Volume 23 Issue 22
Originally issued as G4



Global Journal of human-social science: G
Linguistics & Education
Volume 23 Issue 4 Version 1.0 Year 2023
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-460X & Print ISSN: 0975-587X

ICTs and New Scenarios for Diversity

By José Manuel Salum Tomé

Catholic University of Temuco

Abstract- Research is a process aimed at seeking new knowledge, in this case, it will be to find alternative paths in the field of new technologies that serve to support special educational needs. Society demands these technological contributions to solve problems that contribute to inclusion, which led man to work with greater ergonomics; The school, a social institution, also needs these resources so that all students can build a teaching process of functional and meaningful learning for each and every student. The educational system outlines an education that attends to the educational needs of all students; and from these pages the intention is that new technologies are a path of support that assists diversity and inclusion.

Keywords: *ICTs, diversity, inclusion*.

GJHSS-G Classification: *LCC Code: 401-498*



Strictly as per the compliance and regulations of:



© 2023. José Manuel Salum Tomé. This research/review article is distributed under the terms of the Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0). You must give appropriate credit to authors and reference this article if parts of the article are reproduced in any manner. Applicable licensing terms are at https://creativecommons.org/licenses/by-nc-nd/4.0/.

ICTs and New Scenarios for Diversity

José Manuel Salum Tomé

Abstract- Research is a process aimed at seeking new knowledge, in this case, it will be to find alternative paths in the field of new technologies that serve to support special educational needs. Society demands these technological contributions to solve problems that contribute to inclusion, which led man to work with greater ergonomics; The school, a social institution, also needs these resources so that all students can build a teaching process of functional and meaningful learning for each and every student. The educational system outlines an education that attends to the educational needs of all students; and from these pages the intention is that new technologies are a path of support that assists diversity and inclusion.

Keywords: ICTs, diversity, inclusion.

Introduction

Society advances at a dizzying pace, the future is immediately present, the institutions that make up the different spheres provide efficiency, quality, drive and validity in a minimum time; and education cannot be withdrawn, it must be in accordance with the world in which we live. And a key part of most social systems are new technologies, they support current and future projects in all areas, and we stop here, since it is also educational.

ICTs as an educational instrument will have to create immediate responses in order to attend to diversity; will have to solve pending questions in the education regarding the subjects with deficiency, handicap and/or disability; new challenges will have to be faced in the face of equal opportunities for all subjects with the right to a decent education; It will create material resources so that students, whether or not they have special educational needs, can learn without distinction; In short, research must be at the service of the educational process, in this case, innovating and creating technological resources that can be incorporated into the inclusive classroom.

We can observe that when speaking of the media and new technologies applied to attention to diversity, it is to focus on two important points:

to. Keep in mind that these materials are intended to integrate students; Teachers must include these means as a resource capable of adapting to a wide range of educational needs of students; otherwise, we would be segregating subjects for having some learning difficulty.

Research must be at the service of education to design and produce specific means that can be of help and benefit to people with special educational needs.

Author: Ph.D, Doctor of Education, Catholic University of Temuco.
e-mail: josesalum@gmail.com

Educational institutions, throughout their history, have used different technological resources to support their activities. Traditionally, the educational resources used only allowed to carry out information transmission processes in a unidirectional and passive way for students through standard formats, while On the contrary, the new ICTs incorporated in the last decades have made it possible to guarantee two-way communication, higher levels of interaction between teachers and students, and the use of new multimedia formats. In the case of Chile, in recent years the use of ICT in education has increased considerably, responding to the changes brought about by the introduction of new technologies to the teaching and learning processes, which has opened up the possibility that education Reach a larger number of students, also allowing to generate a greater personalization of the teaching and learning processes, a necessary condition to achieve significant learning and finally, it has provided the possibility of providing students with the technological and pedagogical resources that eventually allow them to be agents in the production and distribution of knowledge.

This introduction of ICT to education has been the result of a process fundamentally planned, implemented and promoted by the Enlace Program, an initiative that dates back to the early 1990s. This program began in 1992 as a pilot initiative and aimed to introduce infrastructure and connectivity in schools, implement digital resources, develop teacher training and carry out methodological support, promoting educational equity and quality. In 1998, this program became a national-level initiative under the Ministry of Education, and in 2006 92% of public schools already had appropriate infrastructure. According to Sánchez and Salinas, the implementation of Links considerably improved the access and use of ICT. Even the report of the World Economic Forum, which aims to compare the use of technology among 143 countries in different social areas such as work, daily life and education, places Chile as the best positioned Latin American country in the region. However, the measurements made in 2011 by the Chilean Ministry of Education, through the SIMCE ICT for New Ideas in Educational Computing TISE 2015, 222 school students, show some limitations.

The assessed skills, which go beyond a purely technical domain, assume the ability to solve real-life problems in digital environments. The results obtained reveal that three quarters of the students can be

© 2023 Global Journals

considered functional manipulators of technologies, that is, that they have the ability to search for information, organize and manage digital information. Notwithstanding the foregoing, only a third of students are capable of developing higher-order cognitive processes, which involve the development of their own ideas in digital environments. In summary, although there has been an intention to promote the use of ICT, particularly in education, a large part of users is still not able to build and/or distribute agent knowledge and information. Considering the above, it is necessary to know what is effectively investigated when empirically studying the relationship between ICT and education. With this objective, this review seeks to account for the current state of research in this area, through an updated and systematic review of the literature that allows assessing the state of research regarding the use of technology and its relationship with processes. of learning in which it is involved, seeking to answer the following questions: What are the real uses of technology for educational purposes? What is the effect of its uses on the teaching and learning processes?

I. The Concept of ICTs and Education

As a previous step to the description of the findings of this review, it is necessary to clarify the terminology related to the topic that gives rise to this work. In more concrete terms, address concepts and definitions related to ICT and education in Chile. The concepts that arise from this thematic area are related, for the most part, to the use or employment of technology to the teaching and learning process. When talking about the use or application of technology in educational contexts, we commonly refer to digital technologies in general, which can include software, television, smartphones and the internet. More specifically and for the purposes of this review, the ICT concept will include all those digital technologies or resources, mentioned above, used for the purpose of communicating, creating, disseminating, storing and managing information in teaching and learning situations.

One of the main and most recurring concepts in the literature reviewed is that of information and communication technologies or ICT. For this same reason, this concept also has multiple meanings, something similar occurs with the term e-learning or online learning/education, Distance Learning and Computer Supported Collaborative Learning (CSCL). Similarly, the term e-learning or online learning/ education refers to the teaching and learning processes facilitated through ICT, specifically the internet.

Distance learning/education, meanwhile, defines all those teaching and learning situations where teachers and students do not share the same space and time. The foregoing is also related to the concept of blended learning or b-learning, which refers to those instances that combine teaching and learning processes in face-to-face and non-face-to-face contexts. For Allen & Seaman blearning (also called hybrid learning) consists of instructional processes where much of the content (30% to 80%) is provided online.

A line of research that manages to group together these commonly used generic concepts when we refer to technology and learning is Computer Supported Collaborative Learning (CSCL). CSCL is a multidisciplinary research line based on collaborative learning and information and communication technologies. In simple terms, this area of research studies how people learn in conjunction with the support of computers, emphasizing the construction of knowledge that occurs in teaching and learning situations.

This area of research has different approaches, but fundamentally focuses on the idea that the construction of knowledge and subsequently, learning are processes that occur through the mediation of technology. This concept of mediation has its origin in the sociocultural perspective of teaching and learning that arises in agreement with the ideas of Vygotsky and his followers. As Coll, Mauri and Onrubia maintain, the development of higher psychological processes that operate in learning are characterized by the use of instruments of symbolic origin acquired socially such as language and other systems of representation that mediate between the subject and that which is the object of your learning (content).

Similarly, ICT is a means of representation that can introduce favorable changes in learning since it implies that students develop new skills through these new forms of transmission, processing and use of information. According to what Rassmussen & Ludvigsen has stated, this mediation process is based on the hypothesis that individual agency and, therefore, the construction of knowledge, occurs through the relationship and interaction with other individuals in diverse social contexts. Similarly, the relationship between the learning process and technology is located at the intersection between the individual and what surrounds him, that is, this relationship occurs through the mediation of cultural tools, which can be mental and/or materials. Another dimension of the relationship between ICT and education relates to the abilities or skills that students have to use these tools, called computer literacy, media literacy or ICT skills in English. This area is related to the development, measurement and comparison of skills and/or abilities in the use of ICT in teachers and students.

In the field of teaching, much of the research carried out corresponds to teacher training, which in turn is divided into initial teacher training and university

© 2023 Global Journals

teaching training. In this area, a previous review carried out by Claro (2015), which summarizes research related to the impact of ICT on the learning of Chilean students, indicates that the improvements reported in learning are fundamentally related to the development of specific skills in the use of ICT in also specific areas of knowledge, reporting greater impacts on the uses and skills of ICT in the areas of language, mathematics and science.

There are also minor impacts on 'other' learning, such as motivation, digital literacy, and development of transversal skills and abilities. In short, considering the background set out above, it is widely known that ICTs can contribute to considerably improve in the processes of New Ideas in Educational Computing (TISE 2015), teaching and learning, in some occasions, an adequate use of these Technologies can generate a significant impact within the classroom, specifically when they mediate the relationship of the users of these technologies with information and with other users.

In this sense, there is also an agreement that the use of ICT contributes considerably to facilitating processes related to learning, such as the transfer of information, the exchange and development of ideas, the exploration of shared resources and collaboration in the construction of knowledge. However, the aforementioned, this relationship is somewhat more complex, considering that the introduction of technology to teaching processes does not by itself modify or improve learning processes.

Returning to the approaches held by the sociocultural perspective mentioned above, the acquisition or development of skills in the use of ICT refers to the meaning given to information through the use of socially and culturally available resources and the way they are used said resources in communication through different formats and media. Thus, technology is conceived as an available cultural tool that also changes over time. In this same sense, the acquisition of competences and/or skills in the use of technology for educational purposes overcomes the simple "literacy" that is related to basic communication skills with the support of technology and is closer to higher-order cognitive skills than They are linked to the creation of content and the construction of knowledge through or through the mediation of technological tools or supports.

Sefton-Green, Nixon & Erstad , point out that these ICT skills and competences can be summarized as: basic skills (general use of a computer that includes aspects such as the use of text editing software and other basic programs), skills related to information access and management (searching the internet, downloading information, classifying and reorganizing it critically) and skills related to content creation (communicating information through different media and formats and interacting or collaborating with others to create new content).

II. What do We Understand by New Educational Technologies?

We can say that technological development defines social change, and that consequently technology has a direct and significant influence on society, which also has an impact on the educational field. But what is understood by “New Technologies”, according to Martínez (1999) states that in recent years this term has been coined to name a series of machines that have the common denominator of having been created from the material development of microelectronics and that they are being applied in various communication systems; and the idea of "progress" has been associated with new technologies; in short, they are electronic tools in continuous development.

These new technologies are made up of a formal aspect, since they are "means" that consume, store, use and provide data; and a material aspect, they have storage capacity and complementation, and speed.

The new educational technologies that are being progressively incorporated in the Educational Centers are innovative means that will allow members of the educational community to develop more complete and effective training due to the characteristics offered by these resources, among which we can highlight: great ability to adjust and adapt to the different characteristics of individuals, group work, the sender and the receiver can be found in different places and times, training in technological content, among others.

In the educational process, technological resources must be incorporated that are truly useful for all students because, given a diversity of individual characteristics, the teacher must resort to mechanisms that offer adequate performance. Many are the social institutions, worldwide, that obtain a beneficial result from these technologies, and at the educational level, the compensation that working with them should also be used.

III. How to Attend to Diversity with Technological Tools

Educational development is based on an understanding between the teacher and the students, for this, good communication is necessary; This does not occur in a vacuum, in this case, its context is the classroom, and according to Schramm (1973; cit. In Cabero, 1999: 39) "to communicate you have to want to do it." Communication is a process of data transmission and acquisition, it is an explicit and implicit manifesto of information that the issuer intends to

© 2023 Global Journals

manifest to the receiver; In an inclusive classroom, individual differences are quite a lot, so attention must be paid to ensure that there is fluid communication between members.

We must say that the new technologies as an educational resource will help us so that the teaching-learning process enjoys good communication since there are hardware and software adapted to the educational needs of the students and thus, the teacher can impart their work without difficulty of understanding.

Educational technological resources have a high capacity to adapt to the handicaps, deficiencies and/or disabilities that may arise in the classroom; An example of this may be the different hardware and software that we can resort to so that students work with multimedia equipment and can access it without causing segregation between subjects with special educational needs and the rest of the individuals. Regarding these hardware and software mentioned, we can present a series of examples depending on the type of disability (Toledo, 2001):

1. *Motor disabled:* Keyboards adapted to subjects with psychomotricity problems where the repetition rate of the keys and the sequence of keystrokes, switches or pointers are modified to access computers, telephones, etc. for students who cannot move their fingers and type (hardware); speech recognition programs for subjects who cannot use the keyboard due to their limitations (software).
2. *Visually impaired:* Screen amplifiers for people with low vision, and they would become like a kind of magnifying glasses (hardware); The "DILE" program is an encyclopedic dictionary in Spanish designed to be used by blind people or people with severe visual problems (software).
3. *Brain injuries and cognitive delay:* The "Millie's House of Mathematics" program that consists of six activities where students can explore mathematical knowledge (software); "Trudy's House of Time and Space" also includes five activities, but related to geography and time (software).

Equal opportunities can be a reality today with the help of these technological advances. All subjects enrolled in Educational Centers who receive formal education must receive adequate support according to their specific characteristics (Arnáiz, 1996); education must be tailored to everyone, otherwise we would be segregating and discriminating against students (García Pastor, 2000); From these pages we propose how necessary is a legal framework that responds to diversity, as well as functional, human and material resources to bring the theory to an educational practice accessible to all. We previously said Fuentes 4 Magazine, Pere Marquès Pilar Casals (2003), that educational research is an essential tool for teaching to develop and adjust to all learners; New technologies can provide this service as material capable of adapting to special educational needs, and the teachers trained in these resources will be the appropriate personnel to instruct.

The use of new technologies for educational purposes must open new doors in the teaching-learning processes for those who use them and may obtain important benefits in education. Although we do not intend to cut traditional material such as textbooks, blackboards, worksheets, we must say that these are characterized by the unidirectional relationship between them and the receiver; and in favor of new technologies, we must say that a good use and knowledge of these promote bidirectional communication processes, for which we say that for this, both students and teachers must be trained in handling, language and ideological criticism.

In this educational context, and Fuentes 4 Magazine, Pere Marquès Pilar Casals (2003), Muntaner (2000: 775) exposes: "... interactivity with computer and audiovisual technologies should mean the construction of new knowledge that can be represented in a way different from what we are used to."

Now, since the presence of personal computers began to expand in the 1980s, a career of advances began that had a boost in 1990 with the penetration of the Internet and that in recent years with the possibilities that our cell phones have. society has changed. A change that should be reflected in education. There are many looks to be made in which, perhaps, the educational use of these tools is a very important topic, but it is not the only one.

Let's start with initial education, where everything begins. The digital world is approaching these levels. Is it appropriate? Should the construction of all the competencies be different? Families play an important role in these ages. Are you aware of the harm/benefits of parking your child with technological devices?

Something similar occurs in primary education. The media is full of news, some not so true, that in a reference country handwriting is eliminated, the fact that a public school in Madrid forces 6-year-olds to equip themselves with a 650-euro iPad, and many similar ones. Faced with these situations, what attitude should education take? At this level, the relationship with two aspects of life such as nature and art. Are they used? Are they taught? What role should we give to technologies in the education of a 10-year-old boy or girl?

When we face secondary education and high school we must begin to bear in mind the end of that stage. Are the same knowledge that we should give to students in the digital society as in the industrial one? A subject that may require major reforms so that our students upon arrival at the university have the required

© 2023 Global Journals

knowledge, attitudes, aptitudes and content. An example is the ability to work as a team. Another example is digital citizenship. Our students pass secondary school spend a large part of their social life in the digital environment. Do we educate them for it? Do they know how to protect their privacy? Do they know how to react to digital harassment? At these levels, technologies take a more present role in education. Education cannot be neutral against commercial interests and must defend technological independence so as not to create tied consumers for tomorrow.

An important point for the new economy is the ability of education to train professionals suited to the new labor markets and in this point professional technical education plays an important role. It must stop being the second option, it must offer attractive studies for its connection to the new society and for its employability.

Our public inclusion policies have several constant slogans. One of them, perhaps the main one, is to promote an inclusive education, in which everyone feels welcomed, in which young people have the opportunity to be in classrooms and in which their right to be educated is not expropriated. Can the digital environment help us in this regard? Could it be a means to help us dramatically decrease school failure? How?

Two instruments are mainly affected by the digital environment. On the one hand, literacy and on the other, mathematics. They are two curricular spaces that are present from early childhood education. Their good learning is transferred to other subjects and therefore they have great relevance. How do we approach literacy in the digital society? Mathematics has found a great resource in GeoGebra and other free tools that can be used from primary to university and behind which there are a huge number of developers who improve and extend them.

On these reflections we have two pending issues. The first is that of teacher training, both initial and continuing. It is necessary to give a relevant role to the digital environment. Teachers must know the tools that they will have and be able to keep up to date, and collaborative work is essential for this.

The other pending issue, and perhaps always pending, is that of evaluation. We must move from words to deeds. Fifty years ago there was talk of ratings, numbers, and increasingly stronger now there is talk of evaluations, that is, appreciations not always transferable to numbers. Many teachers find themselves with an elaborate assessment work that they cannot later transfer to the data collection tools that are not allow you to enter anything other than a number. We must break the numerical inertia and go to the qualitative. Are new possibilities opened up thanks to the digital environment?

IV. The Chilean Experience

In recent years, Chile has considerably increased the use of ICT in educational contexts. Despite this progress, there is little information to report the research that has been carried out in this area. With the purpose of knowing the state of the arts in education that uses information technologies, a systematic search of the literature was carried out, which resulted in 90 works, of which 45 were selected, corresponding to studies published since 2005 in forward 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 skills and use of ICT, 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 work 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 of technology on learning. Categories and Subject Descriptors [Computers and Education]: Computer Uses in Education. General Terms Documentation, Human Factors. Keywords Systematic literature review, 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 within the framework of the curricular reform, and incorporates ICT resources in learning activities and teacher training.

This modality was born in the context of a line of teacher training with the support of a virtual component implemented by the CPEIP. On the other hand, a recent study carried out under the Links project shows that 92% of establishments have technological infrastructure and 76% of teachers have been trained in the use of ICT, the foregoing as a result of project implementation. Links. On the other hand, the penetration of ICT use in teachers is increasing, 80% of teachers with equipment in the home, 51% with Internet, 58% 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 content support resources, e) application of Pre and Post Test and summative and formative evaluations. The course trained 786 teachers nationwide, divided into 29 courses, with an average of 27 students per course. For tutorial support during the implementation of the course,

© 2023 Global Journals

a community of tutors was created to support them in their tasks of tutoring the course in the areas: administrative, technical, social and pedagogical. The work methodology placed the teacher at the center of learning, as an apprentice who autonomously defines her learning path. In this context, the participant builds knowledge through interaction with: the materials, the tutor and the classmates in a diverse educational environment.

The development and implementation of the experience included: the selection and training of tutors, for which the Salmon e- modetaring model was used, creating activities as learning objects. A profile was designed to select the tutors and they were trained through an e-learning course that ended with a face-to-face meeting. Regarding the 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 - watch what happens and ... learn how to continue.

OTHERWISE The design and implementation of the course on the Moodle platform; contemplated the organization of content into units, which have three areas: Activities and Assessment: it meets the set of activities organized weekly, within the week by 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: includes a discussion forum, a space for consultations and a wall newspaper; Library: groups the different resources such as readings, guides, Applets, reference material.

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 were IMPLEMENTED for the development of the various content support resources., among other resources. Likewise, a Pre and Post Test was applied at the beginning of the course, a pre-test and a post-test at the end. IN THE OBTAINING AND ANALYSIS OF THE INFORMATION, statistical data were taken on in-person participation, evaluations with qualifications on the platform and registration of participations in interactive spaces on the platform.

V. Results and Discussion

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

a) Participation in the course

During all the weeks, a monitoring of the active students in the course was carried out, a weekly report was issued which accounts for the number of active and inactive students in the week, in addition to counting those without any connection in the course.

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

Participation in the course: During all weeks, a monitoring of the active students in the course was carried out, issuing a weekly report which accounts for the number of active and inactive students in the week, in addition to counting those without any connection in the course.

i. *Participation In-person Sessions*

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

ii. *Participation In-person Sessions*

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

iii. *Participation in exchange spaces*

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

iv. *Participation in permanent spaces*

Permanent spaces are a set of tools mainly forums that are available for use by participants throughout the course.

165 technical questions are presented, an average of 5.5 per course. These doubts are related to the use of the platform and the configuration of computers to run certain applications such as Applets. In the social forum there are 765 topics open by the participants, within them there are various levels of interaction difficult to quantify, the average is 26.3 topics open per course, remember that these topics are initiated and encouraged by the participants themselves, there being no or little participation of the tutor, except in the welcome forum that the tutor starts in

© 2023 Global Journals

this space. The social forum becomes a kind of "virtual teachers ' room".

In news items restricted to tutor-only publications that cannot be debated by the participants, 624 interventions were registered with an average of 21.5 interventions. These correspond to information and guidelines that the tutors make available to their students regarding the development of the activities, rendering of evaluations and evaluation criteria, among others.

v. *Participation in interactive spaces*

The participation in the interactive spaces, although it is variable in each unit, follows similar trends that are later reflected in the global of the three units. In this sense, the discussion forum concentrates most of the interventions, followed by the daily mural forum and queries.

As you can see, the course presented an effort to provide teachers of the second cycle of primary education with a quality improvement process that allows building the knowledge, both disciplinary and didactic, necessary for the participant to improve their practices. pedagogical. The above in a distance modality 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 summative evaluation 1, 78% effective participation, and between these and those who take the final evaluation there is a retention level of 83 % of the participants. Additionally, an average of 670 participants connect to the course weekly, 85% of the active participants.

Assessment of content and resources: The course content 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 the most innovative in this set, since 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 solving doubts associated with the methodology and the use of technology. The first face-to-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 related directly to the contents and some, despite being a distance course, suggest more face-to-face.

The platform: The platform has shown great stability, it only encountered 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 highlight its ease of use, find it "friendly", spaces you use frequently and find useful. In this sense, providing differentiated spaces for discussion, sharing resources, clarifying doubts and interacting on 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 sign that was made “invisible” to them, merged into one great element: the course.

The Interactions: An interesting use was made by the participants of the interactive spaces. Concentrating the interventions in the discussion forums 66%, the “ Diario mural” and “ Consultas ” recorded 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 topics raised by the participants, transforming itself into a kind of "virtual teachers ' 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 the participants normally carry out in these courses, in addition to the animation of the tutor, 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 can be seen in the first two devoted to pedagogy and the remaining two to 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 attend the classroom and at the time of the evaluations.

Formation of the groups: In large regions such as the Metropolitan Region where the country's capital is

© 2023 Global Journals

located, forming the groups according to the teacher's home, we believe that it is not the most optimal, since it transfers to the virtual environment the divisions we carry out in the labor sphere. Teachers from poor commune establishments with their peers and those from more affluent establishments with theirs. This from the perspective of the social construction of knowledge and the concept of Vigostky's Proximal Development Zone is not very adequate. In this sense, we believe that the participation of teachers from private schools can become a contribution to the rest of the learning community, especially when they join groups from more popular sectors.

The Evaluations: Important progress in learning is observed at the general and unit level, reflected in the pre and post test differences. Additionally, online summative assessments also reflect these advances. An element in our relevant judgment is that the difference obtained in relation to the online summative tests and the pre and post test reflect that these are significantly closer to the post test, which is why they account for the learning acquired, overcoming mistrust Initial in terms that these do not reflect individual learning since the teacher is presumed guilty of doing 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 experience of teacher training that has provided participants with a new way of accessing content, quality materials and interaction with peers, tutor and specialists, on a theme that is a priority in the mathematical training of Chilean children like geometry. The experience of this course shows a way forward in these new forms of teacher updating that integrate the use of ICT as a channel of communication and training during professional life, giving access to a training experience that many of the participating teachers do not they would have. had access in the traditional face-to-face training formats.

VI. Conclusion

To finish, I would like to point out a series of factors that can favor the incorporation of ICT in Inclusive Education, and among them we can indicate the following:

- Establishing clear public policies for the use and incorporation of ICT in the classroom.
- Clear support from the management teams of educational institutions for their incorporation.
- The presence of ICT in classrooms, in a way that favors the "invisibility" of ICT. And the existence of teams that favor their adaptation to the characteristics of the students.
- Clear training and support policies for teachers for the incorporation of ICT for schools.
- The organization of good practice transfer policies and collaborative work between teachers.
- The incorporation of subjects in the initial training plans of teachers that favor the incorporation of ICT for Inclusive Education.
- And the empowerment of research to search for new proposals for media design and search for teaching strategies and methodologies for subjects with certain characteristics.

In any case, their incorporation goes through teacher training (teachers must be sensitive to social reality and the historical moment that serves to promote the reflection of students and take responsible and prosocial positions as future citizens), transforming the organizational structures of schools and adopting measures to enhance the visibility of ICT in educational centers. Along these lines, we must not forget that one of the great challenges of education today is to guarantee the quality of education for all students. For this, it is necessary to establish didactic approaches that recognize the diversity of the students and promote strategies in the teaching-learning process that allow for difference and promote flexible responses in diverse educational contexts.

Bibliography

1. Anderson, T & Kanuka , H. (1997). On-Line Forums: New Platforms for Professional Development and Group Collaboration, Journal of Computer-Mediated Communication (JCMC) (2003, October 31)
2. Barberà, EYB adia, A. (2004) Educating with virtual classrooms: Orientations for innovation in the teaching and learning process, Madrid: A. Machado.
3. Bates, AW (1995). Technology open learning and distance education, London / NewYork: Routledge.
4. BERGE, ZL (1995). Facilitating Computer Conferencing: Recommendations From the Field. Educational Technology. 35 (1), 22-30. (2003, August 18)
5. BRASLAVSKY, C. (1999). Bases, guidelines and criteria for the design of teacher training programs. Inter-American Journal of Education. No. 19, pp 13-50. Madrid-Spain: Organization of Ibero-American States for Education, Science and Culture (OEI). (2003, July 22)
6. BULTRON, C. (2000). New trends in education. World Report on Communication and Information 1999-2000, (pp. 51-67). UNESCO/CINDOC editions
7. CABERO, J. (2001). The application of ICT: snobbery or educational need ?, Red Digital [online], 1 (2002, December 22)

© 2023 Global Journals

8. COLLECT & ENLACES (2004). Survey: Education in the Information Society. In Statistical Links 2005 (pp 9-22), (2005, May 15)
9. COLL, C. (2001). Constructivism and education: the constructivist conception of teaching and learning. In: Coll, C., Palacios, J. and Marchesi, A. (comps.). Psychological Development and Education II. Educational Psychology (pp. 157-186). Madrid: Alliance.
10. CROOK, CH. (1998). Computers and collaborative learning. Madrid: Morata/MEC Ministry of education and culture (Original title: Computer and the collaborative experience of learning, London: Routledge, 1994)
11. GREENING, T. (1998). Building the constructivist toolbox: an exploration of cognitive technologies, Educational Technology, 38 (2), 23-35.
12. GROS, B. (2002). Constructivism and designs of virtual learning environments, Revista de Educación, 328, 225-247.
13. GROS, B. and SILVA, J. (2005). The training of teachers as teachers in virtual learning spaces, Revista Iberoamericana de Educación, Number 36 (1)
14. GRÜNBERG, J. (2002) REDOCENTE: an investigation on electronic collaboration between mathematics and science teachers. New Technologies in Education, Montevideo, Uruguay University of the Republic (2003, December 13)
15. HARASIM, L., HILTZ, S., TUROFF, M. & TELES, L. (2000). Learning networks: Guide for teaching and learning online, Barcelona: Gedisa/EDIUOC [Original version: Learning networks. A faithful guide to teaching and learning online. Cambridge (USA): Massachusetts Institute of Technology Press, 1995)
16. 16. HERNÁNDEZ, P. (1997). Building constructivism: criteria for its foundation and school application. In Rodrigo, M[a].J. Arnay, J. (Comps). The construction of school knowledge (pp. 285-312). Barcelona / Buenos Aires / Mexico: Paidós
17. PÉREZ, A. (2002). Elements for the analysis of educational interaction in new learning environments, pixel-bit media and education magazine [online], (2003, April 1)
18. RYAN, S., SCOTT, B., FREEMAN, H. & PATEL, D. (2000). The virtual university: the Internet and resoursce-based learning, London: Kogan Page.
19. SALMON, G. (2000). E-moderating: The key to teaching and learning online, London: Kogan Page.
20. SWAN, K., SHEA, P. FREDERICKSEN, E., PICKETT, A. PELZ, W., MAHER, G. (2000). Building knowledge building communities: consistency, contact and communication in virtual classroom, Journal Educational Computing Research, 23 (4), 359-381.
21. VYGOSTKY, LS (1978). The development of higher psychological processes, Barcelona: Critique.

© 2023 Global Journals