

*Prototyping and
looking for...*

TOWARDS A KNOWLEDGE BUILDERS' COMPETENCE



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1. IF IN OUR NSI THE EMERGING GOAL IS A 'KNOWLEDGE-BUILDING' APPROACH...

The multi-faced challenge of knowledge is becoming with growing evidence a point of attention of managers and staff in the NSI. We can summarize at least three fields in which applying the paradigm shift "from production-oriented to knowledge-oriented" could impose rethinking our approaches to job and competences.

1. A better knowledge of users in the perspective of improving the use of statistics-as-knowledge as 'global public good'.
 - to build a new approach of dissemination (from distributing information to improve better knowledge and awareness of society)
 - to ease the transition from 'statistique' to 'socistique'
 - to shift from the production of data to the deployment of decision making tools
 - to build improved systems to explain, to non-specialists, too – what is happening in the society
2. A better knowledge of respondents to improve
 - the quality of data
 - the awareness of the respondents
 - the awareness about the value of existing administrative databases
3. A better knowledge sharing
 - to enhance the exchange of good practices
 - to implement re-use

The target seems becoming clear: foster an evolution from a role of production to a role of explanation and connections, fusing different methodological tools suitable to provide users with easy-to-read knowledge frameworks.

Who says so?

EU Commission, *Communication from the Commission to the European Parliament and the Council on the production method of EU statistics: a vision for the next decade*, 10.8.2009 COM(2009) 404, when states that:

"The development, production and dissemination of official statistics have (...) to be adapted to the conditions of the "knowledge society".

"The third component [looking at the challenges for Eurostat, beyond the standards issued by the Community Legislation and beyond the methodologies based on common tools] is the promotion of common values and the **sharing of knowledge** throughout the ESS. The legal component (setting a bottom line) and the technical component (offering the best available tools) have to be complemented by a component that deals with the intelligence and know-how that are available in the system, i.e. with the human capital of the ESS. While the Code of Practice has done a lot for the promotion of common values within the ESS, less has been done to date on knowledge sharing, despite the fact that staff trained in identical methodology is the best enabler of comparability. It is therefore proposed to create a true European research and training facility for statistics".

“As a consequence, user orientation has to be the guiding principle in communication”.

The Istanbul declaration, OECD 2nd World Forum, Istanbul 2007, *Measuring and fostering the progress of society*, 2007, 30th of June.

“A **culture of evidence-based decision making** has to be promoted at all levels, to increase the welfare of societies. And in the “information age,” welfare depends in part on transparent and accountable public policy making. The availability of statistical indicators of economic, social, and environmental outcomes and their dissemination to citizens can contribute to promoting good governance and the improvement of democratic processes. It can strengthen citizens’ capacity to influence the goals of the societies they live in through debate and consensus building, and increase the accountability of public policies”.

“Produce a broader; shared, public understanding of changing conditions while highlighting areas of significant change or inadequate knowledge.”

OECD, Giovannini E. et al.: *Transforming OECD statisticians from "information providers" into "knowledge builders": the role of training.*

“The production of data and metadata is not enough in this fast changing environment to achieve this goal: more and more NSOs and international organisations are requested to be more “knowledge builders” than simply “information providers”. The job of statisticians should not be limited to produce and disseminate data, but to make statistics actually used to build knowledge by all components of the society, and therefore to be used in as many decision-making processes as possible. This requires innovative thinking, re-orientation of resources, alliances with new partners, revision of the skills needed to perform these new functions, changes in the legal and institutional set ups, better integration between national and international organisations. In this way, statistics can become more relevant than ever.”

“Experiment innovative forms of communication (videos, dynamic graphics, etc.) to present statistics to non-experts. Establish partnerships with specialised media to test alternative forms of communication for specific audiences”.

2... THEN WE NEED ALSO ‘RETHINKING TRAINING’

Meanwhile, there are some crucial challenges the training systems are now facing.

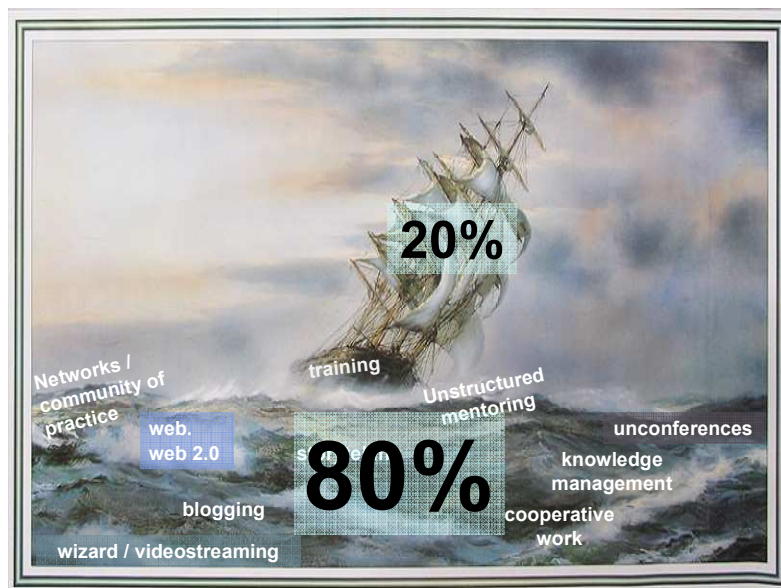
Let us summarize them by the following 5 reading-keys:

- The challenge of Informal Learning
- The challenge of Quality and the struggle against the waste in the learning processes.

- The challenge of Reflexivity
- A voyage from a course-centric view of knowledge towards a knowledge-centric view of knowledge
- The financial crisis

2.1. *The challenge of informal learning...*

There is a ghost walking in the training environment. It is more and more threatening as the learning opportunities by the web are growing. The ghost has a name: informal learning.



Statistics Sweden estimates that competence development is 10% by budgeted courses and 90% in daily work. Jay Cross quotes a lot of studies whose conclusions are that approximately 70-80% of the lessons learned by adults is outside the courses budgeted and structured by the organizations. He quotes the Institute for Research on Learning (Palo Alto, California), a two-years research of the Education Development Center (Newton, Massachussets) which has been developed with Boeing, Ford Electronics, Siemens, Motorola, other studies in United States and Canada. One of them, in particular, developed by NALL (*National Research Network on New Approaches to Lifelong Learning at the Ontario Institute for Studies in Education of the University of Toronto*) surveyed fifteen hundred Canadian adults on informal learning. Approximately 70% of Canadians say that their most important job-related knowledge comes from other workers or learning on their own rather than employment-related courses. Data that an investigator summarized in this way: “the major conclusion from this survey is that our organized systems of schooling and continuing education and training are like big ships floating in a sea of informal learning. If these education and training ships do not pay increasing attention to the massive amount of outside informal learning, many of them are likely to sink into Titanic irrelevancy”

2.2. *...the challenge of quality and the struggle against the waste in the learning processes...*

Many training societies and companies' departments are ISO certificated. This means that – sometimes for marketing and competition reasons – quality

approach represents an empowerment in the business scenario. Nevertheless, we know that a quality approach bound only to the work processes and not linked to the principles of Total Quality Management can be a partial one, so not fully satisfactory.

As far as this approach is concerned, there is a significant parallelism of the manufacturing industry and the learning processes. C. Wick points out that “for a surprisingly long time after World War II, American companies believed that they could ignore the quality problem. They were convinced that it was cheaper to produce a certain level of scrap than to try to manage a higher level of quality. It was only when Japanese firms began to really master quality, and as a direct result to capture market share, that American firms finally realized they could no longer afford to ignore high cost of scrap and do nothing about it. “Learning scrap“ is training that goes unused. It is the educational equivalent of manufacturing scrap. Like manufacturing scrap, learning scrap has a high cost in terms of the direct cost of trainers, travel, time, materials, and so forth, as well as the lost opportunity costs of having people spend time in programs learning things they cannot or will not use. There is also the very real cost of customer dissatisfaction when departments invest in training but observe no subsequent benefit. We are not suggesting that developing people will ever be as predictable as manufacturing a product. But there is ample evidence that learning transfer can be improved so that the cost of learning scrap is reduced. In a competitive economy, no company can afford the high cost of doing nothing”.



We need to do
something to
capture knowledge
in the workplace

2.3. ...the challenge of reflexivity...

From the relationship teacher-learner to the creative centrality of adults in the organizations. This can be a synthesis of the third challenge for the educational systems. It stems from the awareness that a pyramid approach isn't no more convenient to solve the challenge of complexity. Enzo Rullani says: “The post-fordist economy (has) to deploy the collective intelligence of people (who produce new ideas and metabolize the emerging complexity) and the ‘working-by-network‘ resources or, to say better, the resources of web-scattered learning. (...) Work and learning by web is based on the capacity of self-organizing the context in which available knowledge and power becomes useful, as it becomes a resource to give answers to the problems, in a convenient and flexible way. It's not a *problem solving* approach. It's a *problem setting*. We are dealing with a great change, which matches a new idea of modernity: the reflexive modernization (see Beck, U., Giddens. A., Lash, S.: Reflexive Modernization, Polity Press, Cambridge, 1994). By that we combine the systems created by the first modernity (the use of science, of technology, of calculation, of market and of universal laws) with a reflexive process which reshapes the preliminary conditions of their working depending on the results. Reflexive modernization scouts the crucial role of subjects, but asks them to be able of creative intelligence, autonomy in decision making, accountable regarding taken decisions instead of technicians or operators. It doesn't matter to work on by personal or organizational competences. The point is mobilizing the knowledge which is embedded in the social network. For this reason the modern worker doesn't refer to a previous framework of activities-to-do. He rather sets off, begins a voyage to explore with others. Training becomes a resource to accompany people of the reflexive networks along this voyage. It doesn't matter to substitute people. The point is to accompany them. It isn't important if trainers have done that road before the travellers they want to accompany. Every traveller has to do his own voyage by himself, trying and dealing with dangers.”

Backing this approach, R. Sepe, S. Fortunato, D. Lipari (see References) and

others underline the value of reflexivity as a cycle action-thought-action and crucial tool to understand the social change: “societies have to reflect systematically on their own and understand in order to find solutions in a moving context”. In this framework the role of trainers and learning environment should be more knowledge-building than content-reproducing, more and more through cooperative approaches.

On the same wave, we find this statement in the reflexion of Statistics Sweden “beyond vocational training”: “In order to learn from our everyday work, we must take time to stand and reflect over what has happened. It is not always easy to discover what has been learnt since learning often occurs in small, barely noticeable steps. It is only when we are involved in some dramatic event that a clear trace memory is created. We can nevertheless establish that these small steps gradually bring us a good way towards a new and deeper level of understanding. This is the learning that we need to strenghten and become aware of”.

Finally, about the effectiveness of combining structured training and ex-post investment, this is the view of Huis, R. et al: “When learning and working are combined in a powerful learning environment, three important learning processes take place: regulative, metacognitive and transformative learning. Usually, learning is limited to the regulative phase, and there is no reflection on what is learned. The chance that these different learning processes take place is enhanced when the learner has a good mentor and belongs to a community of practice. Another facilitator for these powerful learning environments is a close collaboration between training providers and organisations”.

Back to the origin of reflexivity:
D. Schön (*The reflective practitioner*)
and others facing the challenge of uncertainty

A practitioner is currently thought as an expert who solves problems using theories and techniques stemming from the scientific environment. This approach is rigorous, but could not to give the appropriate answer to the problem. Most of the problems faced by practitioners are jams, tangled situations tagged by uncertainty, disorder and vagueness. In these situations, the first problem to be tackled is the definition of the problem and the tools to choose.

In these unique situations, the competence of the practitioners becomes a research. During the research, goal and tools become strictly interrelated; actions and knowledge, too. Schön defines this approach as ‘reflection during the action’, in which practice and research are linked. Reflecting-in-action is like a jazz show, when musicians listen each other and, perceiving in which direction the music is going, they *adapt* their approach.

In this way the practitioner is like an agent-in-experience. It’s a kind of spiral of actions and check of the actions’ results: the results produce new problems and new goals until getting a situation of reasonable and satisfying equilibrium. Change is the essential core of the method.

E. Morin pointed out a similar scenario, when he said – *Le sept savoir necessaires à l’éducation du futur* - that “il faudrait enseigner des principes des stratégie, qui permettent d’affronter les aléas, l’inattendu et l’incertain, et de *modifier* leur developpement, en vertu de l’informations acquises en cours de route. Il faut



Reflecting-in-action is as jazz musicians who listen each other and *adapt* their approach

apprendre à naviger dans un océan d'incertitudes à travers des archipels de certitude.”

And D. Gray highlighted that uncertainty requires sometimes to manage *nescience* instead of knowledge, “abandoning the idea that you must have complete knowledge before you can act and adopting (...)revolutionary process changes whose consequences (the managers) could not predict for sure. The fog of uncertainty around these changes was ultimately pierced only by the executives' action. Every leap that nescience managers take will inevitably seem premature, but critical learning very often comes from *adjusting* to unforeseen circumstances that no planning could presuppose”.

2.4. ...a voyage starting from a course-centric view of knowledge towards a knowledge-centric view of knowledge...

This paradigm shift is proposed by Marc J. Rosenberg (see references) explaining that a knowledge-centric view of knowledge doesn't match a course or a catalogue, but a topic which is in the center of “wide array of additional resources: experts, information repositories, live events, and virtual communities”. All beyond “courses“. This approach requires an important evolution in the vision of HRD&training staff, because it's now growing the need not to concentrate only on the event, the classroom, the teacher but also on the wider sources of learning that are at our disposal. Nothing new, as we know how important the informal sources on the workplace are, as we have seen a few pages above. The difference now is that technologies have unveiled the powerful array of the extra-classroom tools and opportunities. HRD&T people have to catch it as a chance to reinvest on a new deployment of their profession (from course-centric to knowledge-centric competence).

2.5. ...and the financial crisis...

Usually in the workplace managers don't like leaving their people in a kind of extra-work discontinuity. Manager seek results and try not to spend money and a pause for learning, if not specifically related to a change or a performance improvement, is not seen friendly.

We can easily understand what happens in the workplace when times of financial crisis impose to concentrate on the performance, dispose very harsh money restriction on training and research. That's another challenge for training departments and educational institutions: if you cannot pay trainers, if you cannot invest, if you can buy less e-learning instruments, if you cannot support learners by tutorship, how could we maintain a reasonable level of updating and training of our users? It seems a kind of *mission impossible*. But it could unveil also some hidden unexpected resources.

The Escola d'Administració Pública de Catalunya gave an interesting answer, in 2008-2009, focusing on the working framework defined as “in the middle of innovation and crisis: rethinking training”. In the middle of the crisis they decided to give priorities to:

- Learning and improving through exchange a networking
- Valuing the experiences
- Giving important occasion to show and explain good practices of innovation put in practice from different Administrations at different levels
- Building a cooperative space to ease contacts and exchange of experiences.

Enhancing mentoring projects, professional networks, increasing internal workshops and seminars, putting trust in the internal teaching and learning



Less money can unveil internal resources and staff's cohesion

resources the Escola proved that by a different approach, an improved internal cohesion, the knowledge sharing rate can be maintained, even reducing the trainers' compensation.

2.6. ...require some paradigm shifts

- ❖ As for statisticians it is not only a matter of producing data, but also improving the knowledge of users;
 - ☞ for HRD&T staff it's a problem not only of producing teaching events but also of helping and supporting the worker's (user's) performance.
- ❖ As for statisticians it is a matter of improving the exchange of knowledge and the sharing of good practices;
 - ☞ for HRD&T staff it isn't a matter of deploying good teaching events, but of building learning environment where the knowledge sharing is as easy as possible.
- ❖ As decision making processes require methods and tools based on reflection, to sustain people in their decision and in facing uncertainty;
 - ☞ for HRD&T staff the task is to go beyond the event and the classroom deploying methods and tools that give possibility to learn from success and mistakes (accompanying the cycle 'do-reflect-do') and mobilizing the emerging knowledge through either appropriate 'traditional' tools or TEL-(Technology Enhanced Learning)-utilities.

3. ENGINEERING A LEARNING ENVIRONMENT FUSING TECHNOLOGIES AND APPROACHES THAT CUT ACROSS STRUCTURED TRAINING AND INFORMAL LEARNING.

If the challenge of a knowledge-centric vision is clear and if the efforts required to knowledge workers (either statisticians or HRD&T staff) are exciting, it's time to try something concrete to begin a transformation which will take a reasonable long time. In the next paragraphs we will explain which keywords seem to represent the pillars of a learning environment and two types of 'fusion', namely an institutional paradigm shift and a prototype of web-based deployment of learning opportunities.

The question is: if the challenges of knowledge-centric environment and of a new approach of training and learning are so exciting, how to begin to shape tools, opportunities, connections beyond the 'traditional' view we are used to?

'fusion'

by the insights of
 J. Cross, M.J. Rosenberg,
 P. Drucker, E.H. Edersheim

Dealing with the perspective of a knowledge-centric view of knowledge, we have got a sketchy idea of the challenge in front of knowledge workers. It's a perspective for statisticians if, e.g., the paradigm shift outlined by OECD may require a different approach and different competence profiles for people dealing not only with production but also with learning orientation, facilitation of information through new languages in respect of stakeholders' needs and networking. It's a perspective for other knowledge workers, among whom HRD&T-staff. The metaphor of the expert of instructional design as a bricklayer (M.J. Rosenberg) gives us an effective picture of the present condition of people dealing with the production of courses, learning events, evaluation, reporting and so on. "If you've ever done any brickwork, you know that it's not easy to do it right. There is an artisanship to the work that combines skill, knowledge and creativity. Just as master bricklayers are necessary in constructing a sound, beautiful building, master trainers and instructional designers are necessary in constructing sound, effective courseware. Yet bricklaying is usually just one part of an overall construction project that can also include plumbing, carpentry, and electric. (...) Like bricklaying, training is an essential professional craft, but it is more and more becoming just one piece of a more complex project that also include information, collaboration, and support components. When you design solutions that take this broader scheme into account, you are acting more like the architect than the bricklayer. (...)"



From producing courses...

Try to imagine that the 'architect' has to deal in a context like the following framework of connectivity (see Edersheim, E.H.: *The Definitive Drucker*), which emphasizes a technological approach. But try also to integrate the framework by the different tools at disposal in a hypothetic *learnscape* (space for exchange of good practices, benchlearning, cooperative work, bookcrossing, action learning etc.) and you will get the wide array of tools that the 'architect' has to manage and to become confident with. (*Learnscape* is a word used by J. Cross in his *Informal Learning*, John Wiles & Sons, 2007)

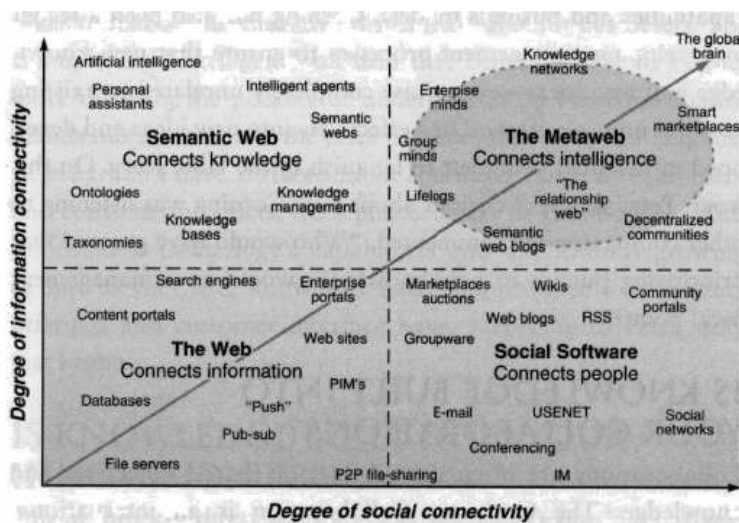


Figure 5.1 Knowledge and Connectivity of Information and People

Let's now imagine that, as a training manager, you will accompany no more your users as a bus driver, along a way in which tracks and stops are fixed.

Instead, imagine that your users are cycle-riders, who are able and free to choose the destination, the speed and the route (see Cross, J., Informal Learning). Your task would be different. It will be no more to drive. It will be to create all the useful, integrated and quality-based tools that allow the cycle-rider to be always well-oriented and able - in fully safety-feeling - to move along the path which he has chosen autonomously. It's a task which can be accomplished redeploing the competence used until now for the instructional design, adding new features. It's not a matter of fearing the disappearing of a role or a profession. It a matter to being able to **connect** knowledge and intelligence, symbols and metaphors. As if you had the task to design an effective, integrated, sound and quality-based *map for cycle-riders*.

Now “training organizations (see M.J. Rosenberg), whether they are run as large corporate universities, small training departments, or outsourced services, will have to focus far more on the workplace than just the classroom and extend the learning and performance architecture to support people directly on the job. This means that instructional solutions will not be adequate to do this alone. The components of the learning and performance architecture are sophisticated in their own right; integrating them is a major challenge, requiring not just a smart enterprise philosophy but well-developed processes and powerful technologies. To blend this wider array of solutions, training organizations (...) will have to recognize that blended learning is a lot more than blended training and that true blending is a **fusion** of many technologies and approaches that cut across formal and informal learning solutions. And finally, training organizations will have to become much more involved in directly supporting work and the processes and tasks that comprise work. It will become increasingly important to suggest how the processes and tools of work can be made easier from the start rather than developing training to compensate for poor work design. (...) The growth areas with most promise and most challenge are those on the informal, work-based side: knowledge management (including information repositories, communities and networks, experts and expertise) and performance support.”

4. ANSWER 1: ‘FUSION’ OF LEARNING AND WORK

Training is keen to the business goals. It seems obvious, but it isn't so. Organizations set up well conceived training sessions and they are sure – as an adequate needs' analysis has been run out – that everybody (line managers, participants, training staff) has in mind a common and shared target.

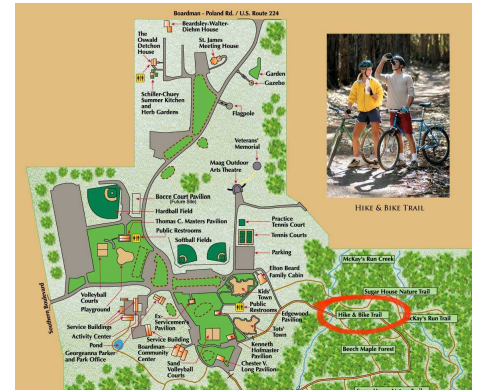
We know that in our organizations we need something more than a well conceived needs' analysis, good teachers, brilliant application of valid methodologies and effective evaluation - to get a really valid result from the investment on training.

We need fusion.

We need fusion of different aspects of the worker's life.

We need fusion of the different steps of the every business.

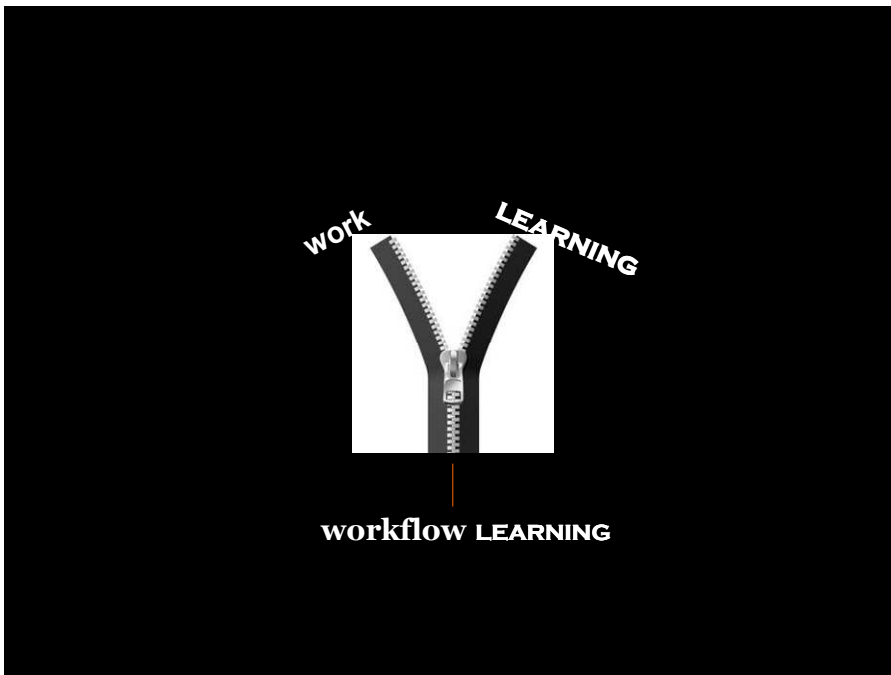
As C. Wick (et al. in The 6 Disciplines of breakthrough learning) states “learning needs to be an integral part of the business strategy and for this reason the first step of a learning program should be the definition of the outcomes “in business terms”. Then we have to give continuity to an activity traditionally conceived as a moment of discontinuity. If we think of learning as an activity isolated in some defined days in a classroom, we miss to design the learning experience as a complete experience of the participant. We should shift the finish line from the last day of the course to “the documented delivery of business results” .



...to the design of maps which orient in the knowledge garden.

M.J Rosenberg emphasizes the difference between an approach discontinuity-oriented and a well integrated fusion between work phases, training and learning phases. Rosenberg argues that we should reduce the work disruption. It means that, beyond the classroom and the e-learning features, we should combine information repositories, participation in community of practice, access to advice of experts. It means also to ask when the 'right-moment-of-training' has to be chosen. In fact "there are to many instances where training is called on to compensate for poor processes, bad software, or poor documentation. In these cases, what if – before undertaking a heavy training programme – “the processes and the tools that people use were improved to make them easier? What if documentation was redesigned to make it more understandable?” So, first of all try to make “a poorly designed process (...) more efficient or easier to use. This may be all that’s needed (...)”. But if there is evidence that the problem lies in the way people use the process, “*then* ask how training can better prepare workers to use the process more productively. In this way training will be no more an isolated event in the life of an individual or of a staff, but “part of an architecture of solutions” (a learnscape).

The metaphor of the zipper, from and idea of Gloria Gery and Jay Cross (Online Learning Conferences of Anaheim 1999 and San Francisco 2005) can highlight the concept. It reinforces the “idea that competence must exist within the person and expand our view that whenever possible, it should be built into the situation” and that fusion of work and learning “is the foundation of performance-centered design and work flow learning”



Let's now consider the idea of 'fusion' from the point of view of different approaches needed to build an effective path towards, e.g., a change goal.

The assumption is that people will learn well if:

- well informed about the framework
- see common goals
- feel those goals as part of something that's In It also For Them
- understand what's expected from them
- the system backs them in case either they meet obstacles or do

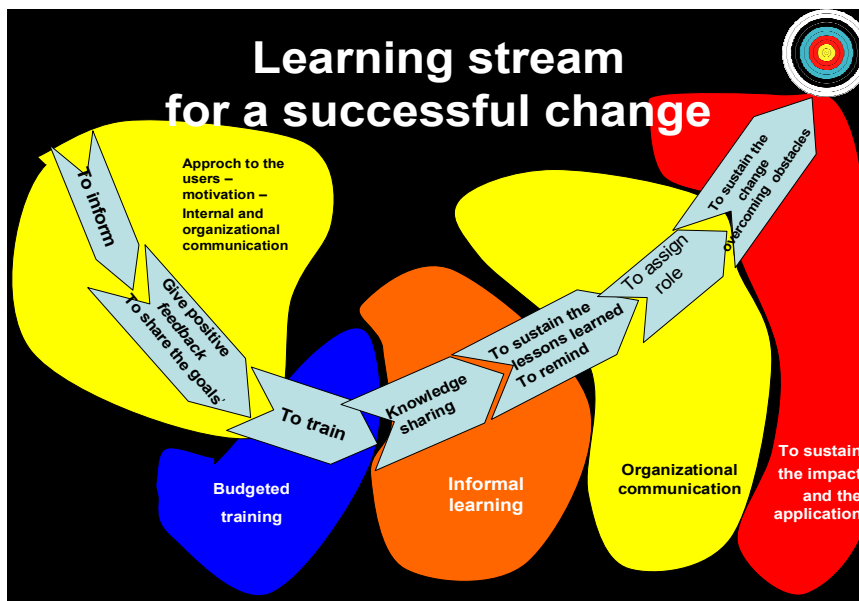
mistakes

- knowledge sharing, connecting with mentors, peer-exchanging are part of an articulated array of learning opportunities

People will benefit of structured training if

- it is close to the time they need it
- they receive positive reinforcement and encouragement
- a reminding system – through small information's packets, fostering of progress reporting and so on – is provided.

It's self-explanatory that a lot of managers, teachers, peers, members of training staff dealing with training methodologies and communication units are involved in this process. The fusion of their approaches and the coherence of their messages and actions will be the condition for the successful outcome of the 'learning stream' (Stoppoloni S., see References).



The 'fusion' described above implies a strong attention to the business outcome and to the 'alliance' between line management and training management. This seems to be the road towards really successful investments on training and learning and the right answer to the need of an investment just-in-time supporting the competence's growth of workers.

It's a kind of project of a voyage related to a business, when people carefully define the destination, the transport, the money, how to tell the story at the end of the voyage. It's something that is not a break; it is something that has continuity.

But one size doesn't fill all.

Even if we will continue in the next paragraphs to emphasize the building of a system in which the capture of knowledge through continuity in the workplace will be at the centre of a new perspective of learning, we must remember that excellent ideas, valuable knowledge, lightening connections often stem from something whose label is 'discontinuity'.

It's the case of the just-in-case training, when people don't have a really pressing need about a specific topic, but, nevertheless, invest to explore, check,

get information on where the world is going on.

It's the case of a holiday. A discontinuity that can bring unexpected connections from totally different scenarios.

Even if in a newly conceived training approach the fight against the waste is the must, a well driven *Principle of Waste* should orient investments, specially if the organization is innovation-oriented and just-in-case exploring and training can be an asset 'good-for-the-future' (at the condition that become an asset of the organization and doesn't remain an individual property of the participant).

"The wastefulness of nature is truly staggering. Of the billions of seeds scattered, only a few grow to maturity. Similarly, the only way to get a good idea is to get lots of them, even to let them proliferate independently and compete for primacy. Such redundancy is expensive but can be crucial to innovation". (D. Gray dealing with 'nescience' in *Wanted: Chief Ignorance Officer*, see references)



5. ANSWER 2: FUSION AND CONNECTIONS IN A LEARNSCAPE

If 'fusion' of work, learning, training, communication, tools backing the people's roles is part of an 'institutional engineering' aimed to share common goals and profit as much as possible from the investment on training, another kind of 'fusion' represents a possible second answer to the question "how to begin to shape tools, opportunities, connections beyond the 'traditional' view we are used to?"

We have thought that

- first of all, we need an evocative metaphor that explain how learning has to be conceived beyond the classroom.
- a lot of experiences (not only the trainer-trainee relationship) converge in people's learning itinerary.
- people's learning grows through exploring by themselves and joining a 'reflection-in-action' approach
- connecting people, information, knowledge and intelligence is the ultimate resource
- a web-based environment is good starting point

We chose the metaphor of the voyage of the worker in his/her workplace.

Furthermore nine metaphors are deployed, which relate to the voyage.

They open nine learning spaces as gardens in which people can find an offer of learning opportunities, that we hope will be richer and richer and step by step evolutionary. In brief a learnscape:

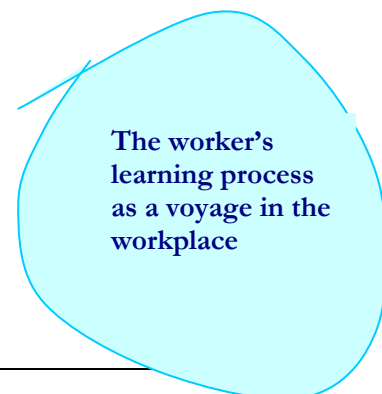
⇒ Courses in classrooms, but

↑ more guidelines to knowledge sharing

⇒ Catalogues, but

↑ more protocols to organize benchlearning to enhance the exchange of good practices

⇒ Calendars and job training, but



↑ more information on learning experiences made by other colleagues

and then:

- ↑ E-learning with mentoring support
- ↑ Help desk and protocols for workflow integration
- ↑ Knowledge management's tools
- ↑ Space for cooperative work / wiki gardens
- ↑ Storytelling
- ↑ Guidelines to transform the office in a learning lab
- ↑ Networks of
 - ↑ groups in change
 - ↑ communities of practice

5.1. A master metaphor: Learning like-a-voyage to design a web learning environment

Why the metaphor of the voyage?

The idea is that a worker begins and goes on in his/her own organization through stops, longer detachments and that this voyage becomes a continuous learning process. The learning voyage is a continuum and there is non break between work and learning: the worker receives teaching through the work (the navigation) and through the stop in training event (a 'training' harbour)



From: S. Stoppoloni, *Formazione come una matrioska. Benchmarking sulla formazione, Ministero della Difesa, Polo formativo, 2 dicembre 2004*

A learning environment takes shape. The growth of knowledge is a continuum. There is not the enclosure of training, the enclosure of production, the enclosure of administration, but each of them are part of a learning-shaping work context.

As the voyager can use a coach if he travels with a group, or a boat if he navigates lonely, or a roped party if he shares an adventure, in the same way a worker could become the subject of a learning environment where different opportunities are available, adequate to the needs, to the length of the tracks, to the budget and so on.

Often the voyage as 'continuity' (the business travel) or as discontinuity (going around to discover) is quoted in literature to give an image of a professional life. So we are aware that the image we propose isn't an original one, but, on the other side, it gives us a sound handle as we are facing a new experience.

Supporting quotations

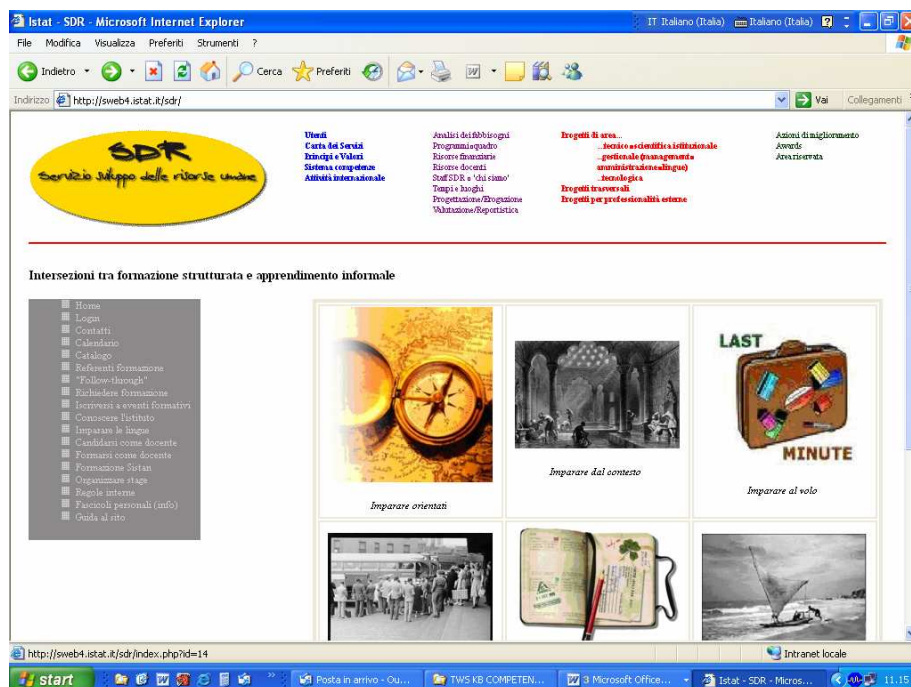
Leibniz argues that the universe of knowledge is shaped as “connections of knowledges dinamically linked, as tributaries going into the ocean, that’s the unity of knowledge. The connection of these aquatic metaphors (used by Leibniz) with other metaphors stemming from travelling and map drawing is self explanatory: during the voyage, the road, that’s the research method, is essential as is the exact description of the unknown or uncertain lands” (Gregory, T. see references).

Coming close to the topics related to the contemporary research and development on training, we can read again Enzo Rullani: “The point is mobilizing the knowledge which is embedded in the social network. For this reason the modern worker doesn’t refer to a previous framework of activities-to-do. He rather sets off, begins a voyage to explore with others. Training becomes a resource to accompany people of the reflexive networks along this voyage. It doesn’t matter to substitute people. The point is to accompany them. It isn’t important if trainers have done that road before the travellers they want to accompany. Every traveller has to do his own voyage by himself, trying and dealing with dangers”.



In the next pages the home page of the web-based '*learnscape*' and the nine metaphors to enhance the connections in the learning process

The home page of the learnscape

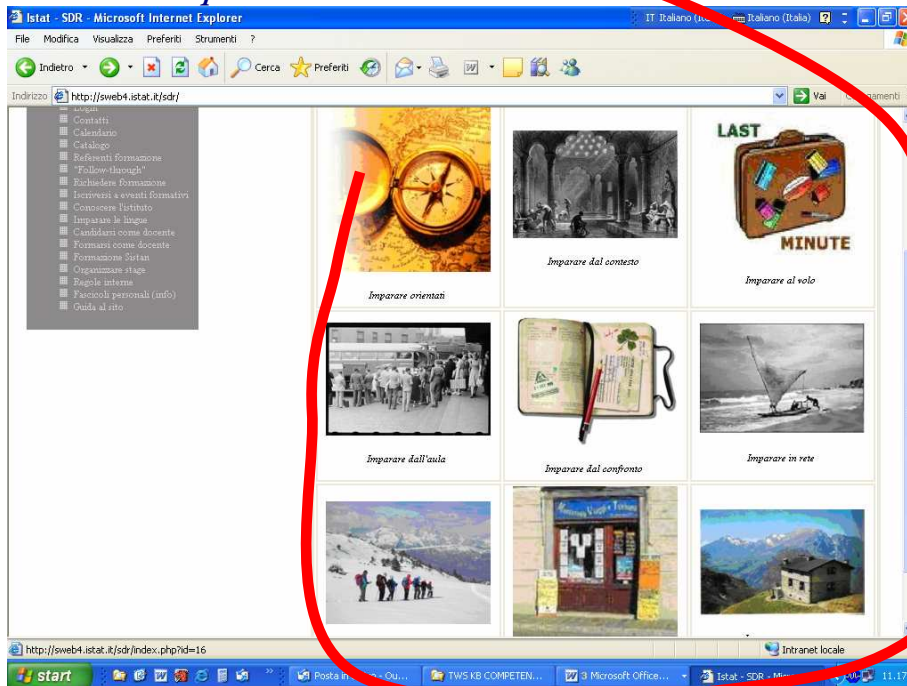


5.2. Nine metaphors to enhance connections in the learning process

The nine images we find in the homepage open nine metaphors which introduce us in nine approaches to learning (learning by... / through...):

- Maps and guides: Learning by orienteering
- Greyhounds: Learning by the classroom
- Hamma'm: Learning by the context
- Adventure: Learning through
- Logbook: Learning by comparing&adapting
- Lonely navigator: Learning by websurfing
- Travel Agency: Learning through new offers
- Refuges: Learning step by step
- Last minute: Learning catching the occasion

The nine metaphors of the learnscape



Let's see now a) **what Is In** at present in the space of every metaphor and b) **further development** (Ideas to apply, sometimes just a post-it as reminder...)



5.2.1. Maps and guides: Learning by orienteering

What Is In It

A-beyond-the-classroom *Cross training* for newcomers (and for somebody else)

In an organisation, knowledge transfer very often occurs through processes descriptions, instructions provided by experts guides, warnings and suggestions from senior colleagues. To facilitate the strengthening of this kind of knowledge means to help an organisation to develop as a learning organisation.

So this section of the web site contains documentation related to description of processes, procedures, instructions, accessible to everyone but useful in particular to people who may need this kind of information: newcomers, and trainers. This is, for example, the section in which information are placed about what we call “cross training” actions, that are actions aimed to ease the cross knowledge and the cross fertilization. They are of interest of newcomers, but also – and with a growing importance – of all the employees. For each area of Institute’s activities (statistics, administrative, ICT, human resources management and training, communication...), users can find links to documents, papers and contacts to get a more detailed picture of the area of their interest.

Starting from this base of documents, newcomers (and anyway people aiming to know structures and activities different than their own) can learn by a 5-step path:

1. reading (the documents)
2. going more in depth (by interview with ‘mentors’)
3. editing (by writing a paper which resumes the documents read and the interviews)
4. comparing (editing the paper by a common wiki-writing space)
5. telling (presenting the story and the results to an audience of peers).

This method – as the hereafter following one - is suitable to be part of a **learnscape** because:

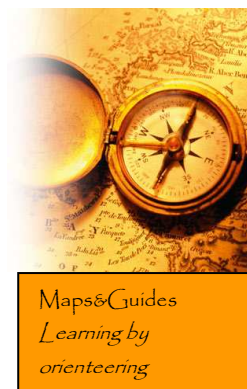
- ✓ newcomers learn not to wait for a picture, but to build it by themselves;
- ✓ transforms in-house experts from teachers into mentors;
- ✓ fosters the use of cooperative approach and tools;
- ✓ highlights the value of listening and telling corporate stories.

Learning by storytelling: Guidance to Self-portraying as a trigger for the exchange of good practice

The site offers a Guidance to build a kind of storytelling. Staff are encouraged to write their own story, explaining the most important goals of the work, the planning, the most interesting aspects of innovation.

A self-portrait is composed and the final topic is the ‘most relevant innovation and success’ in last times. The idea is that this issue can be a trigger to capture interest from other experts to start a related process of exchange of good practices (a process based on the method of benchlearning is suitable, too – see in a further paragraph).

An example is available on the page ‘Staff Matters’ of iNSItE - Italy



Further development

❖ How to give a just-in-time help to occasional trainers

Other target users of this web site section could be managers and employees required to be occasional trainers (for example, to provide instructions, rules and behaviours to surveyors) and/or speakers in different meetings. The experience of trainers' training carried out so far has shown that the most effective action is that combining the hard work of preparing a speech and/or a lesson with the capture of some fundamental knowledge about training techniques; and that one-shoot training moment attended by occasional trainers when a specific training task isn't imminent, is partially effective. Trainers have to be supported and "taken" to their lecture by providing them with a repository of tools they can access to at every moment they need, for any purpose they have: to define the goals well; to build training tools to be used *in* the classroom; to build handouts to be delivered *after* the classroom; to simulate the training session in order to improve speech capability, time use, question time and so on.



Providing coaching just-in-time (avoiding training courses far from the real need) is suitable to be part of a **learnscape** because:

- ✓ joins the operational outcome with learning;
- ✓ allows to practice on which specifically matters at present;
- ✓ fosters knowledge sharing among non specialists (occasional teachers).

❖ Guidance to transform a process-owner in a teacher-on-the-job

The first image that people have about the method to accompany a newcomer in a new structure is: training. Training is called to help them, but it's easy to understand that if a structured session of training is needed to put a newcomer in the production workflow, something wrong has happened as far as job description, documentation and process definition. Let alone that staff has quite no time to invest in structured teaching session, specially if dedicated to a small number of newcomers.

The key-answer to the problem to let newcomers be confident with the new jobs is to find a method to build a step-by-step inclusion-flow based on the knowledge of the process and the help of senior staff.

The premise is that the process is well described and if this is not, to write it well.

The second step is to check how the newcomer applies the information about the process (instrumental training about software and operations as end-users are included in this phase).

May be that's enough. But if it isn't, the process-owner could become:

- a mentor, to help a better application of the guidelines of the process;
- a teacher, if some gap from the point of view of the basic competences is to be bridged;
- a provider of some more qualified training help;
- promoter of an analysis, to check if something wrong is written or something simple should be presented in an easier way.

Instead of thinking immediately to an only one-size answer, the Guidance provides an architecture of solutions, including design of process, revision of process, language simplification, mentoring, teaching, cooperative learning by revision.

This last is one of the main reason why transforming a process-owner in teacher-on-the-job, beyond the structured training, is an activity fitting a **learnscape** through:

- ✓ saving time;
- ✓ revision of processes;
- ✓ giving people what exactly they need.

❖ **Guidance to transform an office in a learning lab**

Is your office a place where knowledge sharing is facilitated? May be as maps, street signs and roads' design help us to find the right way, so some technical and architectural simple solutions could make easier connections, contacts by which learning can grow.

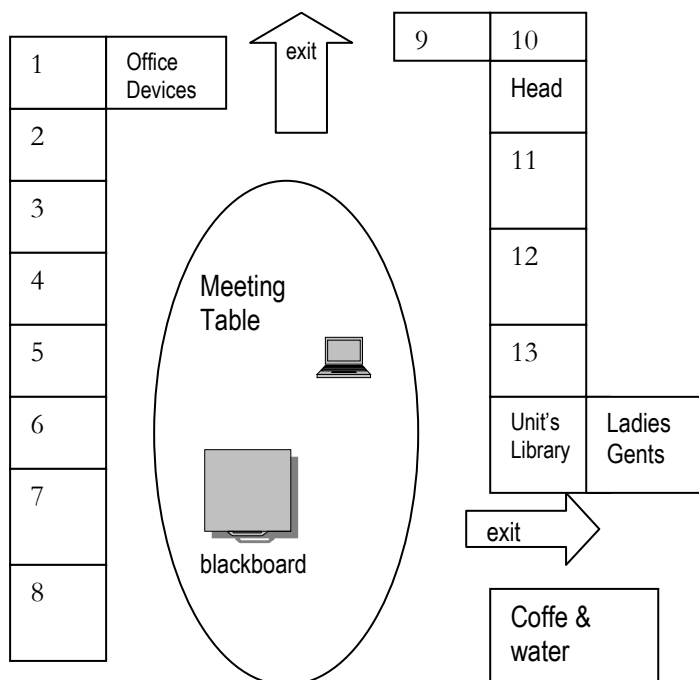
Wanted: A guidance for managers and staff to build a physic environment which – only by its own setting – declares the aim to allow easier learning, exchange, explanation. A Guidance to help learning outside the until now dedicated and separated places of teaching.

Giovanni Michelucci, a famous italian architect (1891-1990), had the dream of a town without tribunals and prisons because, he said, “in every place of the town it should be the sense of the justice”. The same we should imagine for a learning environment. We should have the dream of a workplace where – to let people learn smoothly - there are not (only) classrooms simply because all the premises, rooms, aisles, passages, courts, meeting places have the flavour of learning.

Rethinking the work-place

Nakamura and Shernoff (see references) argue that a good process of mentoring should be based on three elements: 1. the teambuilding.- 2. the care of social and cultural capitals and 3. “the organization of the physical space to make the lab environment an effective mediator of their transmission of memes”. They tell the approach followed by Richard Lewontin, a professor of zoology at Harvard University. “Lewontin deliberately designed the physical layout of his lab to foster interaction. Students’ offices were arrayed around a central space filled with a table so large that is seated twenty. In order to reach their offices, students had to pass by this table, where coffee and conversation were almost always brewing.”

Something like this...



Rethinking libraries

N. Kranich reminds us that libraries are changing their position as authors, editors and consumers are all generating more intensive cooperation which is driving a transformation from the issue as product to the issue as process (W. Pradt Lougee). “With the increasing dissemination of information, libraries are more and more involved in the process of scientific communication and in building the information community”. Libraries will become “creators – and not only supporters - of common knowledge goods”. Libraries should set up services around the content instead around the functions and build teams of librarian experts able to work directly with the users’ communities.”

In other words it’s a matter to see the library as a disseminate place of organised knowledge: a kind of extension of the role in order to let available, e.g.:

- The space of the ICT-literacy
- the book crossing
- the argumentative spaces
- the spaces of the speeches
- the book&web multifunctional spaces

- the spaces of emotional learning (eg. approach to foreign languages and cultures through books&audiovideo)
- the space of the transcultural cross training

- the space of the history, where the organization – in its in-house ‘museum’ - celebrates its heritage, its strengths, its accomplishment “and the famous failures” (learning by mistakes, according to J. Cross).
- etc.

This approach (and the related Guidance) is suitable to be part of a **learnscape** because it:

- ✓ allows people to multiply the opportunities of informal meeting;
- ✓ fosters sharing of knowledge and ‘by-the-way’ exchange;
- ✓ reveals to people – by the physical setting itself – that they are entering a knowledge-driven organization.

5.2.2. Greyhounds: Learning by the classroom

What Is In It

Of the course, there is also a section dedicated to the “traditional” classroom. We think that this methodology can be well described by the metaphor of American *greyhounds*, where people form a group by chance. They do not know each other, although they have the same goal. Nor the driver knows anything about them, beyond their looking, their luggage, their goal.

In this section of the web, users can find information about the calendar and the catalogue of the courses.

A link to tools aiming at supporting the classroom after the event, for example by dialoguing with their trainers and/or their colleagues in dedicated wiki areas, is foreseen.

A prototype of ‘on-line after-the-event tool’ was created and used to sustain the class in the post-course phase within a project developed for next census. This project required to train 60-70 trainers in order to develop a wide programme of updating on methodological innovation. A dedicated web space



Greyhound
Learning by the classroom

was set up in order to provide all people involved in the project with: guidelines as organizational and learning tools; regular updating on the work-in-progress; repository of learning materials and guidelines for use; a section dedicated to the archive of the project; essential tools for an 'effective trainer'.

Further development

Blogs aimed to follow-through classrooms and learning communities: after the pilot experience above mentioned, we are increasing the number of blogs and support tools (repositories, references, reminders etc.) for specific courses (e.g. software open source training, ICT and HRM courses for managers etc.) and we are planning blogs for wider learning areas as management, safety and wellness on-the-work etc.. It's a new challenge which requires skilled people and cooperation between trainers and training staff.

These products are suitable to be part of a **learnscape** because they:

- ✓ help people beyond the classroom;
- ✓ are a tool suitable for non participants, too;
- ✓ are a tool to follow-through people and foster application;
- ✓ maintain a contact between trainer and trainee.



5.2.3.Hamma'm: Learning by the context

What Is In It

As in the *hamma'm* the meeting between people – often travellers - who did not know each other and usual customers facilitated socialisation and exchange of experiences, so learning from people telling their colleagues what they “have seen outside”, for example attending training events organised outside the organisation, can turn into an opportunity so far neglected.

We have done a step towards this direction by introducing in Istat what we have called “knowledge sharing” events.

Starting from the awareness that many interesting topics captured by managers and employees during events attended outside the organizations (courses, meeting etc.) are lost for the majority of colleagues; and that informal meetings close to the coffee-dispenser or the water-cooler often offer the chance to capture the right information, the idea, the connection, provided that you come across the right colleague available to tell you about, we decided to build a prototype of “formalized coffee-dispenser”(formalizing the informal, in a certain way), asking people who had attended a course/meeting to tell it to an audience. The meetings are announced on the Intranet course-calendar, are quarterly programmed, last a few hours (typically an afternoon) and have the goal to share the main topics focused by the participant and to promote debate and comparisons.

From 2008 up to the first half of 2010 26 knowledge sharing events were organised. About 70% of participants said they acquired good advices and ideas to improve/innovate their own work. On the side of people giving back their experience about the course they attended, since they have to change role, from 'only-learner' to 'actor', they are given the chance to empower their cognitive process. Beyond the relationship teacher-learner, which often risks to be static, learners have possibilities of managing important phases of their cognitive process, often put aside. Namely: comparing, knowledge-capturing, verifying, data processing, reflecting, knowledge's arranging as previous



Hamma'm
Learning by the context

requirements of storytelling and explanation towards someone else. At the end, who first take advantage of a knowledge sharing moment are the ones themselves who tell about their experience.

To foster a spread sharing of this kind of knowledge, in this web section users can find information on scheduled knowledge sharing events, learning materials, slides, “captured” information, contact points and a space for discussion.

Who found the right image to describe knowledge-sharing-space?

‘A *little capture device*’ which changes the ‘ecology of interaction’. In this way we can summarize the definition of the space of creative relationship, which Michael Schrage (author of *Serious Play*) pointed out in an interview (2001) with Marcia Conner.

“Conner: What is the learning that takes place? How is that different from, for instance, one person just telling someone something, as opposed to two people working though it together?

Schrage: (...) Consider a conversation (...). Most of us have had the experience of getting into a friendly discussion over lunch with a friend or colleague, when you pull out a pen and paper from you and begin writing on a napkin or a piece of paper, and the other person says: “No, no, that’s not what I mean”, Then they take the pen and paper from you and mark it up to modify what you are saying, and you begin conversing around the images on the paper. If a waiter were to come by and remove that paper, the conversation would go away. You are no longer talking to or with that other person. You are talking with the other person through a medium, a reference point or shared space that becomes like a *little capture device*, a little reflector of the conversation”



This activity is suitable to be part of a **learnscape** because:

- ✓ eases disciplined conversation, which becomes a source of learning and reflection;
- ✓ as learners have to change role, from 'only-learner' to 'actor', so they are given the chance to empower their cognitive process. Beyond the relationship teacher-learner, which often risks to be static, learner has possibilities of managing important phases of his cognitive process, often put aside. Namely: comparing, knowledge-capturing, verifying, data processing, reflecting, knowledge's arranging as previous requirements of storytelling and explanation towards someone else. The first beneficiary of a knowledge sharing moment will not be his/her audience, but he/she himself/herself;
- ✓ could be a tool to reinforce the communication about strategies;

Further development

Digital story-telling: fostering the capture of so far informal and volatile information could be an activity to be supported by technological devices, as in the case of digital story-telling. Producing 4-5 minutes videos about strategies, experiences, good practices, problems on the table and share them through the Intranet could improve knowledge, cross training and even cultivating the historical memory of the organization (as World Bank and Ford do, maintaining through interviews a historical memory of the tacit knowledge of the employees).

This activity is suitable to be part of a **learnscape** because it:

- ✓ could be a tool to reinforce the communication about strategies;
- ✓ allows that good practices become explicit without formal training or formal communication;
- ✓ plays like a bulletin board suitable to ask help for emergent problems;
- ✓ is a quick and cheap tool to communicate, informally but effectively, new projects and activities (instead of invest in formal papers);
- ✓ as it requires synthesis, it offers an opportunity to the speaker to learn – by the storyboard – how to prioritize the topics and be effective in communication.

Why
not?

Meetings' minutes (Guidance to a learning approach to the meetings' outcomes): if we look at the minutes of a meeting as something beyond a paper which certifies 'who said what', perhaps we can find a kind of little disseminated information mines. We should 'rethinking minutes' and conceive them – at least for some parts of them – as info- and learning-devices. Spaces for references, warnings, graphic visualisation, glossary could be dedicated to contribute to a well ordered repository and a shared memory, beyond the organisational conclusions.

This approach - and fostering people to follow it - is suitable to be part of a **learnscape** because it:

- ✓ gives people the awareness that the time invested in meetings could be more profitable if anyway – beyond the outcomes - they ask themselves 'what I'm going to learn?' or 'What I did learn?';
- ✓ allows to capture-and-stock volatile information;
- ✓ allows to transform tacit, fragmented and uncompleted notions into explicit knowledge frameworks.

5.2.4. Adventure: Learning through

What Is In It

A group of people aiming at a well defined learning objective can be seen like a group engaged in an adventurous (having the meaning of *ad ventura*, that's towards the future) journey. Learning passes through all the phases of the 'adventure': from designing and organisation through execution, to *ex post* analysis of data gathered and reporting on results. In such a journey, a crucial role is played by the leadership, which has to orientate, motivate and even 'push' the group. But also the feedback received from the followership on what it is actually learning is important and may produce – if fostered by the organisation – learning processes. Our main experience stemming from such an approach has been the one connected to the introduction in our Institute of quality issues into the organisational processes: we organised some 'quality laboratories', in which quality issues were tackled with the actual organisational problems and peculiarities, having a two-way feedback from both leadership and followership.



Adventure
Learning through

Information on this experience (and on the other ones carried out according to this approach) can be accessed in this section of the site, together with information about how to organise a group learning journey, and – more generally – how to access to cooperative learning supporting tool.

Further development

- Fostering opportunities of *coaching in action learning* and deploying tools which allow *emergent knowledge* are suitable to be part of a **learnscape** because they:
- ✓ enhance the power of a continuous reflecting side [*action learning*]
 - ✓ dedicate energy to a the promotion of learning during the works of a team, without disrupting the activities aimed to the main goals of the team [*action learning*]
 - ✓ foster the activity of the expert aimed – in the use of cooperative software – to share his/her internal knowledge to fill missing knowledge in the cooperative context (eg wiki) [*emergent knowledge*]
 - ✓ allow to enrich common knowledge by managing the contradictory between the internal- and the wiki-knowledge (Cress and Kimmerle, 2008 in UNIDO, Virtual Teams). [*emergent knowledge*]



5.2.5. Logbook:

Learning by comparing&adapting

What Is In It

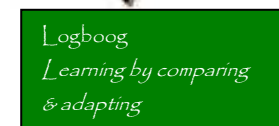
Every good traveller brings back home notes, sensations, emotions, which he/she can share with his/her peers: in this way he/she can apply the most meaningful things he/she learnt in his/her travel.

Within an organisation, this is related to methodologies based on the comparison and exchange of good practices: at Istat, we have given a systematic framework to that, by adopting the *benchlearning* method.

The benchlearning – introduced by the 2006 issue of the Common Assessment Framework (CAF) – is a structured form of organisational learning based on the comparison with another organisation's good practices. By structuring protocols of exchange of good practices, benchlearning may turn into an effective tool which represents a new offer of learning, beyond the classroom, in the context of an integrated learnscape.

In our experience, the findings and the warnings we got are the following:

- benchlearning produces better results if applied in communities of practice;
- it is more effective when organization is stressed by new challenges, as new regulation, technological innovation etc.;
- it should be attended by all staff, not only by leaders or middle management. Furthermore you'll discover that the team spirit will be empowered;
- employee used to being learner in classroom quickly becomes active actor on the stage. Peer-dialogue, goal sharing, storytelling of his/her own work transform people from “guided voyagers“ to “drivers”;
- understanding that the ex-ante and ex-post steps of the benchlearning process have the same importance of the brainstorming-day requires a lot of time;



- learning may be more effective than in a formal course although participants may think that something “informal“ has a light learning impact. The condition being that analyse, measurement, documentation and evaluation are well run and that a fast-implementing internal laboratory is set up immediately after the capture of a good practice.

So this web section provide users with a list of good practices structured according to the benchlearning method and documentation about the method itself.

Benchlearning is one of ‘the’ central trees of a **learnscape** because it:

- ✓ gives the possibility to transform the captured (informally) good practice (in some meetings or anyway through peer contacts) in a rigorous process aiming to adapt, implement and measure the improvement due to the captured good practice;
- ✓ employees involved in the benchlearning process and used to being learners in a classroom quickly become active actors on the stage. Peer-dialogue, goal sharing, storytelling of his/her own work transform people from “guided voyagers“ to “drivers“;
- ✓ the process requires to analyse, measure, document and evaluate. So there is a step-by-step guidance to apply the knowledge acquired in the event;
- ✓ gives the possibility to transform the captured good practice (until now informally in some meetings or anyway through peer contacts) in a rigorous process aiming to adapt, implement and measure the improvement;
- ✓ HRD&T staff involved makes immediately its own paradigm shift: from ‘course-producer’ to ‘facilitator of learning process’.

Further development

Guidance to fill in the logbook of a learning path of your staff

May be that you have captured more lessons learnt than you think or remember. Could an agreement (and a help) with your boss be useful to decide together a learning path? Could a logbook help you to keep tracks of the learning experience?

Wanted: a protocol which makes easier to design a learning path and to track and review the steps of the voyage.

Guidance to get as much as possible return on investment from a talent learning abroad

Is your staff on the way to be temporary in charge abroad? Is he/she escaping or is a talent whose experience abroad can be profitable for your ‘learning organization’? *Wanted:* guidance to transform a session abroad onto a powerful tool to enhance the role of a learning organization and to retain talents

Protocols to manage internal stage / ‘hire’ a colleague

“If I have no time to study a new country, I will travel there for a short period to have a knowledge at-a-glance”.

“I have shortage of resources for this important, even not too long project: may be some colleague in other structure could share the experience”

Let’s consider these two points of view: the first is that of people eager to learn and the second of manager who needs help and is available to teach and



explain. Let's consider the opportunity to reach an agreement on the basis of mutual learning besides fulfilling the task.

Wanted: protocols to allow people to take part in short-time projects in other internal units and come back home to:

- tell the experience;
- communicate common points and good practices;
- give clues to understand the business and the differences.

Protocols, guidance and logbooks to manage learning paths and experiences outside (and abroad) could be considered in the framework of an 'organizational-scape' instead of a 'learnscape'. To say the truth, they

- ✓ allow to reflect about an organisational investment also in terms of learning investment;
- ✓ foster a common reflection (the manager and the worker)
- ✓ build a framework by which it's possible to prioritize the goals and keep track of the most meaningful steps;
- ✓ allow to retain the informal lessons learnt;
- ✓ highlights the capability to keep track of an experience and to tell it, back home.
- ✓ Give to moving a shared value from the learning point of view, too.

Learning reviewing evidence, by mistakes and 'nescience'

The practice of reviewing evidence is mainly related to the process of Quality. It's important that these phases in a project are considered also as learning moments in order to share the capital of the lesson learnt and of the point of weakness which are the trigger for actions of continuous improvement and for the growth of related competences.

Learning by mistakes is a central point of a learning organization.

Learning by 'nescience' is an intriguing point of view, which allow us to consider that "Ignorance management is arguably a more important skill than knowledge management" or, at least "The time may be ripe, though, for the CKO to be joined by the "CIO"—a manager not of information but of ignorance". (D. Gray, *Wanted: Chief Ignorance Officer*). This position (which is important to consider as a really counterpart as we speak about knowledge, knowledge sharing, good practice, all dealing with well experimented roads) is interesting when "we are more attracted by existing solutions and more apt to follow well-worn paths to find answers than to exert our sense of what we don't know in order to probe new options (...). Indeed, the job of the astute Chief Ignorance Officer (or "nescience manager") is to steer attention away from the known to terra incognita. [And to apply, at first,] The Principle of *Deferment*. [When we have] the impulse (...) to fill the vacuum with ready knowledge, which makes us feel that at least we're getting somewhere, the trick is to delay this thrust into knowledge, to shelter nescience as long as possible" [and to remain free to explore unknown solutions]. [Then] managing nescience means abandoning the idea that you must have complete knowledge before you can act. [We must have the courage] to challenge uncertainty and try to find new solutions. Every leap that nescience managers take will inevitably seem *premature*, but critical learning very often comes from adjusting to unforeseen circumstances that no planning could presuppose. [Finally, we

The opposite view:
Ignorance management
 wanted more than
knowledge management

need to be aware that] new knowledge comes from old knowledge—but only when familiar ideas are allowed to intersect and interact in unexpected ways. This fruitful recombination often happens through metaphor and analogy, and it depends on the liberty to explore the seemingly *irrelevant*".

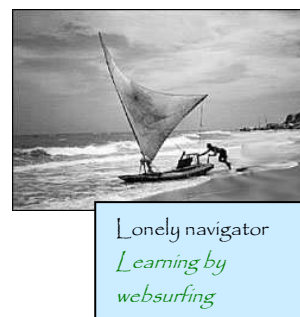
If the Total Quality Methodology and an open-minded approach which makes of errors and awareness of 'ignorance' a pillar of knowledge are pulled inside the '**learnscape**':

- ✓ we will get the most profitable results from reviewing evidence in terms of learning, too;
- ✓ we will use revision and monitoring in project management as a trigger for a reflection on competences.

5.2.6. *Lonely navigator: Learning by websurfing*

What Is In It

As an ocean, the net offers a variety of opportunities and “routes” to learn: not only e-learning programmes, but any kind of information: papers, videos, official documents. While covering these routes, you are alone with your own ability and your own responsibility. But there are maps and tools which can ease your travel and help you not to get lost in such a sea of offers. So in this section we provide the users with a variety of tool, such as links to sites dedicated to foreign languages learning; information on safety-at-work organised by using a conceptual maps management tool; videos of a cycle of nine lectures on social issues, held in 2009.



Further development

- *Blogs*, as described above under the paragraph on Greyhound
- On the way of *Technology Enhanced Learning* [TEL].

Some sites of the web give an access to a variety of documents written in many languages. An easy example to remind are the official sites of the European Union where the official documents of the Union are deployed. Why not to exploit the opportunity? Comparing text in different languages is a powerful tool to learn foreign languages. At least to learn reading and writing. In this way the Italian poet Giacomo Leopardi learnt Greek and Hebrew, comparing the texts of a eight-languages Polyglot Bible of the XVII century.



Not only comparing texts, of course. The new opportunities offered through mash-up could be the chance of a learning lab 'technology enhanced', combining texts, videos, translations, wikis. A light direction which takes care of the selection and proposal of tools and materials and which sustains the audience could be the cheap facilitator to be engaged as added value to the service.

As in the case of foreign languages an intersection between different tools and opportunities could be offered for other discipline and fields. Wanted investments, insights and experiments: mashing up and prototypes technology-enhanced (beyond e-learning) should be part of this main approach in building and taking care of the **learnscape**

5.2.7. Travel Agency: Learning through new offers

What Is In It

Often you carry out experiences, acquire competences or achieve stages of innovation that you are willing to share with your colleagues through a training event. In fact, opportunities and spaces dedicated to *new offers* – organised by the Institute according to internal quality protocols – may help the organisation not to waste knowledge. In this section users can find information on how to present new teaching proposals, and documentation (contents and results) about the proposals already presented.

What we want is that there is an area of free presentation of learning events. In this way, in the respect of the framework of the main learning areas and of a basic quality assurance, people can mobilize their tacit competences.

This is another *little capture device* available in the **learnscape**: it helps to make easier to follow the pattern “from tacit to explicit” in order to create knowledge

Further development

Bookcrossing: disseminating books, commenting them explaining ‘why I like it’, follow the way the book is taking on is a cheap and free method to allow people capture knowledge and help them to make intersections.

The books are not only stocked in the central corporate libraries, in the units’ libraries or in the private rooms, but are scattered in the **learnscape**.

5.2.8. Refuges: Learning step by step

What Is In It

Sustain the learning process

This is the section related to the methodologies based on the idea that the traveller follows autonomously his/her path (for instance e-learning programmes), yet having the opportunities to get to some refuges along the travel, that is teachers and/or tutors who, at given times and places, may provide him/her with checking, supporting, suggesting.

Such a methodology was adopted in an experimental way for some basic paths on ICT addressed to different audience, included disabled people. It is adopted for all the cases in which it seems useful not to leave individuals completely alone, although they were following a path in an almost absolutely autonomous way.

Expert workers can organize by themselves their own itinerary in the **learnscape**. The relation between teacher and learner is less strict. People’s autonomy and responsibility are enhanced, but the **learnscape** provides them with a step by step assistance.



Travel Agency
Learning through new offers



Refuges
Learning step by step

5.2.9. Last minute: Learning catching the occasion

What Is In It

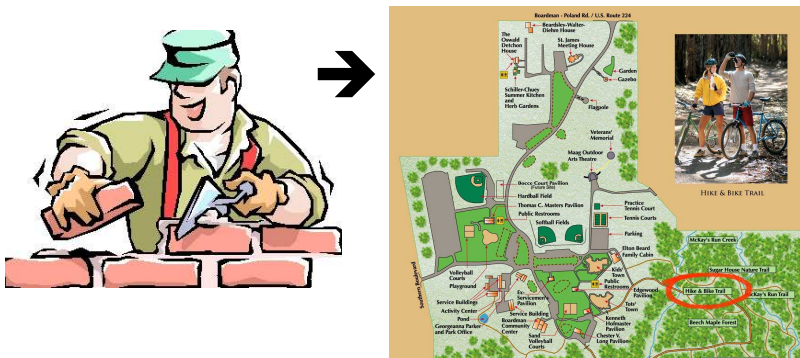
Besides the opportunities related to one's profession, such as conferences, scientific sessions..., there are many more opportunities to learn which, yet concerning other areas, may be interesting for the connections they may have with our main professional domain. Often you know about such an opportunity immediately before the event; sometimes you just can't miss it. Providing on the web a constantly updated picture of this kind of opportunities may facilitate – once back – the sharing of the experience carried out: so in this section users can find information about imminent events and about how to contact people who attended events organised outside the Institute and is willing, once back, to tell about his/her experience.

Riding in the **learnscape**, less cases to complain about lost occasions.



Last minute
Learning by catching the occasion

6. A CONNECTING COMPETENCE FOR HRD&T STAFF: SKETCHING LEARNING PATHS



Rethinking training means also rethinking role and competences of people anyway involved in a learning process: namely staff of educational departments as well as managers and people of communication and ICT.

A continuous readjusting of the competences of workers engaged in the learning and knowledge management processes is needed.

At the end of the description of the learning environment we thought to be adequate to rethinking training, a quick design of the evolution of the competences of people in charge of it is here proposed for further reflection

A three step escalating competence-flow can be proposed.

Step 1

Function Target: managing the instructional design

Competence Target: contributing competences to be confident with the instructional design [**bricklayers**]

People Target: People in charge of building training events and Newcomers

Step 2

Function Target: designing alliances, understanding the business, connecting people

Competences Target: Escalating competences & Threshold competencies: take part in an organizational projects [**learnscape designers**]

People Target: people in charge of the fundamental connections between line- and training management

Step 3

Function Target: designing and taking care of the learnscape

Competence Target: connecting people, information, knowledge, intelligence [**learnscape architects**]

People Target: people in charge of the evolution of tools and methods to support competence growth and knowledge/learning-centric organization

Sketching the learning paths for people involved in that competence evolution has to consider that we refer to the competences of people already working in the organization. The learning paths will take into account the number (small) of hours available for training and learning. Fusion of methods to make easier the step by step evolution will be proposed and experimented, too.

6.1. Competences needed**6.1.1. Managing the instructional design [Bricklayer]**

Function Target: managing the instructional design

Competence Target: *contributing competences* (basics, junior-oriented, fundamental processes and procedures) / *escalating competences* (progressive, senior-oriented, improvement-oriented) to be confident with a sound instructional design.

People Target: People in charge of building training events and Newcomers

CONTRIBUTING & ESCALATING COMPETENCES	CONNECTING			
	P	Inf	K	Int
▪ Expert on Needs' analysis	◆			
▪ Able to planning		◆		
▪ Expert in course Macro-projecting				◆
▪ Expert in course Micro-projecting			◆	
▪ Able to 'read' the audience	◆			
▪ Manages places and logistic		◆		
▪ Manages administrative processes			◆	
▪ Manages tools for the classroom	◆			
▪ Understands how to manage technologies / Instructional media		◆		
▪ Confident with learning support / materials			◆	
▪ Takes care of the classroom	◆			
▪ Able to manage the evaluation phase			◆	
▪ Able to apply / manage Total Quality in Training				◆
▪ Knows how to report – document – Register				◆

P: People

Inf: Information

K: Knowledge

Int: Intelligence

COMPETENCIES [THE BEHAVIOURS AND APPROACHES WHICH ALLOW TO BUILD 'A TALENTED DIFFERENCE']	
Threshold <small>[to accomplish the task]</small>	<ul style="list-style-type: none"> ▪ Ready to act in emergency as a rescue-patrol ▪ Careful in building sound walls ▪ Ready to re-pose the bricks if the wall isn't right ▪ Careful in basic communication ▪ Careful in measurement of own functions and results
Differentiating <small>[to accomplish the task well]</small>	<ul style="list-style-type: none"> ▪ Ready to act and quality-oriented as a newspaper editorial staff ▪ Ready to react ▪ Careful in the activity of a disciplined stocking

6.1.2. A step ahead: becoming a [Learnscape designer]

Function Target: designing alliances, understanding the business, connecting people

Competences Target: *Contributing competences* (innovation-oriented, integration-oriented) / *Escalating competences* (managing complex learning&organizational processes) - Threshold & differentiating competencies: take part in organizational projects keen to mission and vision of the organization.

People Target: people in charge of the fundamental connections between line-and training management

CONTRIBUTING & ESCALATING COMPETENCES	CONNECTING			
	P	Inf	K	Int
▪ Designs the alliance	♦			
▪ Understands the business			♦	
▪ Keen on managing Learning Economy				♦
▪ Builds the learning stream (work+learning = workflow learning)				♦
▪ Doesn't teach but accompanies	♦			
▪ Understands the problem 1: poor process?				♦
▪ Understands the problem 2: poor software?			♦	
▪ Understands the problem 3: poor documentation?			♦	

COMPETENCIES [THE BEHAVIOURS AND APPROACHES WHICH ALLOW TO BUILD 'A TALENTED DIFFERENCE']	
Threshold [to accomplish the task]	<ul style="list-style-type: none"> ▪ Understands priorities ▪ Has a wide view of training and learning ▪ Has a wide view of business&learning
Differentiating [to accomplish the task well]	<ul style="list-style-type: none"> ▪ Is a kind of persuasive scientific storyteller ▪ Is a kind of scientific journalist

6.1.3. A step more: becoming a [Learnscape architect]: main topics to build the next-decade competence of the NSIs' HRD&T staffs.

Function Target: designing and taking care of the learnscape

Competence Target: Escalating competences: connecting people, information, knowledge, intelligence through methodological and technological innovation – Threshold competencies (keen to understanding opportunities and limits in the organisational framework) and differentiating competencies (keen on researching and benchlearning towards long term engagement).

People Target: people in charge of the evolution of tools and methods to support competence growth and knowledge/learning-centric organization. Talents investing on themselves with a wider vision of the needed competences of next decade

ESCALATING COMPETENCES	CONNECTING			
	P	Inf	K	Int
▪ Expert in monitoring metrics / in check&measurement of the impact		◆		
▪ Wiki gardener		◆		
▪ Internal publicist keen on keeping simple		◆		
▪ News anchor		◆		
▪ Performance consultant		◆		
▪ Tutor of learning networks for collaboration, communication and learning opportunities	◆			
▪ Leader carrying the vision	◆			
▪ Promoter of network participation	◆			
▪ Facilitator of storytelling	◆			
▪ Supporter of continuous experimentation			◆	
▪ Facilitator of the knowledge sharing processes			◆	
▪ Group's coach in action learning processes			◆	
▪ Facilitator who accompanies a change program			◆	
▪ Coach of the intersection between quality and learning			◆	

▪ Synthesizer			◆	
▪ Knowledge-maps' designer			◆	
▪ Facilitator through graphic visualization			◆	
▪ Facilitator in the benchlearning process				◆
▪ Supporter of the ex-post-event learning				◆
▪ Cultural mediator in the alliance between lines and learning management				◆

P: People

Inf: Information

K: Knowledge

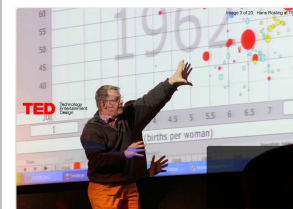
Int: Intelligence

COMPETENCIES [THE BEHAVIOURS AND APPROACHES WHICH ALLOW TO BUILD 'A TALENTED DIFFERENCE']	
Threshold (to accomplish the task)	<ul style="list-style-type: none"> ▪ Finds evidence ▪ Connects evidence
Differentiating (to accomplish the task well)	<ul style="list-style-type: none"> ▪ Keen to innovation (Learnscape architect) ▪ Member of research lab ▪ Mentor ▪ Fosters to sharing the vision

Now this framework has to be completed by a learning syllabus, by a definition of the approaches to different population (employees, researchers, managers), by the breakdown of the tasks required, by the different learning path to be proposed..

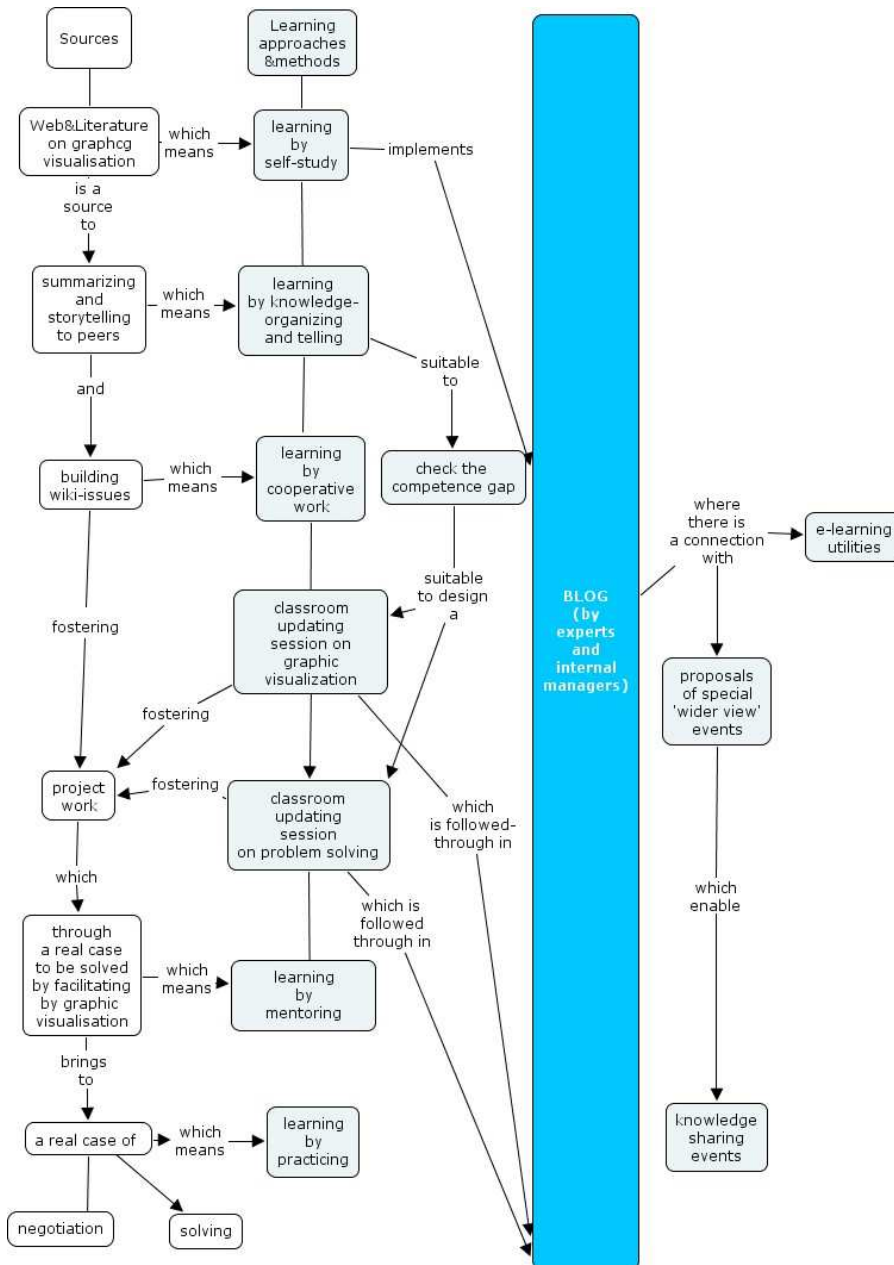
Anyway, as a kind of exercise, let's imagine a case study like the following one:

- you are responsible for a training unit;
- there are members of your staff who are well skilled in instructional design;
- they tell you that during the meeting to project the courses, it's growing the difficulty to find an agreement between different positions (different professionals, different cultures, different goals, even in the same project);
- it's clear that an investment on a role of skilled group's facilitator able to build a learning program suitable for the different users is needed;
- you and your staff members have to find some knowledge and skill suitable to accomplish that task;
- it's clear that the problem is not "to build a course", but it's to understand the business, to understand the conflicts, to fuse learning features and organizational goals;
- you know that there exists a powerful skill to manage these phases of a project, namely to facilitate problem solving and ex ante evaluation of a project by *graphic visualisation*;
- you know that it is an ability in which statistical, synthesizing, organisational, training, negotiating skills are fused;
- it's also clear that's matter of an escalating competence;



A case-study: you are keen on becoming a facilitator through graphic visualisation

- it's also clear that your staff members are keen on investing in a learning path which is going to be part of the profile of *learning architect*;
- you have a real shortage of time (20-40 hours per year pro-capite);
- you try to design the following learning path.



7. FINDINGS

The experiments and the prototypes issued have given us the possibility to check how long is the road towards a 're-thought training' and, in particular, towards a learning environment cross cutting structured training and informal learning. We have learnt some lessons and pointed out the main obstacles on the road towards a learnscape. Synthesizing:

- teachers have to learn a new job;
- compensation of teachers is seen as hour in classroom so far: we should find agreement on compensation for follow-through, learning process sustain, participation in blog's drawing up;
- 'Fusion' of methodologies (*formal 'devices'* and *informal-capturing devices*) and workflow learning require different actors and new cooperation approach in the workplace to back the growth of competences. At least 4 kind of actors should cooperate:
 - a) managers able to describe the processes and to define goals;
 - b) trainers managing the content, but also sustaining the learning process and keen on the impact;
 - c) learning facilitators able to monitoring the process and to check the impact, able to deploy synthesizing tools, able to coach, blog's editors, internal publicists, wiki gardeners;
 - d) technological stewards keen on helping people to be confident with technology and networks.

We have to set up the competences (either from scratch or integrating the existing ones) of the 4 mentioned categories of actors and enhance the importance of their cooperative approach.

- HRD&T staff have a prevailing culture of building courses.
- HRD&T staff should invest as soon as possible in competences beyond the classroom.
- If HRD&T staff has to organize the new event, it hasn't time enough to take care of, e.g., the blog supporting the participants in the just finished course.
- To reinvent the approach is not easy: there is a lack of time, people are often pressed by urging new tasks. Investment to change through the daily working pressure requires an important effort.
- An alliance between lines and training staff on common goals and change perspective is not so frequent so far.
- To spend ten times more energy reinforcing the training just conducted instead of looking for the next great learning initiatives (Ken Blanchard) requires not only more time and resources, but also a new attitude about reviewing, impact evaluation, reflection on evidence and learning by mistakes (as platform for setting up the actions of continuous improvement in the framework of Total Quality-oriented business).
- Managers teachers-on-the-job wanted. May be too busy or too task-oriented to invest in systematic investment for his/her staff

8. KEYWORDS AND REFERENCES

The following are some of the most inspiring key-words of our present contribution.

1. Benchlearning
2. Beyond classroom
3. Beyond e-learning
4. Competence of the modern knowledge worker
5. Competence System

6. Connections
7. Crisis and resources shortage
8. Fusion cross-cutting structured training and informal learning
9. HRD&T staff in the future
10. Impact
11. Informal Learning
12. Knowledge building
13. Knowledge-centric-approach
14. Knowledge Management
15. Learning Organization
16. Learning places in the work-place
17. Learning stream
18. Learnscape
19. Learnscape architect
20. LifeLongLearning (3L)
21. Mentoring
22. Metaphor
23. Quality
24. Reflexivity
25. Storytelling
26. Structured training
27. Voyage
28. Waste
29. Workflow learning

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