How to observe, describe and evaluate innovation and change?

Helene Godinet
Maître de Conférences, INRP, 69347 Lyon. France. E-mail: helene.godinet@inrp.fr

Abstract: Using the results of a research-assessment about an international project of innovative schools, this paper addresses some questions raised by the educational innovation, especially when relying on ICT to promote change. How to define the innovative process? Could ICT be a vector of innovative learning practices? How to ensure that the ability to change is considered as a key competence for all educational actors? How can we support and accompany innovation in learning? How to describe and evaluate pedagogical innovation?

Keywords: innovation, change, integrating ICT, evaluation of innovation

Theme: Innovation and creativity in schools

1. Introduction

Since a decade, various international authorities have defined key competences (DeSeCo, 2002; CE, 2006) for the citizen of 21st century. Educational systems are supposed to change so that pupils become citizens able to live in a knowledge society (UNESCO, 2005). To achieve this goal, the use of ICT is deeply recommended. Digital literacy, the basics of ICT use, is fast becoming as important for work, leisure and personal development as reading and writing. “the confident and critical use of information society technology for work, leisure, learning and communication. It is underpinned by basic skills in ICT and the use of computers to retrieve, assess, store, produce, present and exchange information, and to communicate and participate in collaborative networks via the Internet.” (CE, 2006). Learners, parents, teachers, trainers, all actors of education agree with the concept of “digital competence”, 1) because they wish not to increase the existing gap between school and society, 2) because they can’t simply endorse some buzzwords like “new millennium learners”, “digital natives”, etc. when they reflect on how learning and building knowledge is more and more complex. Most of educational actors are quite convinced that they have to be
creative, to imagine new ways of learning. So, their pedagogical scenarios often include ICT as a vehicle of innovative learning practices, because ICT invite to take advantage of an enormous flow of information and resources, invite to construct its own knowledge, invite to communicate and collaborate with peers or other partners, invite to widely open the classroom on the world. Between such consensual discourse and effective change, what can we concretely observe and/or recommend about innovation and creativity at school? Is it possible to evaluate what is innovative learning and teaching? What criteria can we define to measure the effectiveness of innovation? Is it possible to characterize the innovation so as to measure the short- or long-term effects and to help with decision making? For example: should an experimentation be continued or not? Can this experimentation be reproduced or generalized? In what contexts? Etc.

2. Context

This paper reports on a specific “innovative school programme” (ISP) which concerns primary and secondary schools in Brazil, Canada, Chile, Finland, France, Germany, Hong Kong, Ireland, Mexico, Qatar, Sweden, and UK. The Innovative Schools Programme\(^1\) was initiated by Microsoft Education in 2007. An associated research-evaluation project is mainly piloted by the Stanford Research Institute (SRI), Center for technology in learning\(^2\), with the following general aims:

- Create a locally-replicable model that improves student achievement through holistic reform of primary and secondary education;
- Apply research and development to generate educational practices, creating an environment involving all members, igniting them to take a passionate, personal responsibility for learning and inspiring a commitment to active citizenship;
- Incorporate best-of-class technology solutions in all appropriate aspects of the learning community including curriculum delivery, community collaboration, back-office support and content creation, dissemination and assessment.

The ISP project is part of the PiL (Partners in Learning) programme whose main aim is to promote a vision of digital technologies as a vector for change in education in different countries. The initiatives of the PiL are based on various case studies, implemented in different parts of the world. Innovation is questioned in these, in the fields of training, professional development, numerical skills, the ability to collaborate or the governance of schools.

From September 2007 to October 2008, our Institute, INRP (Institut National de Recherche Pédagogique) piloted a research-assessment about innovation and

---

\(^1\) The detailed objectives of this programme are presented on the website http://www.microsoft.com/education/innovativeschools.mspx

\(^2\) SRI/ education on http://www.sri.com/focus_areas/education.html
change, especially by observing the French school involved in the ISP. The INRP research team has also collaborated with the SRI to explicit how to observe, to describe and to evaluate innovation.

3. What means “Innovative Schools”?

3.1 Innovation, experimentation, change?

The almost permanent irruption of new technical discoveries, in particular ICT, onto the contemporary scene has encouraged the development of research, in the field of social sciences, on the relationship between society and technological innovation (Flichy, 1995; Giget, 2005), on the logic behind its use (Perriault, 1989), on the cognitive mechanisms involved in appropriating these technologies (Rabardel, 1995; Linard, 1996), and even on changes in the relationship between man and the world which these innovations might lead to (Serres, 1994).

In addition, research and thinking on innovations related to the use of ICT in pedagogical situations have shown that both processes and stakes are extremely complex. The need for integrating digital technologies, in particular to prevent the gap between social and educational practices from broadening, inevitably leads those involved in education to innovate, i.e. to imagine uses which call into question modes of learning, how we relate to knowledge and how it is disseminated (UNESCO, 2005).

While the etymology of the term (lat. novus: new) is unambiguous, the concept of innovation is particularly tricky to define because of the extreme variety of the available fields of reference (technical, economic, sociological and educational innovation) and of the chosen points of view (innovation processes, the issues at stake in innovation, the product of innovation, the dissemination of innovation, etc). The term denotes:

- either the product, for example, wifi is said to be a technological innovation and the installation of a DWE (Digital Work Environment) in a school is a learning innovation,
- or the process, the stages of the change involved in moving from one state to another; for example, the innovation which has led to teachers’ increasingly preparing their courses together and making them available on DWE areas, whereas formerly they had been used to working individually.

In the field of social sciences, Flichy (Flichy, 1995) and Cros (Cros, 2004) favour innovation as a process, as distinct from invention, both referring to the theories of the economist Schumpeter (1912) who introduced the concept of innovation. The SRI (Stanford Research Institute), which controls the whole of the Innovative Schools research, proposing the 6i Process model, also focuses on the processes involved. Innovation is presented as necessary to cope with the various challenges of the School of the future and the contemporary world (PiL, 2007). It
is defined as being semantically close to creativity, or even discovery (Schunn & al., 2006):

“Creativity involves the introduction of new variables, significant leaps, and novel connections. A subset of creativity, innovation, involves the creation of a new idea but also involves its implementation, adoption, and transfer. Innovation and discovery transform insight and technology into novel products, processes, and services that create value for stakeholders and society. Innovations and discoveries are the tangible outcomes. Creativity is needed to produce these outcomes. Innovation and discovery processes should be formal processes that harness creativity to those ends.”

In the beginning of the project, the INRP research team shared, with two researchers of the SRI, some theoretical references on the concepts of innovation, experimentation, change, reform, creativity, learning inventiveness, innovative teaching approach, with or without ICT (Rogers, Schunn, Cros, Fullan, Giget, etc.), so that some key questions could be clearly formulated, for example: what do we call an innovative school? How could we observe and assess innovation? What indicators could we select to qualify an innovative process? What criteria could we use to measure change? How could we support and accompany innovation?

3.2 The 6i process

The Microsoft Worldwide Innovative Schools Program set as the framework for its action “the 6i process”3. The stages of the innovation are presented as being iterative. Innovation is intended to be exploratory and the six phases cannot be considered in a predetermined fashion, according to a sequential approach which would be inadequate to take account of the complexity of school contexts. Throughout the experimentation, each participant can go back over any particular phase. The six phases are presented in the following table.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introspection</td>
<td>Develop a supported vision for school change and define 21st century learning inside a local context. Explore the process of innovative school change and the leadership necessary to initiate and sustain the changes. Begin to establish project benchmarks and overall success metrics. These will be revisited and refined through all subsequent phases of the 6i process.</td>
</tr>
<tr>
<td>Investigation</td>
<td>Research and identify best practices and innovations within other educational models from the perspective of curriculum, pedagogy, and</td>
</tr>
</tbody>
</table>

3 More about the 6i process: Microsoft Education website (http://www.microsoft.com/education/PIL/ISc_home.aspx)
leadership. Explore the best uses of technology and learning space design. Cultivate relationships with advisors locally, nationally and internationally to aid in discovery and prioritization processes.

Inclusion
Develop collaborative relationships and feedback mechanisms with the larger community to further develop the vision for change, including key leaders and other stakeholders, government officials, parents, and other schools. Learn from community members and leverage community resources and through this process begin to explore sustainability and scalability of change.

Innovation
Evaluate learnings up to this point to determine the innovations that will bring your school's goals to fruition. Consider best methods and ideas in all areas, including curriculum, pedagogy, leadership, technology, and learning space design.

Implementation
Put ideas and planning into practice. Activities and duration will vary by school and may include learning space construction, professional development, creation of the technology infrastructure, piloting of new practices, and so forth.

Insight
Reflect on the experiences and lessons learned throughout the change process. Review outcomes in relation to your school's benchmarks and success metrics. Develop processes for continuous improvement and think about how your school's learnings can be scaled to other schools.

With six occurrences, the source text above gives priority to the term change to evoke the processes of innovation. Throughout the school year, the phases can give rise to discussion between the teaching team in the innovative school and the various authorities accompanying the project. Teaching meetings with the district inspector and/or the regional education advisor, meetings of the steering committee, meetings between the head teacher and the managers of Microsoft Education make it possible to give a progress report on what is regarded as innovation, on what can be identified in terms of change, and on the way in which initial ideas are put into practice little by little in the field. In addition, the headmaster takes part in international meetings to present the project in his school and to discuss with the other people involved. Finally, at the end of the first school year, a document to be filled in (a self-assessment questionnaire) was given to the headmaster for him to give an account of the progress of innovation in his school, using the 6i process, stressing a number of key points shown in the diagram below. This self-assessment questionnaire has four main sections: Organisation of change procedures, Learning-teaching and assessment, Learning environments, Professional development.

Apart from the word innovation, the following terms occur in the questions: school reform / educational reform / to reform; improvement; incremental change; fundamental change; to transform. The school leader completed this document. He
used a scale from 0 to 4 to indicate how he perceived the change in his school. He could add some comments to explain it more concretely, regarding what was done in his school.

Figure 1. 6i innovation framework, innovation self-assessment (Source: http://www.innovativeschoolsonline.com/)

3.3 What is innovation in the observed school?

The selected Innovative Schools concern pupils aged 5 to 18 in twelve countries. The PiL makes use of the term Innovative Schools in relation to that of the School of the Future and the necessary reform of education systems. The director of Microsoft Education France is undoubtedly thinking along the same lines when he says, in a discussion with journalists about the ISP project: “Software manufacturers can thrive only in a world in good health. But the education system is in crisis; that’s why we are interested in it”. The Innovative Schools initiative intends to take part in the coming transformation of the education system, in France and throughout the world: “throughout the world people are talking about the education system undergoing a crisis, even in Finland which scores well in international studies. ... ICT are one of the key features of these reforms”, he adds.

In France, the Innovative Schools experimentation is being run in a primary school, which probably makes innovations easier. As various reports have shown (Pouzard, 1997; Bérard, 2002), it may be easier to design educational projects,
with or without ICT, frequently cross-disciplinary ones, in a primary school because it offers an environment which is not especially dependent on the requirements of the various subjects on the curriculum, with a certain flexibility for daily, weekly or even yearly organisation. The Pouzard report clearly presented the organisational change as a requirement: “In order to be effective, the introduction of new teaching techniques must be accompanied by a major reorganisation of school structures. It imposes much larger flexibility in the design of pupils’ work and timetable. ... Information and communication technologies, like work on networks, are not well suited to strict time slots and the lack of flexibility resulting directly from the traditional form of ‘simultaneous teaching’.”

On the other hand, setting up projects, just like the use of ICT, requires complex teaching scenarios, and special skills from those involved (especially pupils and teachers). This is one of the reasons why innovating in primary school is sometimes regarded as marginal with regard to the requirement and the urgency of fundamental learning for all the pupils (reading, writing, counting).

When they have defined their project, the teachers of the French school have mentioned general objectives that are close to the institutional expectations in connection with the Common base of knowledge and skills (MEN, 2006): mastering of mother tongue, speaking a foreign language, command of ordinary information and communication technologies, humanist culture, social and citizen skills. The educational team decided “to introduce innovative teaching practices by organising the school differently”. This involves “being able to create groups of pupils according to their skills without being obliged to work according to a grade or cycle level”. When the innovative project was clearly defined (in October 2007), especially about organizing skills-based groups, the school leader, in keeping with the other teachers’ opinions, decided to implement it only with 3 groups of cycle 3. Cycle 3 concerns 3 levels: CE2 (age 8-9); CM1 (age 9-10) CM2 (age 10-11). Teachers thought that it was difficult to take risk with younger pupils who have to begin with reading and writing (level called cycle 2, age 6-8). Therefore, each afternoon from 1:00 to 3:00 PM, teachers (cycle 3) had to split their own class into mixed groups and to teach specific content according to the level of skills. The cycle-groups are made up according to the pupils’ language skills (speaking, reading and writing). The three groups are determined at the beginning of the school year by means of national assessments and with adjustments suggested by the teachers who taught these pupils the previous year. These innovating learning scenarios require special organisation for both pupils and teachers: classroom changes, workshop-based organisation, suitable hardware and software, regulation strategies, etc. It makes sense for the pupils because it is project-based. The purpose is to discover, or even to collaborate with other countries in the Innovative Schools project (Brazil, Chile, Finland, Sweden, etc.) through concrete activities; most of it including the use of new technologies: shooting a film, podcasting, creating cartoons, etc.

Furthermore, because the school leader is very committed and charismatic, all
the teaching staff (ten teachers) was involved in the Innovative Schools project. For example they did their best to initiate pupils to discover foreign countries and to use ICT as often as possible. The whole teaching team, whose mission is to change the way it works with a view to the success of all pupils, was supported and encouraged by the pedagogical inspector and by all members of the steering committee in exploratory activities: creating a school blog, creating online resources available on the digital learning platform especially to support homework and self-assessment, communicating with parents by way of e-mails, etc.

The ISP, which “came from high”, which was not the initiative of the school team (cf. Delahaye & al. chap 1), was perceived as a great opportunity by many of those involved: “I think that it’s a unique opportunity to get things moving, to test new ways of doing things, and to explore new resources”; “it’s very motivating for the pupils and for us”; “the project encourages us to think about how we use computers in the classroom”; etc.; “we’re experiencing some difficulty here in terms of academic success, and so anything that helps us to improve and to catch up is welcome”; “this kind of policy tends to fight against the failure of our young people who are not very mobile, and who tend to stick around here”. They a priori accepted the risk: “we try something in the hope that will be profitable”. They accepted to learn how to walk by walking; they played the challenge and the discomfort which went with.

The groups of students we have interviewed were able to give significant explanation of what innovative schools meant for them. They knew that learning in skills-based groups was innovative. They also knew that the school was equipped with a DWE (digital work environment), and they were able to explain some expected uses of this environment, for example to have specific online resources for their homework or/and individual needs, to browse the internet and to get information about the foreign partners, opportunity for teachers to inform their parents by e-mail, etc.

4. How to describe and evaluate innovation?

4.1 ICT and innovation

In the Innovative Schools project, ICT tend to be presented as a vector for change. However, it should be remembered that for more than thirty years, successive plans for integrating ICT into education systems (in France and elsewhere) have not always led to the expected changes (Cuban, 2001; Balanskat & al., 2006; Lepetit & al., 2007).

“The use of ICT in education and training has been a priority in most European countries during the last decade, but progress has been uneven. There are considerable differences of ‘e-maturity1’ within and between countries, and
How to observe, describe and evaluate innovation and change? IFIP WCCE 2009

between schools within countries. A small percentage of schools in some countries have embedded ICT into the curriculum, and demonstrate high levels of effective and appropriate ICT use to support and transform teaching and learning across a wide range of subject areas. Most schools in most countries, however, are in the early phase of ICT adoption, characterised by patchy uncoordinated provision and use, some enhancement of the learning process, some development of e-learning, but no profound improvements in learning and teaching. ” (Balanskat & al., 2006).

What is important in innovation is not the technical invention itself but the use to which it is put: “we have seen classes where computers have been brought in but the teaching hasn’t changed an iota!” The teacher used the computer as a substitute for his textbook (Cros, 2004). The important thing in innovation is the determination of those involved “to do things differently” by means of an approach, an activity or a teaching situation that is new because it is original, unusual or simply different from what was done before. So organising the class into project workshops, or by skills groups (cf. § 3) is not a new process in itself, but it can offer pupils and teachers still-unexplored modes of learning (by themselves) and teaching approaches which must be assessed in terms of their appropriateness for the objectives stated and more largely in terms of academic success. While innovation, in particular that catalysed by digital technologies, aims to bring transformations with positive effects to education, educational innovation should be a work method that is anticipated and supported by all those involved and not just an anecdotic or experimental practice.

4.2 Criteria to evaluate innovation

To prepare an international comparison, the SRI has defined several common dimensions supposed to be significant in all schools involved in the ISP. It was decided to explore both the teacher’s assignment (TA) and the student’s work (SW), by way of descriptive coversheets which were fulfilled by the teachers. The coversheets were collected twice a year and then analyzed by neutral coders. A coding manual described how to evaluate the TA and SW, using the following criteria. The coder had to attribute a code from 4 to 0 (i.e. more or less innovative) according with the detailed explanation given into the coding manual⁴.

⁴ The coding manual is downloadable on (in English and in French)
Table 2.

<table>
<thead>
<tr>
<th>Dimension of innovation</th>
<th>Definition (extracts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge construction</td>
<td>Knowledge construction happens when students combine new information with what they already know to generate ideas and understandings that are new to them.</td>
</tr>
<tr>
<td>Collaboration</td>
<td>Collaboration occurs when a student works with others, whether the work is done face-to-face or through ICT. In authentic forms of collaboration, students take on different roles and produce interdependent products.</td>
</tr>
<tr>
<td>Problem-solving</td>
<td>The challenges of the 21st century require creative problem-solving and innovation. Assignments that score high on this rubric ask students to solve problems for which there is not a previously learned solution or response. These assignments allow students to be creative by giving students choices of what they learn, how they approach the problem, and how they display their solution. The assignments that are strongest on this dimension also involve innovation by requiring students to implement their problem solutions or designs in the real world.</td>
</tr>
<tr>
<td>Global tools and perspectives</td>
<td>Assignments that score high on this rubric prompt students to work the way that high-performing 21st century teams work using a wide range of information, resources, and tools. These teams use information or perspectives from multiple countries, cultures and academic disciplines to broaden their understanding. Assignments encourage students to use ICT, such as Internet resources, computer software, and digital video, to support information search and organization, analysis or presentation.</td>
</tr>
<tr>
<td>Self-regulation</td>
<td>In 21st century workplaces, individuals are expected to be able to work with minimal supervision because they have self-regulation skills to plan their own work and monitor its quality. Have clear quality criteria for assessing students’ work which are communicated to them; include feedback in order to support students to revise their work and develop their self-reflection.</td>
</tr>
<tr>
<td>Skilled communication</td>
<td>This dimension examines the extent to which student work demonstrates skilled communication through extended writing or reporting that states a theme or assertion and is well-developed. Well-developed writing contains sufficient, relevant evidence to support its theme or assertion, is coherent, and is well-organized.</td>
</tr>
</tbody>
</table>
The meaning of each criterion was length and strongly explicated in the coding manual. Initially developed to evaluate the innovative process, the criteria were communicated to the teachers’ team at the end of the school year. Most of them were very interested to understand more about the dimensions and their didactic meanings. Most of the teachers said that they would certainly integrate it to prepare their next learning scenarios.

Even if the analysis of written documents was very useful, it was not enough to understand all the innovative process. The ISP evaluators (= 12 research-evaluation teams around the world) confirmed how the task of innovation research-assessment was complex and needed various ways to collect significant data. The process of innovation, indeed, can be seen both in learning situations (classrooms’ observation, teachers’ assignment, students’ work), in the behaviour and opinions of those involved (questionnaires, interviews of teachers, pupils, parents) or in the new pedagogical activities imagined to develop a particular skill (description of planned activities, interviews, pupil’s work, photos).

4.3 Experience of innovative teachers

At the end of the first year, several teachers expressed their difficulties, particularly in terms of lack of time and technical skills. In the French school, innovative teachers focused especially on two points:

1) how difficult it was to manage skills-based groups. In fact they were not taught on what “competence” precisely means (to distinguish knowledge, ability, behaviour?) and on the best way they could try to develop it;

2) how ambitious or unrealistic it was, considering the conditions under which they work, to produce online resources, to make visible the pupils’ work available on the web, to communicate with parents by way of the DWE, and, at the same time to respect the curriculum.

On the opposite, they felt very satisfied to have had many opportunities to work together, to develop by this way the capacity to reflect on their new practices, to have discovered the benefit of peer-coaching or peer-training to overcome the difficulties. They learnt more on ICT and also on innovation and change because they had to express and share their questions, difficulties and successes, both through informal face-to-face meetings and through the teachers’ blog they created to discuss. They confirmed that they now felt more able “to try things”, with or without ICT.

5. Some ideas which should be discussed further

Innovation means seeking answers for new situations encountered or imposed. Those involved in education often have to react extremely quickly to requirements coming from the ministry or other authorities. In France, recent examples of this
are the validation of B2i (an IT and Internet diploma), the implementation of the common base of skills and knowledge, the implementation of the CEFRL (Common European Framework of Reference for languages), collaboration with local authorities or partnership with companies; not to mention being practically obliged to use digital environments. These are challenges for which teachers, pupils, parents or head teachers have no other solution but to be inventive and creative, and to set up, and dare to exploit, new teaching scenarios.

Empirical studies on innovative teaching practices, such as experimentation accounts, provide recurrent, common-sense observations or recommendations:
- the need for, and the very great difficulty in, mobilising a teaching team, and not just one individual or group of individuals;
- identify, as far as is possible, the levers for change, whether these are the people involved, techniques, organisations or the context (Charlier & Peraya, 2003);
- avoid designing atypical activities, or ones that are primarily based on voluntary help or even militancy;
- avoid thinking of innovation as an alternative to learning difficulties, when it is well known that these are primarily due to socio-cultural, economic, linguistic, psychological, etc. issues (Héry, 2007);
- the process of innovation, in a school context, “is the management of the unexpected, of risks and uncertainties” (Cros, 2004).

This is why experimentation requires, and benefits from, being accompanied, if it cannot be explicitly controlled. To involve teachers in research relating to their own practices allows the exploratory steps to be accompanied, the stumbling blocks to be brought to light, and the risks of rejection, resistance and other tensions to be limited.

The determination to transform, which includes the concept of teaching innovation, stresses the sense of a process of change much more than the product of change. “Innovation in education is conscious, deliberate, intentional change” (Cros, 2004). Innovation, as a process of transformation of an approach or a device, is primarily driven by the commitment of those involved. Innovation is based on determination (individual or collective, institutional or in the field) to make the system change, not to destabilise it (Develay & al., 2007).

In addition, those who are asked to register their practices in an innovative school are aware that teaching innovation is usually a process that leads to tension, discomfort and destabilization. They should know that innovation is a process that needs to be nurtured over time. Its results are seldom measurable in the short-term. Those involved are often informed of the expected advantages of innovation, but seldom of what they are likely to lose, such as, for example, the comfort of routine procedures, the ability to reflect on well-oiled professional situations, or the perception of the effectiveness of proven teaching strategies.

When the ISP project announced: “Microsoft’s Innovative Schools program is helping schools around the world to move beyond the limits of the classroom and
How to observe, describe and evaluate innovation and change? IFIP WCCE 2009

traditional learning models”, we agree. However, after having analyzed our collected data, we would add the following assertions:

- observing innovation processes implies taking care not to oppose new and traditional, and particularly not to let them mean, more or less explicitly, good and bad, efficient and inadequate, modern and obsolete;
- the complementarity between the new and the traditional will often be necessary in situations where stakeholders can use what works and what has proven reliable as a basis for imagining new strategies;
- in contrast, innovation, if it moves forward by means imitation and is not sufficiently creative, can suffer from what Jacques Perriault has called “l’effet diligence”;
- risk-taking is a fundamental feature of innovation;
- the concept of pragmatic creativity is strongly related to that of innovation. It is a question of finding, individually or collectively, really applicable solutions to deal with new situations and problems. It is in this sense, it would seem, that the SRI coordinates the two terms innovation and problem solving;
- anyone who innovates must be able to perceive both the need and the strategy (or the product) which will be able to satisfy this need;
- all change often involves discomfort, anxiety, and cannot be assimilated unless meaning is shared by all involved.

Marc Giget (2005), who holds the chair of innovation economics at the CNAM in Paris (France), puts forward a definition of innovation which we would like to promote:

“It’s dreaming that starts everything off, not technique. Dreaming is an extremely solid, broad, ever-renewing basis. But moving from technology to dreams is not at all straightforward. On the one hand we have knowledge, its applications, capacities, the “technological push”; and on the other, something more complicated, expectations, the demand, needs… and dreams, which are ultimately the most solid things we have. True innovation is a delicate creative synthesis, which can be defined as the narrow contact point between the best we are able to do and what individuals dream of.”

Finally, this research-assessment on ISP enables to confirm some recommendations from Fullan (Fullan, 2002): probably one key to successful change is the improvement in relationships between all involved and not simply the imposition of top down reform. Educational change is based on creating the conditions to develop the “capacity” of both organisations and individuals to learn.

5 “The first coaches resembled stagecoaches (diligences in French) and the first cars, horse-drawn carriages. When people who are used to now-outmoded techniques use the new tools in conjunction with old protocols, this is what I call “l’effet diligence” in Perriault, Effet diligence, effet sérendip et autres défis pour les sciences de l’information. On line: http://archives.limsi.fr/WkG/PCD2000/textes/perriault.html

6 In Internet Actu June 22nd 2005 Marc Giget “L’innovation, de la découverte à la “synthèse créative”. Online: http://www.internetactu.net/2005/06/22/marc-giget-linnovation-de-la-dcouverte-la-synthe-creates/
The focus moves away from an emphasis on structural change towards changing the culture of classrooms and schools, an emphasis on relationships and values shared by all educational actors.

References


OECD: DeSeCo Definition and Selection of Competencies. Online: http://www.oecd.org/document/17/0,3343,en_2649_39263238_2669073_1_1_1_1,00.html (2002).


