Blogs, Webinars and Significant Learning: A Case Report on a Teacher Training Program for College Teachers

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Abstract: This case study reports on a teacher training experience for college professors in which participants were trained, taking advantage of technological tools, in two main teaching competences. First, professors were trained to use technology to enrich students' learning outcomes. Second, they applied strategies of significant learning in the design of students' learning experiences. The learning experience consisted in an *International Certificate on Significant Learning* integrated by six modules, 20 hours each. Every module of the program consisted of two consecutive webinars with online activities in between. The results showed the positive impact of the program on participants' perceptions about the quality of the contents, evidence of learning and products (E-portfolios) that served as content mastery evidences, as well as learning products produced by their students.

Keywords*:* Webinar, blogs, significant learning, higher education, teacher training

Introduction

The teaching task in Higher Education represents a significant challenge. Most Higher Education professors are excellent scholars, without any training in the competencies required to deal with the complexities of the teaching and learning phenomena. As a response to this state of affairs, Laureate International Universities has sponsored several initiatives addressed to strength teachers' abilities to manage the teaching-learning processes. One of those initiatives was the foundation of the *Center of Academic Excellence* at the *Universidad del Valle de Mexico* in 2008 and, almost simultaneously, the beginning of the different teacher development opportunities offered by *Laureate Network Products and Services* (LNPS), a division within the Laureate International Universities network.

Both initiatives have two assumptions in common: their trust in active learning and their emphasis in technology. Both assumptions are in concordance with the educational models of the different universities belonging to the Laureate International Universities network. On the one hand, current pedagogical and psychological research has shown that learning is most effective when students are active participants in their learning process rather than mere receptacles of information (e.g., Benware & Deci, 1984; Gibbs & Coffey, 2004; Prince, 2004). On the other hand, the explosion of technological advances has produced a significant shift in education in several ways. First of all, the nature of students is significantly and increasingly

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different from the past. Nowadays, students belong to the so called *digital generation*, meaning that they are digital natives. For them technology is not an option: it is their *natural* environment. Second, technology has broadened the possibilities for designing new learning experiences in such a way that professors often feel anxious and threatened by a powerful tool they do not know how to use to its full extent. Finally, these circumstances have reinforced the need to update teachers' skills so they can take advantage of the opportunities of technology for designing learning environments that promote significant learning outcomes in students.

In a previous paper, Polanco and Merino (2011) described a training program for college teachers, which makes use of blogs and webinars to enhance instructors' abilities to promote significant learning in their students. The aim of the current paper is to report on this experience and to share the results of its impact on professors' teaching practices.

The teacher training experience was sponsored by LNPS and carried out at the Universidad Del Valle de México (UVM), the largest private university, both in Mexico and in the Laureate International Universities network. UVM is a multi-campus university network of more than 110,000 students, with nearly 9,000 teachers in 38 campuses. The size and complexity of UVM, as well as its membership to an international organization, opened an additional unique opportunity: to create a global program. In this context, an *International Certificate on Significant Learning* for higher education teachers was developed. The program is organized in six modules, each consisting of 20 hours, adding up to 120 hours.

Description of the Program

The *International Certificate on Significant Learning* (ICSL) is a one-year program composed of six modules demanding 120 hours of effective work from the participants. The program is intended to be a response to the demands and difficulties that professors face in their daily activities in the classroom. Some of the main difficulties detected in our teachers are: low motivation for learning from their students; superficial learning and excessive memorizing (Biggs, 1987; Rhem, 1995); and the huge boredom that students experience when they have to learn lots of information, which make no sense to their own interests and which do not answer their own queries.

General Objective of the Program

According to this needs-detection, the objective of the Certificate was defined and based on the principles and strategies of significant learning (Ausubel, 1960; Badia, 2011; Bandura, 1986; Baxter-Magolda, 2000; Bustos Sánchez & Coll Salvador, 2010; Bustos Sánchez, Coll Salvador, & Engel Rocamora, 2009; Coll & Monereo, 2008; Díaz-Barriga, 2006; Díaz-Barriga & Hernández Rojas, 2004; Dillon, 1988; Haskell, 2001; Hernández Rojas, 2009; Omrod, 1999; Richardson, 2002; Schön, 1983; Vosniadou & Ortony, 1989). This approach holds a substantial number of didactic strategies that help teachers design and build significant learning experiences. These strategies have two main characteristics. First, they originate from the students' reference framework (considering their previous knowledge, questions, and interests), which helps students *construct* their new knowledge from them. Secondly, the learning experience seeks to help students create structures of knowledge that in turn favor deep learning of contents.

The objective of the Certificate states that “at the end of the program, the participant will be able to design significant learning experiences in order to generate in their students long lasting knowledge and motivation towards learning.”

Teachers were to develop and show at the end of each module competencies to design learning experiences that recover student’s interests, questions, interpretations, and previous knowledge. These competences would allow professors to:

1. Plan activities to organize and represent contents on the basis of significant learning principles.
2. Build potentially significant learning materials.
3. Design individual and group significant learning outcome experiences.
4. Promote alternatives for significant learning using information and communication technologies.
5. Assess the process of teaching-learning using the tools of significant learning outcomes.

The Program in Action

One of the main goals of the program was to offer a training opportunity that allowed Laureate professors to improve their teaching strategies by means of an online learning environment, enabling them to combine their continuous learning with their daily work. Hence, two simple, flexible, fast, and low-cost technological tools were selected. On the one hand, blogs were used to design asynchronous learning activities and, on the other, webinars for synchronous experiences. Accordingly, the ICSL program was designed in an online modality that combined synchronous and asynchronous learning experiences through 6 modules that lasted approximately one and a half months, whereby two activities were combined, as shown in figure 1.

Figure 1. Structure of the modules on the ICSL.

- Synchronous activity (Webinar): two Live-Meeting video-conferences, identified as webinars (seminars on the web). An introductory 2-hour webinar, in which the instructor introduced the topic of the module establishing the learning goals; followed by another one halfway the module, where the instructor reinforced learning by providing new examples and *on the air* exercises.

- Asynchronous activity (blog): activities such as online reading, discussion boards, and didactic material design to be used by teachers during their classes, which were carried out by means of EduBlogs. Two eight-hour asynchronous activities were introduced:

One, immediately after the introductory webinar, and the other half way the module, right after the second webinar.

In summary, each module started with a two-hour webinar, followed by a first block of online activities. These activities were carried out by the participants throughout two weeks and required approximately 8 work hours. Once the first block of online activities finished, the cycle repeated: a second 2-hour webinar and a second block of online activities took place for two additional weeks.

Webinar as a Tool of Synchronous Distance Learning

As described in the structure of the Certificate, the instructor "meets" the participants of the program at the beginning and halfway the module, in a virtual way through webinars. Those sessions ensure several objectives. First, and in particular during the initial sessions of each module, the goal of the webinar was to present the most significant concepts and notions to the participants. During a webinar session, the screen shows a PowerPoint presentation with the course content as well as (optionally) the image of the instructor transmitted through a live webcam.

Secondly, webinars give the participants the opportunity to interact with their instructor or with their classmates along the session through chats, microphones, videos, and written questions. This interaction can occur in two ways: by means of question and answer sessions, or the participation of teachers in the exercises suggested by the instructor (e.g., polls, asking participants for examples or opinions on a particular topic, or sharing experiences, etc.). In both cases, the intervention of the participant can be written (in a chat), through audio only, or through audio and video.

An interesting possibility of interaction during webinars was the use of surveys. This is a very versatile tool that allows collecting real time information in a fast and precise way with different purposes, such as that of reporting the percentage of the answers selected by the participants. In this particular case, surveys were used for self-assessing participants' previous knowledge, as well as an instrument for gathering opinions, points of view, and information about different aspects of the learning experiences. One of the advantages of this tool is its capacity to report real time results of the survey responses.

At the end of each webinar, this survey tool was used as a session assessment device. Those surveys revolve around questions about the usefulness of the information received, how much their expectations were covered, and if the conditions in which the webinar session took place, were satisfying. In the same way as other surveys, the results can be shared in real time or not shown.

Blog as a Tool of Asynchronous Distance Learning

The instructional design of the Certificate attempted to be congruent with its content. Therefore, it was based on methodologies which, with the support of Information and Communication Technologies (ICT), intended to achieve significant learning. Among the available technological tools, EduBlogs (Educational Blogs) was selected. This tool is a blog that has been adapted for educational purposes. Its main characteristic is to present information on only one

screen, where the user finds all the course content, learning activities, reading materials, didactic support, references, and glossary. Participants can also access discussion forums in which they can exchange opinions and experiences with their classmates.

During the asynchronous sections of each module of the ICSL, each participant had access to the course site through EduBlogs and, consequently, to the activities of the module. During each of these activities, participants had to develop several learning activities, mainly consisting in:

1. Reading relevant texts on significant learning.

2. Participating in discussion forums in which they had to exchange points of view and share experiences relevant to the text.

3. Designing significant learning experiences and significant learning materials for their own students.

4. Making personal reflections of their individual learning experience and their learning outcomes.

The end products of the design of learning experiences and materials (see number 3 above) were uploaded to an electronic portfolio. They constituted the learning evidence for each participant, and they also constituted an opportunity for teachers to put into practice their own learning in a direct and immediate way. Additionally, they had the chance to receive feedback from the instructor and from their classmates, which in turn allowed them to self-monitor their advancement and achievement.

Characteristics of the Teachers Participating in the Program

A multicultural aspect was the distinctiveness of the program achieved by the enrollment of 105 active teachers of different nationalities from diverse universities (mainly Latin American) and fields of specialty. Table 1 depicts the participants of the program.

The diverse nationalities of the participants, their context, experience, age, and learning need lead the decision of the kind of technology and educational schemes to be used across the Program. The latter attempted to bring *avant-garde* training to the professors while responding to their needs.

Results

Participants' Perceptions about the Quality of Webinar Sessions

In order to assess the participants' views about the quality of the contents discussed during the webinar meetings, two kinds of opinion polls were applied at the end of the sessions. The first poll asked the participants to choose (from 6 options) the one that best described their opinion about the quality of the information obtained during each webinar. The options were: useful to my work, unbiased, easy to understand, all the previous options, and useless.

Table 1. *Countries of origin and fields of specialization of the participants*

Country	Field	Participants
Costa Rica	Engineering	2
	Health	3
	Social	3
	Business	3
Honduras	Engineering	2
	Business	2
	Social Science	6
Peru	Health	6
	Social Science	4
Spain	Hospitality	1
México	Social Science	15
	Health	13
	Business	14
	Engineering	17
	Hospitality	14

Table 2. *Percentage of participants selecting the different options for "quality of information" on the different webinars*

Quality of information	Webinar											
	1	2	3	4	5	6	7	8	9	10	11	12
Useful	38%	44%	81%	71%	51%	46%	45%	-	-	-	-	-
Opportune	15%	6%	12%	8%	11%	9%	12%	-	-	-	-	-
Unbiased	3%	0%	0%	0%	11%	9%	4%	-	-	-	-	-
Understandable	3%	37%	7%	4%	0%	0%	12%	-	-	-	-	-
All previous	41%	13%	0%	17%	27%	36%	27%	-	-	-	-	-
Useless	0%	0%	0%	0%	0%	0%	0%	-	-	-	-	-

Table 2 shows the distribution of choices in percentages. As can be seen, no participant selected the "useless" option. All the responses were on the "positive side" of the scale. Under these conditions, the results were difficult to interpret and the survey was interrupted after the seventh webinar. The second poll assessed the quality of the webinar content, by asking the participants if it fulfilled, did not fulfill, or exceeded their expectations. Table 3 portrays opinions concentrated mostly on the positive side (fulfilled or exceeded). A small percentage of participants in webinars 1, 5, 7, and 12 expressed that the content did not satisfy their expectancies.

Table 3. *Percentage of participants selecting the different options for "quality of content" on the different webinars*

	Webinar											
Quality of contents	1	2	3	4	5	6	7	8	9	10	11	12
Did not fulfill my expectations	12%	0%	0%	0%	11%	0%	13%	0%	0%	0%	0%	11%
Fulfilled my expectations	68%	97%	76%	78%	72%	86%	83%	71%	73%	86%	68%	77%
Exceeded my expectations	18%	2%	2%	21%	16%	13%	13%	28%	26%	13%	31%	11%

Participants' Perception about Their Content Mastery: Diagnostic and Summative Evaluation

At the beginning of the Program, a diagnosis was made of the mastery level of certain contents and abilities of the participants. For that purpose, a survey was applied to the participants in which they had to rate their level of command of certain abilities related to the learning goals of the program.

The abilities measured were:

1. Ability to self-regulate and to promote self-regulated learning.
2. Ability to manage distributed collaborative learning.
3. Ability to manage online discussion boards.
4. Ability to use Google Sites for educational purposes.
5. Ability to use webinars for educational purposes.
6. Ability to use blogs for educational purposes.
7. Ability to design learning experiences to promote significant learning in students.
8. Ability to design learning experiences to recover previous experiences or knowledge from students.

The rating scale asked participants to rate their mastery level of each ability according to the following scale:

1. Null.
2. Beginner.
3. Advanced.
4. Expert.

The same survey was applied once again after the program had finished. Figure 2 shows the distribution of the different mastery levels for the different abilities, both previously and after the Program.

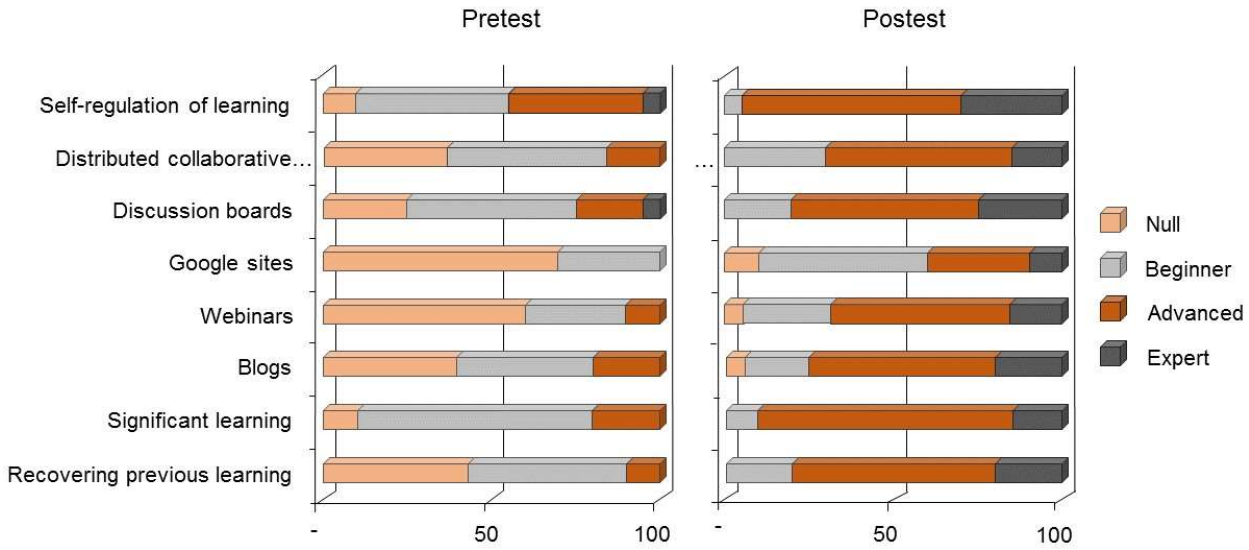

Figure 2. Participants' pretest and posttest about their perceptions of the mastery of the program contents.

Figure 2 reveals that the initial diagnostic ratings were concentrated mostly on the *null* and *beginner* side of the scale. Very few participants (in the case of abilities to use Google sites, none) considered themselves as *advanced* or *experts* on the different contents. On the other side, the *advanced* and *expert* levels prevailed once the program ended. The changes in the pretest-posttest ratings were especially conspicuous in the case of abilities related to self-regulation, distributed collaborative learning, discussion boards, significant learning and recovering previous learning, where no participant rated a *null* mastery level and the majority rated *advanced* and *expert.*

Participants' mastery of the program contents: formative assessment. During the webinar sessions, both at the beginning and end of each module, an online synchronous multiple-choice test was applied to the participants of the program. The test was applied "on the air" by means of the LiveMeeting polls tool. The test assessed the understanding of the main theoretical concepts and practical applications of the module contents. This assessment allowed estimating the percentage of correct answers before and after the module.

Figure 3 shows that the percentage of correct answers increased from pre-test to post-test in all modules. The greatest *learning gains* were observed in modules 1 and 2, in which the difference between pre-post were 69% and 64% respectively. Module 4, on the other hand,

showed the lowest learning gain (only 9%). This may be due, at least in part, by a “ceiling effect”. As can be seen in the graph, his module exhibited the highest (35%) score in the pre-test.

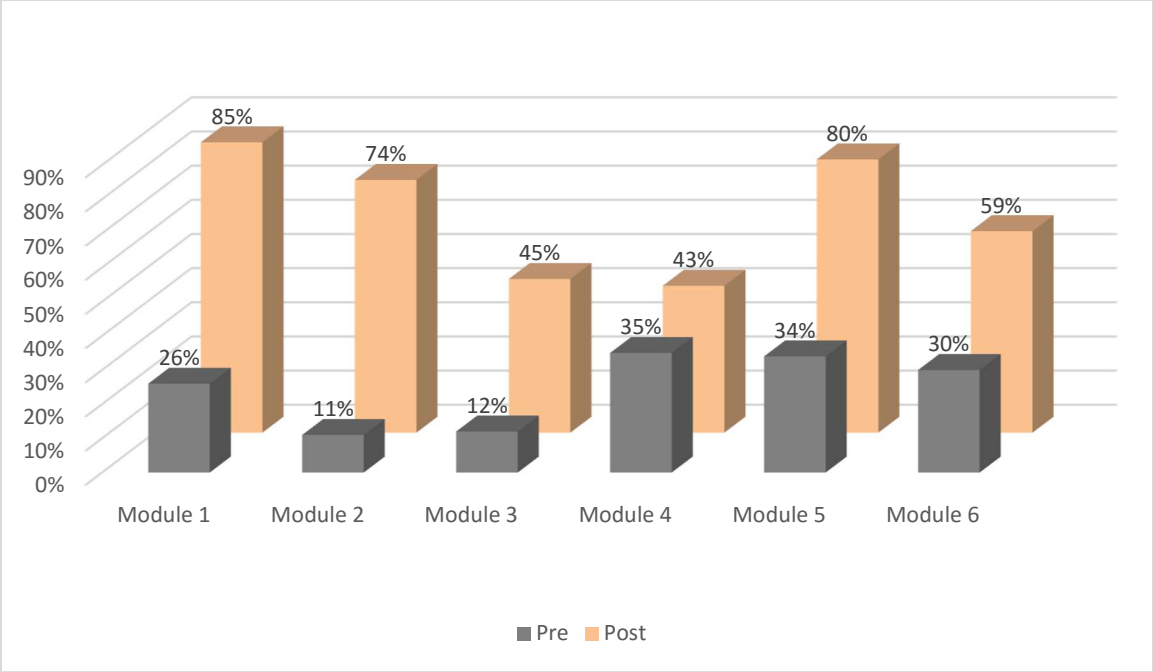

Figure 3. Participants’ pre-test and post-test about their evidenced mastery of the program contents.

Participants’ products and evidences. Finally, participants’ achievements of learning goals were assessed by means of E- portfolios created by means of Google Sites tools. In these E-portfolios participants collected the products of the assignments required during the different modules of the Program.

Even though each participant designed the structure of their E-portfolio, the following common elements were observed in all:

1. A section for personal introduction.

2. A section for collecting participant’s learning evidences. This section constituted the “core” of the E-portfolio.

3. A section for sharing with their partners notes, comments, and recommended readings.

Some examples of evidences posted in the E-portfolio were essays in which participants applied the principles and methods of significant learning in the design of learning experiences for their own students. In other cases, participants designed conceptual maps or other kinds of graphic organizers to represent some contents of their own teaching fields. Other participants recorded videos of their own classes and posted them in You Tube while others posted students’ products and evidences of their learning.

Summary and Discussion

The results explained in the previous section showed that, in general terms, the program reached (in some cases exceeded) its learning goals. Participants judged that the quality of the program was good and its contents useful for their daily job. They also perceived significant changes in their mastery of the program contents. Besides that, objective mastery tests were coherent with participant's perceptions; they also exhibited pre- post changes in their skills and knowledge. Finally, the products that served as learning evidences corroborated the mastery of the program contents by the participants.

It could also be concluded that both technological tools, blogs and webinars, are flexible and intuitive enough for teachers, with few or no experience in the use of ICT, to learn how to use them in a creative and self-managed way to enrich their teaching and learning experiences. Although some advice and technological support was necessary for some participants during the initial period of the first module, most of them did not require any kind of help.

These conditions constituted a favorable scenario for using technological tools as learning vehicles that allowed the training of a large group of professors. It can then be said that technological resources and significant learning methodologies were used to train teachers on how to use them adequately. In other words, professors learned notably to use significant learning principles to generate meaningful learning experiences in their students, with the aid of technology.

There are two features that seem to have contributed considerably to the success of the program. First, the collaborative environment that served as the background of the program. Both, webinars and blogs allowed interaction between participants that enriched their learning experience. During webinars, participants shared "on the air" points of view, experiences and examples that enhanced their personal learning. During online periods, they exchanged their interpretations and points of view about the course readings with their partners, through the discussion boards. Besides that, they had the opportunity to exchange their products with their partners and to get feedback, both from them and from their instructor.

The second feature of the program that seemed to have contributed to their success was the international atmosphere. The collaborative tasks promoted cooperation between participants, which enriched their knowledge structures with the diverse experiences provided by their peers. However, this experience would not have been so rich without the "multiculturalism" which characterized the group of participants. This feature made the exchange of ideas to be far more diverse and richer.

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