

A communicative Approach

Lorenzo Cantoni, 7.4.2008

Communication, technology and society

There is no society without communication. As the story fo the Tower of Babel tells, if communication breaks down, society breaks down. McKinsley (REF) did some studies trying to identify how much communication is within different types of work. For tertiary sector, communication can account up to 80%-90% of the activity. But there is a lot of communication even behind a cup of coffee.

Communication starts with natural language, and then proceeds with *technologies of the word* (cf. Ong REF): handwriting, press, electric media (telegraph, radio, tv), electronic media (ICT). Differently from natural language, technologies of the word require *formal training*.

As we use languages and technologies of the word, these change our life. Example: a simlele theorem demonstration, the submission of a CV. They are embedded into practice. “Scientific” means that article should be published somewhere recognized – no Cd, no website, no talk, just written communication holds here (Innis, *Writing and Empire*, REF).

Itis a sort of “augmented reality” experience: reading the labels on a bottle of water tells us a lot of things about the water. The bottle is almost a book, a book that contains water. Usually in more than one language. Anthing (almost) has written content on it. We perceive it as normal, not as augmented reality.

The way we perceive reality and learn reality is deeply affected by emergent communication technologies. We need to be able to read and write, beacuse writing is deeply socialized. Before that we had *scribes*, and only afterwards it was *popularized*. Nowadays other media are being socialized: taking pictures (Kodak, digital pictures), desktop publishing a few years ago, car driving some decads ago. Cinema, TV and radio are still resisting this process...

How do we manage to train people to use these technologies? Schools are traying to cope with that, and teach technologies as they used to teach to ready and write – they now have a problem with *digital natives*...

When a baby is born, the yplace on it a lace with the mother's name – as soon as you are born you are “being written”. Also, data is entered into a computer – there is a “digital double” of yourself.

eLearning

What about eLearning?

e-Government has three families of definitions:

1. ICT in government
2. The Internet in government
3. How the government changes due to ICT and the Internet

e-Learning

1. Using digital technologies in teaching and learning + Using the Internet in teaching and learning, i.e., an explicit strategy that integrates this.
2. How teaching and learning changes due to ICT and the Internet, i.e., the way people learn and teach in the knowledge society: in the lifecycle of knowledge, that are somewhere digital technologies.

A position under this respect is determinism: we think the way our mother tongue works (Whorf & Sapir, REF), extended to our technologies (McLuhan, *The Medium is the Message/The Medium is the Message*). McLuhan said that we live in a prosthetic world, we are like cyborgs, such as with glasses (Yeaman, REF). Another example is the debate over PowerPoint by Edward Tufte: you slice knowledge in slides, and then in bullets and hierarchies – it has become a message in itself, as a standard mode of communication (“how many slides should my presentation be?”).

A proposal: geography and history

And the geography of a nation influences a lot of its history. In Switzerland, the geography has helped with the production of milk, wine, chocolate – but not banks. At a certain moment a people can “reinterpret” its world and change the geography: create banks, or make Lugano closer to Zürich.

Each technology of the word is suggesting a shape of the geography of society. We cannot change the knowledge society as a whole, but there is space for free choice and “reinterpretations”.

Our task as researchers is *mapping geography* and *planning history*. An example is Cassiodorus: he spent time mapping all available manuscripts available at his time, and also writing a guide for using them. In doing so he also indicates which ones were more worth reading and copying.

Red-ink

Multiple meanings

1. We're the *rubricae* of the knowledge society: indicating what happens
2. We're the Net-Ink (Spanish: red = network)
3. Inklings (Oxford, 1930s-1940s, meeting in a pub discussing cultural issues and reading drafts of their works)

Collaborative technologies

Pierre Dillenbourg, 7.4.2008

We are physical, even when we are virtual

This field is not unified, there are many communities (there will be a history of these communities on Thursday): more traditional e-learning, simulations, etc.

There is a clear matching between the way we map our physical environments and our culture and topics (examples: Lugano/Cambridge and Mac/Linux and different layouts of computer labs). In the computer labs, where are the differences?

1. Cathodic screens / flat screens: big boxes kill interaction
2. Rectangular tables / Round tables

We are not virtual! Even if you learn at home from a LMS, you are *at home*: a chair, flesh and bones!

Why collaboration promotes learning?

If you put two ignorant people together, you have a bunch of ignorants.

Meta analysis on learning on collaborative learning vs. individual learning says that it is better in about 60% of the cases... (REF). This led to a second generation of studies: under what conditions is collaboration best? It depends on the task and on other elements.

Variables:

1. Number (the bigger the group, the more likely you have “tourists on board”)
2. Level (huge, small, etc.)
3. Gender (what pairs? Depends on age and culture also!)
4. Age
5. Task features: verbalize, open, etc. It could be a task where there is space for negotiation
6. Medium
7. (Context)

For example, small size is better for convergent task, large size is good for divergent tasks. No prediction is actually possible, as there are many factors and they depend on each other.

So the focus was moved on what happens when people collaborate. The more verbal interaction occurs, the more effective collaboration is:

1. Explanations (elaborated!)

2. Conflict resolution, argumentation, negotiation
3. Mutual regulation: who does what in the ecology of the group, one controls the other, and after a while they shift (and when you do the same alone, you learn to self-regulate).

If you suffer and spend effort in understanding each other, it means collaboration is really taking place and has an effect.

Supporting collaboration

We cannot control the effect of collaboration. We can control what interactions occur, and we know that some interactions generate effects.

Control interactions:

1. PROACTIVE: provide a structure through “scripts”, a way to engineer group interactions (“free” collaboration rarely works)
 1. Tools that give shape to argumentation through a visual language
 2. Concept grid script: jigsaw method in which the only way to get through is explaining your concept definitions to the others
 3. Argue graph script: a system for creating pairs with differing opinions and then have them provide argumentations + debriefing
 4. Camera-lamp
2. REACTIVE: regulate what happens
 1. View in a snapshot of a forum discussion for teachers (Donath, REF)
 2. Self-regulation (Jermann & Dillenbourg, REF)
 3. Providing groups with an image of themselves (table – you can also recognize patterns with that).

We try to turn this “mechanic” of the scripting into physical objects. The furniture can be designed to incorporate for example conflicts. Technology must not be a ugly black box. It can be in the environment, on the table, the chair, etc.

A script...

1. Integrates {solo | group | class} activities
2. Targets a specific class for interaction
3. Relies on workflow dynamic
4. Is orchestrated by the teachers at run time

About red-ink

There are different view points, and many different communities, with little consensus. We have to learn to cope with this context.

1. Technology is impacting deeply the society: adapting to society vs. changing society (Lorenzo's).
2. How can we make schools better (Pierre's). EPFL approach is designing and running projects

Advice: don't read too much! Leave space for creativity, get ideas. Just check that nobody had the same idea before...

Q&A

[Emanuele] There are always many variables, and we will never come to find a complete model. We have to select a small number for designing experiments, otherwise they would become unmanageable. For example, scripts depend on the quality of questions being asked, and on small timing differences.

[Xrysa] Collaboration or learning? Where should the focus be? We zoom on the collaborative process, and maybe we forget about learning. We should try to take care of both. Collaborative learning is learning as a side effect of collaborative problem solving. We try to measure also the quality of interaction.

Another view is that collaboration is not a method, but that all cognition is social (and only social). This is not measurable, so the approach is more ethnographic (Engeström, *Learning by Expanding*).

There are different schools and methodologies... do not try to reconcile.

[Lorenzo] That was an excellent example of shift from “publish or perish” to “demo or die”.

[Pierre] If you have tangible stuff everything changes – it is different how people react to that.

(e)-Learning Cultures

Dieter Euler, 7.4.2008

Humbolt and Bologna: two view of educations that can coexist.

We are intersted in Learning Cultures – how are they different at different instituions?

Reference framework 1

There are different frameworks for understanding how educational institutions work.

1. Environment
2. Strategic management
3. Structure: selection processes, regulations
4. Cultures: are highly influential, regulate (unwritten) practices about e.g., how much time a professor devotes to the university, and not only to her/his matters.

Within Higher Education Institutions (HEI) we find different cultures: research, learning, consulting and services, administrative. Learning cultures concern foremost students, but also teachers, employees.

What variables have an impact on the learning cultures of students?

Reference framework 2

We can analyze learning cultures at different levels:

1. Instutional (university > faculty and disciplines)
2. Pedagogical (programs > courses)
3. Individual (teachers > students).

For example we esteem open learning and freedom, but there are students who do not like hving a high degree of freedom.

Learning Cultures as...

Learning cultures can be seen as different things.

1. Expectations on “good” teaching and learning
2. Ways of supporting “good” teaching and learning, something that provides fuel, couching, consulting, support for innovative ideas.

3. Practices of implementation of teaching and learning, what takes place actually in courses and programs?

They can also be put in operational terms by identifying items for each perspective. These items could be used for developing a questionnaire and to measure learning cultures.

Reference framework 3

We can add another element to the framework, considering also *student achievement* as an element in the structure.

Measures for shaping Learning Cultures

As a strategic management measure, one can decide to give a certain shape to a learning culture. Dimensions here are:

1. Awareness: communication instruments
2. Empowerment: offerings for competency development
3. Incentives: for teachers (e.g., teaching award)
4. Interactive leadership
5. Structural frame (e.g., quality assessment)

*Pro*Doc*

1. Understanding Learning Cultures at a particular institution
2. Impact of Learning Cultures on student achievement
3. Impact of selected measures for shaping Learning Cultures

[Silvia] Measuring LC is for evaluation or just for describing?

[Dieter] First you can distinguish LC, but this does not necessarily mean that one is better than the other. The question is how good are they for having impact on specific target goals.

[Franziska] It's important to see that students are successful. For example, if they perform well in productive learning environments or not.

[Lorenzo] Is it possible to come up with a "Hofstede Model" of LC?

[Dieter] That would be part of the first question – it would be nice to have models to reduce complexity.

[Lorenzo] The second question can become a truism. The best students could be those who have more internalized the cultures they are in... how would you assess that?

[Dieter] Difficult to measure impact on the market, too many intervening variables. We assess

achievement of learning goals. It can become a truism: there are cultures that promote assessment and self-learning, and therefore promote that. But when students from such a program enroll into another program, it looks like they forget all that... so it's not that obvious.

[Pierre] Three points:

1. Sometimes there is a mismatch between the discourse of the President to the details of teaching, so consistency is also at stake.
2. There are times when learning cultures change rapidly (e.g., EPFL). You can see the contrast before/after (e.g., continuing education at EPFL). Identifying clashes between cultures can be a good move in this research.
3. Where is e-learning? Where are technologies?

[Dieter] Well-taken points for 1 and 2. One critical point is how to come up not with change, but with *sustainable* change! Change is always related to conflict: there is a tipping point that makes the change sustainable, it is a matter of critical mass. For example there are different cultures also in different departments in St. Gallen (Economics = research; Management = executive teaching). For example, if you link educational performance to a reward systems, that might have an impact. That kind of thinking is what is needed to change an organization in a sustainable way.

[Tobias] When it comes to LC we take a psychology and pedagogical approach usually from the US. Now we also have Bologna. We need to link it to something that leads to a new paradigm, that supports some values. Example: *Bildung* vs. Generic competencies.

[Dieter] This is a values proposition. We make some assumptions on what we mean as right or desirable in higher education – theoretical discussions on that are useless on this.

[Dieter] About e-learning: from here it's not a really exciting issue. Technologies is surely one aspect of higher education teaching. It's a part of the system.

[Franziska] Bologna is very modularized, so in St. Gallen you can take many choices, so the availability of information through an LMS is very important, and this is an important link to e-learning.

[Pierre] Is then e-learning our common denominator?

[Tobias] Technologies are part of the culture or just a detail of the implementation.

[Pierre] Example: program in Entrepreneur. But if you have 30h class per week with no options, you make no entrepreneur. This is a cultural problem reflected in the study plan.

[Dieter] Depends on the view: technologies just catalyze existing forces vs. technologies will change reality.

[Anja] LC have much of motivation and emotion, so technologies are not in the center.

(...)

[Pierre] Learning technologies are a minor parameter for explaining LC, but LC are a major parameter for understanding how a technology is accepted into an organization. If a technology does not fit the culture, the culture won't change, just the technology will be dropped.

[Lorenzo] Each technology is a piece of culture.

[Emanuele] Why?

[Dieter] Every kind of a learning activity depends on the culture, is part of it.

Reviewing

Franziska Zellweger, 8.4.2008

Reviews

To read or not to read? This is the problem.

To find your research questions, you need to read, and to select readings you need your research questions... it is an iterative process.

It is important the literature review is linked to any other part of the dissertation.

Literature review scoring rubric.

(...)

[Pierre] Snowball method: read a paper, see the references, select 2-3, get them. Continue until you find in the references papers you already read.

[Luca] Add to this people: researchers live in communities, they know each other, they attend conferences. You should get into that.

[Franziska] It is important to know the faces.

eLearning Reviews

www.elearning-reviews.org

A project from SCIL, currently with 6-700 papers, newsletter every second month.

Your involvement: writing reviews is an important activity!

Contact for suggestions and approval: jasmina.hasanbegovic@unisg.ch

Cross-review with other red-inklings! (ideas, structure, grammar).