
COMMON
GROUND

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Virtual Higher Education: A Liberalist Or Humanist Socialization Tool?

Main Description

Many claim that, if well designed and used, information and communication technologies have the potential to enhance educational institutions by improving the quality of learning and teaching activities. But software design is not a value neutral activity and the type of communication and information exchange being encouraged within a virtual environment changes the type of socialization and interactions that are carried forth.

What values guide the design of Information and communication systems and their evaluation? Are software designers aware of the types of values they are promoting? This paper examin1es these questions via an analysis of the communication and structural design of virtual educational environments. It explores how the design of the use of information and communication technologies in a Canadian university classroom promotes particular socio-economical ideologies. By exploring which type of socio-economical values are embedded within specific types of interactions, and which socialization processes are being promoted by various communication methods, this paper examines how information and communication based systems alter the classroom. Finally, it also explores who has the most influence on the design and implementation of learning technologies, the administrator or the pedagogue? Depending on the dominant voice, the interactions created in these environments can advance liberalist and humanist socio-economical ideologies.

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Short Description

A critical analysis of the hybrid design principles shaping online education. Since they rely on conflicting societal imaginaries, which necessitate opposite socialization tools, what is at stakes in their use?

Keywords

Internet, Information, Social Science, Socio-Economy, Virtual Education design

Virtual Higher Education: A Liberalist Or Humanist Socialization Tool?

INTRODUCTION:

Many claim that Information and Communication Technologies (ICT) have the potential to improve the quality of learning and teaching. At the core of this discourse is the promotion of a societal shift which requires reform in education. According to many authors, such as D. Bell, western societies are remodelling themselves in accordance to a post-industrial economy where constant innovation has become a key condition to the development of new products, the opening of new markets and the creation of new profits. The dominant capital shifts from material, or natural, resources to intellectual capacities, essential to the constant production of new innovations. Education should develop the experimental spirit of the “innovation manager” who adheres to the universal value of money and science, but whose culture corresponds to the dominant criteria of his/her local environment (Drucker, 1992). This “universally educated” person is part of an emerging global capitalist culture where individuals’ uniqueness and creativity are essential to the ongoing development of new and culture specific products. This shift also requires a change in workplace organizational models: “the scientific organizational model rules, very close to the image of a research team based on cooperation and reciprocity, rather than hierarchy and coordination” (Mattelart, 2001). This change in working protocols requires the introduction of new communication methods between people, which education must inculcate.

The post-industrial societal model, promoted in University discourse, needs new educational strategies more adapted to a global society. Education must develop personalized learning skills, by developing in learners new individual aptitudes "such as problem solving aptitudes and learning to learn", crucial to promote learners’ autonomy and creativity, as well as learners’ interpersonal communication skills. Since constructivist practices emphasize the enhancement of a learner’s autonomy and insist on the use of social contexts of learning, they are currently considered central to reform. ICT are often cited as agents of change, able to introduce constructivist practices in education given that they are considered to be tools for active learning that increase student autonomy in the learning process while facilitating the creation of a social context for learning via virtual communities.

Yet, quite a few researchers have found that the type of autonomy called upon in discourse is not found in practice. For the gradual development of a learner's autonomy to be instituted in education: « *pedagogical strategies must be conceived with, or rather, before the establishment of a technical system and the definition of courses and programs* » (Linard, 2000). In practice, system wide educational applications rarely take into consideration concrete active learning processes (Combès and Payeur, 1997). The implemented technologies are rarely evaluated for their pedagogical successes and the promoted emerging pedagogical practices are not often present in new higher education applications. The conceptual framework of many educational applications often neglects the mental work required from the user and the gradual learning curve of the processes. The learner's autonomy is assumed to be pre-existent, while it needs to be fostered (Linard, 2000). If improvement of pedagogical processes is not central to such projects, what is then at stake? These paradoxes demonstrate that the significance of educational innovations can not be fully appreciated by a sole analysis of their pedagogical scope.

1. Theoretical context: a socio-economical approach to educational innovation

By broadening the analysis spectrum to take into consideration socio-economic contexts, implicit objectives of innovations' in education become more apparent (Combès 02). When one incorporates actors' strategies to the analysis, three key points emerge, First, experimental trials regroup actors possessing diverging industrial and pedagogical objectives, who need to collaborate to evaluate potential implementation methodologies and usage of educational innovation (Tremblay, 1998). Second, technologization of learning is a manifestation of a certain re-industrialization of education (Moeglin, 1999). Finally, in this context, users' autonomy can be a means to justify the priority given to the development of industrial learning technologies (Combès 2004). These three points are the basis of our theoretical framework.

1.1 Actors' strategies

Large scale educational innovations involve multiple disciplines, and they regroup actors with diverging industrial and pedagogical objectives. If contemporary discourses on education seem to uniformly position a post-industrial society as a core motivation for the reform of curricula, different ideologies coexist in the educational sphere. Different faculties, such as humanities, business studies, and management do not possess the same vision as to what society should strive for and disagree upon the role an individual holds in society, implying different curricular designs. These differences intervene in the

design of educational innovation, as specific pedagogical models help to inculcate the tacit interactions and behaviours required from workers by specific industrial processes. Education is understood to be an important dissemination tool which promotes specific values, cultures and work habits to the upcoming members of society. Actors, involved in innovation, are often animated by ideologies which differ from the institutionally dominant one, and want to test and implement different social reproduction objectives hoping to alter society's evolution.

1.2. Existence of an industrialization process in education

The introduction of new technologies in education represents a step towards a new stage of its industrialization, which is shaped by various and hybrid industrial forms, corresponding to the influence of diverging industrial logics possessed by actors within this sector (Moeglin, 1998). By industrialization process, G. Tremblay (1998) understands a systematic rationalisation of production practices aimed at enhancing the efficiency of a system, via its technologization, new work tasks division, and the substitution of work to capital. Industrialization also refers to the existence of a thinking tendency based on productivity and profitability within a given organizational structure.

The notion of industrialization in education is not recent. In North America, as early as 1876, an industrialization process becomes intertwined with a process of technologization of education. While retracing the evolution of the American education model, G. Berger notices that this model corresponds to industrial notions of efficiency and productivity and that technologization participates to the transformation of the education system into a production system. This system is build according to Taylorian and behaviourists standards of production (Berger, 1982) that Thorndike utilizes to create educational products, established on standardised reference and knowledge acquisition scale. For G. Berger, North American universities educational mandates are amalgamated with industries since the beginning of the 20th century.

It is however important to understand that higher education industrial models are not the same as for profit models as they are based on humanist values. If some programs do operate for profit, such as distance education, undergraduate education is publicly funded and operates according to humanistic values. Education also builds its models on human relationships between teachers and students, and on humanist sharing practices, social interactions and actions and reaction between producers and users, which are not for profit.

According to Boltanski and Chiappello (01), different pedagogical models correspond to specific industrial models. Behaviourist ideas become prevalent in education during the rise of a second phase of liberal capitalism. The economical growth of that time is based on the sale of standardized goods, which are mass produced and distributed. In this model, hierarchy is primordial; a CEO governs the organization and controls the actions of passive workers who have no autonomy of actions or thoughts. Learning by objective becomes advantageous as it grooms individual to work in a large institution hierarchy. Cognitive sciences models become predominant with the rise of a third phase of capitalism, in the 70s, which is more humanistic in nature. In opposition to the Taylorian and behaviourist model, cooperation and reciprocity become the principal factor of social progress in a communicational, active society where the economy is based on innovation. The large hierarchical institutions of the 50s are transformed into collaborative spaces where innovative workers share information to help advance innovation. Society needs innovative Individual who must be able to think and act for themselves, thus the use of active learning methodologies which autonomizes individual in preparation for innovative work.

The current introduction of ICT in education leads to a rationalization of the educational and administrative processes, which, in turn, introduces the reorganisation of the teaching profession, a manifestation of a re-industrialization process in education (Moeglin, 1999). This neo-industrial phase in education is based on the principles of a self-service industrial model that networks facilitate.

1.3 Learner-centered models key to reform

Learner-centred pedagogy become central to this shift since a self-service industrial model requires hyper-autonomous consumers and workers, who have become freelancers who operate in a social network and must be able to operate by themselves within a fragmented industrial field. Since ICT mediate worker-client relationships, the institution, core control mechanism over workers, has been replaced by social networks. It becomes primordial to have individuals internalise neo-liberal values, to insure that their autonomy of action and thoughts do not conflict with the evolution of the dominant ideology. Thus, education must inculcate self-control abilities in individuals based on neo-liberal values and where “coopetition”, a process that amalgamates cooperation and reciprocity (humanist values) with hierarchy and coordination (liberal value), becomes a key organizational element. Constructivism methodologies become key to the discourse of this 4th phase of capitalism, since human centred system require pedagogical forms which take into consideration both individual and social contexts of learning and human

centred pedagogy becomes necessary to prepare individuals to work independently and in social networks.

2 Educational innovation: a catalyst for a reindustrialization process in education

In Ontario, large scale implementations have replaced experimental trials. Partly, because government funds, which use to fuel collaboration between industrial and educational partner, no longer support experimental trials with ICT, but the same principles apply.

We put forth the hypothesis that technology, not learning, is central to large scale educational innovations. Human centered methodologies are prerequisites to the reindustrialization of learning processes. Autonomy of learners is essential to a self-service system which facilitates both neo-industrial processes and humanist sharing practices. In the first case, the objective becomes the creation of user-centred products adaptable to a diverse client/learner base and in the second, the creation of virtual classes where human interactions remain important to an individualized educational experience. Virtual higher education thus combines both humanist and liberalist values.

To verify this hypothesis, we analysed the implementation of Blackboard in a Canadian university, in order to apprehend the value assigned to e-learning as a pedagogical, industrial and social tool. This project regroups the central university administration in collaboration with both its distance education and undergraduate programs. While our actors all consider ICT important to reform, their individual professional bias motivates conflicting and incompatible social and ideological finalities. Indeed, these actors do not operate according to the same rules. The university administration deals with the organizational economy system. Undergraduate programs represent a tacit contract with society to enhance youths' sociocultural capital via their socialization. While distance education operates via a series of individual contracts made by private adults who, already working, pay for an autonomized education that enhance their individual professional proficiency. These programs coexist within well defined boundaries that allow each program the freedom to develop pedagogical objects suited to its values. But the virtualisation of learning activities modifies these boundaries and allows them to coexist which create important frictions.

Our actors do have common objectives which allow them to collaborate and hide their differences. They all want to support large scale virtual offerings, to personalized learning process or service experiences offered to a massified public, and to centralize and standardize course management, as well as automatize part of instructors' workflow.

Their difference of logic also calls for specific objectives. The university's administration wants to see the creation of a unified portal giving access to all educational, administrative and commercial services, and creating a centralized and standardized inscription and content management system. The \distance education actors are interested in the creation of a unified interface reducing the technical learning curve associated with their courses and in the creation of a standardized content production method, reducing cost. Finally, undergraduate programs are interested in a unified system of management that can house content and course management tools, news and communication and hyper-mediated courses.

We analysed three aspects of these actors' standpoint: first, their pedagogical logic which reveals conflicting theoretical positions, affecting how the notion of autonomy is to be translated in practice; second, we turned our attention to their socio-economical logics, which shows that while some actors support knowledge globalization, others are interested in universalization principles, which fuels their conflicting definitions of a learner's autonomy; finally, their industrial logic reveal that, looking for a way to standardise active learning, they rationalize the use of incompatible educational forms.

2.1 Pedagogical logics: the paradox of a pre-existing autonomy

The representations of autonomy, formulated by our actors, reveal disparate definitions of learning, vestiges of oppositions emanating from behaviourists and cognitive theories as to the mental capacity of the individual, sometimes defined as independent or self-educated.

A first materialist logic, prevalent in distance education, implies an independent individual, free to choose the most appropriate education to his/her needs. This autonomy is nevertheless limited because the teacher, transformed into a knowledge engineer, produces a programmed learning experience which directs the learning process by organizing and arranging the course according to precise educational objectives. Socialization must condition learners to hierarchical relationships and to standardized behaviours.

Not all actors agree with this approach. Undergraduate programs, particularly humanities, have traditionally been closer to a cognitive approach preferring the promotion of an innate intellectual autonomy enabling individuals to become "bricoleurs", who hold absolute control over all aspect of learning. The professor becomes a guide, who advises the learner without controlling his/her experience, and takes part in the engineering of assisted learning, priority being given to problem resolution methods which provides the

user with an increasing autonomy by granting the capacity to structure and to develop his/her own course (Papert, 1993). Socialization must autonomize the person and encourage participation to discourse and debate in order to better individual cultural capital.

These two opposite views are rendered complimentary by the administrative logic. Using the post-industrial paradigm, it amalgamates these two types of autonomy as part of a constructivist framework, where the learner is first controlled by the teacher and gains independence over time to become hyper-autonomous and where socialization must help the student become able to work independently and get along with others by acquiring listening and discussion skills required to work in social networks.

These various representations of a learner's autonomy do not go without generating various types of teaching and didactic adjustments, and various technical system designs. Indeed, in spite of their agreement with the need for new teaching aids, actors allot to educational contents heterogeneous values of use and exchange.

Opposite definitions of an educational information and communication system

The conflicting definitions of autonomy existing give rise to contradictions as to the type of interactions and communication that the system must facilitate. Two logics of communication, already observed in a great number of experimental projects (Barchechath and Pouts-Lajus, 1991), coexist. The first stresses the transmission of information and knowledge to an independent learner, while the second, more "pragmatic", is oriented towards activities that help a self-directed learner to progress in his/her own time. This leads actors to consider a logic of information "push" and of "pull".

The first model, predominant in the distance education, suggests the advent of a system which supports information "push", via the mass diffusion of the same information and the same messages to many (Garcia, 2001). In this case, at the request of the isolated users, the system manages learner's individualization by the transmission of standardized courses and the use of electronic mail lists which simultaneous broadcasts of the same message to a great number of users.

The second model, information "pull", refers to a model of personalization of knowledge where self-taught individual draw from gathered resources. This time, messages and information are adaptable to various needs. The virtual system gives access to tools that allow self-directed learning and communication with others. The system manages the dynamic co-production of content by users and the use of tools.

These different representations represent opposite types of interactions between users and contents since information "push" implies that learners adapts to content, whereas in the case of information "pull" it is content which adapts to learners. Is it possible to create a system common to these opposite processes? This theoretical-practical obstacle is solved by the administrative actors who consider these processes as segments of use in a portal which aggregates administrative, educational and commercial content and services, adapted to the needs of individuals who select services that are appropriate to their own motivations.

But, the autonomy of learners is regarded as pre-existing, and not like a finality of the educational act. Yet, autonomy is not a simple quality but a mode of integrated control (a meta-behaviour) which, for the majority of individuals, does not come naturally and must be learned (Linard, 2000). Another obstacle is that users are solicited only at the time of diffusion and not at the level of design of services. Paradoxical phenomenon since the system is developed to assign the status of co-producer to these users (Combès, Payeur, 1997).

These anomalies get amplified when actors define the functional aspects of the communication system. Actors devalue the communicative functions of teachers, as they equate learning to the structural mechanisms of data-processing technologies, it would be enough to communicate information to educate learners. The influence of educational cybernetics allows this devaluation of communication practices, since it assumes the development of the learning skills of any system to be equivalent to a simple exchange of information with the environment (Wiener, 1954). Knowledge becomes equivalent to data processing, priority being granted to the coding of information, and not to the relational aspect of learning which actors do want to improve. This is a paradoxical theoretical change as teaching research has shown that knowledge cannot be limited to a communication of objects. Access to information is only the first stage of human knowledge which must be rooted in practical action and in relationship with the environment; such knowledge will only evolve to abstraction if it exceeds this stage (Piaget and Vygotsky, cited by Linard, 2000).

These simplifications of the nature of autonomy and knowledge, prove to be antithetic to the advent of an effective pedagogically environment. Why is virtualization of knowledge so important to educational actors when the learning it promotes is schematized? The analysis of actor’s social and economical references reveal that stakes other than teaching influence the use of new educational technologies and that the social mutation they envision can not exist without a virtual educational system, nor an accentuated user’s autonomy.

2. Socio-economic logics: knowledge globalization versus universalization

To understand the willingness of educators to move towards systems that reduce the quality of learning, it is important to understand the Ontario economical context. Between 1995 and 2003, Ontario universities have experienced reductions in public funding of more than $1.8 billion to their undergraduate programs. Universities have had to eliminate redundancies and find new revenues sources. In parallel to these cuts, student numbers have continuously increased while teacher numbers have decreased (the teacher-student ratio has moved from 16:1 in 1994 to 100:1 in 2004). Yet, a small ratio student-teacher is considered paramount to maintain a teaching quality. In spite of these facts, in Ontario, the number of teachers continuously decreased, the elimination of teaching positions making it possible to deal with budgetary constraints.

Added to this decline in funding and personnel, a phenomenon of double cohort hit Ontario in 2003. The elimination of the last year of high school has meant a drastic one-time increase in student enrolment at the university level. Ontario's universities have tried to maintain the quality of education and of the university experience while adapting to a growing number of student without significant change in their capacity. Not having the financial nor human resources required to maintain small classes, universities now offer massified undergraduate courses accommodating up to 1500 students.

Information and communication technologies are seen as a means to deal with some of these financial and logistical problems. Administrators are interested in virtualization of learning since it allows service liberalization in education, a means to create new revenues sources, new efficiencies and new profitability. Undergraduate programsadministrators seek to virtualize a certain number of courses, if not entire programs, in order to be able to diffuse them to a greater number of students without recruiting more teachers. Due to the fact that this massification process is the direct result of the government's strategy and not of their administration, teachers' resistance is low. Educators become interested in virtualization of learning as they seek technological solutions to deal with the teaching problems that these massive classes pose. Thus an evolution of teaching methods takes place where hybrid models appear, virtual education becomes more common and in some cases introducing distance education's individualization of learning to undergraduate programs.

But different ideologies fuel the changes our actors seek. Two distinct logics nourish the mandate of autonomisation which the actors allot to education. The first, of neo-liberal nature, foresees knowledge globalization while a second approach, more humanist, supports knowledge universalization.

The neo-liberal logic of profit towards knowledge globalisation

Distance education actors consider that education must respond to the need of industrial sectors by satisfying the professional motivations of individuals. Within the framework of competition in a free market society which promotes profit as a universal value, autonomisation[1] must improve the competitive capacities of learners since social evolution comes from the increased profitability of individuals. Education corresponds to "the financial investment of an individual aiming to improve his/her physical and intellectual capacities and thus his/her profitability" (Delamotte, 1998). Interested in their own advancement, individuals invest in their education according to how specific programs enhance their human capital. In other words, improve professional competences favourable to the economic development, in accordance with the objectives of the leading forces (Becker, 1993). Education becomes an economic system, which help develop world markets by selling network based standardised educational products. In a context of knowledge globalization, information is an economical resource, a commodity to be sold at a market price.

The open source logic toward knowledge universalization

Undergraduate programs offer a second option, which gives priority to the needs of a communicational individual who evolves/moves in an open society, breaking with the values of an industrial society. Actors give preference to a culture of argumentation and communication, where mass participation of citizens is fundamental to social progress since in this context, economic competition does not take place between individuals but between institutions in which innovators, members of an underperforming scientific community, help and share free information necessary to the acquisition of new knowledge.

Education, incentive to social good, becomes a societal collective investment which supports comprehension between individuals towards their social integration. In this case, autonomisation answers a humanistic mandate, the sharing of individuals' values of transforming and guiding the evolution of the society. Virtual environments must be created to offer tools for self-paced learning and human interactions since educational institutions must take part in building a virtual information and communication system which supports social and interactive processes, without monopolization or control of information. Breaking away from a logic of profit, actors want to participate to knowledge

[1] The act of rendering the individual autonomous

universalization where information is a tool that allows for the establishment of transparent social regulation.

The portal: hybrid of two conflicting ideologies

The actors manage to bypass these ideological differences by switching from a Taylorian to a self-service industrial model where learners' autonomisation corresponds to both economic and social needs. The portal is a self-service system responding to the needs of different clients (departments, students) where information becomes both a commodity and a collective good, transmitter of both industrial and social values.

The social changes that actors envision cannot be established without a virtual educational system, which becomes the obligatory point of passage to values acquisition (Moeglin, 1999). Whether it is within a knowledge globalization or universalization logic, autonomisation becomes characteristic of the changes in progress.

3. The creation of a universal teaching form: knowledge standardization

The massification of educational services requires teaching forms that can work for multiple disciplines, thus the need for a rationalized process of standardization of teaching modes which makes the educational act profitable by reducing the costs of its production and its use (Foray, 2000). Different types of standardization are considered by our actors, some are interested in the mass transmission of standardized courses, while others need the mass distribution of personalized curricula.

Course standardization corresponds to the information "push" model. Information exists within educational products transmitted in mass. A second approach tries to assist interactive processes between information and users and the dynamic adaptation of contents, via the use of educational modules structured on demand. Whether the system supports the offer of educational services based on information "push" or "pull ", the actors also seek to create standardized communication services which one could describe as "dialogical" market " (Delamotte, 1994). In the case of distance education, the need to generalize the use of electronic material cultivate the desire to mechanize the communicational aspect of learning in order to be able to systemize its use, which implicitly diminishes the importance of interrelationships between users. In the case of undergraduate programs, the communicative aspects of learning remain important but the teacher is no longer central to that process, untrained teaching assistants becoming facilitators to large virtual classes. This demotion of the teachers' communicative role allows generalizing the processes without a huge increase in spending.

Independently of their socio-economic affiliations, actors change the nature of teaching. Teachers' role in the learning process becomes reduced to information processing. In all cases, teachers become content producer and their relationship to students decreases. The control of the learning process, which is normally guaranties the quality of education, is transposed to other players (tutors, external experts, machine), rarely the student.

Conclusion

In line with current societal tendencies that are moving towards service liberalization, which no longer exclude educational and health fields, our actors are interested in a progress of industrialization in education based on an increase of learners' autonomy. The shift in definition of teaching implies major organizational changes within universities that represent both an evolution of the current system and the creation of new educational markets. For the university administration the objective is to re-industrialization bureaucracy and teaching within a service liberalization framework, while distance education is interest in the creation of new markets based on the international sale of editorial products. Yet, undergraduate programs want to intensify the use of humanist sharing practices. Virtual Higher Education thus becomes both a liberalist and humanist socialization tool,

In all cases, learner centered practices become an important predefining element of virtualisation that permit the introduction of a rationalised production process of resources by reducing the cost of direct human relations (between the teacher and students). The aim is to reduce the time teachers spend in front of a class in order to increase the time that they spends producing electronic based teaching material, such as self paced learning modules, online tutorials or educational experiences designs, necessary to the creation of a self-service educational system.

But education's technologization brings simplifications, if not schematization, to active learning principles. By grafting systemic qualities, allotted by behaviourists to technique, with the mental structure of cognitive science, actors claim being in line with constructivists theories of learning, but they do not give importance to the complementary pedagogical forms that constructivist learning requires.

The concept of autonomy no longer corresponds to the constructivist notion of autonomy development, but become a pre-existing autonomy, one that the effectiveness of the technical system depends upon. This does not pose problem to distance education programs which do not have to develop learner's autonomy. But undergraduate education loses its dual role which, initially, was to control the process of learning and

gradually increase autonomy thanks to an interactive and participative approach. An economic logic is imposed upon pedagogy which positions technologisation, not learning, at the core of educational innovation.

These simplifications are not problematic for distance education since its role is not to develop the autonomy of its adult students. But it creates a paradox for undergraduate education since its mandate is to develop the intellectual autonomy of the learner. Within a virtual educational system, the learner's autonomy needs to be pre-existent. What will the university educational mandate become? If we move towards a virtual system where teachers are no longer directly involved in students' learning process, who will become responsible for their education and with what consequences?

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