and 2006, in the first lesson it is available directions and awareness as much the importance of the paper of the members in the courses in the distance.

2.4 Support Material
The material tool of support is a place where the Course tutor fits the referring readings to the subject of the lesson (Tarouco, 2007). The content is available in the digital book, a system multimedia that have specific places for text, figures, statisticians, dynamic, quizzes, glossaries, FAQs, indices and buttons (Frank, 2007). For the time being not yet it had changes in this tool and the digital book always is brought up to date, getting good resulted.

2.5 Readings
In this space are complementary available readings on the subject of the lesson (Tarouco, 2007). The main function of the complementary texts is to awake the student to read and to complete its current knowledge with subjects or news. It did not have changes in this Tool.

2.6 Frequently Asked Questions
The space for frequent questions is where the Course tutor inserts questions and answers that frequent are sent by the students (Tarouco, 2007). This tool was not much used in the courses of 2003 and 2004, and during this period the team received many doubts through the interaction and communication in debate (forum), mails and chats. In the current courses the support of this tool, comes collaborating for the explanation of brief doubts and assisting the participant in the interaction with the environment
2.7 Required Stop
The obligator stop refers it the closing of one determined subject displaying the main ideas debated until
the moment (Otsuka, Lachi and Vahl, 2003). In this place the Course tutor can request a reflection of
everything what already he was seen until the moment, for then initiating a new stage of the course. The
use of this tool had beginning in 2005, when the EaD team perceived the real utility of a stop to review
and to reflect on the subjects of the courses. The obligator stop helps the participant to organize its
knowledge and ideas for next stage.

2.8 Bulletin Board
This space it is directed to whom want to leave messages, to put significant links, notice, news, etc.
(Otsuka, Lachi and Vahl, 2003) The Wall always was used in courses of qualification and actually had
been used, but with more frequency and news. The information, search results and researches, putted by
students has been evaluated and reused as a offered information in a subsequent classes allowing a regular
update of information.

2.9 Discussion Forums
This asynchronies tool is often used in these virtual courses. The tutor presents a question or affirmation
to motivate the reflection through the discussion and knowledge changes about some topic.(Oeiras and
Rocha, 2006) This activity has been always requested in a qualification courses and the improvement
was current in 2003 until 2007, with new topics of EaD updated.

2.10 Chat
This tool makes the interaction of the participants in a real time, that is why named asynchronies tool
(Lachi, Otsuka and Rocha, 2005). The brief dialogue among the students and tutors allows to elucidate
doubts and debates that helps knowledge construction. The use of this tool as an activity that forces
knowledge of a topic it had been seem in a previous activity makes this moment a tool to evaluate if the
students did the activity correctly. If was well guided, the student will participate of this chat knowing
that will collected by that, and this stimulates him to put their activities daily, improving the learning.

At the other hand, the chat is useless to the medium and bigger amount of students. With the
experience the evidence of this fact encouraged the team to stimulate different moments to each small
group.

Observing the register of participation in a period 2003 and 2006, notice that the students available
time to participate in the chat it was limited, so fixed schedules to the meeting wasn’t good to all, so some
could participated and others not, and in another moments they couldn’t meet with the same they had
been meet in another time.

This obstacle turns this tool more complicate to use in a effective form. Actually the Ead team
analyses the ways to dominate this difficulty doing the research of participants access, alternative
activities that makes easy in the certain moment the participating of all and in others activities of some
groups with the same available time.

2.11 Mail
The mail is a tool to change informations and elucidates doubts (Paixão, 2002) In these courses the tutors
have 24 hours to answer the e-mail participant. The change of information by mail makes possible to the
EaD team to improve the qualification courses in a virtual environment.

Although this little time for the reply (in an actual course the student alone has it in the next meeting with
the professor) was learned that the promptness in the reply was a determinative factor student to give
continuity orderly (and many times to it, entering some times to the day) to complete its dependent
activities of some reply. In this way the team improved their methodology determining that the students
had to order the doubt for all the tutors and that any tutor would have to answer to it as soon as received,
with copy for the other tutors.
2.12. Groups
The tool Groups is a space to the participant realize collaborative and cooperative works (Oeiras and Rock, 2006). The students can determine a subject, form groups, argue and produce activities together. Who participates of the group always gets good resulted in the learning performance, and the EaD team is worried in perfecting the dynamic of groups, observing rightness and correcting errors.

2.13 Portfolio
The portfolio is used so that the participants makes available all the activities carried through during the course. The virtual dynamic are requested in the tool activity and all the production filed in the portfolio is evaluated by the tutor (Passion, 2002).

The participation of the students depends on its effort and disposal in carrying through the activities, therefore the portfolio tool is evaluated to each activity or requested dynamics for the course tutor. The principle the students little made familiar to the environment, did not send the activities in the portfolio and observing this difficulty the EaD team started to emphasize this tool and to charge more the participation of the students in the portfolio. In the current courses the performance of the students increased becoming the portfolio a frequent used tool.

The changes carried through in the enclosed activities in each tool of the Teleduc, were result of the comments and analyses carried through for the EaD team of the Unifei, through the difficulties, errors, critical corrections, suggestions and of the members. This experience was transformed into strategies that reach good performances of learning. Throughout the period of updates, the Teleduc acquired new tools and the EaD Team approved the new features applying in the qualification courses. It observes below the new tools:

- **Intermap**: one of the first carried through and available important updates in the courses in 2003, its function is to register the interaction of that they have access the course and if they communicate through the mail, forum and chat.

- **Evaluations**: update carried through in 2004 middle, this tool allows that the tutor inserts valuing activities with date of beginning, ending and maximum value of note.

- **Exercise**: also it is a tool carried through in 2004, accept that the tutor creates, edits and manages exercises on the subjects of the lessons.

All these options offered for the environment of Teleduc learning contribute for construction and intellectual development of the pupil who participates and has access the course. The tools have functions, however the pedagogical methodology strategically is elaborated by the EaD team of the Unifei.

3 Methodology and procedures of analysis
For the elaboration of the present article, it was adopted the following procedures with the authorization of the coordinator of the team Lucia Franco:

- Analysis of all the courses of qualification in virtual environment offered by the EaD team enters 2003 the 2006. The access was carried through login and password, supplied for the coordination.

- The number of accesses of the participants was observed, considering that the courses were executed in 25 days with daily lessons. The run away pupils had low participation, with in the maximum 10 accesses. This analysis was carried through in the Tool Accesses of the TelEduc. To get the percentage of run away students, the number of students with equal or lesser access was added that 10 that they had not gotten notes. One noticed that the students with this access, in one determined moment they had left to carry
through the activities and to have access the course. - To get information on the increase in the participation of the courses, the equal accesses or above of 25 for the participants had been analyzed who had carried through the activities.

- They had been analyzed and considered as approved the students with it average equal or superior the 7.
- The graphs had been produced in the program excel

4 Analysis of the results after the innovation of the activities
The improvements effected in the methods and activities of the courses had resulted in the reduction of the evasion indices and in the increase of or the above equal number of accesses the 25. The average of 25 accesses for students was stipulated by considering that the courses are given in 25 days with daily lessons. Graph 1 below shows to the evasion percentage and graph 2 shows the number of accesses:

In the course of 2005 until 2007, had the increase of student approved in the 2007 courses, being that in 2005, 7 courses had been analyzed, 2006 had been analyzed 9 courses and in 2007 had been analyzed 2 courses, then comparing the number of courses with the number of student, it notices that it also had the increase in the participation of the qualification courses. Observes the graph below that it shows the percentage of the approved ones in last the three years:
The technological and methodological advance in the courses of qualification in virtual environment of learning provided good results in the performance of learning of the participants and becoming more accessed and less abandon courses. The EaD team learns with the barriers and difficulties found for the student and innovates its methods and techniques to each experience acquired in the period execution of a course. The suggestions and critics of the students are analyzed and argued in group, thus all of the team renew its knowledge and place in practical their innovative ideas.

4 Conclusion

The initiative and struggle to the program of qualification in virtual environment for EaD, had been the excellent factors that had given beginning to the first courses given for the EaD team of the Unifei. It had been analyzed six years of experience of qualification in EaD. This research covered all the courses given up to 2007, showing the main changes in each tool of the Teleduc. The opinion of the students contributed for this innovative advance, and the addition of the experiences provided to more knowledge the EaD team.

This analysis collaborated for the growth and adjustment in the methodologies that are applied currently, shows for the team how much it is important to continue approving the opinions of the students and to analyze each difficulty found in the activities and dynamic of the courses. The doubts of the students sent by the mails are another important factor that always it must be argued in group for the team, therefore the solution and reply for the found problems, generate innovative ideas that can be applied, getting good results.

5 References


