

Paper 6:

Thesis and Antithesis on the use of Network Learning Technologies in Higher Education

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Summary

- There is a controversy on the use of network technologies in education especially at the undergraduate university level and below. This controversy stems from the conception of NLT's implications in the social process: on the one hand, NLTs could be used as a tool to satisfy real social needs in culture, pedagogy and education, and to advance the social process; on the other hand, use of NLTs could be socially "blind" serving nothing but "technolove", producing generations with reduced or even bad social consciousness. This paper discusses these above issues using the schema thesis-antithesis introduced by ancient Greek philosophers, aiming to raise some sensitivity against the unconditional use of technology in Education.

Introduction

- The authors have considered proper to begin by defining (and distinguishing) three key terms: *Culture, Education and Training*. *Culture* is everything a person receives from his/her social environment throughout his/her whole life. It is what our social environment broadcasts in terms of social behaviour, ethics, customs, and, of course, values. Culture is by no means a collection of knowledge: it is the conception of the historical evolution by the individual, which partly corresponds, but is not limited, to an amount of knowledge. *Training* is a process for delivering knowledge. In the case of vocational training, the objective of the process is to support people in finding a job. Strictly speaking, vocational training has little to do with the formation of a person's character, ethics and values, but only with his/her ability to perform well in a job.

Education as a notion and a social service covers both issues of culture and training. It is usually offered starting from the first years of a person's life, as an organised social process for delivering culture, ethics and values, as well as vocational training. Education aims at reproducing the social structures and consciousness that will evolve the society itself.

For the communication/dissemination of culture, societies implicitly use all available means: everything around us that is able to deliver any kind of message, is a means of communicating culture: family, school, personal relations, mass media, computers, fashion, etc. are all such means. Paradigms and messages of any kind are 'broadcasted' by society to all its members. However, they are not perceived the same way by all community members or in varying economical, geographical, historical, and cultural conditions. It is this diversity in perception that pushes the wheel of historical evolution. Bearing this in mind, it is important to distinguish between the means and the purpose: the same means can be used either to benefit one purpose, or equally well to harm another. It is not the tool itself, it is its use that makes the difference between "good" and "bad".

Speaking of tools, the pervasiveness of networking learning technologies (NLTs), i.e. computer networks and hypermedia systems (Internet and World Wide Web in particular) have stimulated a vast quantity of investigations into the opportunities and challenges that might be offered or met into the field of education [7]. Although in theory the "marriage" between the "technology push" and the "learning pull" is desired to be dominated by the latter, this is not always the case. The educators or the policy makers when deciding to use NLTs are often guided by "technolove" or "technological determinism".

NLTs are certainly a catalyst for change, helping to bring about a new revolution in education. A revolution that deals with the philosophy of how one teaches, of the relationship between teacher and student, of the way in which a classroom is structured, and the nature of curriculum. However, technology can also be a barometer of that change, providing knowledge of what is working and what is not.

This paper deals with the controversy on the use of NLTs in education especially at the undergraduate university level. This controversy will be expressed in terms of thesis and antithesis. *Thesis* and *antithesis* are both Greek words assimilated in the English language. *Thesis* means "argumentative position", "opinion" or "argument". *Antithesis* is composed of the prefix "anti" which in this context means "counter" or "opposite", plus "thesis". Antithesis is the opposite of thesis and an underlying conflict between the two notions is usually implied.

The seeking of the truth has never been a simple process where everything was discovered in a straightforward manner. It is the resolution of conflicts that usually bring us closer to the truth, and this is the case when it comes to Network Learning Technologies, as well. In the following section the arguments for the thesis are presented followed by the counter arguments illustrating the antithesis on the use of NLTs. The final section presents general conclusions which are basically open questions to the educators when facing the dilemma in using or not NLTs in their learning/teaching environments.

Discussion

Social and cultural implications of NLTs

Thesis: NLTs have been used as cornerstones of the new learning environments within educational systems. Such environments support or partially automate the instructional process. The use of new pedagogical frameworks in the networked learning environments are facilitated by the NLTs. It is desirable and in some cases common that collaborative learning and peer learning co-exist within the new pedagogical frameworks.

Hiltz [3] defines collaborative learning as: “.. a learning that emphasises group or cooperative efforts among faculty and students. It stresses active participation and interaction on both students and instructors. Knowledge is viewed as a social construct, and therefore the educational process is facilitated by social interaction in an environment that facilitates peer interaction, evaluation and cooperation.” NLT based learning environments accessed independent of time and geographical distance, have brought a new wave of possibilities for collaborative learning and heightened the frequency of participation in such possibilities [1]. The effectiveness of collaborative learning does not depend on the NLTs but on the clear definition and understanding of the roles of teachers and students in such a learning situation (being moderators, using dummy users, etc.). The technology as a tool exists so in the hands of humankind can be used effectively.

NLTs also facilitate learners to become peer tutors. Individual or small group of students can be asked to present assignments to one another for criticism by fellow students (peers). One exemplar case could be that all the assignments (different for each group of students) are on-line in order to enable the easy access to this material, the easy commenting about them (as annotations) by other students or group of students and the exchange of ideas on the problem solving process.

Antithesis: Educational systems are intended not only in producing “knowledgeable” persons, but also citizens. It is a fact that current educational paradigms are subject to a great amount of change using Network Learning Technologies. However, what will be the social implications of replacing

classrooms with high-tech networks and tools? How will the community be evolved, if tomorrow’s citizens are educated “at the end of a telecom line”? Referring to the definition Hiltz mentioned earlier, such an educational process lacks social interaction. Knowledge becomes not a social construct, but communication/exchange of messages from “virtual experts” to “virtual learners”. By no means do we consider an e-mail exchange as social interaction. No matter how much time a “network student” (netizen student) has to prepare a message to his impersonal tutor or to his colleagues, impulsiveness, which is a distinguishing element of social interaction, is absolutely missing.

We therefore reach the position that technology is expected to support, not to substitute classroom tuition. The new means that technology offers in the area of education, should not redefine the notion of pedagogy which is, and must remain in the core of every educational system. No matter what the advantages of NLTs are, the inspiration that a real teacher can offer to students cannot be replaced by any messaging, conferencing, or reference network system, even if it is advertised as “flexible” or “innovative”.

Access to information sources / Broadcast possibilities

Thesis: The use of Internet and WWW has widened the horizon of the community or world of information. Netizens have access to information sources and learners have the possibilities to find learning resources widely dispersed in the cyberspace written by experts who he/she would not have been able to contact without the existence of the Internet. NLTs augment the broadcasting possibilities. Everyone can set up a Web page and distribute information—material. Moreover, computer-mediated communication (CMC) enables people with shared interests to form and sustain relationships and communities. Despite the lack of physical space, the CMC facilities allow students to exchange emotional support, information and to “realize” a sense of belonging [3,5]. The notion of virtual symbiosis comes up.

Antithesis: There is indeed, a lot of useful stuff on the Net. There is also a lot of junk of all kinds and often the quest for information takes a lot longer

Strand 1: Pedagogy and Design

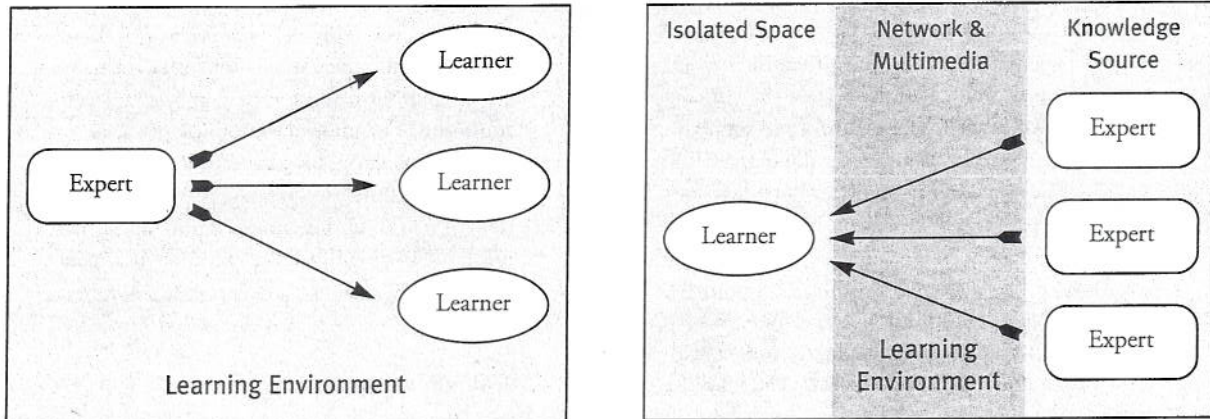


Fig 1. The Traditional vs. the Network Learning Paradigm

on the Net than in a well-organised 'traditional' Library. When it comes to material useful to the educational process, such as electronic editions of books, journals, etc., there are currently very few things on the Internet. The best one can expect to get for free is the title and abstract of items that might be of interest. Even if we give up free access, only a small percentage of the books ever written will ever become available on the Net. One important issue that rises here, is *who decides what is published on the Net and what is not?* Or, provided that "anybody can publish on the Internet", *who decides what is properly indexed (and therefore accessible) and what is not?* We cannot help pointing the danger of the development of a 'new-era fascism' based on the domination of Internet content by world-wide media/publishing organisations. Nevertheless, the contemporary freedom on the Net each netizen possesses when making public ideas, information, etc., could not be regarded only as democracy but also anarchy. The flame letters that are being exchanged between netizens justifies this argument.

When it comes to "virtual symbiosis" which might seem an interesting idea in the beginning, there are a few interesting questions that should be risen: *Have communities exhausted the possibilities of supporting the development of human relations through social interaction? Is it not true, that the causes of many social diseases of our era can be traced back to the social isolation of the individual, even during the school years? What will be the new definition of 'Network friendship'? "Virtual symbiosis" is not a bad idea but it seems wise to be promoted with the aforementioned questions in mind.*

Access to the instructional process

Controversial issues concerning the educational philosophy of different learning environments lie on the dilemma about the teacher's role: "A sage on the stage or a guide on the side?". Fig. 1 presents this concept, as well as the learning environment characteristics in each case. In the case of traditional classroom (left), the learning environment is homogeneous and learners have actual social contact with the tutor. The most important shortcoming of this schema is what has been called "the tyranny of the single handbook" [6] and of course, the handicaps -if any- of the tutor.

On the right of Fig. 1, the "learner-centered" approach is presented. Using NLT, students would benefit by accessing knowledge from many points of view and many sources (experts).

Thesis: NLTs eliminate time and geographical barriers. They provide the learners access to information and learning resources When, Where, How and As Much as they want. NLTs can be the basis for a wall-less and paper-less classroom [2], "open" to a wide variety of learners. Part-time or full time employees or disadvantaged people (due to geographical, financial, socially and health reasons) can have a means of learning at their own convenient way. Having built a learner-centred WWW based learning environment, they are not excluded from the instructional process.

Moreover, the teacher and the tutors can communicate with the students at their preferable time of the day and they have, as a result, more time to devote to their research or other activities. It is also

stated that off-line interaction between teacher and students have better results concerning the quality of the messages exchanged than when they interact on-line or face to face. The main reasons are that both agents have more time to think before sending a message, and in some cases students are reluctant to participate in classroom conversations.

Antithesis: In a traditional learning environment, tutors are able to communicate their own paradigm which students can decide whether to follow or not. In such a process, a person learns how to be a member of a community, not of a virtual, but of a real one. The learning environment in the case where NLTs are used is quite heterogeneous. Although bare knowledge can be communicated better, the live paradigm of the inspired tutor to students cannot be communicated at all. Independence from time and place might be a plus, but it has little to do with the essence of the educational process.

Researchers involved in this field, often have a strong technical background that guides them to inventing new learning approaches in order to better exploit new technologies. Attention is focused on "how to stress current practice in order to use new technologies" and several references to current practice shortcomings are made. However, it is naive to believe that the admittedly serious current problems of educational systems could be solved if we just replaced classrooms with networks, teachers with multimedia databases and CD-ROMs, and social interaction with e-mail message exchange.

Furthermore, the way people learn new things highly depends on the unique characteristics of the social environment they belong to. Diversity is a source of evolution in nature as well as in society and this diversity is clearly reflected in both structure and content of educational systems around the world. What seems to work under certain conditions, is not guaranteed to do so anywhere else. Current Network Learning approaches do not seem to take this into consideration, therefore they prove to be useful only under conditions and still highly rely upon the human factor.

Equity in access to the instructional process is a topic where actual progress is made by using NLTs. However, this progress is rather quantitative than

qualitative: the common denominator of those who have access to some instructional process increases, but so does the diversity between best and 'some' education. The implied smoothing of social inequality is not proportional to the numerical increase of those who have access to some instructional process. In this context equity advances using NLTs should be presented not as a major breakthrough, but as a small step in a long way.

Training support by NLTs

Thesis: Although training centres have not fully exploited the potential of NLTs, there are a number of cases where NLT based training environments have proved to be pedagogically as well as cost effective. NLTs are being used for training purposes because they offer possibilities so as to: increase the speed, flexibility and reach of training; reduce costs associated with offering classroom training as the only delivery vehicle; lever instructor's expertise to a broader population of participants [4].

Antithesis: There is not much to say against the use of NLTs in training, as defined in the beginning of this paper. It is indeed very useful a tool provided that it will be used as such - not as a panacea. The presentation power of NLTs should not become an alibi for low quality content. We believe that what could be quite helpful, is the establishment of processes for the evaluation of educational content provided through NLTs. Once again, we should keep in mind that dazzling things are not necessarily made of real gold.

Concluding Remarks

- As always in history, progress is achieved through synthesis, that is, composition of new concepts and ideas out of two or more conflicting ones. This is the case in network learning as well. The “truth” does not lie either on the unconditional acceptance, nor on the complete denial of technology in education. It lies on the proper use of technology as a tool, under certain conditions of every single educational context. This is something the authors consider worth keeping in mind.

Culture is not something an educational structure can communicate by using impersonal tools. Tutors have been and will always be sources of inspiration and living examples for their students and no computer-based technology can change that. The multi-faceted crisis of our era has its causes in the lack of visions for the future, in the consumer-centered world we have built, in the lack of historic consciousness. It is common knowledge that the most important role in the resolution of this crisis is to be played by the content of culture and education - not by the tools used to deliver knowledge.

However, these tools can be used effectively for playing a complementary role in education while education entails culture, social and training issues. NLTs continue to be seen as a bolt-on rather than an integral to quality provision of education. NLTs are not a panacea for the problems facing the educational systems but can add significant value to the learning process. This could be easily forgotten by all of us who, running after “projects” and “funding”, squeeze our mind to invent new “innovative” uses of NLTs, disregarding social issues, culture and pedagogy. The authors hope to have made a small contribution in bringing up this issue.

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