Diseño de un modelo curricular E-learning, utilizando una metodología activa participativa

Design of a curricular e-learning model, using an active and participatory methodology

A concepção de um modelo curricular E-learning, utilizando uma metodologia participativa activa

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Resumen

Actualmente los posgrados en innovación educativa motivan a los participantes a impartir contenidos académicos en sus centros de trabajo, empleando de manera informal los recursos didácticos que ofrecen las TIC. Sin embargo, el impacto en el desarrollo académico de aulas virtuales se ve limitado por la falta de una formación formal en sistemas computacionales de los profesionistas en educación. Desde la perspectiva de un grupo de estudio que aprende las TIC, se intenta incorporarlas en el diseño curricular e-learning a través de las plataformas virtuales, para lo cual se desarrolla un caso de estudio sobre la generación de un modelo de diseño curricular e-learning que guía a los aprendices de las plataformas virtuales y de los Espacios Virtuales de Aprendizaje, durante su capacitación de los Sistemas de Gestión de Aprendizaje para la creación de cursos virtuales. La innovación del presente trabajo es la recopilación directa de los factores que limitan el aprendizaje de los estudiantes de un posgrado en innovación educativa, cuando la formación en informática, sistemas computacionales o similares no forma parte de las habilidades profesionales de los expertos en educación. Conocer sus retos, temores y motivaciones, permite generar un modelo curricular e-learning que proporcione las

estrategias pedagógicas basadas en las TIC para la transformación de un diseño curricular presencial a un diseño curricular on-line.

Palabras clave: e-learning, diseño instruccional, diseño curricular, LMS, EVA´s.

Abstract

Currently the graduate programs in educational innovation motivate participants to teach academic content in their workplace, using informally teaching resources offered by ICT. However, the impact on the development academic of virtual classrooms seems limited by the lack of formal training in computer systems by Education Professionals. From the perspective of a study group that learns from the TIC, it attempts to incorporate them in the e -learning curriculum design through the virtual platforms, This develops a case study on the generation of a e-learning design curriculum model that guides the learners of virtual platforms and Virtual Learning Environment, during his training of the Learning Management System for the creation of virtual courses. The innovation of the present work is the direct collection of the factors that limit the learning of the graduate students of Innovation in Education, when the training in computer science, computer or similar systems does not form part of the professional skills of the experts in education. Meet its challenges, fears and motivations, can generate a curricular e-learning model model that provides the teaching strategies based on the ICT for the transformation of a In-House curriculum design to an on-line curriculum design.

Key words: e-learning, instructional design, curriculum design, Learning Management System, LMS, Virtual Learning Environment, VLE.

Resumo

Atualmente os programas de pós-graduação em inovação educacional motivar os participantes para ensinar o conteúdo acadêmico em seus locais de trabalho empregando informalmente ensinando recursos oferecidos pelas TIC. No entanto, o impacto sobre o desenvolvimento acadêmico de salas de aula virtuais é limitada pela falta de treinamento formal em sistemas de computadores de profissionais da educação. Do ponto de vista de

uma ICT de aprendizagem grupo de estudo, tentamos incorporá-los no desenho curricular e-learning através de plataformas virtuais, para os quais um estudo de caso sobre a geração de um e- modelo curricular desenvolve aprendizagem que orienta os aprendizes plataformas virtuais e virtual de aprendizagem durante a sua formação learning Management Systems para a criação de cursos on-line. A inovação deste trabalho é a recolha directa dos fatores limitantes a aprendizagem do aluno graduado em inovação educacional, quando o treinamento de computador, sistemas de computador ou similar não faz parte das competências profissionais dos especialistas em educação. Conhecer os seus desafios, medos e motivações, pode gerar um modelo de currículo de e-learning que oferece estratégias de ensino baseadas em TIC para a transformação de um currículo em sala de aula a um currículo online.

Palavras-chave: e-learning, design instrucional, design de currículo, LMS, Eva.

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Introduction

Background

The work begins with the study of the Subject Integration of Platforms to the Curriculum Design and Evaluation (IPDEC by its name in Spanish), by the first generation of the Masters on Innovation by a private Institution of Higher Education (IES by its name in Spanish). Currently educational purpose is to evolve in a positive manner to the praxis of curriculum design in e-learning in replacement of the In-House curriculum design through the use of virtual platforms such as Moodle.

This creativity process begins taking as input the course program, the master's educational profile and the institutional policies of the IES, as well as its vision, mission and values. In addition to the document review of the theoretical contents of curriculum design and instructional design, with guidance applicable to virtualization of postgraduate education

(in this process with support from an expert in the matter), were included videos of reflection/disclosure issues such as "Start the learning revolution" (Robinson, 2016).

With the latent uncertainty in the inexperience in curriculum design of In-House education (assertion that checked with the triangulation of the research results), it us attached the pressure of working on the e-learning curriculum design of virtual education. However, the desire and motivation of a valuable significant learning and expertise that achieve with great credit the graduate profile of graduate study participants--by exceed the attitudinal limitations on the willingness to approach new paradigms.

Develop activities that expresses the graduate profile of the graduate (dirigirás projects and innovation strategies of teaching practice, applying ICT) allows participants to be critical of the training-in the field of ICT-curriculum incorporating, and proactive in the transition and improvement of educational processes classroom e-learning educational processes.

Achieve active participation requires a shared understanding emerges, allowing unify criteria, expectations and ideologies, regardless of workplaces (public or private institutions) and subsystems secondment (basic, upper middle, upper or graduate). In Benavides et al. (2011) shows that the synergy that detonates an idea, involves each curriculum activities, be it online or in person.

The idea of adapting the curriculum of the subject "Integration of platforms to design and curriculum evaluation (IPDEC)" a face to a curriculum model e-learning curriculum model emerges as an educational alternative (defined as a case of study for further educational interventions) that can display a process lived the transition from one face to an e-learning curriculum design curriculum.

The didactic approach of a case study, gave rise to the phenomenon of dialogue on the problems of paradigm that originate with the change of the educational modality (face to virtual). A high reflection factor are alternative programs to support traditional classroom education that the national education system has wanted to implement, as enciclomedia

(Castañeda Castañeda, 2013), tablet's (Digital Inclusion Program and Literacy (Government of Mexico, 2016), among others.

The first problem that arose after the dialogue was the decision (as idea) to carry out the activity of adapting the curriculum of the subject "Integration of platforms curricular design and evaluation (IPDEC)" which is part of the design face in the graduate program of the Master of Innovation Educativa- a program subject from the perspective of e-learning curriculum design curriculum.

The second problem was the identification of curriculum designer profile and to use technological resources that enable a paradigm shift from teaching at the same time and same space to a paradigm where teaching is carried out in different space and different time. This without falling into the error (by the curriculum designer) of distance education or individualized learning, which brings the concept of blended learning. It was also important to define the types of training activities and individual or group scope.

The third problem was the need to complement vocational training degree and teaching experience (which enables an expert in thematic content of the various areas of knowledge), with a parallel training in computer or similar systems that allow maximizing domain ICT skills recommended by UNESCO.

In this specific point for the working group it was very clear that is not enough to acquire through informal education competencies recommended by UNESCO ICT is also essential that training for work in HTML programming are enabled, JAVA or other programming language, as well as database management (MySQL), development of web 2.0 pages and management server (APACHE), to name a few.

With respect to the participant population there is a clear weakness in the identification and selection of computer resources such as; servers, operating systems, modems, webcams, screens, equipment configuration personal computer (RAM, hard disk size, mother board, video card, monitor, etc.), which shows that there is great opportunity for training teachers and consultancies to design specific courses of action for the use of educational platforms

and integration with e-learning curriculum, more towards programming, animation and simulation.

Thematic expert, an expert in computer systems and programming and expert in instructional design: With the identified issues the necessary human resources for the integration of platforms and curriculum design to classroom courses were organized.

Theoretical framework

Once bounded the idea and human resources on the case study, which can address the curriculum design e-learning from a constructivist behaviorist-congnitivista-perspective that promotes learning directed, was established as a sequence analyze the theory of curriculum design, curricular models and organize a theoretical framework, which is prioritized over the conceptual.

Curriculum theory

From the view of the state of art, the definition of curriculum coined by UNESCO (1958), which represents an international concept that is adopted by different countries is adopted. "Curriculum are all experiences, material activities, teaching methods and other means used by the teacher or considered by it, in the sense of achieving the aims of education".

The adopted and revised curriculum theory focuses on the student, being necessary e-learning curriculum where self-learning and self-discipline to acquire new knowledge should motivate, mediate and guide. This theory also develops a vision of the curriculum that does not exclude metacognitive processes -a theoretical and practical levels, it provides guidance on concepts and processes of student learning, ie learning about how (Casarini Ratto, 1997) . Therefore, it also seeks to create an association with the curriculum focused on research.

Sources curriculum

The different alternatives or scenarios that allow respond to questions why and what teaching-learning ?, what ?, teach-learn-learn how to teach ?, what, when and how to assess examined?

The font is epistemological-professional, it identifies the origin of the curriculum is institutional because they do not change the graduate profile, the policies of the institution and its vision and mission. As an additional source is considered the professional experience of the participants, where the content identification essential to student learning is involved.

As the original idea is to adapt a program of classroom studies in a program of study e-learning, then the reform of the thematic index and with the support of foresight, argues that the contents should be: relevant (appropriate management of ICT) , consequential (use of educational platforms) and adaptive (changing face teaching in educational on-line), which will be presented to acquire a conceptual theoretical knowledge (making a curriculum design e-learning). The configuration (type and shape) of the online content is of type:

- ✓ Documentary, through selected readings of scientific publications in electronic journals, specialized in classroom curriculum and e-learning, curriculum and instructional design models.
- ✓ Videos of expert opinion on the relevance of e-learning education in graduate programs and its transition to virtuality.
- ✓ Wikis, specialized in the field of ICT and office automation tools (development, production and publication).
- ✓ Blogs on the use, management and resource optimization of virtual learning platforms.

The contents are also oriented according to their nature as:

- ✓ Conceptual, on e-learning curriculum.
- ✓ Procedural on instructional design and use of virtual platforms.
- ✓ Attitudinal, openness to learning new paradigms.

Learning Theories

It was determined using the theory of associative learning, as it allows motivate students through the phenomenon stimulus-response (both classical and operant conditioning) and encourage student self-learning through visual stimuli, which is the main communication channel e-learning education.

Also knowing that communication student teaching, developing teaching strategies (teaching) and implementation of learning strategies (student) are asynchronous, it is clear that the act of mediational theories is limited. However, it is important to note that along with conditioning strategies cognitive strategies, which are associated pedagogical theory:

> Learning is the result of a set of successive modifications of student cognitive structures, which are activated by stimuli. Teaching is a process through which the teacher records and organizes the information that the student submits as guided by the contents studied response. These actions foster a dynamic knowledge construction. As used mind mapping tools, frameworks or diagrams, graphic organizers, charts and mind-factos, which help the information processing hierarchically using the visual learning style (Casarini Ratto, 1997).

Structure of the curriculum

The linear and mixed modular curriculum structures and the curriculum of expertise in educational innovation are considered as a reference. The e-learning curriculum adopts the modular structure (as there is a curriculum with this organization). In addition to e-learning course it is considered the most appropriate because it proposes the system of knowledge based on the critical defines the objects of study and is based on the process of knowledge production.

In the modular structure the methodological component is important, since the methods used are the same for scientific research: clinical, experimental methods, ideographic methods, methods documentaries, historical methods, among others. In this way a solid

turnout of curriculum design, sources of curriculum and learning theory, to the criteria recommended by the UNESCO directionality is configured.

Criteria directionality

UNESCO ICT Competency STANDARDS FOR TEACHERS, 2008.

- ✓ increase technological understanding of students, citizens and workforce by integrating ICT skills in plans -currículos- studies (basics approach ICT).
- ✓ Enhance the ability of students, citizens and workforce to use knowledge in order to add value to society and the economy, applying that knowledge to solve complex, real (knowledge deepening approach) problems.
- ✓ Increase the capacity of students, citizens and workforce to innovate, produce new knowledge and take advantage of this (approach to knowledge generation).

Curriculum design concept

The term design refers to a managed product or methodological steps for its construction. Therefore, the term curriculum is reserved for the project that includes the intentions or more general purposes, such as the curriculum. In addition, the word design alludes to a sketch, outline, plane, etc., ie, a representation of ideas, actions, objects, so that such representation operate as orientation guide when carrying the curricular project into practice (Casarini Ratto, 1997).

Model then:

- Educational worldview is derived.
- Integrates with educational practice philosophy, the university and society, educational purposes and the means to achieve them.
- Relates to teaching approaches.
- It guides the process of curriculum development, as well as the teaching-learning process, with all its elements. (Zamorano Z., 2012)

By Arnaz (2003):

> All curriculum is necessarily an abstraction, because in their preparation is not possible or desirable to consider all aspects, all variables, all alternatives; It takes into account only what is judged (rightly or wrongly) as the most important. " Therefore, apply a resume necessarily mean also adapt to specific cases, certain students in a given time, the "here and now" (Zamorano Z., 2012).

Curriculum models

1. Technological Model. As Tyler and Taba follows objectives. It is reductionist, linear and has the following characteristics:
    - Definition of the objectives of the institution (behavioral).
    - Identification of content for intended purposes.
    - Identification of materials and media.
    - Development of instructional activities.
    - Check (measurement of achievement of objectives or results).

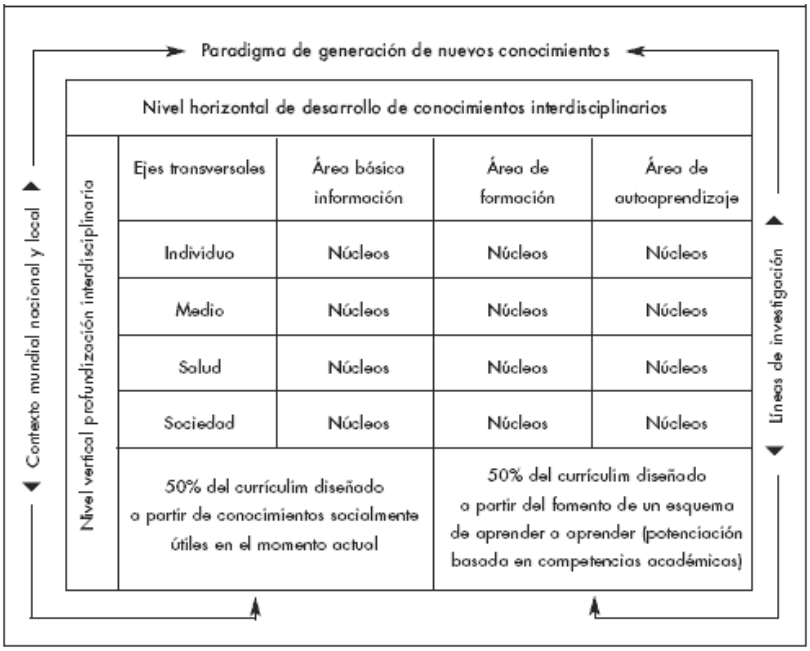
2. Sociopolitical or critical model. Its essential feature the incorporation of globalization, linking social development and, especially, emphasizes the social aspects. It is characterized by using scientific research to organize the learning process where the student has an active, thoughtful and responsible towards their learning and role reality.

From these major divisions and after analyzing models such as the centered objectives, UAM Xochimilco, action research model and transmisionista approaches, new school, progressive school, cognitive, constructivist, the socialist and andragogic is determined using the curriculum model of critical innovation Didriksson (2004), which proposes that:

Cross-cutting themes are articulated with the problems of the individual, the environment, health and society. Its objective is to locate as the axis of analysis, research and intervention, emerging processes related to environmental conservation; the consolidation of organized groups of society who have the ability to politically mobilize governments (particularly nongovernmental organizations, self-help groups for employment and neighborhood organizations); promoting the culture of peace; the decrease in violence; urban development; the critical use of technology; the use of mass media in human development; Generic promoting health; the reduction of poverty, hunger and malnutrition; the rational use of energy, and social planning, among others (Herrera M. y Didriksson, 1999).

The curriculum model e-learning development resembles the model of critical innovation Didriksson (see Figure 1) as it targets a modular structure and allows the use of learning theory impulse-response as well as cognitive . It also encourages self-learning from the mastery of academic skills.

Figure 1. Schematic representation of critical innovation model.



Pedagogical models

When reviewing teaching approaches included models: behaviorist, new school, progressive school, cognitive, constructivist, socialist and andragogic.

The selected pedagogical model has been determined as cognitive, in which the goal is the construction and reconstruction of knowledge and meaningful learning. The model is centered on the student and the teacher is a facilitator. It facilitates the creation of environments to interact and motivate students, stimulate perceptual and cognitive systems through the theory of learning styles and multiple intelligences. It does not contrast with the theory of associative learning (constructivism).

To support the development of teaching strategies constructivist model is used to change the role of teachers and spend a moderator and facilitator guide. In the case of the student, take advantage of the complexity (Morin) and the ZPD (Vygotsky).

Conceptual framework

The first concept to consider is the term virtual dictionary of the Royal Spanish Academy defines as "with apparent and not real existence." Referring to the area of computer science, described as "representation of scenes or images of objects produced by a computer system, which gives the feeling of its real existence" (RAE, 2016).

The term virtual education refers then to a process where virtuality (appearance) are the school facilities and student teacher ratio (asynchronously), but not the teaching-learning process, which is performed and often with high academic quality.

With respect to the term online, this translates into Spanish as "online", defined as "connected to a central system via a communication network." Thus the use of the internet to virtualize an academic course, is associated with the definition of an e-learning course.

As education online (Martinez-Salanova Sánchez, 2016), a form of distance education, using internet with all its technological tools of information and communication for the process of teaching and learning. When developed through electronic operations and networks, it is called online education or e-learning.

A course to be considered e-learning should be virtual and taught by an educational platform, a space or virtual portal created specifically for this purpose, which contains (ICT) tools that support student learning.

Virtual education

The impact of Virtual Education (Puebla, 2016) is due to the use of new technologies for the development of alternative methods (didactic) learning of students in special populations, which are constrained by its geographical location, quality teaching and the time available.

Its main feature is that the facilitator and the student does not coincide in the same physical space or at the same time, ie, the whole process of teaching and learning is done through a computer with internet connection (asynchronous).

Electronic resources

To use an educational model with characteristics of teaching and learning online is important to consider the computing resources that can integrate the various and main tools offered by the Internet. Among these electronic resources can be found the LMS, the PVA, EVA or VLE, among others.

LMS platforms are virtual learning spaces designed to facilitate distance learning experience for both educational institutions and businesses. LMS is the acronym for Learning Management System, which in Spanish can be translated as systems for managing learning.

This system allows the creation of virtual classrooms, where tutors and students interact. You can also make assessments, exchange files and participate in forums and chats, among other ICT tools.

After discovering the functions of educational platforms through reviewing various analyzes thereof (Ariel Clarenc, 2013), it was determined using the learning platform Moodle, considering open source, compatible with SCORM and being used by more 65 million users worldwide (Ghirardini, 2014). In addition, a version of Moodle for the cloud was found.

Basically, there are no functional differences between the LMS and VLE; the difference lies rather in the environment in which they operate. The LMS are mainly for training purposes while VLE serve primarily for educational purposes. For example, Moodle is considered an LMS corporate learning on line but called a VLE in the education sector, which promotes communication and collaboration approach. Training managers use the LMS to manage all aspects of learning and development, as abilities / skills, personal development plans, educational content management, and workflow reports. Instead, a VLE supports online learning provided in educational institutions and allows students and tutors share content. This means that VLE does not necessarily include all the content but can provide links to external content. VLEs are increasingly used as substitutes for the LMS; products such as Moodle or Blackboard, originally adopted by educational institutions, are now widely used in the corporate market for offering online solutions and mixed (Ghirardini, 2014).

ADDIE instructional design methodology

Instructional Design (ID) is a substantiated process that has the effect of maximizing the understanding, use and application of information, through systematic, methodological and pedagogical structures. It is used for both design and virtual classroom courses.

His main reference is the use of instructions to execute teaching sequences that allow the approach to learning, whether the teaching-learning sequence synchronous or asynchronous

manner carry. Once designed instruction, it must be tested, evaluated and reviewed, effectively addressing the particular needs of the course developed.

The simplest definition of DI is "pedagogical planning methodology that serves as a reference to produce a variety of, appropriate to students' needs, ensuring the quality of learning educational materials". Several models of DI, the most representative are the Dick and Carey model, the ADDIE model and model of Jerrold Kemp (Yukavetsky, 2003).

For curriculum model is selected ADDIE methodology, since the stages of selection, organization and presentation of content are carried out sequentially-associated manner with the needs, pedagogy, technological resources, management and course evaluation .

ADDIE model elements are the acronym, according to their phases:

- Analysis
- Design
- Development
- Implementation
- Evaluation

METHODOLOGY

The methodology is considered mixed type to be necessary documentary review based on the scientific method (quantitative), allowing sequentially develop a model curriculum design e-learning. You need to have an emotional perspective of the study group, to know the perception of graduate students regarding their vocational training (qualitative).

Integrating both quantitative and qualitative methodology can generate a model of e-learning curriculum design ad-hoc reference to IES. Then each methodology and its contribution to the organization of research is described.

Quantitative methodology

The research is determined as quantitative because it seeks to understand and evaluate the aspects related to e-learning curriculum in a private IES. These aspects involve theory and curriculum models, instructional design and selection of the virtual platform, among other documents. The documentary research seeks to set up the findings of innovation and creativity in a theoretical scenario that allows programs to adapt to virtual classroom subject. This is done by transforming a traditional face-to-one e-learning curriculum, considering it is the same course and that educational goals should not change.

According to activities, this study is descriptive research (Hernández Sampieri, 2006), as it refers to the study of the state of the art curriculum design and instructional design. The product of evidence is a document format subject program and the proposed instructional design is the same course in e-learning.

The scope of research in the quantitative section is set as the e-learning curriculum of a course of graduate program in educational innovation of a private higher education institutions.

The scientific method is to move from the general; curriculum to particular instructional design. During this transition have revised the idea, curriculum theory, curriculum models, teaching models, teaching techniques, instructional design and types of e-learning platforms.

Techniques for gathering information were established as work sheets (Hernández Sampieri, 2006): literature, electronic information, comparative tables and diagrams content. The instruments for data collection were selected as commented reading, summary and synthesis.

The sequence for carrying out the mentioned readings was determined according to the thematic structure of the program and was organized as subject:

- Curriculum development theories
- The curriculum models

- Educational platforms for e-learning
- Instructional Design

The data analysis was carried out subsequent data collection through the worksheets in the form of power point presentations for:

- Analyze the subject program.
- Identify educational content representing a significant learning.
- Organize the contents of the program subject on the agenda of the course.
- Develop content (text, video, wiki, chat, etc.).

Ends analysis and synthesis of information on an ad hoc curriculum design e-learning model.

Qualitative methodology

In order to clarify the meaning of qualitative approach, Hernandez et al. (2006, Castaneda Castaneda, 2013), claim that the qualitative approach can be defined as a set of interpretive practices that make a visible world, transform it and make it a series of representations: comments, notes, recordings and documents.

Also, the qualitative approach is naturalistic (for studying objects and living things in their natural environments or contexts) and interpretive (as it tries to make sense of phenomena in terms of the meanings that people grant them).

Given this, Cook et al. (1986) believe that the qualitative paradigm has a decidedly humanistic foundation for understanding social reality. Ethnographers who study education have been very interested in developing and applying the theories of educational change and school education (Goetz and Le Compte, 1988). That is why it has been treated from the ethnographic perspective, find the reality of what happens in the classroom (Castañeda Castañeda, 2013).

Population profile:

- Profesionistas undergraduate level
- Graduate students in educational innovation
- Master the female gender
- Teachers basic level middle and higher
- Ages 25 to 55 years old

The share of knowledge of the expectations of the participants developed using qualitative methodology. After using participant observation as a method of group behavior and the generation of evidence through activities that allowed active participation, thereby setting one of the sources of the curriculum, the discussion on information is organized as follows:

1. Presentation by the expert of the thematic content of the course program.
2. Explanation of the activities undertaken to develop a case study.
3. Allocation of activities of reflection on academic content, to be done by computer.
4. Development of the program contents of subject.
5. Presentation of results and findings by the participants.
6. First data collection, document type that integrates quantitative methodology.
7. Request for introspective reflection on the experience of developing a case study.
8. Second data collection, document type.

DEVELOPMENT

This section presents the results of activities undertaken in a participatory manner by students. It is characterized by a high sense of responsibility and commitment, to conclude as positive learning experience developing a case study. The educational strategy aims to be a procedural and instructional reference that allows adapting programs subject of a curriculum a graduate degree in educational innovation of classroom programs subject in e-learning mode.

Use the strategy of teaching and learning of a case study consolidates the training of a thematic expert education academically educated as an expert in instructional design. Thus, the graduate profile of graduate IES met, "will head projects and innovation strategies of teaching practice, applying ICT", enabling meaningful learning on adaptation of new paradigms in the process of teaching.

Description of the case study (teaching sequence)

Next, the case study approach is described and complemented by the most important results of each activity. the presentation is included in the full of his evidence for feedback and potentiate the action of the active participation of students in all three activities.

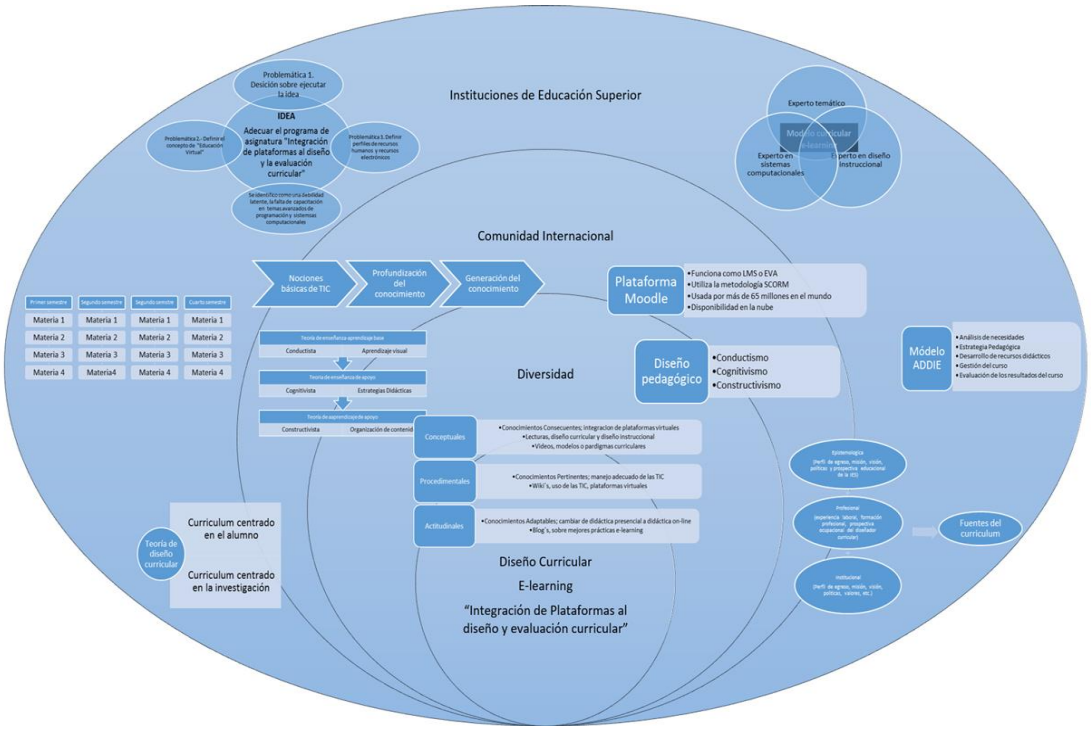
Team developing the sequence blocks

- The theoretical and methodological assumptions analyzed.
- The theoretical approach (cognitive) and methodological approach (constructivism) selected.
- The reasons for selecting the sociopolitical curriculum model of critical innovation.
- The result-evidence, graphic diagram showing the model of e-learning curriculum design ad-hoc to the IES involved.

E-learning curriculum for online graduate of a private IES

Figure 2 shows the development of e-learning curriculum model for virtual adaptation of graduate educational innovation of a private higher education institutions. This proposal is based on a model of social integration (Candia Garcia Galindo Lopez and Flores Mendez, a public policy to ensure the sovereignty of the state through social performance, 2014), where attention is given priority to individuals and communities unprotected through the management of public policies and social performance.

Figure 2. E-learning curriculum model for the subject "UDEC".



Source: elaboración propia.

Team develop profiles of the experts:

- Thematic expert Profile
- Expert in instructional design Profile
- Profile expert in computer or related systems.
- Electronic Resources

Result-evidence, development of the professional profile of experts; theme in computer systems and instructional design.

The profile of the thematic expert

Education: degree in pedagogy (essential qualification)

Skills and activities:

- ✓ *Instructional Design for education aistancia.*
- ✓ *Have scripts prepared e-learning curriculum.*
- ✓ *Knowledge of socio-cultural theory and critical innovation.*
- ✓ *Coordinate design work and curriculum evaluation.*
- ✓ *Review of plans and programs of study (design and update).*
- ✓ *Negotiations before educational authorities for the RVOE.*
- ✓ *Catalogs and classifies conjunction with the instructional designer, manufacturing processes of own concepts of area knowledge required for learning.*

The instructional designer profile

Education: degree in education, science education or educational psychology. Entitled.

Skills and activities:

- ✓ *Have scripts prepared e-learning curriculum.*
- ✓ *Knowledge of socio-cultural theory and critical innovation.*
- ✓ *Preferably in curricular and instructional design and development of training materials.*
- ✓ *Coordinate design work and curriculum evaluation.*
- ✓ *Domain Moodle platform and information and communication tools on the Web.*
- ✓ *Excellent writing, spelling and grammar.*
- ✓ *Teamwork and communication.*
- ✓ *Dosage and tailoring information.*
- ✓ *Development of educational scenarios and storyboarding.*
- ✓ *Development of reagents banks and assessments.*
- ✓ *Perform instructional design according to the selected by the institution (ADDIE) methodology.*

The profile of an expert in computer systems

Education: computer systems engineer (titled).

Skills and activities:

- ✓ *Programmer Java, HTML, PHP.*
- ✓ *Manage MySQL and Apache servers.*
- ✓ *Knowledge of socio-cultural theory and critical innovation.*
- ✓ *Preferably in curricular and instructional design and development of training materials.*
- ✓ *Domain Moodle platform and information and communication tools on the Web.*
- ✓ *Know the rules and quality standards, national and international development of computer systems; as well as the languages of database management systems (DBMS) for the definition, manipulation and control of databases.*
- ✓ *Using different types of networks, protocols and security frameworks to ensure the exchange of information reliably.*
- ✓ *Know Internet technologies for developing Web applications.*
- ✓ *Design of platforms and repositories of information.*
- ✓ *Design tools like Blogs, Wikis, Forums for education,*

Diagnosis of technological resources

For the designer of the course, a personal computer with:

- ***Hardware***
  - *Procesador Core i7*
  - *16 GB RAM*
  - *Display with high resolution*
  - *Equipment creating quality multimedia HD*
- ***Software***
  - *Windows 10 or higher.*
  - *PDF Reader or Acrobat Reader and Writer*

- *Internet Explorer browser 10 Microsoft Edge, Google Chrome or Mozilla Firefox*
- *Media Player*
- *Broadband Internet Provider*

For the user of the course, a personal computer with:

- ***Hardware***
  - *Procesador Core i5 or higher*
  - *8 GB RAM*
  - *Display with high resolution*
- ***Software***
  - *Windows 8 or higher.*
  - *Acrobat Reader PDF Reader*
  - *Internet Explorer browser 10 Microsoft Edge, Google Chrome or Mozilla Firefox.*
  - *Media Player*
  - *Broadband Internet Provider*

Team selection for the platform and instructional design model

- ADDIE Model
- Moodle Platform

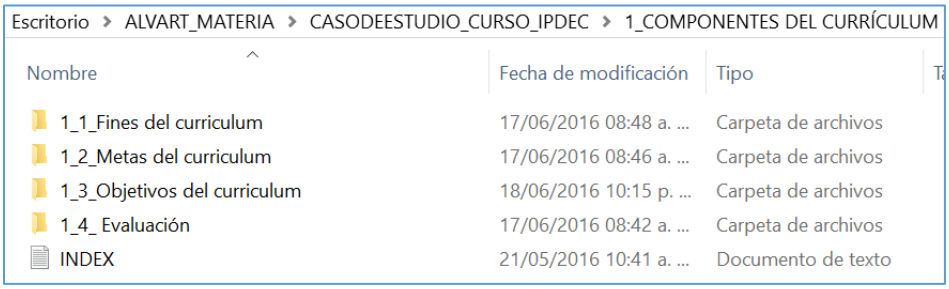
Result-evidence, work schedule (see Table 1), which organizes the times, types and quantity of contents according to the ADDIE methodology, to be placed on the Moodle platform (see Figure 3).

Figure 3. Selection criteria of the Moodle platform and methodology ADDIE.

Content Selection

In teams of three, making the selection of the contents (organized according to the SCORM methodology (see Figure 4) thematic unit. The delivery formats Excel workbook and electronic information package. Presentation before the full evidence freeform.

Figure 4. Example of content organization.



Development of the organization of content

1. COMPONENTS OF THE CURRICULUM

1.1. Fines curriculum

1.2. Curriculum goals

1.3. Objectives of the curriculum

Table 1 shows the agenda of the thematic unit 1, where activities have been organized according to the planned schedule (schedule 1), later adding the component of instructional design.

Table 1. Example of educational planning to start the instructional design.

AGENDA 1			
ACTIVIDAD	**DESCRIPCIÓN**	**RECURSOS**	**ENTREGA**
Actividad 1 Presentación (10 minutos)	Se realizará por medio de un video de presentación (3 minutos)	Video en formato mp4 (Pendiente realizar video)	Inicio del curso (primer sábado, primera hora)
Actividad 2 Lectura (40 minutos)	1.1. Fines del currículum	Documento PDF (Conceptos Currículum)	Primer sábado, primera hora
Actividad 3 Lectura (30 minutos)	1.2. Metas del currículum	Documento PDF (Orientaciones para el diseño, producción e implementación de cursos virtuales)	Primer sábado, segunda hora
Actividad 4 mapa conceptual (40 minutos)	1.3. Objetivos del currículum	Software Cmap Tools (Descarga)	Primer sábado, segunda hora
Actividad 5 Evaluación 1	Por lista de cotejo de mapa conceptual	Lista de cotejo, tutorial de envío de evaluación	Primer sábado

Expectations of participants

Regarded as the final activity of the course, participants will reflect on their active participation in the development of the transition from one face to a course e-learning course. From this reflection and with the support of participant observation and development of instructional design e-learning course, triangulation which will be discussed in the relevant section is performed. The instruction given to students in the following paragraph

All activity

Challenges, fears and motivations of participants (the idea of this work, the social phenomenon that generated within the group, the decision to do it, etc.). From this personal reflection, they are collected firsthand the expectations of the participants.

DISCUSSION

The discussion is directed towards meeting the criteria of directionality use of ICT recommended by the UNESCO (2008), for economic growth and sustainable development regions. Directionality criteria are summarized as: basic knowledge of ICT, deepening of knowledge and knowledge generation. Give compliance to these guarantees that the work

has sufficient validity to be reproduced and systematizing the experience to complete the graduate curriculum in educational innovation and move towards virtualization of other graduate programs.

Criteria 1, is to increase the technological understanding of students, citizens and workforce by integrating ICT skills in plans -currículos- studies (basics approach ICT). This is taken care of through the case study developed from the conception of the idea itself. Since the initial approach is to move from a classroom to a virtual educational paradigm or e-learning educational paradigm, it is an activity that involves the integration of ICT in the work activities of participants, which is mainly teaching at the basic level.

Regarding point number 2, which is to increase the ability of students, citizens and workforce to use knowledge in order to add value to society and the economy, applying that knowledge to solve complex and real problems (focusing on deepening knowledge), certainly the experience on the development of a subject under the paradigm of virtual education has trained and enabled participants to be specialists in curriculum design and instructional design. Now the development of their work activities (courses, notes, exams, school projects, etc.) will be highlighted by the use of ICT, adding value to their educational teaching processes.

Paragraph number 3: increase the ability of students, citizens and workforce to innovate, produce new knowledge and take advantage of this (approach to knowledge generation) is a criterion to be satisfied from the point of view of the participants, teachers against active group, those in the shortest possible time will be incorporating virtual education strategies to their job performance from classroom paradigm. The generation of new knowledge reflects and guides the process of student learning, instructional design which is now the knowledge base that detonates cognitive processes that promote creative procedural processes and a critical attitude.

Approaches from the curriculum

Analyzed criteria directionality of UNESCO (2008) and validating project stages through them, is discussed below how the approach to teaching ICT skills that promote UNESCO, in paragraph curriculum , adapt as the foundation for the design, development activities and content selection.

Focus on the basics of ICT (curriculum). Teachers should have solid knowledge of curricular standards (curriculum) of their subjects, as well as knowledge of standard assessment procedures. They must be able to integrate the use of ICT by students and standards are in the curriculum.

After generalizing the training of participants, this can be stated as dedicated to work teaching at different educational levels (basic education, upper middle, upper and graduate), with a positive attitude to an attitudinal change on current educational practices professionals and prospective of virtual education.

Focus on deepening knowledge (curriculum). Teachers must have a thorough knowledge of their subject and be able to apply it (work it) flexibly in a variety of situations. They also have to be able to pose complex problems for measuring the degree of understanding of students.

The role of the participants in this project corresponded to the curriculum thematic expert with extensive domain of their education and academic subjects, as well as a full institutional knowledge of where carried out their work.

Focus on generating knowledge (curriculum). Teachers must know the complex cognitive processes, know how students learn and understand the difficulties that they encounter. They must have the skills necessary to support these complex processes.

Encountering an experiential activity that allows subject matter experts to take the place of apprentices, guides the educational intentions of teachers to look prospectively selection of content and teaching strategies in order to seek educational alternatives for systematizing learning processes.

> Where systematization as a process of reflection and critical interpretation of an educational or social practice, carried out in a participatory manner by agents thereof; process intended as an investigation linked to the promotion of human and social development, and to organize, sort and logically analyze concerning the tasks, processes and outputs of the program and lessons learned positive and negative (constraints, potential and tactics used). This process aims to generate latest / build knowledge of lived experience to improve the practice itself, and / or replicate in another initiative in other times and places; socialize and dissemination; and promote from it, proposals and policies (Juliao Vargas, 2013).

In summary

This discussion section has verified that the e-learning curriculum model developed for private IES, meets the criteria of directionality of UNESCO, therefore, it is an organizational structure that ensures relevance of content and knowledge in their courses online .

A complement to this work of purposive research is triangulation of theoretical, procedural and attitudinal outcomes of the participants regarding the development of a case study that seeks to Platform Integration Curriculum Design and Evaluation.

The sensitivity that participants have shown during the development of this case study coincides with the expectation and personal view of the low Integration Platform to Curriculum Design and Evaluation in different educational levels in the country, which is explained through the identification of challenges, fears and common motivations of participants graduate.

Challenges

As the first section is that the challenges in these projects are self-learning and non-formal education on issues such as curriculum design e-learning, technology information, enabling the inclusion of ICT in the curriculum current workplaces of participants.

> "The challenge is to know the virtual platforms to achieve implement in my teaching practice was defined ... what was the objective, which did not meet my expectations, not least because I had another idea. " "Great challenge the use of e-learning in the field of information technology and education as a tool to improve quality." "The challenge that I believe must be present from now on is the commitment to innovate, develop and adapt to new generations and their learning process equally be open to the possibility of a change always".

The fact reflect on the fears allowed the course a scenario that shows the feelings that cause new learning, especially when applied and leave evidence of significant learning that permeates the daily work of teachers in active against group.

> "I managed to identify fears were at the time to read ... I felt distress because I attend complicated by a professional commitment that was scheduled. " "It took me personally understand what was the matter and course content." "It is the use as such, although some applications already knew, others not know, maybe this change in distance education via the Internet and being so used to the traditional classroom form, I actually dread, adding that students us beyond the use of technology. " "Despite having clear objectives of matter itself were many fears because I understood that what we faced was not easy, developing the content of a subject really is complicated and I had never seen from that point of view, with more so the development of a whole study program ". "I confess that in the last session I felt really stressed, was put into practice all the knowledge acquired, most theorists, and make a curriculum in a very short time; the design activities and realize the

> theoretical support helped me to value my work as a teacher, because it is not easy to develop a work plan and select activities to facilitate student learning".

Through this work we have expressed -by participants-of firm intentions to formalize thesis projects and educational research processes that enable the generation of new knowledge in the field of educational e-learning.

> *"*My best motivation I had and have always had, is the professional development and the desire to learn something new every day to serve me as support for my teaching practice ". "We should not be afraid of technology, we must face the new challenges that technological model proposes and adapt it to our needs and the way in which impart our classes".

Closing the qualitative research process is time to assert that satisfaction which creates the opportunity to learn to live and learn with each other through change strategies roles (teacher-student, student-teacher) - is of high value when participating in a process of e-learning curriculum and this is shared as a common factor that forces look to the participation of the common good before their own. The result of this intention is a solid educational system that permeates the sustainable development of the regions, and in the words of the participants is considered:

> The biggest challenge, is to be immersed in a technological world in which when we update this and goes ahead; fear of the teacher is stagnating in the use of technology. But I think the biggest motivation is to continue sharing knowledge to achieve meaningful learning for students.

Conclusion

It is concluded that develop teaching strategies for teaching a course in seeking to achieve more meaningful learning is an experience that achieves the cognitive development of bonds that generate new knowledge.

As evidence of collaborative learning is currently a subject program developed for e-learning, from a face-graduate curriculum. Extensive experience in the development of the methodology where e-learning curriculum model for a private IES was determined, can bring processes virtualization classroom education and be in possibility of educational offerings in this mode.

It is also important to mention that the work under active participation schemes times both face curricular design and e-learning are diminished.

Active participation incorporates elements of added value, such as discipline, leadership, organization and, above all, collective commitment to a common good. It is still being current participants who have the guidance of educational processes (student-centered learning) to project them on subsequent participants (instructional design) in a prospective criticism. This allows the consolidation of a democratic community, not elitist, in which all participate and recognize that rationality is not owned by anyone (Juliao Vargas, 2013).

The evidence obtained learning is a "curriculum developed under a vision of curriculum design e-learning", where it is possible to reproduce the proposed methodology and move towards the transformation of the curriculum of graduate study, making the IES has the ability to impart expertise in educational innovation in the form online.

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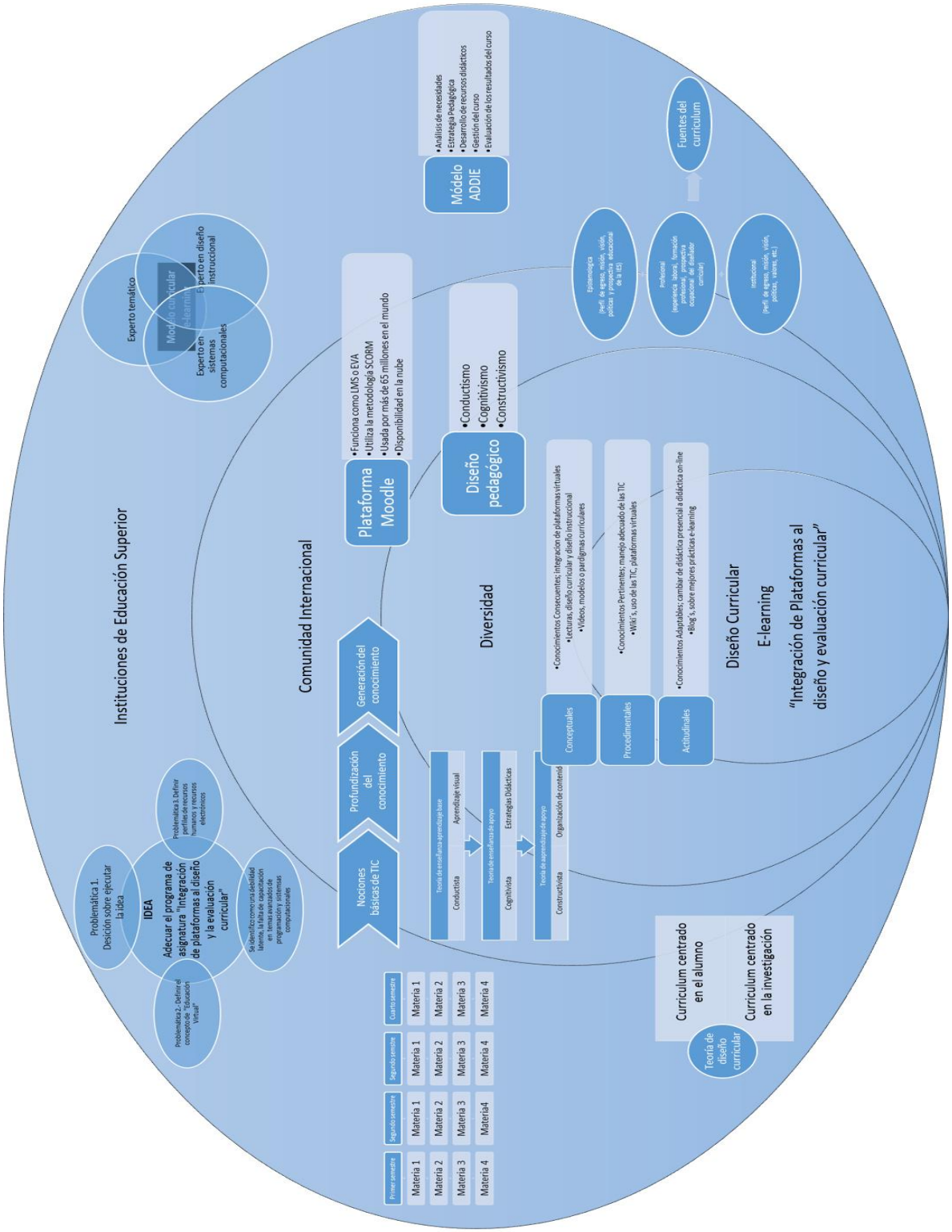
ANEXO 1. Modelo curricular e-learning


Instituciones de Educación Superior
Comunidad Internacional
Diversidad
Diseño Curricular
E-learning
"Integración de Plataformas al diseño y evaluación curricular"
IDEA
Adecuar el programa de asignatura "Integración de plataformas al diseño y la evaluación curricular"
Problemática 1. Desición sobre ejecutar la idea
Problemática 2.- Definir el concepto de "Educación Virtual"
Problemática 3. Definir perfiles de recursos humanos y recursos electrónicos
Se identifico como una debilidad latente, la falta de capacitación en temas específicos de programación y sistemas computacionales
Nociones básicas de TIC
Profundización del conocimiento
Generación del conocimiento
Teoría de enseñanza-aprendizaje base
Conductista
Aprendizaje visual
Teoría de enseñanza de apoyo
Cognitivista
Estrategias Didácticas
Teoría de aprendizaje de apoyo
Constructivista
Organización de contenid
Conceptuales
Procedimentales
Actitudinales
•Conocimientos Consecuentes: integracion de plataformas virtuales
•Lecturas, diseño curricular y diseño instruccional
•Videos, modelos o parfigmas curriculares
•Conocimientos Pertinentes; manejo adecuado de las TIC
•Wiki´s, uso de las TIC, plataformas virtuales
•Conocimientos Adaptables; cambiar de didáctica presencial a didáctica on-line
•Blog´s, sobre mejores prácticas e-learning
Plataforma Moodle
•Funciona como LMS o EVA
•Utiliza la metodología SCORM
•Usada por más de 65 millones en el mundo
•Disponibilidad en la nube
Diseño pedagógico
•Conductismo
•Cognitivismo
•Constructivismo
Módelo ADDIE
•Análisis de necesidades
•Estrategia Pedagógica
•Desarrollo de recursos didácticos
•Gestión del curso
•Evaluación de los resultados del curso
Fuentes del curriculum
Epistemología
(Perfil de egreso, misión, visión, políticas y propuesta educacional de la ICE)
Profesional
(experiencia laboral, formación profesional, competencia ocupacional del diseñador curricular)
Institucional
(Perfil de egreso, misión, visión, políticas, recursos, etc.)
Experto temático
Experto en diseño instruccional
Experto en sistemas computacionales
Modelo curricular eLearning
Curriculum centrado en el alumno
Curriculum centrado en la investigación
Teoría de diseño curricular
Primer cuatrimestre
Segundo cuatrimestre
Tercer cuatrimestre
Cuarto cuatrimestre
Materia 1
Materia 2
Materia 3
Materia 4