

EVALUATION AND ACCREDITATION OF DISTANCE EDUCATION AT UNIVERSITY LEVEL IN THE INTERNATIONAL CONTEXT: THE PROPOSAL OF UABC-CENTER OF ENGINEERING AND TECHNOLOGY FOR THE EVALUATION OF ONLINE COURSES

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Abstract

One of the main actions undertaken by Universities Education institutions to demonstrate their relevance and sufficiency at productive and social sectors is the quality assurance through the development and implementation of accreditation and certification processes associated with their educational, generating processes efficient and innovative and thus increasing the competitiveness of the institutions and their social impact. In this context, the incorporation of the Information Technology, Communication and Collaboration (TICC's), the importance of globalization at university level and the quality assurance in the learning process has become more complex. Specifically in the case of university distance education, there are national and international standards that assess dimensions pedagogical, technical, administrative and content, which includes a review into the formation processes of aspects of organizational culture, planning of the educational process, organizational structure, administration and management, support and infrastructure, faculty, students, financial resources and more. However, the diversity of standards of international regulations for the evaluation of the Distance Education and the generality and breadth of the national criteria are necessary to define quality indicators and the instruments and procedures for self-assessment and evaluation of educational and initial phase for accreditation. This paper presents a proposal of indicators for quality evaluation of online courses developed by UABC-Center of Engineering and Technology, as a key strategy to promote and strengthen programs for distance education and expand educational coverage.

Keywords: Accreditation of education, Distance Education, Quality Indicators.

1 INTRODUCTION: QUALITY OF CONTINUING EDUCATION DISTANCE

Distance learning process (EaD) is recognized as a technological process characterized by bidirectional communication and mass replacing personal interaction in the classroom of the teacher and student, and communication action mediated through various teaching resources, devices, strategies and support of a tutorial organization, fostering independent learning of students, overcoming barriers of space and time, expanding educational coverage and flexibility and thus integrating the population lacking access opportunities traditional training¹.

In this context, the quality of Distance Education (EADS) acquires different meanings depending on the perspective of analysis, The United Nations Organization for Education, Science and Culture (UNESCO) states that the quality of the teaching-learning process should ensure the adequacy of being and duty to his duty to be guiding the learning competencies². However, achieving this adaptation involves identifying those elements that directly influence the teaching-learning process, since the quality of education does not depend solely learning mode, but the interaction of all the elements that make the process possible. Figure 1 shows a basic outline of the elements identified by studies as important components to ensure quality in distance education process^{3,4,5}.

In this scheme, the central elements of the process of distance education students, teachers, institutions and society, contributing to the achievement of quality through the development of skills, knowledge and abilities in students to ensure their immediate incorporation economically active sector improving their quality of life, this as a result of the relevance and adequacy of the plans and curricula of educational institutions, actions that directly impact the generation of solutions to real problems that society demands.



Figure 1. General Elements associated with the Quality of Distance Education.

The quality of the teaching-learning process in distance education is defined by the ability to set the appropriate media conditions that allow the development of new paradigms for teaching, learning and communicating through which meaningful learning is achieved. In this sense, the incorporation of information technology, communication and collaboration (TICC's) should make it possible to effectively link teachers and students with the teaching-learning process, thus preparing new generations with a perspective oriented reflection, self-training and appropriation of technologies that facilitate the achievement of learning dynamic and versatile.

If we believe that education is the act of communication and teaching unit is, above all, a process of communication, we can appreciate the importance for distance education have the communicative possibilities of technological tools⁶. Therefore, in addition to access to databases, use of email, discussion forums, video conferencing, web conferencing, chats, electronic publications, Learning Management Systems, and the use of digital learning materials for pedagogical support, the teaching methods should ensure that communication between teachers and students overcome the barrier of space achieved by establishing conditions for dialogue and exchange of ideas as achieved in teaching⁷.

In this context, the inclusion of technologies generate a change in the quality of distance education and the learning rate, which will gradually cease to partner institutions and will revert to the student, this seems to emphasize individualism, however the TICC's have generated virtual learning communities, where knowledge becomes collective and the student is responsible for their own education, interacting with the environment in which it operates⁸.

The objectives that the EaD is for government, educational institutions and society have a common point of agreement: the continuous improvement of the quality of social life. However, each of these elements has different scope for the government to achieve quality EaD systems means expanding educational coverage through the implementation of new forms of learning, balance the unequal educational opportunities, provide better opportunities for development professional staff and larger segments of the population, achieve continuous improvement in existing educational models, among others. In this regard, it has been shown that continuous improvement of educational institutions has an impact on increasing the competitiveness of the state, a key premise of any government⁹.

For educational institutions of EaD quality can extend the capabilities of education and training in multidisciplinary areas tailored to the needs of the productive sector and social; allow the incorporation of population must combine education with work or family life easier continued strengthening of academic and professional skills of individuals; attain universal knowledge, to extend knowledge, and facilitate learning throughout life. All this through the creation and strengthening of academic networks to harness the benefits of technology recognizing the national and local needs².

In terms of regulations and policies regarding EaDS processes persist within educational institutions, governments and society in general distrust of the ability to achieve the relevance and quality of this mode of learning, despite the steady growth supply and demand for their services. This uncertainty is closely related to the gaps that still exist in the evaluation and accreditation processes to demonstrate that education EaDS is the level of traditional classroom learning modalities.

2 EVALUATION AND ACREDITATION OF CONTINUING EDUCATION DISTANCE

One of the main commitments of higher education institutions, national and international, is to demonstrate the production sector and social relevance and adequacy of their education, through the generation of trained professionals to resolve current problems and whose performance improves quality of social life. In this context, enables education accreditation is recognized as a voluntary process conducted by independent reflective and mostly autonomous, which seek through standardization, control and improve the process of teaching, management, research and extension, ensuring the quality of education, acquiring different meanings according to the perception of the institutions, students, teachers, and society, among which is the pursuit of social recognition, increased competition among academic institutions, increase reliability in the academic process, optimizing the use of resources, involvement of educational institutions in the context of globalization, among others. Specifically, the evaluation and accreditation of distance education has been addressed in various ways in the national and international context, the following is a brief compilation of the efforts.

2.1 Evaluation and Accreditation of Quality in Mexico

In Mexico, the distance higher education begins from 1972, with the Open University System of the Autonomous University of Mexico, on the means and resources used, they range from the conventional means of printed materials, objects, video, audio and telephone, to fax, magnetic disks, CD ROMs, television broadcasting and satellite video conferencing and the Internet¹⁰. Meanwhile the National Association of Universities and Institutions of Higher Education (ANUIES), disclosed in 2010 Master Plan for Higher Education Open and Distance, which establishes the strategic guidelines for its development, however in relation to quality assurance or evaluation and accreditation of models raises general criteria to be considered to ensure the relevance of programs such as: providing high quality education and achieve favorable economies of scale, look for the effective monitoring of programs, teacher training and students, generate quick responses to changing market demands, ensure interagency collaboration, among others¹¹.

Moreover, the Committees for the Evaluation of Distance Education (CIEES) in 2009 proposed General Methodology for Evaluating Programs Distance Education¹² which is characterized by using most of the evaluation indicators classroom courses from policies to evaluate the mission, vision, corporate objectives, infrastructure, teaching skills, retention indicators, certification, among others. Only manage to identify aspects particularized EaD as those relating to the assessment of teaching support resources which arises under "use of information technology and communication for learning", which measures the existence and relevance of technological resources, documentaries and educational materials to support the learning process: written materials, virtual, using different virtual spaces and tools based on TICC's to facilitate the teaching-learning design learning situations individual and collaborative (simulations, cases, applications, problems, projects ...), collection, analysis, evaluation, selection and use of information by students.

2.2 Evaluation and Accreditation of Quality in United States

The Distance Education and Training Council (DETC), as organized Accreditation Manual evaluation¹³ according to twelve areas which are: Mission and corporate goals, objectives and educational materials, educational services, student services, and student satisfaction exist; ratings managers,

teachers and support staff, admission and registration, advertising and promotional material, financial responsibility, regulations and procedures, plant, equipment and registration protection, research and evaluation. Each of these areas has its respective categories which particularize evaluation. The criteria used for evaluation enable a thorough review of the characteristics of educational models, unlike the model proposed by CIEES, this proposal raises oriented indicators such as the model in the area of educational assessment, evaluation focuses in the description of the purpose of use of the material, the level of understanding of the materials, the design of tests, reading comprehension levels, the organization of teaching materials and resources, the quality of the picture and presentations, etc.

2.3 Evaluation and Accreditation of Quality in Latin America and the Caribbean

Evaluators and accrediting institutions quality of distance education in Latin America highlight the contributions made by the Latin American and Caribbean Institute for Quality in Distance Higher Education (CALED) which aims to contribute to improving the quality of education in Latin America and the Caribbean and offer advice in the assessment process. This organization is composed of a General Advisory Council, a Latin American Academic Council and an Advisory Board not Latin American, an Executive Secretariat composed of the Iberoamerican Network for Quality Accreditation in Higher Education (RIACES) and some colleges. The features CALED Guide Virtual Course Assessment based Continuing Education¹⁵ which conducts the evaluation process through the following seven phases which include reviewing areas, sub areas, standards and indicators; actors evaluation respondents (course, teachers, students, staff, etc.) data source (evidence of compliance processes) location database, tools and techniques, codes and finally gives a review on a scale of 1 to 4 (where 1 is 25% and 4 is 100%). This guide presents an evaluation framework that identifies the status of significant indicators such as the technological profile of students, types of interactions of the virtual environment, issues related to availability, performance, capacity and safety of the equipment and infrastructure characteristics material design as to transmit the communication facilities.

According to a study by Rama in 2011¹⁵, during the International Conference ICDE shows that in evaluating DL Argentina has national regulations for quality assessment in which the criteria evaluated computing resources as TICC's, mentoring, communication and interaction as well as the design of virtual environments. This study also raises the case of Brazil who obtained a significant increase in the enrollment of higher level, due to the growth of distance education courses, these courses are evaluated by the National System of Higher Education (SINAES) of that country. SINAES factors included in the assessment as pedagogical educational organization (assessed 23 indicators), the evaluation of teachers and tutors (16 indicators) and the evaluation of infrastructure (9 indicators). Finally, in countries like Colombia, Bolivia, Honduras and Peru have regulations to implement EaD mode but there are no defined procedures for the evaluation and accreditation of distance education.

2.4 Evaluation and Accreditation of Quality in Europe

In Europe, a cluster of 28 countries (Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Iceland, Latvia, Liechtenstein, Lithuania, Luxembourg, Norway, Malta , Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, the Netherlands and Britain) the actions of governments to assess higher education is characterized by high institutional and government commitment. Between evaluators and accrediting bodies for higher education is the European Network for Quality Assurance (ENQA), the European Consortium for Accreditation (ECA), National Unions of Students in Europe (ESIB), the European University Association (EUA) The Association of Higher Education Institutions (EURASHE), to address these changes created a European Higher Education Area in order for states to commit themselves to coordinate their educational policies seeking to standardize some aspects momentous to allow mobility students¹⁶. In 2010 the European Commission postulates become the most competitive knowledge economy and dynamic, with more and better jobs and greater social cohesion close, in this context, for most universities is a major challenge to incorporate technologies information and communication and e-learning to large strategic projects within the organization that involve the entire institution or any sector¹⁷. Among the most advanced universities in terms of the application of new technologies are the great European universities distances. The Association of European Universities Distance (EADTU) has six open universities and twelve consortia representing approximately 150 conventional universities with distance learning activities¹⁸. Although some institutions consider unnecessary to particularize the differences between assessment models and virtual, have achieved

important agreements on guidelines and evaluation indicators of distance education, which have support in the results of the Bologna Accords 1999 evaluation these lines are called e-Bologna¹⁷. The evaluation criteria of e-Bologna includes: Consistency of multimedia applications with the results of the learning process, usability and software design, percentage presence phases, skilled use of media, technology platforms (Learning Management Systems), practices tutoring, permanent access to the technologies used, self-learning opportunities, teaching tools.

3 GENERAL CONSIDERATIONS FOR THE ESTABLISHMENT OF A MODEL FOR THE EVALUATION OF DISTANCE EDUCATION-FOCUSED ON CITEC UABC

The Center for Engineering and Technology (CITEC) Valle de las Palmas, is an academic unit created by the Autonomous University of Baja California (UABC) in 2009 as a strategy to trigger economic growth and regional social welfare according to the provisions Business Development Plan of the State¹⁸. CITEC educational offerings comprises programs Civil Engineer, Surveyor and Geodetic Engineer, Mechanical Engineer, Electrical Engineer, Electronics Engineer, Mechatronics Engineering, Industrial Engineering, Bioengineering, Renewable Energy Engineering, and Aerospace Engineering, and the degrees in Architecture, Graphic Design and Industrial Design. CITEC's mission is to educate professionals in the areas of Engineering, Design and Technology, which are competitive on the world market, with relevant training that is humanistic, innovative and creative, having an ecological and social engagement that meets the regional needs, thus helping to promote technological development in the area.

CITEC is an innovative proposal on educational practices, which are derived from their particular pregnancy as an academic unit. The proposed teaching-learning model for increasing the quality of education of students is strategically divided into 5 main categories: Continuous assessment and accountability, and Bodies permanent teacher training colleges, Integrated Student Training, Project Based Learning and Innovation and use of TICC's¹⁹. Specifically, in the latter category have developed different strategies which have led to the incorporation of TICC's in teaching activities, administrative and bonding.

In the field of distance education, the Institutional Development Plan states that UABC²⁰ academic units should generate actions to boost student training, specifically raises the need to develop strategies to promote blended learning modalities and distance in order to expand educational offerings with social relevance and equity. In this context, CITEC is in what might be called the initial phase of the EaD, it has implemented a strategic plan for generating models virtual learning courses which starts with the design and operation of learning units students enrolled in the first year of income (Algebra, Differential Calculus, Integral Calculus, Chemistry, Programming, Human Development, Electricity and Magnetism, etc.). To ensure the operability of the courses, has established training programs for students and teachers (to strengthen skills in managing TICCs, virtual platforms and other support resources), it has the Coordinating Center for Open entity defines the guidelines related to curriculum design, design of digital teaching support material, follow-up and evaluation of teachers and students among others. In this context, and considering the indicators and criteria discussed, is considered to evaluate the quality of the performance of the model courses through indicators: institutional, teaching-learning process, technology, communication and infrastructure as well as the characterization of the profile and student satisfaction and teachers, as shown in Figure 2

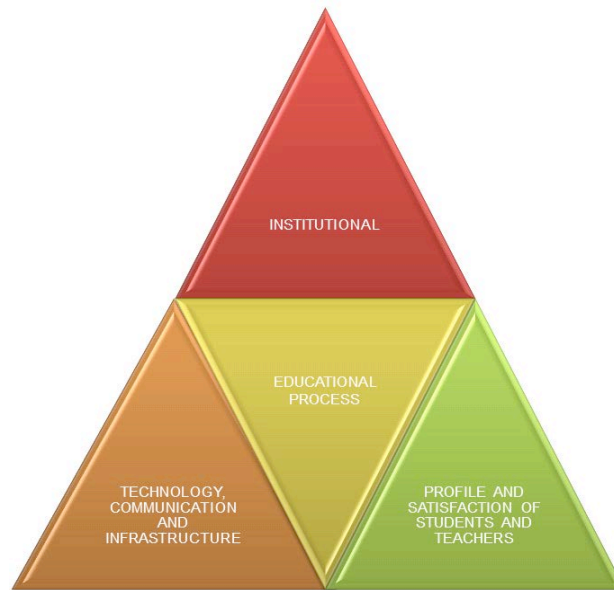


Figure 2. Basic indicators for the evaluation of EaD courses.

The indicators of importance in the assessment of the institution must determine the level of compliance with the commitments made by the authorities in the mission, vision, policies and guidelines, as well as those established to ensure the operability of the courses, relevance of supply educational, profitability analysis, the provision of support services to students, the organization and management for continuous improvement of distance education, among others.

In the teaching process is convenient to consider indicators that allow us to measure the impact of student performance, based on the materials offered, course design, meeting the goals, the advice of the tutor, the feedbacks to the activities presented, level use of technological support and diversity, assess performance and track record of graduates, quality and updating content and duration times.

To assess the quality of technology, communication and information on courses, consider indicators that evaluate the accessibility, navigability and usability of the virtual tool used to support the educational process, the management skills of TICC's by teachers and students is a necessary aspect that assesses the effectiveness of the process. It is also important to measure the asynchrony and timing of the communication process to establish standards regarding the level and type of use of technological systems.

The profile of students and teachers throughout the evaluation process depends on the specific characteristics of the reference context, which is why it is considered important to assess the political / demographic, economic and education, in order to get to identify indicators generating information about the skills and abilities that present the protagonists of teaching-learning process and thereby estimate their resilience and permanence. Moreover, measuring the satisfaction of students and teachers is related to student satisfaction at the end of a course, the same motivation for the development of the course and its influence on the learning process, whether education has improved with the inclusion of TICC'S and what those obstacles presented both students and teachers when they are immersed in an e-learning environment.

4 CONCLUSIONS

The evaluation of quality in distance education is a participatory process which involved domestic education institutions to create a structured and reflective analysis to improve the performance of the training system, this is achieved through compliance reviews of the indicators or standardized quality criteria by that body. When the self is made towards the accreditation must meet criteria and standards established by the accrediting agency or body. In the international context there is enough variety of indicators for the evaluation of distance education, which together with the diversity of scope established make complex evaluative function. The quality assurance in distance education should strengthen confidence in the educational system by students, teachers and society, thus multiplying

hedging opportunities in education and increased the possibilities of incorporating student's economically active sector.

Among the generality of the evaluations of EaD is detected, the need to strengthen the EaD through appropriate guidelines to stimulate pedagogical elements of the dynamics of the teaching model, eliminating the lack of stimulus scheme for preventing mentor teachers fair assessment of their work, minimize the lack of efficient systems for information assurance, strengthening training support to allow proper use of equipment, establishing knowledge management systems that allow monitoring of interactions between teachers and students, generate supporting documentation such as manuals or procedures for organizing the process, strengthen social bonding and the productive sector through the clear identification of needs and corresponding educational proposal, among other things. Evaluation criteria of national and international context are agree to evaluate issues such as infrastructure, teaching-learning process, the learners' skills, communication and information into the process as some of the key issues in accreditation. Considering this, the team will generate information on the process performance of EaD courses implemented at CITEC, the results of this proposal will be developed and analyzed in future work.

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