

# Secondary Educational Leaders and ICT Integration: A Case Study of Amiens Academy in France

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## Summary

This paper examined the interconnected dynamics of how headmasters and teachers view ICT. We attempted to articulate two social levels in which the diverse interests of these educators view the impacts and role of ICT in Picardie secondary schools.

First, concerning the macro- level, we focused on the headmasters in order to assess their views of ICT projects. If the bureaucratic management style, centered on the *stricto sensu* application of ministerial texts and decrees, appeared to guide some headmasters often used to administrative management strategies, others were able to adopt innovative managerial practices. The latter headmasters would integrate both local and national procedures and teachers' autonomy as data of their regulation and management of their school. This leadership approach for leading projects would constitute a gradual change in the professional identity of headmasters toward the construction of a regulation intermediary space which seems to play an important role in the development of schools and make headmasters the school decision-makers.

At the micro-social level there appears a 'disconnect' from the previously documented levels. This concerned teachers' pedagogical practices and refers to their personal, political and cultural convictions as well as to their interests in the acceptance or rejection of ICT. If some reluctance remained, most of the teachers seem to engage and use technologies that offer them some support and assistance in preparing their lesson plans. Nevertheless, practices in classrooms remain anchored in traditional models that teachers have internalized over time.

The future of ICT in the schools has great potential across the Picardie region. And although many barriers still exist to adoption and implementation by headmasters and teachers, the transformations that ICT have had on all sectors of society suggest that ICT will become increasingly necessary to improve education, employment opportunities, and economic development in the region. ICT will play a major role in the future development of the region.

## Introduction

The role of ICT in French secondary schools raises many varied views by teachers and headmasters about the role of ICT in secondary education. The purpose of this paper is to examine the motivations, preferences and goals of these leaders for integrating ICTs into secondary schools. The paper will focus on two levels. First, the macro-social level which is characterized by the relationships between, these educators and their allies and conflicting players. At this level the bureaucratic organization of schools, their mechanism of information, communication and project management may be challenged by other stakeholders in the school. Secondly, the researchers will examine the micro-social level that is manifested through teachers' professional and personal motivations, their attitudes and interests, and their practices towards accepting or rejecting ICT.

In order to analyze the connection(s) between those two social levels and the use of ICT, we will examine a case study from Amiens Academy. This case study reflects the introduction of pedagogical innovation into the French education system at the secondary level in concert with ministerial goals which are themselves dependant on many external stakeholders and technological transformations occurring in education and societal institutions at all levels, including universities, business organizations, and government agencies responsible for setting standards and learning outcomes for their sector. ICT plays a major role in shaping the strategies that headmasters and teachers perceive as contributing to student achievement and meeting learning outcomes. There are several reasons for selecting this approach to ICT integration and application.

The first reason is linked to the context of education and training in this northern French region that has reflected many educational challenges in official evaluation reports. As a result of these challenges, the education system in Picardie has emerged as an experimental locale for assessing the potential of ICT. It is important to mention that Amiens Academy has shown considerable promise for the use of ICT consistent with ICT usage in other levels of education. At the same time, the Academy has also faced periods of dismay about the role of technology in education. Consequently, these have been the impetus for diverse views among teachers and headmasters towards the proper role and outcomes for ICT usage in secondary schools.

A second consideration is the diversity of regional and academic partners in the elaboration of ICT centered projects. *Educapôle* is an example of a project for using ICT to improve Picardie's student academic levels, including initial education and continuing education. By examining this initial project in detail to identify what components and attributes could be used to assist in the creation of a second project, "Digital Academy."

The Digital academy” project began in September 2006, was designed to align the services of Amiens Academy with the Region and with the participation of the Technology Direction from the National Education Ministry. The purpose was to establish common goals and interests from among these diverse educational players. From the analysis of the first project and creation of the second project, we will try to understand the ways ICT can develop through partnership procedures where different actors’ with multiple strategies are confronted at the micro and macro level.

The purpose of examining the various interpretations and approaches of headmasters and teachers is designed to address the following research questions:

- 1) How can a common pedagogical project be developed given varying approaches to ICT by regional actors?
- 2) What rationales are influencing how these actors view ICT applications?
- 3) What are the core values, goals and views that headmasters and teachers use to justify their assessment of a “digital academy”? The hypothesis from these analyses is that ICT would only be adopted if the concerned actors (headmasters or teachers) may expect a professional – even personal- benefit from ICT implementation. The determinant factor would not be ICT but the benefits that headmasters and teachers perceive in their best interests.

We will begin describing the context and the socioeducational environment in which the observed projects were set up. We will then present the theoretical base supporting our hypothesis and the aims of this paper. Following an analysis of the methodology and data results, the researchers will discuss the implications of these in relationship to the two social levels identified at the beginning of the paper.

### **ICT Integration as a Regional Strategy for Picardie**

This section describes the context in which the projects built around ICT were developed and took shape in the academic education landscape in Picardie. Indeed, since the beginning of the 1990s, this region in the north of France has always drawn attention by regional authorities in terms of experimentations in educational context. At that time, the Scientific Information, New Technologies and Libraries Direction (DISTNB) provided four high schools and several junior high schools with computers, servers and high speed internet connections. This consisted of taking an inventory of pedagogical resources and making them available to teachers via a regional pedagogic server. At the same time, the Regional Council of Picardie set up a teachers training project based on a collaborative work using the software Lotus Notes. Between 1994 and 2009, other projects emerged that will be described later. Why this “*constant renewal*” of experimentations in this region? The answer, as we suggest, may be linked

with the difficulties teaching and training face in the Picardie region. The region is characterized by a high rate of unemployment<sup>1</sup> and the proportion of pupils from the underprivileged<sup>2</sup> sections of the population is higher than the national average.

Technologies are often presented as a way to break the deadlock and overcome difficulties that impede educational improvement by students. Indeed, following the call for proposition "Information Auto band" launched by the Industry Ministry in 1995, the Regional Council of Picardie initiated the *Educapôle* project making it part of the Region/State Contract designed to improve the efficiency and effectiveness of the regional education system. This process was designed to improve the educational opportunities for students in secondary schools and enhance their qualifications for subsequent employment in the Picardie Region.

Described as a "Public interest experimentation" by the interministerial comity, the *Educapôle* project focus has been to develop digital pedagogical resources for pupils. Moreover, the long-term goal is to contribute to the development of a personalized distance education system that is flexible, innovative and responsive to the students, teachers, headmasters, and community representative across the region.

In her analysis, Anne Romby (2000) found that the engagements of regional and academic partnerships are challenging and complex. But, according to the Romby, the educational potential of *Educapôle* is reflected in the capacity of the teachers and headmasters to readjust the whole relatively quickly. Projects goals had to be clarified clearly and quickly, and redefined among these key players (Romby, 2000).

Further analysis suggests that the development of ICT in the education of the Picarde region can improve based on implementing this process. Romby's study suggests that by building collaborative partner relationships between regional and academic actors, then learning from the lessons of *Educapôle* in Picarde will provide the basis for building future partnerships for the region.

The diversity of the stakeholders involved in the projects built around ICT in the Picarde region led us to select a qualitative procedure for gathering data for the project. The researchers conducted interviews in 28 higher education schools of Picardie, focusing on different participants: 48 teachers, 28 headmasters, 2 ICT academic project leaders and two (2) representatives of the Regional Council.

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<sup>1</sup> In 2006, for example, a rate of unemployment (10,2%) higher of 1.2 point to the national average (9,0%), which makes this region one of the most touched by this problem (source: Labour, Employment and Professional Training Direction of Picardie).

<sup>2</sup> In 2006, 49,3% of the pupils entering junior high school come from underprivileged social classes while the national average is 37,2% (source : General Indicators/DEP)

## **An Emerging Educational Role for Headmasters in the Picardie Region**

What are the headmasters' views regarding ICT projects and technologies in the region? But before discussing the interviews, we examined the roles of headmasters in education.

### Figure and Status of Headmasters.

As a political player and decision maker, the headmaster has to coordinate, regulate and ensure the coherence of academic, national and regional educational goals and guidelines. Yves Dutercq (2000) underlines that headmasters are the only ones who are able to transform the essence of a school and that the autonomy given to schools by the challenges of 1989 strengthened their leadership role in managing schools in the region.

The decentralization of education and joint-supervision by state and territorial collectivities reduced the bureaucratic role of headmasters and allowed them to engage in other support areas that potentially could improve the local and regional educational system. The convergence of interests and the need for local coherence expanded their roles as partners with teachers, parents and local elected members. Since 1989 they have had greater autonomy to define both "school project" and "diversified pedagogic careers". However, they are daily confronted with concerns and challenges directed at them from academic oversight agencies as well as from parents (Blanchet *et al.* 1999, p.4).

We believe that if school headmasters have a bureaucratic and rigid approach to managing their schools as Lise Demailly (2000) argues, the headmasters receptivity and support of innovations such as ICT, would be restricted. The headmasters' behaviour coming from certain autonomy of schools would be reflected in different ways creating two professional behaviors. The first would be headmaster loyalty toward ministerial directives involving the *stricte sensu* respect of official texts governing ICT in education. The second would carry promote creativity and originality in the organization and control of actions into the school which may challenge the headmasters' professional identity, authority and position in the educational process

However, this dilemma suggests that headmasters must be one or the other which is an overly simplistic answer to educational management. Across all sectors of education, including major universities, leaders must constantly balance managing creativity and managing bureaucracy in their day-to-day direction of the institution. Consequently, is it reasonable to assume that headmasters may, in fact, possess the capabilities to promote the management and innovation agendas concurrently, at the same time? This is essentially a very important leadership questions facing the diverse and multi-faceted role(s) of the 21<sup>st</sup> century headmaster.

### Are Headmasters Drawn Towards a Bureaucratic Leadership Style?

Eight of the twenty-eight headmasters interviewed expressed resistance to the ICT and questioned the premise that technologies are a viable means to improve the educational system and specifically enhance student learning. Many of the headmasters cited past failures in ICT implementation and questioned the potential of ICT to contribute to educational improvement.

These data suggest that headmasters generally adopt a strategy of reducing ICT to taught knowledge, according to the ministerial circulars where the Internet and Computer “Brevet” (B2i) has a central role. But from teaching technologies to considering ICT as a pedagogic project for the school or as tools for learning or teaching, there is still another option. The professional behavior of these headmasters, centered on ministerial papers, may partly be explained by the absence of strong and precise case studies, examples, and success stories about ICT in education. In sum, it appears these headmasters need documented evidence showing how ICT has improve student performance, increased school efficiency, and contributed to the teaching abilities of their teachers. It is also plausible that these headmasters need personal connections with other headmasters who have successfully adopted ICT in their schools and observed the benefits firsthand. This would be consistent with related adoption research in educational environments where peer success and support often influence others to adopt the innovation (Rogers, 1983). Similar to teachers adopting successful innovations of other teachers, headmasters may be more apt to adopt ICT if their peer headmasters at other schools have adopted ICTs in their school and benefited from this process.

Without question, headmaster resistance to ICT adoption is not the only factor that creates barriers to these type of integration projects. There are other factors that intervene such as limited resources, lack of training for teachers and students, obsolete technological infrastructure, and pedagogical content and course design materials. As a result, even for headmasters in favor of ICT use, there are multiple factors and uncertainties to manage in a school.

#### Barriers for Headmasters to ICT Integration

The resistance presented above is not a generality. A significant portion of the headmasters interviewed (20 among 28) estimated that technologies have the potential to develop new pedagogical practices and constitute an opportunity for the improvement of their schools’ effectiveness. However, these headmasters all agreed that ICT centered projects constitute a real challenge and require considerable time as well as important human and financial resources for successful implementation.

The 1989 law may provide schools greater opportunities to develop innovative ICT pedagogical practices (Dutercq, 2005), it appears there are still many barriers to implementing successful ICT projects. Indeed, within the framework of *Educapôle 12* headmasters among 28 schools implemented “school projects” based on the use of technologies. The analyses of interviews highlighted two major problems they face. The first one is directly linked to that the extensive workload for the management of the project. They have to delegate projects to a resource-person or to a motivated and generally voluntary group of teachers. Initially, there are few real incentives for teachers to participate because of this extensive workload. However, this process allows more flexibility but creates a gap when one of its members leaves. The second constraint is the lack of time for teachers to actively engage in training, development and course design given they must continue to meet their day-to-day academic responsibilities. This challenge is often cited in the research and accentuates the fact that even confronted with resource constraints, lack of support from headmasters, and ample curricular ICT materials, perhaps the most important constraint is simply time.

#### ICT and New Space of Regulation

In some schools we visited, ICT linked projects were working. Sacré-Coeur high school is a good example. The initiative has been supported and appreciated by academic leaders, pupils and parents’ associations. The teachers have been enthusiastic about the project. The headmasters underline that the success of their projects is mainly linked to the way they were organized which allow the flexible and innovative mobilization of their teachers.

Associating teachers, pupils and parents’ associations to this project, headmasters made the process a collaborative business in which all the partners feel ownership and support for the project. This managerial process does not necessarily rest on the headmaster’s statute or function, but on the leadership example of his/her professionalism in an educational context. The efficiency, the capacity of conviction and coordination, that characterized headmasters, allows them to serve as ambassadors to external partners and regional and government stakeholders. The visible ambassador role appears to be more satisfying for them than the administrative definition of their position as headmaster.

These observations tend to corroborate the conclusions of works that insist on the progressive emergence of an intermediary space of regulation in the French educational system (Dutrecq & Lang, 2001). This intermediary space of regulation seems to look, to a large degree, like the local micro regulation evocated by Barroso:

*“The local micro regulation can be defined as a process of coordination*

*of actors' action on the ground resulting from confrontation, interaction, negotiation or compromise between interests, logics, rationalities and strategies in presence, as well in a vertical perspective between "administrators" and "administrated", as in an horizontal perspective between the different occupiers of the same space of interdependency, schools, educational territories, municipalities, etc."* (Barroso, 2005, p. 163).

The forms of stakeholders' micro regulation could put National Education leaders in an awkward position because the influence of a certain local powers would tend to occupy an important place in the educational politics and position of the headmasters (Dutrecq & Lang, 2001). Hence a legitimate question is: Are headmasters' behavior stamped with a deconstruction/reconstruction of their professional identity?

### **Teacher Practices of ICT**

Teachers are likely to constitute the critical success factor of any action of ICT development in education. If your teachers won't participate, the project fails. It is that simple.

Numerous studies have shown that French teachers' autonomy is an important element in the functioning of the educational system and a primary element of their professional identity (Perrenoud, 2000). This may be a result of recent history, in particular the role that non-religious republic made primary school teachers play, or the manifestation of what Philippe d'Iribarne (1989) called the "logic of honor", a main characteristic of the French cultural identity which would give a predominant place to status, rights and duties in professional organizations.

The researchers' experiences and the literature suggest that ICT in education may be perceived as challenging teachers' customs, routine and incomprehension. However this resistance gets weaker when ICT is compatible with the classical school organization and compliments traditional teaching practice or when ICT provides a benefit by generating a new way of acting, a new professional status, or even an "habitus" according to Pierre Bourdieu's (1992) viewpoints. The benefits of ICT could be part of teachers' professional or personal interest such as comfort in the preparation of lessons or pedagogical practices, flexibility in the teaching schedule, gratitude from peers or institution, self-assertion, and others. Nevertheless, ICT practice in educational environments is not carried out in an abstract and isolated way. To be adopted and utilized, it requires a *modus vivendi* and an articulation between teachers' interest and the interests of the school and other academic and regional colleagues and stakeholders.

### Teacher Barriers to ICT Adoption

Teachers engaged in ICT tend to have varied rationales for using ICT yet their approach to teaching remains focused on a fundamentally personal approach.

Among the 48 teachers interviewed, a small proportion (7 out of 48) is concerned about having their autonomous position challenged as a teacher because of the demands of using ICT technologies. Among the interviewees, some had participated previously in the *Educapôle* projects. These teachers have different views of their participation in this project. Beyond the technology tools, however, these teachers had little sense of the didactic and pedagogic role of the project. Consequently, these teachers now question the connection between the scope of the personal investment and the benefits they would receive from participation

Similarly, ministerial and local procedures concerning ICT create a dilemma for teachers. On the one hand, the rules of school functioning produce a certain pressure that impact teachers' work and structure their professional identity (Dubar, 1998). Conversely, the pedagogical use of ICT for teaching casts doubt on both the rules of the school (program, time, discipline, evaluation, etc.) and the socialization process since their university training. Some teachers may feel incompetent with ICT given they never had the opportunities to participate in the process of ICT adoption which is perceived as relegating teachers back to a novice position. Perhaps teachers feel that it is better to resist ICT than to look 'incompetent' in the eyes of students, peers, and the headmaster.

### Innovative Practices for ICT

In the high schools visited, the pedagogic use of ICT was limited to a restricted number of teachers. Only 14 of 48 teachers revealed continual usage and these were in the fields of foreign languages, mathematics and physics. These teachers motivate their students to use the internet to do documentary research. Nevertheless, some innovative uses exist and are led by innovative and creative teachers who believe in the pedagogical potential for improving teaching and learning with ICT. It was, for instance, the case of a teacher in management sciences and technologies who created for his students a network simulator and put it to the disposal of the educational community. Similarly, a teacher supported her management lesson with a video from the website *Site TV*. We discussed these with both the teachers. These teachers stated a real pedagogic success though promoting a feeling of personal satisfaction linked to the recognition from their peers and from the institution. These teachers could potentially be ambassadors across the school to help other teachers see the potential benefits of integrating ICT into their classroom.

### Practices of ICT Outside the School

The majority of the teachers (37 of 48) indicate that they regularly use a computer and the internet in their offices. Without hesitation, they asserted that ICT brings a comfort in the conception and updating of the materials they use in class and that it facilitate communication between peers and students. Moreover, these uses had little to do with politics and were viewed by these teachers as resources to use ICT as tools to prepare the lessons and ICT as pedagogic media. Larry Cuban (1999) documented similar results in American classrooms.

Whereas Nicolas Santolaria and Laurent Trémel (2004) showed that the practice of multimedia gaming could have a positive impact on motivation and learning, other teachers questioned the role of gaming in their pedagogic practices. They felt that computers would be an obstacle to the circulation of speech and that the video screen novelty would exercise an attractive power on pupils given students association with vide-games as purely for fun and enjoyment and not for educational use. These are challenges that all teachers face in the age of technology. Effective teachers must balance their own communications with their students to ensure that classroom organization does not promote undue focus on the technology by students. If these teachers can demonstrate the educational value of gaming or other associated video-based tools, then students are more apt to see these as contributing to their learning.

### **Recommendations for the Picardie Educational System**

The education challenges facing the Picardie region are diverse and complex. Given the high proportion of lower socio-economic students across the region and high unemployment, the primary for the future questions remains: Can ICT integration in secondary schools improve teaching and learning, school management and efficiencies, and contribute tangible benefits to teachers, headmasters, parents, local officials, and most importantly students? We believe the answer is yes and is essential to moving the Picardie educational system into the 21<sup>st</sup> century.

The following are preliminary recommendations derived from this study to facilitate the adoption and implementation of ICT across the region.

- 1) Headmasters, local officials, teachers, parents, and students must engage in collaborative discussions about the potential benefits of ICTs. Each group must be able to articulate their concerns, their hopes, and their goals for the role of technology in transforming education across the region.
- 2) Models for success must be developed that draw upon effective uses of ICT by headmasters, teachers and students and these must be shared with others

across the Picardie educational system. Local forums and workshops taught by successful headmasters, teachers, and Universite Jules Verne faculty must be offered that allow educators across the region to learn from these successes. These should focus on how these successful projects were planned, developed, financed, and assessed. The key is demonstrating the benefits ICT can bring to schools, the community and the region.

- 3) Local, regional, national and international support of ICTs is directly related to a 21<sup>st</sup> century information economy where the majority of future jobs will require specific computer, ICT, and information management skills. Local government agencies in Amiens, local business employers, and community organizations must be brought together to identify the key 'career and job markets' for the region in the future. The fundamental purpose of this process is to link education with employment that collectively strengthens economic development across the region.
- 4) Universite Jules Verne can be the lead organization in bringing together the key stakeholders across the region. The whole is greater than the sum of the parts... this means that by bringing together representatives from education (primary, secondary, and university), the business sector, community agencies, and government organizations across the region, these diverse and yet complimentary groups can build a sound future for 'la region Picardie.' Picardie cannot afford to have a 'digital divide' in its regional community. ICT cannot be a resource for the few, it must be a community resource for everyone.

### **Implications for Further Research**

This study is a preliminary assessment of the challenges and opportunities for headmasters and teachers in the Picardie region. At the same time, it represents a snapshot of issues that must be researched in the future to expand the role and benefits of ICT across the region in education, business, and the broader community. The following are selected areas for further research.

- 1) What are the key resources issues facing headmasters and teachers that restrict the adoption and use of ICT in the schools?
- 2) What incentives or benefits do headmasters and teachers view as most important to their respective professional interests?
- 3) What are the successful pedagogical practices using ICT across the region? What makes these unique for teachers and for improving student learning?
- 4) What role does the Picardie business sector play in supporting ICT usage and skills in the schools?

- 5) What role does Université Jules Verne desire to play in promoting ICT and secondary school technology competencies for students? How can UJV play a greater role in the future in promoting ICT collaboration among educators, business executives, community leaders, and local government officials?

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