

12 didactic best practices to develop the most efficient Learning Virtual Environment

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ABSTRACT

In this paper, We build the best Learning Virtual Environment pedagogic structure for keep inside the best methodology and resources areas for students, teachers, canal, relationship... and whatever element into an educational community. For this, we draw twelve didactic best practices to be followed for an efficient elearning system. Therefore, We talk about which is the didactic base necessary to create and improve, not only a community software with shared resources, useful and with a solid structure, but guided to the final goals of a Virtual Campus, as efficient communication with each student, relationship among all members in the educational community and the best result for every job of them, learning also. The popular and increasing show of virtual platforms that try to build some kind of online training, make possible a sort of questions according to necessity, suitable and efficiency of all of them. A virtual platform has not to be the same that an integrated and oriented system for elearning. The addition of several web elements, as boards, chat rooms, download area o whatever, put together in the same website, is not a structured and scheduled system, useful for online training. Although It's true that those webservices, called before, are a very important part into an educational community, It's also true that they only are isolated elements with several communication abilities. As with a chapter of a book, or even a full book, is not necessary the same that a

training course, a virtual platform is not necessary the same that a learning system. The growing number of new virtual communities around some schools and high schools shows the capacity of different and similar communities, as vertical sites o general purpose websites, to a new theme. Often, There is a lack of pedagogic and didactic support to these new communities. Maybe developers are so technical but without educational skills, maybe there is no teacher or pedagogic professional into the several software performing steps. Here, We show a structure methodology spread in 12 best practices to build the most efficient and didactic Learning Virtual Environments.

INTRODUCTION

How must be built a Virtual Campus to get the best learning and a high running of the technologic resources? We must remember that a Virtual Campus (also called Learning Virtual Environment) is a platform for elearning, where a student can find several contents and educational resources, and relationship and supporting services, all of them into a hardware frame for developing academic functions in a efficient way and without large mistakes. So, a virtual campus, although being a perfect way for elearning, with a lot of benefits over another way of distance learning, goes on suffering the same bad things and usual problems than remote training (distance learning).

WAYS OF CONTACT AND FRIENDLY SUPPORTING

There are several contact and friendly supporting elements inside a distance learning, as:

1. Traditional means

1.1. Phone

You don't have to overuse it, but a telephone call in a month or every other month, means an important link and a additional support to a relationship text based

1.2. Postal Mail

A welcome letter, a goodbye letter, a letter for any main thing, are symbolic items, but very strong for somebody who studies alone, just with his notes and handbooks

1.3. Phone advising

If You can schedule a phone timetable, making appointments, with teachers and supervisor, allows You to lead doubts and to get points of view stronger. If You can use joint to anywhere remote control, It's the best

1.4. Presence advising

If a student can take it, it's good for guiding study efforts and solving any kind of doubts, even those more complicated in a distance way

1.5. Presence meeting

If You can joint a face with a voice or a text, and do the same with teachers, students, managers, and You can go to your school and visit it, it's good for establish a link point stronger among all the items into the educational system. It's always an extra-motivation and the result is used to be charm and overpass what You were waiting from it

2. Grounded on Internet

2.1. Message board

Both, an open message board (without speaker) or an scheduled message board (with a moderator speaker), the facility for a student to speak in a one-to-one way with everybody inside the educational community from a school, allows him to express and say whatever and it's another point of contact and good for going deep inside more knowledge

2.2. Distribution list

Assistant system to put more information, following some chosen selection criteria. It's an add-on and it's like a professional magazine subscriptions

2.3. Online advising

It's as important as a presence advising, but underlying the positive support and reaffirmation that must be added in a distance learning. We cannot forget of show a positive point of view, although inside a correction. Kinds of online advising are:

- Online chat, with text
- Online videoconference, with audio and video
- Online audioconference, with audio
- Remote control, with an effective control of the remote machine/PC to see the particular trouble. It's used for technical affairs
- email, with a concrete answer to a concrete question

2.4. FAQ's

A sort of questions and answers, maybe drawn personally or anonymous, but with a lot of interest for the students group. It's used to hide the name of the sender or asking for him whether putting it into the FAQ's list

2.5. Internal news

Shows activity, movement, dynamism, inside the educational community. Nobody wants to come into a static/dead school. Everybody wants the school to be the runtime for job and study

2.6. Internal schedule

For working and academics events, of a particular group or general campus

So, If we can keep all of these previous things, which are the elements to build the best elearning system based on the living and internal dynamism of a Learning Virtual Environment?

MAIN ITEMS IN A VIRTUAL CAMPUS

All the resources shown above, besides a list of additional jobs, functionalities and webservices to get better communication and information, usually are as we know as Virtual Campus (or Learning Virtual Environment)

A Virtual Campus is the meeting point for everybody belonging to the educational community. This Virtual Campus can have several items:

Glossary, student defender, contextual help, document management, qualification query, personal data, library, download centre,

favourites or web library, sending SMS, advising board...

Up to now, We have defined functional aspects and tools of a virtual campus. Most of these applications are a good base for an efficient learning, it's true, but they don't teach by themselves. Attitude is the main base for the best learning environment. And not alone, procedures and the just one approach for using all the tools under the same idea

12 DIDACTICS BEST PRACTICES

Key 1. Educational program

At any time, any virtual campus must look like an educational institution. This is, in short, what It would have to be or, at least, try to be. Therefore, an education base, with an educational program and a hierarchical group of educational goals, must be supporting any web service or delivery tool. An organized chat with several relation and hierarchical goals (main, medium and specific ones), or with any other character, it's a real key. Likewise, a well defined joint between these goals and real day by day virtual campus life, leaving apart pretty words empty of sense or coherent framework, is needed

Clave 2. Establecimiento y fomento de relaciones dentro de la comunidad educativa

Key 2. Drawing and improvement of relationships inside an educational community

Developing of learning is a just alone task for a person, because only that person can assimilate and develop those concepts, ideas, skills and procedures belonging to that learning task. But it's not alone at all. Moreover, it's a communal activity. If We keep learning alone, without external relationships, just with our own resources, learning process is not full. Relationships with another students allows them to interchange ideas and to get concepts stronger. And it's the same when an acquisition of a studying habit, like a chat

or a message board, is done, although it was just only one

Having contact with teachers goes with a permanent control and aid for studying, with facilities and goodies for correcting and confirming the guideline of it, putting more information and more security in it and in general attitude. Technical skills, like feedback or positive support make an effect of autosuggestion that improves by itself the learning effectiveness

Finally, a good relation inside academic team is essential for getting some fresh air with ideas, contents, didactic approaches, student information, educational status and a very large etcetera. A cut off teacher is easy to split of the school, fast, and of the general training environment

Key 3. An applied evaluating system

One of the main things in a virtual campus is the addition of evaluating process, sharing evaluation and self-evaluation. Both in discussion groups and in blind evaluations, with self-correcting forms, with open questions, close questions, multiples choices questions, cue questions... There area several and many ways for all to be asked itself. System, teachers, subjects, contents, students, exams, activities, administration services... We have to choose the proper time for these evaluations, analyzing step by step, detailed, about what and how must be evaluated, and who must evaluate and who must read the final results. This way We will get a report that allows to get stronger all positive point, to reduce all negative ones and keep informed to all academic and educational community about the final results

Key 4. No ending checking and recycling

All must keep on checking and recycling, constantly: teaching methodology, teachers didactics, subjects organizing, academic program structure... All must keep checking frequently enough for nothing to get old, to improve constantly and to manage all the different elements in the best way inside the educational process

The school must, has the obligation and the necessity, develop new and better

communication, evaluating, following and inter-relational systems for a better learning. As the same way, the school has to go through constantly its contents and supporting resources, to innovate always, re-writing or re-structuring or re-agreeing all the necessary times until We get the best product, the service or the best contents as possible

Key 5. Broadening of studies and constant addition of related resources

We have to provide a richer context, besides usual resources with online teaching, like notes, questions solving or exercises through tutorships. Learning, and above all with the loneliness of a elearning student, is not just a systematic recurrence of ideas or words, of exercises or a methodical memorizing or chaining paragraphs. A complement for a basic content is so important as the content by itself. It helps to consolidate, to broaden and to compare main guidelines and ideas, so that the assimilation of them will be more effective and possible. This is the reason to make sure the creation and improvement of an extended value

Key 6. Extra-academic activities

As meetings, inside and outside Internet, with and without tutor, conferences, championships, contest, discussions, visual shows, auditions... and any sort of activity that allows to enhance a simple text; with any doubt, all of these provide an added and essential value to the accompaniment function and to the cultural life inherent of any academic plan and any training institution

Key 7. No error ex-campus supporting

In managing, computer networks, logistics... Campus is not just Internet. It's very curious to test how, with all the large and several communication systems available today, when We are working or studying on Internet, We just use this mean. At least, there are half a dozen of these means that allow a varied access depending on circumstances. To promote presence

meetings, in working groups, courses or conferences; to provide phone supporting, fax supporting, by mail, by SMS mobile short message, by videoconference, by computer remote control of students, presence tutorships (when possible...) All of these are valid options to enhance any helping system, and the student tracing and supporting in a learning virtual system

Key 8. Researching and innovation: didactic and technical determinants

Researching of new products, new jeans, new process or new protocols is essential to keep a high quality and the most effectiveness in all the educational system. In technical things and in didactics the educational institution (school, highs, graduate, non-formal, whatever) must develop products, process and product evaluations to lead to a constant improvement of technological supporting and learning methodology. This is not necessary the same the full development of software or academic things, but this is the constant work, joint together with another companies, in a synergic way, discussing and supporting each other and getting incremental and permanent progress. This I+D forum allows to go one step further in front of current status of development, and to go ahead of students, teachers and management team or making them up into the continuous innovation life cycle

Key 9. Synergies and joint ventures

With academic institutions and related production and service companies, locals and wide abroad. To establish a full network of contacts, practice time, collaboration deals, interchanging of students and teachers... warrants fresh air inside our own school, broaden mind and some contact with real world and competitors. Far from being a threat it's a chance to enhance our own expedience and to give a broader vision and closer to the business world, many times forgotten in teaching

Key 10. Practice and job vacancies agency

Beyond of the online structure of an educational institution, one of its main goals must be to get and keep practice jobs and employment for its students. We have to keep in mind three basic points: the student has to want to make practices jobs or to be employed and he/she has to make efforts for it. How many times We have found students who say they want but they don't really do anything of him/her for getting it. Two, the student must have a proper technical level to do the job and the proper attitudes and learning skills needed for it. A good technical student, but bad mannered or antisocial is not good for a real job environment. And three. The company who offers the vacancy jobs must be a good one for it. With someone who can teach the new worker, with a proper job for him, patient with him and time to use with him. If that company only wants cheap workers it's not a good company to complete the training process

It's more difficult to get jobs on Internet, it's true. It's also more difficult to choose and to trace suitable students and companies for this goal. But We cannot imagine a full and a total learning process with this key. We don't have to get it out, we have to fix it to this special environment

Key 11. Technical reliability and permanent technological evolution

Permanent access, 24/7, 24 hours a day, 7 days a week, with mirror hosts and permanent service in the campus, with synchronous and asynchronous functions, warrants a quite management team, academic team and student group, about technical and frequent errors, so often in some operating and transmission systems. In the same way, maintenance of the most suitable technological means for every function and the new releases to warrant, if possible, to go one step ahead to the future necessities, allows a balance between technology software, hardware and every action supported by them. Finally, in this point, just to mark the right and essential management of backup and recovery copies, for keeping in safe any document, process or delivered product made

Key 12. Transparent and independence management

Any school must be, above all, an educational institution, not just a business, for students and teachers, at least. Although It's true that partnerships and stakeholders follow economic profiles, but it's also true that academic board must be as independent as possible of financial or general management. Frequently, all this charges are mixed or related in some point, and economic goals used to be more important than the rest and than training goals. Without money, and more in private education, there is no choice of training environment. But We have to keep in mind that We don't have to forget some non profitable, just not to have any profile. Diversity and complement into academic programs are essentials keys for a rich environment. And this must be known for everybody in a educational community, allowing transparency until some level to have both free and public access

All these keys or best practices could be figured in concrete actions, for instance and like a complementary explanation:

- Teachers relationship, a long time forgotten thing in the real world It's too much difficult to install it in a virtual world. However, We think it's essential for the best run of the learning system to have a fit team, not only an unlinked group of teachers
- Students relationship, students can speak with another students, inside the same course of from another academic plans
- Secretary relationship, for academic affairs, administrative affairs, ID, diplomas, change of groups, mail management, logins, an so on
- Relationship with computer science department, to report errors, mistakes, badrunnings... and whatever related to a technical approach

- Auto-testing, as a learning support, to go on with a subject making auto-solving exercises, with close question (with yes/no answers)
- Feedback learning, always, if the student passes or not passes a close question
- Talking and researching groups
- Scheduled and modular courses, with publishing systems and often and multilevel releases, so, getting abroad several aspects of putting relevant information into the system
- Endless access, 24/7, with mirror servers and no-ending service in Campus, for computer science scope, as asynchronous jobs
- Download and favourites area, with notes, handbooks, software, add-ons... and web library for already made chats, several links referred to a subject, etcetera
- Reference bibliography, real books, published in paper, to get deeper inside the subject
- Contacts planning in real time (chat, videoconference), for a direct relationship through text, audio and/or image among teachers and students, around a concrete theme, usually as complement of academic plans
- Presence support (when possible), advising, meetings, additional classes... all presence, for a full and one-to-one contact between teacher and student
- Asynchronous online advising system, for questions, exercises, attached files, doubts, answers for open questions... to the teacher of the subject or to the linked teachers team
- Ex-campus support (phone, postal mail, fax, sms...), because Campus is not only Internet. It's curious to realize how, with a lot of media communication we have nowadays, when we work or study by internet, we only use internet. Why? At least, there is half a dozen of several ways for making it
- Learning status indicator (academic grants, passed goals, rest of subjects...), It's good for a student to improve himself to check qualifications, teachers commentaries, subjects, academic plans... for an actual and personal status

CONCLUSION AND DISCUSSION

With no doubt, we can be sure to say that the best architecture for a Virtual Campus is that so similar to real architecture in a presence campus. If we build a parallel world, close to real world, but with the benefits and the improvements from the virtual one, We could put together the best things of both worlds. Relationships, proximity, unlimited researching, fast communication... So, making virtual a café, or a copy machine, the walls in the aisle, the blackboard, the library, the sports centre, the gaming zone... wherever part of a school, usually gets a better identification between both worlds because, in fact, they are the same thing

Whatever thing the virtual school/campus has, the most important thing is to keep active, dynamic, always developing things an moving on all the educational community (students, teachers, supervisors, administrative personal, guests...)

how deep, We could have odd things. But this is not a handicap for us to try to work for a learning virtual environment cleaner and better and for our Virtual Campus to get the higher excellence for effectiveness and quality levels

With this paper We have drawn a layout of twelve basic points that says the didactic health status of any Virtual Campus. We try to write a handbook with an organized best

.This way We get an image more or less fit to a presence training school must be. And the big trouble is how to have a replica system when, very often, there is no one like this in the real world. We don't have to forget that all the keys shown before have, or would must have, a mirror image or a reference in a non virtual environment. If We would write a report about how many schools come up to with these keys and

practices system. And this must be a base for a more detailed field researching about learning virtual environments goods and for a starting point of discussion to get the best efficacy with them

BIBLIOGRAPHY

- BOU BOUZÁ, Guillem. 'El guión multimedia'. (Multimedia scripting). Ed. Anaya. Madrid [2003]
- BURGOS, Daniel. 'elearning. Metodología del Aprendizaje Interactivo'. (elearning. Methodology for interactive learning). Ed. Prentice Hall. Madrid [2003]
- BURGOS, Daniel y DE-LEÓN, Luz. 'Comercio Electrónico, Publicidad y Marketing en Internet'. (Ecommerce, advertising and marketing in Internet). Ed. McGraw-Hill. Madrid [2001]
- BURGOS, Daniel y DE-LEÓN, Luz. 'Director 8.x/Lingo Práctico. Guía de Aprendizaje'. (Director 8.x/Lingo Practice. Guide of learning). Ed. McGraw-Hill. Madrid [2000]
- BURGOS, Daniel. 'Formación a Distancia Multimedia'. (Multimedia Distance Teaching). Ed. ESAC. Madrid [2003]
- BURGOS, Daniel y REYERO, Marta. 'Modelos de Aprendizaje'. (Learning models). Ed. ESAC. Madrid [2002]

BURGOS, Daniel. 'Creación de Materiales Didácticos con Dreamweaver'. (Building Didactic Materials with Dreamweaver). Ed. ESAC. Madrid [2000]

BURGOS, Daniel. 'Creación de un Guión Multimedia'. (Building a multimedia script). Ed. ESAC. Madrid [2000]

WEB REFERENCES

- BURGOS, Daniel. 'Inconvenientes y ventajas del e-learning'. (Problems and advantages about e-learning). Revista Educaweb, sección Monográfico, nº 0. www.educaweb.com. Madrid [2002]
- BURGOS, Daniel. 'Seguimiento y motivación de alumnos'. (Tracking and motivation of students). Revista Contraste Magazine, sección Formadores, nº 2. www.contrastemgn.net. Madrid [2000]
- ESAC, www.campusesac.org
- Contraste Magazine, www.contrastemgn.net
- Mediometro, www.mediometro.com
- Universidad Carlos III de Madrid, www.uc3m.es
- Universidad Europea de Madrid, www.uem.es

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