



INFORMATION AND COMMUNICATION TECHNOLOGIES (ICT) AS AN INTERDISCIPLINARY RESEARCH FORM WITH AN INTERCULTURAL APPROACH TO THE PROCESS OF STUDENT TRAINING

Miguel Alejandro Cruz Pérez¹, Mónica Alexandra Pozo Vinueza², Alex Fabian Andino Jaramillo³ and Alan David Arias Parra⁴

¹National University of Chimborazo, Riobamba, Ecuador

²Faculty of Natural Resources of ESPOCH, Riobamba, Ecuador

³National Police of Ecuador. Special Operations Group. Ecuador

⁴Ministry of Health, Guano-Penipe Health District. Ecuador

ARTICLE INFO

Article History:

Received 18th October, 2017

Received in revised form 20th November, 2017

Accepted 10th December, 2017

Published online 28th January, 2018

Key words:

TIC, research, process, training, interculturality, pedagogy

ABSTRACT

This article shows the important conception and use of information technologies as tools that have allowed the development of the teaching-learning process in education, facilitating both the teacher and the students the acquisition of knowledge in a more immediate and comprehensive way; The great impact of the technological development that is currently taking place has favored what is called the new social revolution, ICTs have generated great changes in cultural, social, economic and educational organizations. These manifest a series of fundamental characteristics as a feasible way to all types of information, establishing an immediate communication, either synchronous or asynchronous, in the automation of activities, storage of numerous information and the interaction between computers and users. The teacher plays a fundamental role in the knowledge and use of these technologies, due to the didactic importance that ICT can have properly used in the classroom. However, today's teachers do not understand effectively the usefulness that the use of ICTs can have in the development of the student training process; this is reflected in the quality of education. Therefore, this manuscript aims to analyze Information and Communication Technologies as interdisciplinary research with an intercultural approach to strengthen the process of student training.

Copyright © Miguel Alejandro Cruz Pérez *et al.* 2018, This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

In the field of education, substantial changes are taking place, with the appearance of initiatives to implement the use of new information and communication technologies in the classroom with the purpose of increasing the chances of achieving the learning objectives of the students, protected by teacher training that endorses the use of technology to minimize the digital cavity between teachers and students.

Through the passing of time, the world has undergone great changes, not only political or economic, but in the area of education and pedagogy, since it has been integrated with the new technological era, nowadays the educational systems are faced to the challenge of going to the Information and Communication Technologies to train

students in their training process with the essential tools and knowledge that are being contemplated in the 21st century.

With the emergence of technology the vehemence, both for the teacher and for the student is being transformed, the teacher from a focused point of view makes the student practice on the blackboard, applying magnificent classes, training the student in a systematic way and centered within an interactive learning context.

In this regard, UNESCO (2004) states that in the educational area the strategic objectives aim to improve the quality of education through the diversification of content and methods, the promotion of experimentation, innovation, dissemination and sharing. Of information and good practices, the formation of learning communities and

*Corresponding author: Miguel Alejandro Cruz Pérez
National University of Chimborazo, Riobamba, Ecuador

stimulation of a fluid dialogue on the policies to be followed.

ICT are developed from the scientific advances produced in the field of computing and telecommunications, where there the importance of technology that allow access, production, interaction, treatment and communication of information. In addition, it helps to improve the possibility within the literacy process, which serves as a tool for information search, it is considered as a fundamental resource for the management of several centers where they constitute as reinforcement material for students. (Marqués, 2013).

In the same way, Jaramillo, Castañeda and Pimienta (2009) say that ICTs are becoming an increasingly indispensable instrument in educational centers, they say that ICTs offer the contingency of interaction that passes from a passive attitude on the part of the students to a constant activity, to a search and continuous rethinking of contents and procedures.

The use of ICT in the classroom is important, because it helps to elevate the cognitive development of the students in a dynamic and didactic way, they acquire importance in the teacher training and not only in the initial formation, but during all the professional life, because more and more these play a fundamental role in student learning, since information is sought and found faster than within schools. (Bautista, 2007).

It must be taken into account that the possibilities offered by new technologies as a didactic tool are of great magnitude and it is necessary to take advantage of all their potential to form human beings that are fairer, more capable, more cooperative, which would lead to affirming that what is important is not it is the technology only, but the training actors can make the technological element, to humanize it the same technological forces that will make learning so necessary, they will make it pleasant and practical. (Ossa, 2002).

With the incorporation of new technologies in all aspects of life and society, it is demanding new models of teaching and learning. The model of education centered on teaching, where the protagonist is the teacher, gives way to a system based on learning, where the student is responsible for their own learning process and the teacher must find and use the methodology and means most appropriate to help the student in the process. (García and Laclea, 2007).

Added to all this, the importance lies in that they are the means or resources that they use to apply a specific technique in the scope of a particular learning method, understood as the method of learning the mode, way or sets of rules used to obtain a change in the behavior of those who conceive knowledge, and in this way increase or improve their level of competence in order to play a productive role. (Morales, 2012). The main factors that influence the use of ICT by teachers are: access to these resources, quality of software and equipment, ease or simplicity of use, incentive to change pedagogical practices using technology, support and solidarity of institutions to use ICT in the curriculum, national and local ICT policies, commitment to professional

improvement, and formal training received in the use of ICT. (Gallardo and Buleje, 2010).

Development

Information and Communication Technologies in education

Information and Communication Technologies (ICT) are the educational creation of this era and allow both teachers and students to change in the daily tasks of the classroom and in the teaching-learning process of them. (Gómez and Buleje, 2010).

In the same way Tello (2011) mentions that Information and Communication Technologies is a term that explores all forms of technology used to create, store, exchange and process information in its various forms, such as data, voice conversations, still or moving images, multimedia presentations and other forms. This definition coincides with that of Cebreiro (2007), mentioning that ICT "is linked to four basic media: information technology, microelectronics, multimedia and telecommunications". And most importantly, they rotate in an interactive and interconnected way, which allows reaching new communicative realities, and enhancing those that they can have in isolation.

Taking into account the contributions of the previous authors agrees with Tello (2011), that ICT is "the set of tools, supports and channels for the process and access to information, which form new models of expression, new forms of access and cultural recreation." Knowing a set of tools like all the accessories and instruments to be used in the process that both the teacher and the student take when acquiring knowledge, forming new and striking ways of accessing information.

With the application of these technologies it is possible to enter a new world full of easily accessible information for both parties between students and teachers, in the same way they manage to open a door in the learning environment by adhering to this new strategies where they participate. The student being more curious and creative, allowing the creative cognitive development and why not fun leaving aside the traditional areas of teaching.

So these authors consider that the Information and Communication Technologies are a bank of essential tools being a means of communication in the process of education facilitating the exchange of knowledge, this places the new pedagogical application to guide curiosity and motivation of the student changing roles in this way, where the teacher is no longer the manager of knowledge but the guide who guides the student.

Taking as a basis in the classification of ICT into account the types of media and educational approaches expressed by Galvis (2004) and Townsend (2000), these are classified into three groups, namely:

- Transmissive media: they seek to support the effective delivery of messages from the sender to the recipients who are the ones who support the sending.
- Active media: they seek to allow the learner to act on the object of study and, based on experience and

reflection, generate and refine their ideas about the knowledge underlying that object.

- Interactive media: they seek to allow learning to take place through constructive, synchronic or asynchronous dialogue between co-apprentices who use digital media to communicate.

When classifying ICT taking into account these dimensions according to Galvis (2004), it discloses the forms of its fundamental properties as a means and indicates the possibility that they have to support the educational approach to which they are closest, but emphasizes the vital role that has facilitates the process, and the approach it uses to do it.

ICT are producing an innovation and constant change in all social areas. However, it is noteworthy that these changes do not always indicate a rejection of previous technologies or means, but in some cases there is a kind of symbiosis with other means.

According to Román, Cardemil, and Carrasco (2011), teachers with a technological vision are a key factor in the effective use of ICT in the classroom, since they are the ones that facilitate or restrict the incorporation of technological resources in the process of teaching-learning, by regulating the type and quality of interactions between students and resources.

The pedagogues are the people in charge of applying these new tools and are responsible for ensuring that all these are carried out in the best possible way in the course of obtaining new knowledge.

According to Cobo (2009) the ICT allow the acquisition, production, storage, processing, communication, registration, access and presentation of data, information and content (in alphanumeric form, images, videos, sounds, aromas, vibrations, temperatures, movements, actions from distance).

They are a very important tool, thanks to these we get to obtain a better methodology for the acquisition of new knowledge through the various technologies created at present we have a high relation with the topics treated for student knowledge.

Belloch (2015) mentions that: The use of ICT does not necessarily lead to the implementation of a specific teaching / learning methodology.

ICT have been gradually integrated into the educational context, gradually renewing ambiguous methodologies, but without neglecting the great importance that they reflect within this process, they do not only refer to the change or renovation of the techniques before applied, they are based a little more on the concentration and the attention that the students can get to lend to the teacher, since that will depend on their obtaining knowledge that is being transmitted by the teacher.

According to Alarcón, Ramírez and Vilchez (2014), therefore, the educational work with ICTs consists in the development of activities aimed at students taking advantage of them to learn efficiently and effectively that is, to improve their school competence, taking advantage

of the learning opportunities that ICT provides them to the fullest.

Students must learn to manage and use each of these new technologies in an appropriate manner as they will help to improve academic performance. Generating new professionals with extensive knowledge that will exercise their careers and in such a way will help the development of society.

The use of ICT in education depends on multiple factors (infrastructures, training, attitudes, support of the management team, etc.), among which the most relevant is the interest and training by the teachers, both at the instrumental level and pedagogical. (Belloch, 2015).

ICT have become indispensable instruments in modern day education, its use helps and facilitates the accomplishment of diverse tasks simultaneously, and they are related to the aspects, from searching information to do an activity, to doing banking transactions or communicating more simple with other users from anywhere in the world, are indispensable processes for the transformation of information, enable the universal ability to access and support information.

Information and communication technologies optimize the effectiveness of the educational process, allowing the intervention and collaboration of people for the collective development of knowledge and sources of quality information.

Therefore, they are in charge of improving, contributing, proposing and articulating procedures, methods, forms of work, organizations and artifacts that allow society to learn faster and with better quality.

So these authors consider that information and communication technologies have a great impact on education, thanks to the presence of the Internet, which facilitates both learners and educators to obtain the information they need about the topics that are of your interest or are being treated within the curriculum and within your curiosities. Currently the student seeks to deepen more the topics developed in class, or seeks to have the greatest amount of knowledge regarding a topic of their own interest, this in a certain way is positive for the learning process, as such way it seeks to expand its knowledge network.

Relationship between Information Technologies and Interculturality

Humanity is ready to receive the new technological advances which pose a new demand for the pedagogical field. Currently we are involved in a post-modern and multicultural society, which gradually builds a social-face-to-face interculturality also present in a cultural and virtual approach. All this requires society to reflect on the upcoming approach of new paradigms, which is assumed by educational institutions taking advantage of the opportunities offered by ICT, to overcome this barrier in education and social reality.

In view of what was stated by Díaz (2009), ICT are having an important role in education, representing a methodological, pedagogical, curricular rethinking, and with an organizational level in the educational field for the

improvement of indexes that improve their quality; they are also an elementary instrument for reflective cultural parity and promoter of intercultural communication.

In such a way, to materialize the concepts of interactivity, interconnection, instantaneity, exchange, knowledge, enrichment and intercultural citizenship, a methodological strategy based on cooperative, participative and network learning among the centers of different places of the world is necessary. To achieve this purpose, ICT is a fundamental and essential tool, not only for creating a community where students can interact and share knowledge, but for its potential to transform educational practices. (Kozma and Anderson, 2002).

By such form it is possible to manifest that the Internet, the social networks and the new technologies own of this generation, puts to good collection all the necessary thing to generate virtual communities of learning of the intercultural field, with the aid of many tools that favor the interchange of information true about intercultural education among all members of the educational communities. (De Haro, 2010).

According to Borrero and Yuste (2011) highlight the dimensions or areas of learning of technological literacy. The digiculturalidad corresponds to its development and practical applicability in network. This means that it fundamentally has pedagogical meaning as it is generated and constructed from the values of cooperation and democratic cultural interaction. In effect, digiculturalidad emerges with strength through virtual platforms and communities that are both the path and destination of a community and intercultural awareness where the important thing is to grow individually and socially, positively valued cultural diversity and the universally accepted values contemplated in the human rights. (Martínez, 2010).

In view of the above, where the intercultural, inclusive and inclusive approach to the possibilities of pedagogical participation through ICTs in school contexts acquires full meaning, incorporating experiences and promoting innovation, cooperation and learning as a service and platform of intercultural exchange. That is, interculturality through ICT can be built in a network process that is clearly unstoppable but invisible, sometimes if teachers are not aware of the didactic potential of networks and virtual platforms, not only for share information and knowledge, but fundamentally humanity, emotion and cultural diversity. (Leiva, 2013).

So these authors conclude that we should think about the potential of educational cooperation, taking into account that cooperation is a rising value on the internet, because more and more learning communities are using E-Learning to promote and disseminate their work with Creative Commons (CC) licenses, or with completely free licenses (copyleft), which enable a wide range of educational, social and community initiatives, from and within the educational context. That is why we consider fundamental the creation of virtual and intercultural communities of teachers, families and students, in which they learn together, making and producing virtual educational materials or dossiers, through the exchange and pedagogical coordination of the teacher.

Considerations between Research and Technology

"It is necessary to conceptualize the integration between technology and research in favor of the development of the integral human being, it is of only importance this integration as a tool of progress for a more complex and competitive society. For this reason, the need to think about technology and research as a source of human development rather than as an instrument of power is insisted on". (Amador, 2012). The human being at present in front of the technology and the research has conflicting emotions, on the one hand, those of satisfaction given by the scientific and technological progress and on the other hand the one of consternation and probabilities of losses. Today's world demands of facts and explicit and lasting answers, which make the human being prove himself and with the values established by the knowledge society.

Research and technology are the tools that will allow the advancement of society in various aspects, since the merger of both exterminates any obstacle that prevents us from achieving the information we desire.

The human being to consist of these information tools has a certain feeling of power to know that reach the answer to their questions but on the other side is the fear of not being able to control or check all the data that is achieved and thus not achieve its goal. As a result of technological research, knowledge, methods, instruments, characteristics and details are acquired to explain what and why of the objectives to be achieved. (García, 2007).

So we consider that research is a process that requires methods, and technology is considered a set of knowledge and techniques, which makes these two factors relate to achieve certain common objectives. Technology has allowed the expansion of information globally, which makes it a tool that benefits the research process, because it is constant and does not have a determined end. It can be said then that research and technology complement each other, both originate from the need of man to discover, explain, create and progress, and with the proper use of them the society will have a remarkable development.

Manifesting ICT in the educational field, its use in the succession of a research contributes to the development of different social sectors. It can be concluded that the ICT to carry out the research process is a very useful and relevant tool, since in those times the technology is available to most of the world, and it is possible to use technologies to contribute more to its learning, the search for information and the development of some type of research.

ICT as remarkable and effective tools in the research process, allow great manageability in a matter of information; through programs and applications. ICT have been very important in the research process, since they have opened more sources to find the information we need, eliminating any barrier that prevents the human being from reaching the answers to their questions.

In this sense, the use of ICTs offer people who want to educate a new way of doing it, thus varying the representation of what they learn, because in this case the subject goes from being a dependent subject of the teacher

to acquire knowledge to an autonomous individual capable of creating it.

In scientific research, the use of ICT is evidenced by the researcher's inquiries in various search engines on the Internet, as well as in the establishment and participation of scientific groups or communities through virtual forums, forming what is called a scientific community, facilitating the exchange of advances, ideas and bibliographies of a specific topic.

Thus, in recent years the integration of ICT in education has become the focus of attention in the educational field, gradually disappearing the conceptual lack of education technology. (Area, 2000).

ICT as well as other tools are presented to students as a new alternative that will facilitate the teaching-learning process through the vast range of information that entails, are a clear example of the change in the traditional education system. Considering the author Cardona (2009), ICT correspond to the set of actions that facilitate the electronic registration, processing, dissemination and expansion of information.

Therefore, this is how, through technology, we can carry out a much broader investigative process and select the information that we consider appropriate and at the same time be able to disseminate it, provided that a prior verification has been made, they are tools that will facilitate the process investigative.

Research in relation to Interculturality

Understanding the relationship that exists between research and the subject of interculturality can cover different topics, to achieve a change of attitude in social groups in reference to cultures, forming values and respect.

Interculturality must be understood as a permanent and continuous procedure of the relationship, exchange of communication and teachings between people, groups, knowledge, values and different customs, aimed at creating and promoting mutual respect, and a complete advancement of the abilities of the people, regardless of cultural and social differences.

Therefore, it is important to have a basic knowledge about the cultures, as they are about the codes and also the worldview of the groups and / or individuals in relation, in order to act in terms of respect. (Krainer and Guerra, 2012).

The investigative process will allow obtaining the information of the different ethnic groups and the way in which they are directly or indirectly related. In a research about interculturality can be established and taken as a research topic to the union that allows convergence in a place, which can initiate an intercultural discourse that will be covered to the foundations of different disciplines. This is one of the biggest issues in which different social problems are going to be taken into account. (Cortés, Dietz, Jiménez and Mendoza, 2009).

The research methodology as a method is used to achieve a specific objective, however the term techno-research is

directly linked to science, but used to the educational area known as teaching methodology. (Fidias, 2016).

The methodology of research in students is based on information and communication technologies (ICT), and learning and knowledge technologies (TAC's) that allow them to develop in this globalized world and develop an innovative and comprehensive vision for each student.

The course of the student in academic life is no longer a receiver of information and is becoming a participant in their training developing critical thinking and generating new knowledge. The methodology considered as theoretical-practical matter provides tools that help the planning and execution of a research or processes aimed at acquiring new knowledge

These authors conclude that establishing a relationship between interculturality and education, there are conceptual and empirical norms. Despite the fact that intercultural education is taken into account more frequently, pedagogical research and teaching is also an area that should also be studied in other disciplines. From this, it is proposed to make an analytical description to be able to do it in that way, through analysis and to be able to intervene in a proactive way to intercultural education.

Training Process through Interculturality

Interculturality in the teaching process must be taken into account that the word Interculturality refers to a contact between cultures but not only a relationship but an exchange of knowledge between them, this is understood as a process of constant communication and learning between different traditions that seek to build and promote mutual respect. Interculturality in the educational context seeks human formation through social interaction as a fundamental basis in education. (Cheli, 2015).

In the field of education, there is an exchange of culturally different knowledge and knowledge that were not previously known, where the student is expected to know about the different characteristics of the different cultures that exist in Ecuador, and based on this can develop a critical thinking and can recognize their legitimate personality and culture.

In educational institutions, interculturality seeks that students feel valued, recognizing their ethnic roots and applying the fundamental basis of solidarity in school life. For this to happen, teachers must receive training according to the demands presented in each of the classrooms so that they are trained to respond to each case that the student deserves. (Leiva, 2012).

In the everyday context in the classroom, cultural contact situations are reflected, that is, in most educational institutions there are students from different cultures, the incorporation of students from different cultural backgrounds should be the main objective of each teacher, for Thus, different integration activities can be carried out. According to Rojas (2005), he states that the incorporation of students from different cultures and traditions, makes the teacher consider new methodological strategies in front of his students to avoid possible situations of discrimination.

Interculturality is considered a dimension that is not limited in the field of education focuses on human relations as an alternative to authoritarianism, dogmatism and ethnocentrism. It supposes the own recognition of the identity, the strengthening of the own identity of the "I", it is the indispensable starting point for any positive relation. (Hidalgo, 2016).

From the above we can conclude that the teacher at present, when teaching the class should motivate the naturalness of students from different cultures, who do not feel isolated but vice versa that demonstrate its essence and that does not lose the value of their culture, trying to "adapt" to the other students. For this to be conceptualized there must be a reciprocal encouragement between teachers and students in the different academic experiences that are experienced in school life, and in cooperative work where the primary purpose should be coexistence among all students.

CONCLUSIONS

The initiation of a social community is a fundamental element of interculturality from a community point of view, where the collateral axis of the educational dynamism named intercultural is the harmonic relationship, creation, responsibility and mutual collaboration. Knowing how to be and coexist together have to be an elementary support in the didactic strategies that create educational environments where intercultural training is a commitment of the school community as a whole.

The need to unify efforts and socio-cultural relations between educational institutions and all kinds of social societies that participate and are co-responsible for educational management that build a specific interculturality from a holistic view, where students, teachers and families in general must be intertwining networks of intercultural meaning and the curriculum itself from submission to personal legitimacy and cultural dissimilarities as an urban fortune of surprising educational value.

A digital and intercultural education should be considered towards an educational community but taking into account the principles of respect and intercultural communication among all the participants of the educational community, in addition, the training must be holistic, it must understand the unequal dimensions of community learning that it achieves its axis and promoter of a more active, participatory, critical and collaborative digiculturality.

Bibliography

- Alarcón, N. D.; Ramírez, Q. and Vilchez, M. Y. (2014). *Las Tecnologías de la Información y Comunicación (TIC) y su relación con el aprendizaje del idioma Inglés en los estudiantes de la especialidad de Inglés-Francés, promoción 2011 de la Universidad Nacional de Educación Enrique Guzmán y Valle, Chosica*. Tesis de grado para optar al Título de Licenciado en Educación, especialidad de Inglés – Francés. Lima. Perú. Recuperado de: http://repositorio.une.edu.pe/bitstream/handle/UNE/700/T025_09580299_T.pdf?sequence=1&isAllowed=y
- Amador, M. (2012). *La Tecnología y la Investigación en el Desarrollo Humano*. Metodología de la Investigación Científica. Recuperado de: <http://manuelgalan.blogspot.com/2012/11/la-tecnologia-y-la-investigacion-en-el.html>.
- Bautista, J. (2007). *Importancia de las TIC en el proceso de Enseñanza aprendizaje*. Caracas. Recuperado de: <http://comunidadesvirtuales.obolog.com/importancia-tic-proceso-ensenanza-aprendizaje-40185>
- Belloch, C. (2015). *Las Tecnologías de la Información y Comunicación en el aprendizaje*. Universidad de Valencia. Recuperado de: <https://www.uv.es/bellohc/pedagogia/EVA1.pdf>.
- Borrero, R. and Yuste, R. (2011). *Digiculturality.com. Interculturalidad y TIC unidas en el Desarrollo del Enfoque Competencial del Currículo*. En R. BORRERO y J. LEIVA. Interculturalidad y escuela. Perspectivas pedagógicas en la construcción comunitaria de una escuela intercultural, pp.106-121, Barcelona: Octaedro.
- Cardona, D. (2009). *Las tecnologías de la información y las comunicaciones, TIC, en la relación administración pública-ciudadano: caso, Colombia y Perú*. Facultad de Administración. Bogotá. Editorial Universidad del Rosario. pp. 58.
- Cebreiro, B. (2007). *Las nuevas tecnologías como instrumentos didácticos*. En Cabero (coordinador): Tecnología educativa. McGrawHill. Madrid.
- Cheli, I. (2015). La interculturalidad en la educación. Recuperado de: <https://es.slideshare.net/IzMtCheli/la-interculturalidad-en-la-educacion>.
- De Haro, J. J. (2010). *Redes sociales para la educación*. Madrid: Anaya Multimedia.
- Cobo, J. C. (2009). *El concepto de tecnologías de la información. Benchmarking sobre las definiciones de las TIC en la sociedad del conocimiento*. Rev. Estudios de Comunicación, 14 (27). España.
- Díaz, I. (2009). *Las competencias TIC y la integración de las tecnologías de la información y comunicación de los docentes de la Universidad Católica del Maule*. Universidad de Chile. Facultad de Ciencias Sociales. Tesis para optar al grado de Magister en Educación con mención en informática educativa.
- Dietz, G.; Mateos, L. S.; Jiménez, Y. and Mendoza, G. (2009). *Estudios interculturales: una propuesta de investigación desde la diversidad latinoamericana*. Rev. Sociedad y Discurso. Número 16: 57-67. Universidad de Aalborg.
- Fidias, G. (2016). *Importancia de la metodología de la investigación en la educación universitaria*. Otras voces en Educación. Recuperado de: <http://otrasvoceseneducacion.org/archivos/77516>
- Galvis, A. (2004). "OPORTUNIDADES EDUCATIVAS DE LAS TIC". Meta-cursos Soluciones Elearning Innovadoras. Recuperado de: http://www.colombiaaprende.edu.co/html/investigadores/1609/articles-73523_archivo.pdf
- Gallardo, L. M. and Buleje, J. C. (2010). *Importancia de las TIC en la Educación Básica Regular*. INVEST. EDUC. 14 (25), pp. 209-224.

- García, F. (2007). *La Investigación Tecnológica. Investigar, Idear e Innovar en Ingenierías y Ciencias Sociales*. Editorial Limusa. Ed No.2. México.
- García, P. and Laclea, M. (2007). *MOODLE: difusión y funcionalidades, 1* (12). Recuperado de: http://campus.usal.edu.ar/pluginfile.php/45320/mod_resource/content/1/CAP_III_10.pdf
- Hidalgo, L. (2016). Educación e interculturalidad: entre la diversidad y la desigualdad. Aula Intercultural. El portal de la educación intercultural. Recuperado de: <http://aulaintercultural.org/2009/09/25/educacion-e-interculturalidad-entre-la-diversidad-y-la-desigualdad/>
- Jaramillo, P., Castañeda, P. and Pimienta, M. (2009). *Qué hacer con la tecnología en el aula: inventario de usos de las TIC para aprender y enseñar Educación y Educadores*. Recuperado de: <http://www.redalyc.org/pdf/834/83412219011.pdf>.
- Kozma, R. and Anderson, R. (2002): *Qualitative case studies of innovative pedagogical practices using ICT*. Rev. Journal of Computer Assisted Learning, 18 (4), pp. 387-394.
- Krainer, A. and Guerra, M. (2012). *Interculturalidad: Un acercamiento desde la investigación*. Primera Edición. Quito: FLACSO. Ecuador.
- Leiva, J. J. (2012). *La formación en educación intercultural del profesorado y la comunidad educativa*. Rev. REID, Número Monográfico, pp. 8-31.
- Marqués, P. (2013). *Impacto de las TIC en Educación: Funciones y limitaciones*. Rev. 3C TIC, 1 (3).
- Martínez, F. (2010). *Las redes digitales como marco para la multiculturalidad*. Alcalá de Guadaíra: MAD.
- Morales, P. A. (2012). *Elaboración de material didáctico*. Red Tercer Milenio S.C. Primera Edición. México. Recuperado de http://www.aliat.org.mx/BibliotecasDigitales/derecho_y_ciencias_sociales/Elaboracion_material_didactico.pdf
- Ossa, G. (2002). *Tendencias Educativas para el siglo XXI; Educación virtual, online y @learning; Elementos para la discusión*. Rev. Edutec-e, No.15. Recuperado de: http://mc142.uib.es:8080/rid=1GPMM80Z5-H8W34C-26J/lectura_cardona.pdf
- Rojas, G. (2005). *Estrategias para fomentar actitudes interculturales positivas en el aula*. Profesora de la Facultad de Ciencias de la Educación y Humanidades Universidad de Granada. Campus de Melilla. España.
- Roman, M., Cardemil, C. and Carrasco, A. (2011). *Enfoque y metodología para evaluar la calidad del proceso pedagógico que incorpora TIC en el aula*. Rev. Iberoamericana de Evaluación Educativa. 4 (2). pp. 8-35.
- Tello, E. (2011). *Las tecnologías de la información y comunicaciones (TIC) y la brecha digital: su impacto en la sociedad de México*. Rev. RUSC, 4 (2). Recuperado de: <http://rusc.uoc.edu/rusc/es/index.php/rusc/article/download/v4n2-tello/305-1221-2-PB.pdf>
- Townsend, R. (2000). *El reto tecnológico*. Recuperado el 1 de febrero de 2018, de <http://wzar.unizar.es/acad/fac/egb/educa/jlbernal/Retec.html>
- UNESCO (2004). Formación docente y las tecnologías de Información y Comunicación.
