

REDU: A COLLABORATIVE VIRTUAL ENVIRONMENT FOR TEACHING OBJECT-ORIENTED PROGRAMMING

Porto Nacional – TO – May 2012

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Category: Methods and Technology

Educational Sector: 3

Classification of Areas of Research in Distance Education

Macro: C / Meso: H / Micro: N

Nature: B

Classe: 1

ABSTRACT

This article presents a qualitative research in progress that aims at investigating the occurrence of teaching and learning in the discipline of Object Oriented Programming through collaborative virtual social software Redu, or just Redu. The purpose of using Redu educational platform is closer to the daily lives of its users, broadening the inclusiveness of continuing education and distance. The research is ongoing, deals with the teaching-learning Object Oriented Programming through the collaborative platform Redu. the Bachelor's Degree in Computing Instituto Federal Education, Science and Technology Tocantins - IFTO campus Porto Nacional, with support from Institutional Bursary for New Teachers - PIBID.

Palavras Chaves: Redu; Programming; Object; Collaboration;

1- Introduction

With the advent of internet, information has become a key ingredient in modern society. To the extent that the flow of images and messages between networks becomes an indicator of the social and cultural practices have changed, reality calls into question on the new social relations and experiences available to emerging and virtual education. This interactivity available on the Internet can be used to facilitate student learning. Through collaborative tools, such as reduced educational network, can provide students with many learning resources such as texts, presentations, videos, message boards, chat and exercises.

The teaching of object-oriented programming is one of the major paradigms of higher education courses in computing, because of the difficulty of most students in understanding the computational logic, and abstraction of several concepts peculiar programming and object orientation as an instance, reference inheritance , polymorphism, association, aggregation, etc..

The research that is underway is aimed at investigating the potential of educational network Redu as a pedagogical resource, in order to contribute to teaching programming, particularly for the teaching of discipline in Object Oriented Programming Degree in Computing Federal Institute of Education, Science and Technology Tocantins - IFTO campus Porto Nacional, with support from Institutional Bursary for New Teachers - PIBID. The aim of this paper is to report the initial stage of this research is the creation of the course of Object Oriented Programming in Redu platform, its modules and classes, as well as the interaction performed by students in this.

2- Teaching Object Oriented Programming mediated by a collaborative virtual environment

At the end of the twentieth century and early twenty-first century, we note the emergence of virtual platforms as a collaborative practice of ubiquitous communication. The virtual method of collaboration emerges as a new technique of teaching and learning, and shows that formal education can be supplemented by mobile technologies, exceeding limits rectangles of a conventional classroom.

The formal education is the level of education where teachers and

students are in a specific location - school unit, at a certain time. The mode of distance learning is a teaching-learning process that seeks to create opportunities to the student independent learning, aided mostly by means of technology (Internet, wiki, forum, chat, video conferencing), where teachers and students are separated spatial and / or temporally, Moran described by [1].

But [2] learning technologies are not only used in situations of distance, but also to enhance collaborative learning, where communication mimic face interaction. A system supported by computer and is a collaborative system in which users have the same goals and conditions so they can share information [3]. Massifying the most diverse forms of obtaining knowledge.

Today it is clear that the participation of a person on social networks is a way to acquire broad knowledge [5] "The collaborative and immersive technologies create new forms of interaction" [4].

In reciprocal teaching-learning through collaboration, there is exchange of experience and knowledge between teacher and student, student-student. In collaborative learning process, the parties undertake to learn together [6].

The reduction - Educational Social Network is a virtual learning environment, available in www.redu.com.br, Redu's interface reflects the structures of teaching practice, from planning, through the mediation of learning processes, to the activities assessment, monitoring and evaluation [7]. Through this online tool, you can develop new forms of collaboration and communication in education to create and develop creative ways of interaction, which presents a new methodology for teaching language Object-Oriented Programming in the distance. The interface Redu reflects the structures of teaching practice, from planning, through the mediation of learning processes, to the monitoring and evaluation activities.

3- Method

The method chosen is based on the strategy described in [8], which differs greatly from the traditional method of teaching that content. In this work the strategy is supported by a tool for collaborative networking in order to achieve the best results.

By combining education with traditional classroom and virtual education is expected to ensure that teaching new ways of learning, where you can even combine studies with work. In their own environment, be it professional, cultural or family of the student through Redu, can become an active subject in their training (knowledge building) and allow the learning process to develop not only in the classroom, but also in the same environment in which he works and lives.

To implement this new way of teaching, was created in the education environment Redu the Course Object Oriented Programming. Through this environment, the teacher will post the content taught in the classroom along with other learning objects. The goal is to transform Redu an auxiliary tool in education, in order to assist the teacher in the same discipline that he teaches in person. Initially invited to use the Redu 7 (seven) students of the discipline.

In the virtual environment the course was set up and divided into five (5) modules and made available to students. Each module is available as callouts resources, presentations, video lessons and to program source code examples.

Since this is a collaborative tool for each lesson the student can communicate with colleagues or with the teacher synchronously or asynchronously. Through Synchronous Communication, the cursista can remove doubt in time through the chat. In the asynchronous communication, interactivity is achieved through forums that allow the posting of messages. In both types of communication, it is possible the articulation of ideas much more quickly, since most interaction between students and teachers. This interactivity and speed of response is shown as a major advantage of using the virtual environment, whereas in the conventional manner, the student would have to wait for the next class to ask questions and resolve any questions.

4- Results and Conclusions

In the preliminary analysis to create a discipline of Object Oriented Programming was found that it is possible to achieve the projected goals for this project in order to provide a collaborative distance learning

The availability of an application virtual learning becomes a student for training sensory, perceptual and mental, where continuous access to this tool ends up bringing as an inevitable consequence, learning so very different from

that in which previous generations were formed . In a preliminary analysis, it has been found that the availability of content of the discipline has seen in the classroom, complemented by other digital resources of the tool is facilitating the abstraction of the content.

The virtual environment allows students to have control over the flow of information, dealing with information in your own time and way, the way is available so the contents or discontinued. It also allows these form part of a virtual community of learners who have the same problems and questions, and that being in this community to see that it is much easier and faster to articulate ideas and solutions.

The ability of students to interact with each other and with the teacher, even when not physically present, promotes collaborative learning, offering students a new world of opportunities to learn.

This research is still in its infancy, but it is hoped that through this is to propose a new model of teaching and learning for the discipline of Object Oriented Programming. Show that through a virtual collaborative learning can enhance and facilitate student learning. As the experiment was made available to undergraduate students enrolled in computer classroom discipline in the educational system as a virtual Redu entire contents of the discipline. As the students use the tool, will be provided and submitted to the same assessment questionnaires. Will be made to collect data, analyze the knowledge gained and discussed the outcome. Will identify the advantages, disadvantages, limitations and benefits of teaching and learning of object-oriented programming through a collaborative virtual environment.

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