

Prácticas innovadoras: Uso de la plataforma blackboard en modalidades semipresenciales. Caso práctico UABC FIN Tecate.

*Innovative practices: use of blackboard platform in blended modalities. END
Case UABC Tecate*

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Resumen

La gran transformación profesional del siglo actual, es un gran desafío para Instituciones de Educación Superior que buscan responder a las necesidades del entorno adoptando para ello una didáctica diferente, centrada en la innovación educativa, el aprendizaje colaborativo y la investigación, basados en la educación a distancia con apoyo en las tecnologías virtuales de información y comunicación.

Este artículo, trata el tema de la realización de mejores prácticas dentro del proceso enseñanza aprendizaje al relatar la experiencia del uso de la plataforma virtual blackboard en el entorno de cursos semipresenciales ofertados por la Facultad de Ingeniería y Negocios Tecate de la Universidad Autónoma de Baja California, implementando las

Tecnologías de Información y la Comunicación (TICs) aplicadas con el objetivo de involucrar a los estudiantes universitarios en tendencias educativas que les permitan adquirir conocimientos y capacitación dentro de su formación profesional y a la vez familiarizarse en el uso de la plataforma y sus herramientas. Esta experiencia se realizó dentro de un periodo semestral en grupos de quinto y sexto semestres de la etapa disciplinaria del Programa Educativo de Ingeniería Industrial.

Palabras clave: Innovación Educativa, Aprendizaje Colaborativo, TIC's, Mejores Prácticas, Tendencias Educativas, Educación a Distancia y Semipresencia

Abstract

The great professional transformation of this century, is a great challenge for higher education institutions seeking to respond to the needs of the environment thereby adopting different didactics focusing on educational innovation, research and the collaborative learning, distance education based on with support virtual technologies of information and communication. This article addresses the issue of the implementation of best practices within the teaching-learning process to relate the experience of using the blackboard virtual platform environment learning courses offered by the Faculty of Engineering and Business Tecate Autonomous University of Baja California , implementing the Information Technology and Communication (ICT) applied with the aim of engaging college students in educational trends that allow them to acquire knowledge and training within their training and yet familiar in the use of the platform and its tools . This experiment was conducted within a six-month period in groups of fifth and sixth semesters three step disciplinary Industrial Engineering Education Program.

Key words: Educational Innovation Collaborative Learning, ICT, Best Practices, Educational Trends, Distance Education and Semipresencia

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Introduction

The great professional transformation of this century, is a great challenge for higher education institutions seeking to respond to the needs of the environment thereby adopting a different teaching, focusing on educational innovation, collaborative learning and research-based education distance support virtual information and communication technologies. In this sense it is important to analyze the following research question:

What is the effectiveness of using the Blackboard platform in teaching learning units for students in the Fifth and Sixth Semester Industrial Engineering Education Program belonging to the Faculty of Engineering and Business Tecate?

It follows then detach the specific objectives:

- 1 Identify the effectiveness of using the Blackboard Virtual Platform for Communication and Information.
- 2 Identify the benefits of using the Blackboard platform to contribute to Time Management.
- 3 Identify the effectiveness of Resource Optimization Platform using Blackboard learning units.

This research aims to provide relevant information to share experiences and results of the use of blackboard platform within the teaching-learning process, so as to contribute as a viable option for better management of resources in higher education. The investigation is warranted because traditionally, education has been based on expository models in which an expert in a particular topic spread their knowledge to others through theoretical. Institutions of higher education need to enter the competition today and this is achieved through the application of best practices and the use of virtual platforms to help achieve meaningful learning. That is why the importance of studying the use of blackboard platform as a tool in the teaching-learning process for the teacher and students to achieve better time management and resource optimization.

Under this perspective, the overall objective of this research is to know the benefits of using the Blackboard platform in teaching learning units in Institutions of Higher Education.

The present study furnish evidence to validate the following hypotheses:

Hypothesis 1: The use of the Blackboard platform facilitates communication and transmission of information in teaching learning units of Institutions of Higher Education.

Hypothesis 2: The use of Blackboard Platform Time Management fosters learning units taught in higher education.

Hypothesis 3: The use of the Blackboard platform contributes to the optimization of resources in higher education institutions.

Content:

CHAPTER I DISTANCE EDUCATION, AND PLATFORM TECHNOLOGY VIRTUAL BLACKBOARD

Distance learning and blended courses

Distance education programs including those in educational settings that involve temporary space for teachers and students, where they develop and articulate elements of the teaching-learning process through the use of instructional materials and technologies of information and communication technologies (ICTs) to facilitate separation synchronous and asynchronous iterations (Ferrando, Moreno, 2004).

Distance education is characterized by the flexibility of your schedule for the same student organizes study time, which requires a degree of self-discipline. This schedule flexibility is often limited in certain courses that require online participation in schedules or specific spaces. Another feature of distance education is the use of Information Technology and Communication (ICT) to form communities or networks of study where individuals can interact to discuss various topics while gaining knowledge and modern working tools . It is also essential to have a new view of the roles of teachers and students in this type of study, the teacher is no longer the protagonist, becoming a facilitator of the educational process and gives way to the student, which must have a strong commitment to their own learning process.

There are a variety of opinions of authors concerning the advantages and disadvantages of distance education, including those presented can be summarized in the following table:

Table 1 Advantages and disadvantages of distance education

Distance Education	
advantages	disadvantages
Eliminates geographic barriers, people can access this type of education wherever it resides.	Difficult to transmit and retain certain attitudinal content to enhance socialization.
Provides flexibility in scheduling.	Generally the change to a system of distance education requires a specific adaptation to students: must learn to use specific learning materials and virtual classrooms, communicate with teachers and other students through media and must be able to organize their study time to collate personnel, labor and academic life.
Reduce costs by avoiding transportation costs or residence in a different place.	By eliminating the social interaction in the presence of communication is reduced to a single channel and is less deep, so it is possible that the student is isolated myself and demotivate, before this, the active intervention of the tutor is required.
Incorporates technological tools for information management.	Possible delays in the feedback (feedback) and correction of errors.
The student develops a high capacity to self-regulate their own learning and encouraging attitudes and values of responsibility, discipline and commitment in order to become autonomous.	

Source: Education at a distance. Retrieved December 4, 2012, of http://es.wikipedia.org/wiki/Educaci%C3%B3n_a_distancia. Blended education

Distance learning education is a new tool whose methodology is to provide online classes supplemented with classroom lessons. Classes are conducted in a web platform from which to view the contents, download lectures, demonstrations, podcasts, course materials, etc. (Brown, 2003). In this mode, students can access education without the need to physically be in the school every day. Therefore, it is an excellent option for those who work, or for those who work in your home does not allow them to spend much time in school. This has the advantage of having an education without the constraints of a time or place as anywhere the individual can study with the only condition that has to regularly attend tutoring for clarification, evaluation activities or take a class or subject. The advantage of this model is that students will develop their learning in a slightly more autonomously, since research is indispensable. In other words, the student is able to govern and project their own learning process.

In the online education the student regularly attends sessions in college or high school, in order to keep abreast of the activities of students, address their questions and concerns, increasing formality and implement certain knowledge, among others. These hours, being few, limited to guidance from teachers and answer questions. Program effectiveness is due to the efficiency of the student, ie, is determined by the student's ability to organize your own time and pace of study. Learning is monitored through tutorials, which can be of two types: real and virtual. The evaluation is implemented according to each course. There are virtual classes that may be of more times per week; and face, which are used regularly for midterms and finals. The advantages and disadvantages of a blended education are listed in Table 2.

Table 2 Advantages and disadvantages of a blended education

blended education	
Advantages	disadvantages
Greater Flexibility and interactivity between students and technology.	You could generate a distrust of the lack of communication between the busy teacher and student, especially in the evaluation of student learning
Better access to large amounts of information	Insulation that may give you between humans, eliminating the physical social interaction. It can influence for good or evil (depending on the case of each person in your way of being and thinking) wanting to interact and develop in the labor and social fields depending career, all this had not received sufficient social contact.
Individualization of learning pace of each student and saving money, the student does not have to travel to the school	Passivity of the pupil against this medium, as it can be perceived as an "easy way".

Source: Education at a distance. Retrieved December 4, 2012, of http://es.wikipedia.org/wiki/Educaci%C3%B3n_a_distancia

Virtual information and communication technologies (ICTs)

These are called Information Technology and Communication to the set of technologies that enable the acquisition, production, storage, processing, reporting, recording and presenting information in the form of voice, images and data contained in nature acoustic signals, optical or electromagnetic . ICTs include electronic base that supports the development of telecommunications technology, computers and audiovisual (Rosario, Jimmy, 2005).

The same author mentions the main features of ICTs:

Immateriality: (Ability to scan). ICTs make information traditionally subject to a physical, immaterial. By digitizing is possible to store large amounts of information in small physical devices (disks, CDs, USB drives, etc.). In turn, users can access information located on remote electronic devices, which are transmitted using communication networks, in a transparent and immaterial form. This feature has come to define what has been termed "virtual reality", that is not actually real. Using ICTs are creating groups of people interacting in their own interests, forming virtual communities or groups.

Instantaneity: We can transmit information instantly to places far away physically, through so-called "information superhighway".

They have coined terms like cyberspace, to define the virtual space, not real, in which the information is located, by not taking the physical characteristics of the object used for storage, acquiring that degree of immediacy and immateriality.

Multimedia Applications: The applications or multimedia programs have been developed as a friendly and simple communication interface to facilitate ICT access for all users. One of the most important features of these environments is "Interactivity". It is possibly the most significant feature. Unlike the more traditional (TV, radio) technology allowing a one-way interaction, from a sender to a mass of passive spectators, the use of interconnected computer via digital communications networks, provides two-way communication (synchronous and asynchronous) person-person and person-group.

Another of the most important characteristics of multimedia applications, and the greatest impact on the educational system, is the ability to transmit information from different media (text, image, sound, animation, etc.). For the first time in a document can be transmitted multi-sensory information from an interactive model.

Blackboard platform

An educational platform is a tool whether physical, virtual or physical-virtual combination, which provides the ability to interact with one or more users for educational purposes. Furthermore, it is considered a process that contributes to the evolution of the processes of

learning and teaching, supplementing or presents alternative processes of traditional education (Rodríguez. Dieguez. Saénz Barrio).

Currently, the majority of educational platforms are computer programs (software) and electronic equipment (hardware). Blackboard Learning System™ is a platform that is used for or distance learning courses. It is a computational, flexible, simple and intuitive platform that is used in many universities in the United States and contains basic functions to create content and documents needed for the administration of a course, use the Internet as a medium.

This platform helps improve all aspects of the educational experience. The platform enables: Improve individual and organizational performance, making the most effective teaching and learning in the classroom and beyond, make more informed decisions and improve results, provide a more attractive, interactive individualized learning experience, make life in and out of the most convenient and safe school, providing services and experiences that meet the new expectations of the students.

Since its inception, the Blackboard Learning System™ was designed to institutions dedicated to teaching and learning. The technology and resources are Blackboard® engine hybrid educational programs, optimized by Internet, over 2,000 academic institutions. Whether it is a research university, community college, high school or virtual MBA program, the Blackboard Learning System provides a proven ability to meet the needs of the institution solution. The Blackboard Learning System [1] presents an award for teaching and learning on the Internet that provides the infrastructure for optimization and support environment:

Course Management: The Blackboard Learning System eliminates stress management course management, whether through resources that can be used by instructors, individual managers, or through integrated with other systems in the IT infrastructure processes.

Instructional Tools: The Blackboard Learning System offers a wide variety of features to facilitate the creation of professional, high-quality content along with additional tools to further optimize the general curriculum of the course.

Collaboration and Communication: The Blackboard Learning System is a complete environment for online collaboration, with features including:

- Free Conversations, lectures via chat, question and answer chats, files, spaces for discussion, whiteboarding, tours and group class Internet browsing for synchronous collaboration based on Web, including session recording and storage.
- Schedule and Agenda incorporated and functionality Notices.
- Blackboard Messages facilitates communication between Blackboard users without an external email account.

Assessment and Evaluation: The Blackboard Learning System provides dynamic estimation based authoring rules with fewer clicks and more functionality.

Each is the best solution of its kind and are more powerful together through a shared architecture, standard interfaces, the ability to share files with precision and robust management features. Blackboard Academic Suite provides an integrated solution for students, faculty and staff educational experience, and a vision of integrated management.

CHAPTER III METHODOLOGY

This research is quantitative because it uses type information through a survey based on the Likert scale, which aims to collect, process and analyze features that occur in a particular group pretending to measure objectively and as accurately as possible the variables involved. The descriptive correlational design is according to how the data were analyzed, since the purpose that is how it is and how certain phenomenon (Hernández Sampieri, Lucio Fernandez Collado and Baptista, 2006) is manifested. Moreover, it is a field study or research directly as it is done in the place and time in which the phenomenon under study (Arena Zorrilla, 2007) occurs.

The study population to which the research consisted of 24 students enrolled in the fifth and sixth semesters of the Educational Program of Industrial Engineering, Faculty of Engineering and Business Tecate, at the Autonomous University of Baja California, in the

period 2012 refers -2 (August-December). The population represents one hundred percent of the target population.

Returning to the research question What is the effectiveness of using the Blackboard platform in teaching learning units for students in the Fifth Semester Sixth Industrial Engineering Education Program belonging to the Faculty of Engineering and Business Tecate? raised below the null hypotheses guiders of the presentation of this section.

Ho1: The use of the Blackboard platform does not provide the communication and transmission of information in teaching learning units of Institutions of Higher Education.

Ho2: Using Blackboard Platform not conducive Time Management learning units taught in higher education.

Ho3: Using Blackboard Platform does not contribute to the optimization of resources in higher education institutions.

Variables

To determine what needs to be measured, how it is defined, how to observe and how to measure it, a matrix of consistency in which the research question, overall goal and specific objectives are included and hypotheses were constructed to determine the variables study. Then the conceptual definitions of the study variables are presented:

Communication and Information

According to the Royal Spanish Academy information consists of a set of data and supervised and ordained, who used to build a model based on a certain phenomenon or entity message. The information helps us solve problems and make decisions, as their rational use is the basis of knowledge.

According communications Córicala a process in which a modifier for involved exchange occurs, and having as components, a transmitter, a receiver, a channel, code, and some elements that may appear as the means and noise. Without going into further details about the communication process itself, say that in human, communication transmitters and receivers exchange their roles alternatively, producing what in the jargon is called

communicational feedback or feedback and content is that the first response receptor modifier becomes the new issue of the original sender.

Time Management

Time management is to review and analyze our concepts about the proper application of time (Stack 2012). Time management means managing the activities of the self. This involves being able to make decisions and implement them. Do things promptly. Knowing that you can control the time and quality of their own lives. Browse our attitudes and propose a change. To become effective, I have an optimistic attitude. Be disciplined and want to be. Accept that there is no time to do everything, but there is always time to do more important things.

Resource Optimization

According to Asturias, 2008 optimize, is not synonymous to save or delete, defined broadly as finding the best way to perform an activity. In business resource optimization has to do with efficiency (using resources in the best way possible, or in other words, get the most benefits at the lowest cost). But efficiency is closely connected with the efficiency (a term that emphasizes results, do the right things, achieve goals, create more values), therefore to optimize resources, we would not be sufficient to be efficient but must also be effective.

The instrument used to measure the study variables was a purpose built questionnaire, which contains the first section characteristic data in order to obtain specific information from the study group. The main part of the instrument consists of 15 statements grouped into three theoretical factors, to which the reaction of individuals requested for variables measured using the Likert scale of five alternative opinion to value them: strongly disagree, disagree , neither agree nor disagree, agree and strongly agree.

The instrument prepared for data collection was applied to the fifth semester students enrolled in courses in Engineering and Operations Research Methods and the sixth Quality Management and Study of Labor; which allowed the views they have on the use of blackboard platform blended courses.

To perform an analysis of the results is a table showing the arithmetic mean of each of the statements of the observation instrument, in order to obtain more descriptive information about student opinion was prepared. And so whether the research hypothesis is true, given a scale of 0-5 to measure each variable.

CHAPTER IV ANALYSIS OF RESULTS

In this section the results obtained from analyzing the survey responses applied to the fifth and sixth semester of Industrial Engineering educational program concerning the characteristic information of the study population are presented (see Table 3) and related aspects with each of the research variables and the main recommendations determined according to those results.

Table 3 Information characteristic of the population under study

Datos Personales:				
Edad	18-20 años: 34 %	21-23 años: 58%	24-25 años: 8%	Más de 25 años: 0%
Género	Masculino: 54%	Femenino: 46%		
Trabaja	67% No Trabaja	33% Si Trabaja	88% Trabaja en Empresa	12% en Otro
Semestre y materias que cursa	54% Quinto	46% Sexto	54% Ingeniería de Métodos y 50% Investigación de Operaciones	46% Tanto Administración de Calidad como Estudio del Trabajo
Promedio general de la carrera	8% entre 90-100	67% entre 80-89	25% entre 70-79	0% Menos de 70

This table present the results of the surveys in terms of an overview of the fifth and sixth semester of Industrial Engineering, Faculty of Engineering and Business, showing that 58% of the study population are between 21 and 23 years, 54% is male, and consequently the other 46% female, too; 33% of students surveyed works, being 88% for companies and 67% when carrying a grade point average in his career from 80 to 89.

Information and communication, time management and optimization of resources and the results as perceived by the population of this study: Table 4 shows the items that comprise each of the variables of this research are observed.

Table 4 arithmetic statements each Media.

Declaración			
Variables	Información y comunicación	El trabajar con la Plataforma Blackboard incrementó la interacción y comunicación entre estudiantes y con el profesor.	3.71
		La plataforma blackboard cuenta con herramientas como foros de debate, chats, diarios, anuncios, entre otros, que facilitan la comunicación entre estudiantes y el profesor.	4.63
		La plataforma blackboard me ayuda a estar informado sobre el contenido general del curso y los criterios de evaluación.	4.50
		A través de la plataforma blackboard me entero en tiempo y forma de las actividades a realizar durante el curso.	4.38
		Considero que la comunicación en la plataforma Blackboard entre alumno y profesor es adecuada.	4.00
	Administración del tiempo	La utilización de la plataforma blackboard me permite administrar mi tiempo para la entrega	4.00

	de trabajos académicos.	
	La Educación a través de la plataforma blackboard implica amplias posibilidades de participación de estudiantes dispersos con un alto grado de autonomía de tiempo.	3.79
	Los cursos semipresenciales me permiten acomodarme a mis necesidades en función a la carga de trabajo de la asignatura y mis responsabilidades sociales y familiares.	4.08
	La distribución del tiempo asignado a los trabajos en la plataforma Blackboard es adecuado.	4.17
	Distribuí adecuadamente el tiempo para la entrega de los trabajos en el curso semipresencial a través de la plataforma blackboard.	3.67
Optimización de recursos	Considero que la utilización de la plataforma blackboard contribuye a optimizar los recursos de mi facultad.	4.29
	La Educación a través de la plataforma blackboard implica amplias posibilidades de acceso y participación de estudiantes dispersos aprovechando espacios virtuales.	4.25
	La utilización de la plataforma promueve el uso de las TICs generando mecanismos de interacción entre grupos de estudiantes y el docente de manera semipresencial.	3.88
	La utilización de la plataforma permite el ahorro en impresiones con el envío de	4.58

		materiales educativos y trabajos de forma digital.	
		Considero que la plataforma Blackboard es una herramienta útil para optimizar mis recursos académicos al no requerir tanta inversión económica en impresiones de todos los trabajos, tareas, etcétera.	4.79

Source: Authors' calculations based on the results obtained in each of the items of the questionnaire applied.

To observe the behavior of the variables, the resulting construct statistical average of questions that integrates each variable is presented (See Table 5).

Table 5: Results for variables

Variables	Resultado
Information and communication	= 4.24
Time Management	= 3.94
Resource optimization	=4.36

Source: Authors' calculations based on the results obtained in each of the items of the questionnaire applied.

To determine the level of acceptance of each hypothesis, a statistical analysis, which was to determine the arithmetic mean of each variable, considering a scale of 0-5 was performed, where according to the Likert scale consists of five alternatives review to assess them: strongly disagree, disagree, undecided, agree and strongly agree. Then set out again the null hypotheses of the study and the results for each are presented.

Null Hypothesis 1

The null hypothesis Ho1 declares that the use of the Blackboard platform does not provide the communication and transmission of information in teaching learning units of Institutions of Higher Education.

The arithmetic mean of the variable information and communication is = 4.24, which means that students consider the use of the platform facilitates the transmission of information and better communication so the null hypothesis and accept the hypothesis research regarding this variable.

Null Hypothesis 2

Ho2 The null hypothesis states that the use of the Blackboard platform is not conducive Time Management learning units taught in higher education.

Administration time variable = 3.94 represents an important factor indicating that the use of the virtual platform students and teachers can work with time management so that partially rejects the null hypothesis and the research hypothesis is accepted.

Null Hypothesis 3

The null hypothesis Ho3 declares that the use of the Blackboard platform does not contribute to the optimization of resources in higher education institutions.

As you can see optimizing resources variable reflects an arithmetic mean = 4.36, which is considered high, since the range is from 0 to 5 can conclude that the null hypothesis and accept the research.

[1] <http://www.blackboard.com/>

Conclusion

CHAPTER V CONCLUSIONS AND RECOMMENDATIONS

According to the results obtained in this research we can conclude that the use of blackboard platform is an important and effective in the delivery of learning units in Educational Institutions tool because it supports the communication and flow of information between students and teachers, and contribute to time management and optimum utilization of resources by both students, teachers and the institution itself.

The main recommendation based on the results and conclusions, presented below is intended to be a factor for improving the teaching-learning process in higher education institutions.

The use of the platform blackboard aid in improving communication and transmission of information, supporting both teachers and students in time management and optimization of resources, therefore it is recommended to implement this tool in teaching learning units in institutions of higher education. It is hoped that the efforts made in this research will be beneficial for all those who are interested in implementing best practices and tools to improve learning.

Bibliography

Ferrando Bravo, G.; Moreno Bonett, A. (2004). Continuous distance education: models, environments, development and specifications. *Ried. Iberoamerican Journal of Distance Education*, 7 (1), 133-146.

Hernández Sampieri, R., Fernández Collado, C. y Baptista Lucio, P. (2006). *Research Methodology*. Mexico: McGraw-Hill.

Lloréns, L., Figueroa, C., Espinosa, Y., Perezchica, E., Gaona, T., Sepúlveda, J. y Lizalde, F. (2009). Formation of collaborative networks for the dissemination of strategies supported open and distance education in information technology, communication and collaboration. *Joint Iberoamerican Conference on Learning Technologies* (pp. 223-232). Yucatan, Mexico: Autonomous University of Yucatán.

Magíster José Luis Córca. (2012). COMMUNICATION AND NEW TECHNOLOGIES: ITS IMPACT ON EDUCATIONAL ORGANIZATIONS, "Concept of educational communication" [Paper PDF]. Retrieved http://www.uaeh.edu.mx/docencia/VI_Lectura/maestria/documentos/LECT46.pdf.

Martínez, R., Heredia, Y. (2010). Educational technology in the classroom retrospective study of their impact on the academic performance of college students in the computer area. *Mexican Journal of Educational Research* 15 (45), 371-390.

Stack Laura (2012). What To Do When There's Too Much To Do. Berrett-Koehler Pub.

Vidal, M. P. (2004). Use and Evaluation of Teaching-Learning Platform for Virtual U.
Journal of Media and Education, 24, 89-100.

Zorrilla, S. (2007). Introduction to research methodology. Mexico: EDRS Aguilar Leon and
Cal.