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Autor: Cantoni, Lorenzo

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LORENZO CANTONI*

EDUCATIONAL COMMUNICATION AND THE CASE FOR ICTS. A TWO WAYS ROUTE

The relationship between communication and education can be understood in both directions, exploring the role of communication in education as well as the one played by education in the communication field.

First of all, both communication and education aim at promoting a change in the addressee, an *habit change* as it was meant by Ch.S. Peirce.

In fact, the education of human beings could not be possible without communication, be it non verbal or verbal, and one of the most important goal/outcome of education is language acquisition through dialogue. Education is further required to acquire and master all the “technologies of the word”, giving birth to media education, digital literacy activities and so on.

Moreover, all kinds of communication may (should) be soundly integrated in educational activities, encompassing listening and dialogical settings – let us think, for instance, to counselling/learning and logotherapy – as well as one-to-many communication (lectures), up to the use of printed, electric and electronic media. Every communication setting, strategy and technology has found in education a role as well as one of the most important test-beds.

The article sketches a map of the aforementioned links between communication and education, and explores in more detail the role of ICTs in education.

Keywords: communication, education, educational communication, eLearning.

* University of Lugano, lorenzo.cantoni@lu.unisi.ch

1. Introduction

The goal of this article is twofold.

First of all, it tries to sketch a comprehensive map of the communication & education territory, whose dimensions – topography, orography, hydrography (not to mention archeology) – are far from being clearly defined and universally accepted. Using another metaphor, a sort of high-level *Historia Naturalis* of this area will be proposed – hence more committed to taxonomy than to history.

This first goal is made simpler and more concrete by the second goal: to briefly present the *rationale* behind the ICleF – Institute of Institutional and Educational Communication (once called: ICeF – Institute of Communication and Education) inside the Faculty of Communication Sciences of the University of Lugano, which offers a major in education and training at both bachelor and master levels.

The article is organized as follows: a first paragraph is devoted to present how communication and education are deeply and closely connected to each other. This relationship is further explored in two different directions, one stresses the road from education to communication – encompassing language learning and acquisition up to media education – while the other one goes in the opposite direction, showing how different communications design different educational landscapes.

A last section explores in more detail the specific case of ICTs (Information and Communication Technologies) in education, also called eLearning, arguing that it is not just an occasional change, but the actual educational context of knowledge society.

The goals, nature and scope of this article have suggested to reduce references to only a few ones.

2. Communication and/or education

Communication and education have been many times presented as closely connected, and an extensive account of this is by far outside the scope of this article.

Just a few quotes anyway can help introduce the issue and some of its relevant aspects.

In the XII book of his *Institutio oratoria*, Marcus Fabius Quintilianus [35-95] defines the good *orator* as being, according to Marcus Porcius Cato [234-149 BC] “*vir bonus dicendi peritus*”, an honest man (a *gentle-*

man), expert in communication. In fact, the *Institutio oratoria* itself is at the same time a manual of education and a manual of communication. Here the art of communication (*dicendi peritus*) is closely connected to an ethical value (*vir bonus*), to those *virtues and mores*, which are at the root itself of morality. In fact, *mores* – costumes – need to be in harmony with human nature and to be shared; they require then society, sociality and communication.

The connection among human nature (*zoon logikón*: speaking living being), communication and society was paradigmatically presented by Aristotle [384-322 BC] in his *Politics* (I, 2):

Now, that man is more of a political animal than bees or any other gregarious animals is evident. Nature, as we often say, makes nothing in vain, and man is the only animal whom she has endowed with the gift of speech. And whereas mere voice is but an indication of pleasure or pain, and is therefore found in other animals (for their nature attains to the perception of pleasure and pain and the intimation of them to one another, and no further), the power of speech is intended to set forth the expedient and inexpedient, and therefore likewise the just and the unjust. And it is a characteristic of man that he alone has any sense of good and evil, of just and unjust, and the like, and the association of living beings who have this sense makes a family and a state.

It is worth noticing that also in recent times Émile Benveniste [1902-1976] found in a deep analysis of bees' communication – grounded on the research done by the Nobel Prize Karl von Frisch [1886-1982] – an important key to understand human language (Benveniste 1952; Cantoni 1999).

A last milestone to be mentioned here is the one set by Augustine of Hippo [354-430], one of the most influential rhetoricians of his times. The book he dedicated to his son Adeodatus: *De Magistro* (*About the teacher*), which has the form of a dialogue with the son himself, is at the same time a text on semiotics and a text on education. The very first lines of the dialogue stress this overlapping:

AUGUSTINE: In your opinion, what do we want to achieve when we speak?

ADEODATUS: As far as it occurs to me, either to teach or to learn.

AUG. – I can see just one of these and agree with it: it is clear that when we speak we want to teach; but how to learn?

AD. – Not otherwise than when we ask questions.

AUG. – Also in that case I understand that we want to do nothing but to teach. I ask you: do you ask questions for any other reason than teaching what you want to the one you are asking questions to?

AD. – You are right.

AUG. – So, you see that through language we intend to do nothing but to teach.

According to Rigotti & Cigada (2004), verbal communication is a special case of interaction; through discourse persons can (a) share their knowledge about the world, (b) share their intended goals and (c) organize interactive processes in order to reach those goals.

The pedagogical contract itself can be interpreted along these categories: language/communication is needed (a) to communicate what is known about the taught/learned world, (b) to describe the desired end-results and (c) to organize the teaching-learning experience.

According to Peirce [1839-1914] (Peirce 1982; Cantoni & Di Blas 2006), a fruitful communication happens when the addressee changes somehow her/his habit (*habit change*), meaning that s/he has a different understanding of and/or attitude as a result of the communication experience. In fact, an habit change is the actual goal of education; moreover: in education the goal is explicitly intended and – at least in adult education – clearly agreed upon by teachers, learners and other stakeholders.

The close links between communication and education justify the fact that university curricula have been designed, which stress both elements. Just to mention a few ones in Europe: the International Master of Communication and Education (Máster Internacional de Comunicación y Educación) at the Universitat Autònoma de Barcelona; the specialization in Communication, Citizenship and Education (Mestrado em Comunicação, Cidadania e Educação) at the Universidade do Minho in Portugal; the Master of Communication and Education (Master in Comunicazione e Formazione) offered by the Università Cattolica del Sacro Cuore di Milano, and the Master of Science in Communication, major in Education and Training, offered by the University of Lugano (the last two curricula are run in collaboration between the two institutions)¹.

¹ Máster Internacional de Comunicación y Educación:

<https://masters-oaid.uab.es/comed/identificacio.jsp>;

Mestrado em Comunicação, Cidadania e Educação:

www.comunicacao.uminho.pt/cur/mestrados/com_cid_edu/mestr_com_cid_edu_1.htm;

Master in Comunicazione e formazione:

www3.unicatt.it/pls/unicatt/consultazione.mostra_pagina?id_pagina=3049;

Master in Formazione: www.met.unisi.ch.

All those curricula present, in a different blend, both directions from education to communication, and vice-versa.

3. Education to communication

The first direction studies how education promotes communication; three cases will be briefly presented here, as relevant milestones: education to

- a) language;

- b) communication and

- c) communication technologies.

3.1. *Education to language*

As Krashen (1988) has clearly demonstrated, we can learn a language and/or acquire it: in the first case we have an explicit (declarative) knowledge of grammar rules, in the second case we are fluent in it. These different kinds of knowledge can be related, but do not depend on each other: one can extensively know Latin grammar while not being able to utter a single sentence, and kids can speak their mother tongue without knowing any grammar rule at all.

Language acquisition – be it that of first or second language – is closely connected to extensive language input, which has to be meaningful and relevant, both cognitively and affectively (Cantoni 2002). A deeper understanding of it has brought language teaching toward communication: in fact, *Teaching language as communication* was the title of one of the most influential books in language teaching theory (Widdowson 1978), which stressed that language education needs a sound communicative approach.

Psychological and pragmalinguistic studies in language education have shown how deeply it affects personal identity and interacts with it. First language acquisition is needed to shape self consciousness, while second language learning/acquisition is closely connected with the understanding of the myself (Dufeu 1994), and in certain cases may threaten it (Kasper 1995). It is the case, for instance, of immigrants who do not want to be fully integrated in the target community: they learn the new language up to the level needed to be accepted and to interact satisfactorily with the community they live with, but – once reached that point – their language competency fossilizes (Clément & Kruidenier 1985).

This close connection between language and personal/cultural identity has found in the so-called Sapir-Whorf hypothesis (Carroll 1956) its strongest manifesto. In the words of Whorf:

We are thus introduced to a new principle of relativity, which holds that all observers are not led by the same physical evidence to the same picture of the universe, unless their linguistic backgrounds are similar, or can in some way be calibrated. [...] The relativity of all conceptual systems, ours included, and their dependence upon language stand revealed (214).

[We] dissect nature along lines laid down by our native languages. The categories and types that we isolate from the world of phenomena we do not find there because they stare every observer in the face; on the contrary, the world is presented in a kaleidoscopic flux of impressions which has to be organized by our minds – and this means largely by the linguistic systems in our minds (213).

As Cantoni (1993) has argued, linguistic relativity needs to be understood in the whole research of Benjamin Lee Whorf [1897-1941], which leaves enough space to account for language creativity (and hence personal freedom and responsibility: see also Chomsky 1956), for translation and for intercultural communication. In fact, both Sapir [1884-1939] and Whorf offered a great example of cultural studies and intercultural communication and understanding.

Multilingualism and intercultural communication are even more important today, and are among the main assets of all university curricula involved in communication and education.

3.2. Education to communication

As emphasized by the communicative approach to language teaching, every education to language – not only the acquisition of one's mother tongue – needs to be education to meaningful and relevant communication. But education to communication does not end once a language is mastered at a native or native-like level, it needs to go further studying language structures and discourses as well as continuously promoting the capacity of listening and speaking in different contexts, with different interlocutors and for different goals.

This never-ending education to communication has found in Western history a paradigmatic application: the *Trivium*.

Trivium stresses that the basic training of young human beings, needed to develop both their personal and social nature, is a training in communication, presenting language structures (Grammatica: grammar/syntax), logical and argumentative structures (Dialectica: dialectics/semantics) as well as interpersonal and public communication (Rhetorica: rhetorics/pragmatics). Other kinds of knowledge/sciences can be acquired only afterwards: it is the case of *Quadrivium*.

Logic, argumentation theories and rhetoric/communication skills – public speaking, visual communication and the like – are at different levels present in university curricula teaching communication and education.

3.1. Education to communication technologies

As stated by Ong (1982), since the birth of handwriting, human societies have adopted many different technologies of the word. Their impact is twofold: they need to be learned and taught formally (at a certain extent), and change deeply education – as it will be discussed in the following paragraph.

Depending on the socialization of different communication technologies, they can be mastered by just a little social group – let us call them “scribes” – or are supposed to be mastered by (almost) all members of society, hence requiring a wide alphabetization (Havelock 1981; Innis 1950). Carol the Great [742-814], for instance, was not able to read and write fluently, and used to sign with a cross, but this did not affect at all his social integration, while nowadays a person who is not able to read and write is somehow marginalized in our societies. In fact, not only press and electric communication technologies have been deeply internalized, but also ICTs require to be mastered in order to live in the knowledge society (Cantoni & Tardini 2006). Hence the need for an explicit education not only to read and write or to literature, but also to a proper media use – media education (Rivoltella 2005) –, as well as to ICTs – digital literacy.

This latter form of education helps to avoid or overcome the so-called “digital divide”, which can occur between countries, as well as between different social levels.

The digital divide refers to

the inequalities that exist in Internet access based on income, age, education, race/ethnicity, and (...) between rural and metropolitan areas, through such factors as pricing and infrastructure (Hill 2004: 27).

Courses on ICTs are offered in all curricula focused on communication and education; moreover, communication and education are approached from social and economic perspectives.

4. Communication to education

It is now time to go the other direction, looking at different milestones in the path which goes from communication to education. In particular, a) writing and press and b) mass media will be briefly looked at, considering their impact onto educational settings and experiences. The case of c) digital media will be further presented in more detail in the following paragraph.

In fact, the history of communication and/or education is integrated in the above mentioned curricula, showing how important it is the awareness of different teaching/learning scenarios, and of their communicative counterparts. This awareness requires a sort of ecological approach, which recognizes that every new communication technology does not eliminate the already established ones, but asks for a deep reorganization of the information-communicative territory (Fidler 1997).

4.1. *Writing and press*

As Cavallo and Chartier (Chartier 1995; Cavallo & Chartier 1995) have shown, handwriting and press have deeply affected the way people think, learn and teach. The very experience of a *lecture* in the middle ages, in fact, highly depended on the dictation of a classical text – the most economic and efficient way to reproduce volumes before the press was invented – and the comment by the university professor. The layout itself of classrooms is closely connected with different technologies of the word, requiring different tools and spaces to be available to both teachers – *professing* “ex cathedra” – and learners. Let us think, for example, of the images of students by Jacobello dalle Masegne (Tomb of Giovanni da Legnano: 1383-86, San Domenico, Bologna, Italy) or by Ambrogio Lorenzetti (Effects of Good Government on the City Life: 1338-40, Palazzo Pubblico, Siena, Italy).

The impact of books onto education does not need any demonstration, giving birth to specialized literary genres – the manuals – and to a different way of conceiving the learning experience, moving apart from the lively oral interaction of rabbinic schools or *quaestiones disputatae* and *quodlibetales*, and emphasising silent reading and reasoning. The organ-

ization of a scientific community as well as the selection of professors have deeply integrated the writing and press world, becoming mainly the selection of people who are able to write documents – books, book chapters, articles, papers – which are appreciated by the concerned academic community. In many cases, to become full professor one has not to demonstrate any oral communication expertise, nor didactical skills, but mainly/only to be able to write relevant documents, which grant her/his reputation in the researchers' community.

4.2. Mass and electric media

Since its birth, a new medium (Fidler 1997) is tried and tested in education. This is due to intrinsic reasons – the close connection between communication and education, which is the subject of this article – as well as to extrinsic ones – the possibility of getting public funding for research and a better reputation in front of potential adopters.

In particular, language teaching is a field where every communication medium finds important applications: if meaningful language input is at the very core of language acquisition, mass media offer an invaluable source for it. Moreover, once audio and audio-video have been coded by electric media, they could help teach listening and speaking skills: let us think of the use of TV news to learn and teach second languages, or of the use of national radios and televisions to teach the “standard language”, or culture, or socially relevant information about health, history, geography, technology and so on.

Audio-video encoding media, in general, offer a multimodal content presentation, hence going in the direction of a double-coding (Mayer 2001), which is so important for understanding and retention.

As it has been for writing and the press, mass and electric media have deeply shaped culture; without them it is not possible to study, understand and interpret the last century, its movements, leaders, dreams and nightmares. This calls for a more extensive and sound use of audio-video archives, which are being reconsidered as a very rich source for education (see, for example, the European Project DigiCult: www.digicult.info; Geser & Pereira 2004).

The use of mass media and of audio-video to promote education and training is at the core of the curricula concerned with education and communication.

5. The case for ICTs in education

If the writing space has been superposed to our reasoning processes, up to becoming one of its mostly used metaphors, new digital spaces – hyper- and multimedia – are deeply shaping knowledge awareness, creation, acquisition and communication (Bolter 2001).

In fact, in the knowledge society, characterized by an extensive use of ICTs, education and training can not avoid being changed and reorganized by them. Education is not just being coloured differently by ICTs – as it seems in many naïve tests and experiences, mainly focused on technological gadgets (Cuban 2001) –, it is being deeply affected and dramatically changed.

ICTs have a strong impact onto all the elements entailed in the pedagogical contract, namely the ways we a) know, represent and communicate the world and b) our goals (possible, desired worlds) as well as onto the ways we can c) coordinate efforts to share that knowledge and reach those goals.

From this viewpoint, learning in the ICTs socio-cognitive context can be simply called *eLearning*, hence interpreting it not as being just the adoption of technological tools – which it also is, indeed – but mainly as being the only possible education, requiring a new and deeper understanding of teaching/learning processes.

Adapting a model OECD proposed for eGovernment, the many definitions of eLearning can be organized as follows:

- internet (online) education and training;
- the use of ICTs in education and training;
- the capacity to transform education and training through the use of ICTs (Cantoni & Tardini 2006: 176).

In all of them, communication plays a central role; it is not by chance, for instance, if the Journal *Education, Communication & Information* has been recently renamed as *Learning, Media and Technology*, or if the study of communities of practice has found a great impulse in the ICTs world (Wenger 1998).

The same central role is underlined in the eLearning definition proposed by the European Community:

the use of new multimedia technologies and the Internet to improve the quality of learning by facilitating access to resources and services as well as remote exchanges and collaboration (CEC 2001: 2).

Research on eLearning is being conducted in different contexts and by different viewpoints, mainly from the point of view of technology, education, psychology and *communication* (not to mention other relevant approaches: philodophic, economic, legal, sociological, etc.). Although very heterogeneous, eLearning research is gathering a dedicated community, understanding the need of an integrated approach, which has to balance multiple perspectives with the necessity of keeping the unity of the research subject. To do so, the involved research community(ies) is negotiating and developing common tools and integrated perspectives, creating a common background (Cantoni & Rega 2003, 2004) onto which a better understanding of eLearning can be rooted and flourish, at the same time enabling a deeper understanding of it and the promotion of sound eLearning experiences.

The knowledge society, and how organizations are changing due to ICTs are core topics in the programs concerned with communication and education; moreover, beside studying eLearning they make use of it in their actual teaching strategies.

6. An (endless, returning) conclusion

The route itself can suggest a brief closing reflection. *Route* comes for the Latin expression “*via rupta*”, meaning: “once the passage had been opened...”, in sentences like: “soldiers entered the forest, once the passage was opened”. Route meant then, at first, a passage hard to open, up to cover just the meaning of a passage and eventually also that of a passage you go forth and back very easily: *routine*. The image of a route can help us re-thinking the (new) roles of education and educators in a world characterized by ICTs along three different lines.

First, they are to be like routers: devices which intelligently route information through the most efficient ways. In the knowledge society education must be continuous and lifelong, and who teaches can not at all cover all the learners’ information needs.

Second, they are to be equipped by adequate technical tools, as maritime routes need to be designed using compass, sextant, gps and so on.

Third, they have to select, organize, accompany, tutor and coach crews able to reach the intended goals: hence the necessity of community and trust building.

Socrates, in Plato’s dialogue *Thesetetus*, suggested that his role could be paralleled with that of a midwife, who helps people give birth to truth and find the right person to get married with:

SOCRATES: Well, my art of midwifery is in most respects like theirs; but differs, in that I attend men and not women; and look after their souls when they are in labour, and not after their bodies: and the triumph of my art is in thoroughly examining whether the thought which the mind of the young man brings forth is a false idol or a noble and true birth. And like the midwives, I am barren, and the reproach which is often made against me, that I ask questions of others and have not the wit to answer them myself, is very just – the reason is, that the god compels me to be a midwife, but does not allow me to bring forth. And therefore I am not myself at all wise, nor have I anything to show which is the invention or birth of my own soul, but those who converse with me profit. [...]

And there are others, Theaetetus, who come to me apparently having nothing in them; and as I know that they have no need of my art, I coax them into marrying some one, and by the grace of God I can generally tell who is likely to do them good. [...] Once more, then, Theaetetus, I repeat my old question, ‘What is knowledge?’ – and do not say that you cannot tell; but quit yourself like a man, and by the help of God you will be able to tell.

While context, strategies and tools have changed and are changing, the goals did not.

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