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Virtual Education in Chile, Example of A New Space For Learning

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Summary: Virtual Education was born in 2002 from a joint project between the Center for Improvement, Experimentation and Pedagogical Research CPEIP and the Center for Education and Technology Links.

CPEIP has developed a line of distance teacher training through the Internet running several courses since 2002, and Links during the last
15 years has dedicated its efforts to provide teachers and students access to educational opportunities associated with new information and communication technologies. Both institutions decided to combine their efforts and develop a joint project that integrates the CPEIP distance teacher training line, so far aimed at the curricular update, different strategies to support the appropriation of ICTs and their curricular integration.

Keywords: Virtual Education, Virtual Classrooms, ICT Competencies, Digital Literacy.

I. Introduction

In recent years, Chile has significantly increased the use of ICT in educational contexts, despite this progress there is little information to report the research that has been developed in this area. In order to know the state of the arts in education that uses information technologies, a systematic search of the literature was carried out that resulted in 90 works, of which 45 were selected that correspond to studies published since 2005 in go ahead and obey previously defined criteria to ensure the rigor and quality of the review. The findings refer to three main areas: research related to the development of ICT skills and use, development of ICT skills in teacher training and use of technological supports in educational contexts. The findings of this review allow us to have a clearer picture regarding the task of education and ICT in Chile, showing that most of the research carried out in the area refers to the measurement of ICT use or skills in teachers and students or technological devices and very little to the impact that technology reports on learning. Categories and Subject Descriptors [Computers and Education]: Computer Uses in Education. General Terms, Documentation, Human Factors, Keywords Systematic review of literature, ICT in Chile, Empirical studies.

Virtual education with e-learning and b-learning modality for teacher updating, is an initiative with coverage throughout the Chilean territory and is funded by the Chilean Ministry of Education through the Center for Improvement, Experimentation and Pedagogical Research (CPEIP). It has been developed by the Center for the development of innovations in education. The training is inserted in the framework of the curricular reform, and incorporates ICT resources in the learning activities and teacher training.

This modality is born in the context of a teacher training line with virtual component support implemented by the CPEIP. On the other hand, a recent study carried out within the framework of the Links project shows that 92% of the establishments have technological infrastructure and 76% of the teachers have been trained in the use of ICT, the foregoing as a result of the implementation of the project Links On the other hand, the penetration in the use of ICT in teachers is increasing by 80% of teachers with equipment in homes, 51% of them with Internet, 58% of them with broadband (Collect and Links 2004).

The development and implementation of the experience included: a) the selection and training of tutors, b) the pedagogical design of the course, c) the design and implementation of the course on the Moodle platform; d) development of various resources to support the contents, e) application of Pre and Post Test and summative and formative evaluations.

II. Materials and methods:

The development and implementation of the experience contemplated: the selection and training of tutors, for which the Salmon e-moderating model was used, creating activities as learning objects. A profile was designed to select the tutors and they were trained through a course in the e-learning modality that concluded with a face-to-face meeting.

pedagogical design of the course, which has been conceived under an interactive model for the teaching of mathematics whose conception is very close to the expression of the Madison Project, which is synthesized in: "guess - try, put the idea to the test - see what happens and ... learn how to continue ";

design and implementation of the course on the Moodle platform; contemplated the organization of the contents in units, which have three areas: Activities and Evaluation: meets the set of activities organized weekly, within the week per day and within the day, specific activities with a brief description and time development estimate, considers a weekly formative evaluation and a unit grade; Interactions: it includes a discussion forum, a space for consultations and a mural newspaper; Library: groups the different resources such as readings, guides, Applets, reference material.

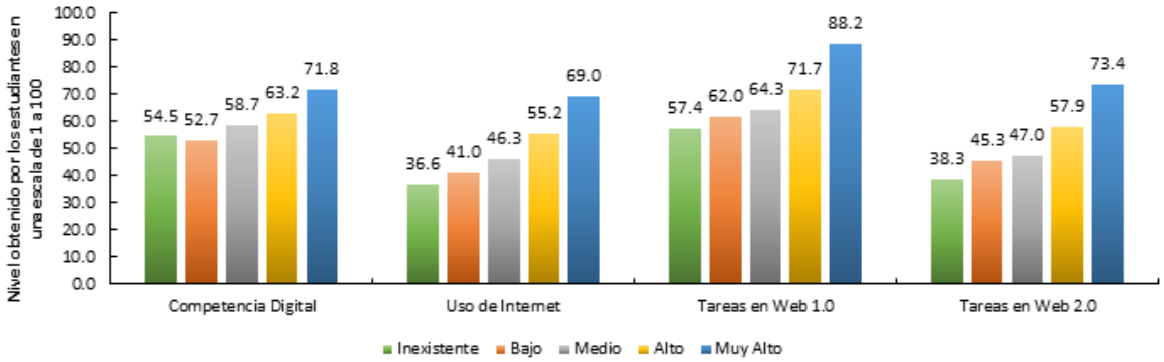
Development of various content support resources: guides, reference material, applets (component of an application that runs in the context of another program, for example in a web browser), readings, references to sites, among other resources.

The application of a Pre and Post Test: A pre-test was applied at the beginning of the course and at the end a post-test.

Obtaining and analyzing information such as: statistical data of participation in face-to-face, evaluations with qualifications on the platform and registration of participations in interactive spaces on the platform.

III. Results and Discussion:

In this section the main results of the course are presented, they have been obtained through the different information recording systems such as: the application of the Pre and Post Test, the attendance to the face-to-face, the results of the summative evaluations in the platform and the data obtained from the platform regarding participation in interactive spaces.



Participation in the course

During every week, a monitoring of the active students in the course was carried out, a weekly report was issued which gives an account of the number of active and inactive students in the week, in addition to counting those without any connection in the course.

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Participation Face-to-face Sessions

The course includes three face-to-face, at the beginning, end of the course and after the first unit of content. For the development of these presentials, a tutor was given a plan to continue with the activities to be developed and digital resources as a presentation for their support.

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Exchange space participation

This section will analyze the participation of the participants in the different asynchronous spaces contemplated for communication between the tutor with the students and between the participants themselves.

Conclusions

The course presented an effort to deliver quality improvement processes to teachers and teachers in the second cycle of primary education, which allow them to build the knowledge, disciplinary and didactic, necessary for participants to improve their pedagogical practices. The above in a distance mode that favors interaction with peers and the tutor within a learning community. The main conclusions are:

High interest in participating in the course: The interest shown by teachers to improve in Geometry has been reflected in the high numbers of enrolled and enrolled, which confirms the perceived need to train in this area. A total of 1,004 registered participants are registered.

Active students: The number of students who have remained active in the course is highly positive of the original 1,004 enrolled 786 gave the summative evaluation 1, a 78% effective participation, and among these and those who render the final evaluation there is a retention level of 83% of the participants. Additionally an average of 670 participants connects weekly to the course, 85% of active participants. Assessment of the contents and resources: The contents of the course and the various resources it provides have been valued by the participants, due to their quality, contextualization and the feasibility that they can use and transfer to work in the classroom. Applets applications have been in this set the most innovative, because they simulate geometric constructions.

The face-to-face meetings the positive aspects of the face-to-face meetings focused mainly on the possibility of collaborative work, sharing experiences, increasing the sense of belonging and resolving doubts associated with the methodology and the use of technology. The first face presented problems in its development due to the call and problems with the platform, the second developed normally. The participants have suggested for future versions to incorporate work directly related to the contents and some despite being a distance course suggest more face-to-face.

The platform: The platform has shown great stability, it was only faced with problems at certain specific moments in the development of the course, mainly related to online questionnaires, in general terms it has been in a high operational and accessible percentage. The way in which the interactive spaces have been arranged are positively evaluated by the participants. They emphasize its ease of use, find it "friendly", the spaces you use frequently and find them useful. In this sense, providing differentiated spaces for discussion, sharing resources, clarifying doubts and interacting with free topics such as the "social forum" we believe is an element that contributes to increasing interaction and organizing it. When participants are asked about the platform they usually end up talking about the course and that is a signal that was made "invisible" to them, it merged into a single great element: the course.

The Interactions: An interesting use was made by the participants of the interactive spaces. With the interventions being concentrated in the discussion forums 66%, the "Mural newspaper" and "Consultations" register 28% and 6% respectively of the interventions. There was also a permanent space in which the social forum that monopolized the greatest participation based on issues raised by the participants becoming a kind of "virtual teacher's room". In this sense we believe that the key to participation was to have established differentiated spaces for the types of interventions, which could channel the type of interventions that participants normally perform in these courses, in addition to the tutor's animation especially in the discussion forum.

Community of tutors: The community of tutors has been a space that has allowed the coordination of the pedagogical and tutorial team that coordinates the project with the tutors, through it it has been possible to guide and support the tutors in the development of their work, The main spaces used have been: orientations, consultations, request for information and reports, as observed in the first two dedicated to the pedagogical and the remaining two to the administrative ones. An active role of tutors is observed in this community, especially those who achieve better results in their courses.

The tutors: The tutors are relevant agents in the development of the course, they have developed various tasks in the areas: pedagogical, social, technical and administrative. The role played by them especially at the beginning of the course to "enchant" those who did not go to the classroom and during the time of the evaluations so that the students render them in the established terms has been vital to keep the students active. The work of these professionals has been highly valued by the participants, they perceive in them a constant support in the development of the course and its activities as well as the clarification of doubts of pedagogical and administrative nature, and they perceive them close and always attentive to solve their doubts. A factor that probably has contributed are the weekly reports that were sent to them regarding the active and inactive participants of their course, this allows them to determine how their course is going in relation to their peers nationwide, several of them have received congratulations and recognition of the pedagogical team and their peers for the achievements.

Conformation of the groups: In large regions such as the Metropolitan Region where the capital of the country is located, forming the groups according to the teacher's domicile, we believe that it is not the most optimal, since it transfers the divisions we make in the virtual environment labor sphere. Teachers from poor commune establishments with their peers and those from more well-off establishments with their peers. This from the perspective of the social construction of knowledge and the concept of Vigostky's Next Development Zone is not very adequate. In this sense we believe that the participation of teachers from private establishments can become a contribution to the rest of the learning community, especially when they are integrated into groups of more popular sectors.

The Evaluations: At the general and unit level, important advances in the learning reflected in the differences of pre and post test are observed. Additionally, online summative assessments also reflect these advances. An element in our opinion is that the difference obtained in relation to the summative tests online and the pre and post test reflect that these are significantly closer to the post test, so they account for the lessons learned, overcoming the distrust initial in terms that these do not reflect the individual learning since it is presumed guilty to the teacher to perform it with additional support to their own knowledge.

The process followed by the participating teachers has been largely successful, undoubtedly perfectible in various aspects. It has meant the development of a virtual teacher training experience that has given participants a new way of accessing content, quality materials and interaction with peers, tutor and specialists, in a theme, a priority in the mathematical training of students. Chilean children such as geometry. The experience of this course shows a way forward in these new forms of teacher update that integrate the use of ICT as a communication and training channel

during professional life, giving access to a training experience that many of the participating teachers do not would have had access in traditional face-to-face training formats.

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