FRANCE

Country Report on ICT in Education

Available on http://www.eun.org/observatory

Contact: Nathalie Terrades, Ministère de l’Education nationale

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1. THE EDUCATION CONTEXT

1.1 KEY EDUCATIONAL CHALLENGES AND PRIORITIES

The following initiatives, part of the plan "Bringing Schools into the Digital Age" ("Faire Entrer l'Ecole dans l'ère du numérique") of 13 December 2012, can be regarded as top priorities for education (covering primary and secondary education levels). On 13 December 2012, the Minister of Education announced a series of measures concerning ICT in education, called "Faire entrer l'Ecole dans l'ère du numérique". Education is to be provided within the information society, this implies that students have to be taught digital information literacy. A particular emphasis has been put on ICT in initial teacher education and ICT in service teacher education. The ESPs (Ecoles Supérieures du Professorat - higher school for teachers) launched in 2013 are in charge of initial teacher education and ICT. The 13/12/2012 plan aims to provide broadband access, equipment in infrastructures and facilities to all schools, so that the teaching staff can develop daily activities using resources and digital services and engage in innovative practices.

Then, the LAW of ORIENTATION was adopted at first reading on 19 March 2013 (final vote in June):

1. The Digital Education Council, was set up at ministry level, to encourage dialogue and coordination between representatives from the MoE, the educative community, local and regional authorities, researchers, public and private stakeholders.

2. As a follow-up of bringing schools to a digital age, a national consultation took place in the beginning of 2015 and in May 2015 the president of France announced the launch of the digital plan to generalize digital education.

3. A social network for teachers and a platform was developed by a consortium (Viaeduc), which enables teachers to share digital contents and lesson plans, collaborate on projects.

Infrastructure

In September 2013, 20 pilot “Collèges connectés/connected lower secondary schools” opened. They benefited from specific support and funds to further embed ICT in education and received a specific national label, “Collège connecté”. In 2015, local authorities and academies selected, on a project basis, 570 primary and lower secondary schools as “connected schools”. Local authorities, together with the Ministry of Education pay for the equipment (tablets, laptops) while the academies provide teacher training. Students in their first year of lower secondary school are equipped with devices. The aim is to have all schools equipped by 2018. In 2015/2016, there will be a particular focus on teacher training.

The plan "Faire Entrer l'Ecole dans l'ère du numérique" aims, among other things, to provide broadband access to all schools and equip students with tablets. It also aims at doing providing more in-service training and resources.

Building and developing collective multidisciplinary and trans-disciplinary projects can be reached via:

- portals such as Universcience
- partnerships with different actors of the scientific and technological world (laboratories, research centres, firms, museums, associations, public institutions like the CNRS-French National Centre for Scientific Research)
- encouraging the participation to online scientific competitions (La main à la Pâte)

The Ministry of Education encourages the production of resources by public and private publishers. The new service Eduthèque is a portal that gives free access for French teachers (upon registration) to quality resources from cultural and scientific institutions. Teachers can use these resources with their students. The portal is part of the digital plan.

The portal English for schools was launched to help students learn English in primary schools.
New optional subject called ISN

Since September 2012, a new optional subject called ISN (informatique et sciences du numérique/ IT and digital sciences) is offered to students following the science programme in their final year of higher secondary education (the subject is now available to students in their first year). Students taking this subject study computer programming, e-safety, accessibility and algorithms in two class periods per week.

1.2 EDUCATION REFORMS

The Common base of knowledge and skills

The common base of knowledge and skills was launched in July 2006. It has been defined as the body of knowledge and skills which the French system is committed to impart to children in the course of their compulsory education. "The common base of knowledge and skills" was renamed “The common base of knowledge, skills and culture”. It will be implemented in September 2016.

The text is based on five major skills or pillars. Each pillar is divided into knowledge, skills, and attitudes. The five pillars are:

1. Languages to think and communicate
2. Methods and tools to learn
3. Learning to be a person and a citizen
4. Natural and technical systems
5. Representations of the world and of human activity

Reform of lower secondary education with new curricula

A reform of lower secondary education with new curricula was adopted in May 2015 and will be launched in September 2016. It aims at providing more guidance to students (3 hours in their 1st year- 1 hour in their 2nd third and 4th year). More time will be dedicated to small group sessions with an emphasis on interdisciplinary practices. In total, the new teaching methods (personalized support and small group sessions) will represent 20% of a teachers’ teaching time. Teachers will organize to meet the students’ needs. Learning a second language will start in the 2nd year. An emphasis is made on the development of digital competences (not only the use of digital tools but also the acquisition of landmarks and critical thinking for a new digital culture). Media and Information Literacy is integrated in all curricula and coding is also integrated in the new curricula.

2. ICT IN EDUCATION POLICY

2.1 NATIONAL/REGIONAL ICT POLICIES

National level

At the Ministry level, la Direction du Numérique pour l’Education” (DNE) (Directorate of Digital technologies for Education) is responsible for matters related to ICT. It aims at:

- encouraging teaching practices using ICT;
- developing school equipment;
- creating networks;
- supporting teacher training;
- supporting the creation, production and distribution of multimedia resources;
- supporting the product and services industry;
- establishing partnerships and agreements with regional authorities and companies;
- preparing, providing a framework and implementing the guidelines for the development of ICT for educational purposes in schools.

2.2 RESPONSIBILITIIES

National level

At the Ministry level, la Direction du Numérique pour l’Education” (DNE) (Directorate of Digital technologies for Education) is responsible for matters related to ICT. It aims at:
• encouraging teaching practices using ICT;
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• establishing partnerships and agreements with regional authorities and companies;
• preparing, providing a framework and implementing the guidelines for the development of ICT for educational purposes in schools.

Regional level

The “academies”, regional structures of the Ministry of Education, are in charge of implementing national directives and policies. The regional education authority gives impetus to the development of Information and Communication Technology. It coordinates the different levels of teaching and establishes partnerships with local and regional authorities, companies, other administrations and organisations.

The ICT advisor (DAN:Délégué académique numérique) oversees the activities related to ICT within regional education authorities and coordinates the various networks of people and partners involved in ICT, notably the network of subject leaders and the network on ICT in primary education. The ICT advisor is appointed by the representative of the minister (recteur) in the académies (local authorities). There are 30 academies in France, with each local authority covering several territorial subdivisions (départements).

In France, primary schools (for age 2 to 11) are linked to the town council, whereas lower secondary schools (age 11 to 15) depend on the territorial subdivisions and upper secondary schools (age 15 to 18 plus some post-baccalaureate sections) come under the regional council’s authority. Primary school buildings, equipment and digital services are funded by town councils. Collèges (lower secondary schools) and lycées (upper secondary schools) buildings and equipment are respectively funded by the territorial subdivisions (département) and (territorial divisions (régions). As concerns digital services, the responsibilities are shared between local governing authorities and the central government.

2.3. SPECIFIC ICT INITIATIVES

Protection of children

• Safer internet France informs and raises awareness on internet use issues.
• helpline with the association e-Enfance: helpline to answer questions on the internet
• hotline: to report illegal websites
• The Department of Education and Digital Technologies (DNE) participates to the steering committee of safer internet France (infrastructure and services department of the DNE), as regards the use of technology, media education and information.
• scoLOMFR is a project from the Ministry of Education in the vein of the Learning Resources Exchange projects. It focuses on international interoperability and its profile consists of a metadata schema based on the standardized schema LOMFR (2010). It describes the distinctiveness of the French secondary schools. It is used in projects for the exchange of educational resources metadata of the ministry. It is available in a variety of formats such as VDEX and SKOS. It will develop into the new norm ISO/IEC 19788 Metadata for Learning resource (MLR) which will replace LOM.

Further Links: http://eduscol.education.fr/internet-responsable/
1:1 mobile learning initiatives (including the use of netbooks, laptops, tablets, mobile phones or other mobile devices)

See section 1.1 Key educational challenges and priorities

MOOCs for teacher professional development or initial teacher training or MOOCs for students

- FUN (for students)
- Not many MOOCs for teachers (for ex: « enseigner et former avec le numérique »)

ICT for inclusion (early school leavers, migrants, etc.) and special needs (physical, mental, emotional)

- A2RNE: calls for project for industrials to improve good practices for accessibility and adaptability of digital resources for all students

Cloud computing and connectivity (e.g. wireless Internet, optical fibre connections)

The Directorate of Digital technologies for Education has published guidelines for the Wi-Fi in schools.

2.4. ICT PRIORITIES

A: Digital Competence Development

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<th>Area</th>
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<tr>
<td>Developing measures to support digital competence for future teachers</td>
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<tr>
<td>Developing measures to support digital competence for in service teachers</td>
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<tr>
<td>Developing measures to support school leaders in the integration of ICT</td>
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<tr>
<td>ICT for learning initiatives targeted to boost youth employability and entrepreneurship</td>
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ICT for accessibility and inclusion: early school leavers, migrants, etc. and special educational needs

B: ICT in Curricula and Assessment

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<tr>
<td>Developing computer/programming skills</td>
<td>X</td>
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<tr>
<td>Developing key competences</td>
<td>X</td>
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<tr>
<td>Developing 21st century skills (critical thinking, problem solving, communication, collaboration, and creativity and innovation)</td>
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<tr>
<td>Assessing with ICT/ICT based exams</td>
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<td>Learning Analytics</td>
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C: System-wide innovation

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<tr>
<td>Piloting and validating innovative uses of ICT</td>
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<tr>
<td>Mainstreaming ICT in schools</td>
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D: Mobile Devices

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<tr>
<td>Use of tablets</td>
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<td>Use of mobile phones</td>
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<tr>
<td>Bring Your Own Device</td>
<td>X</td>
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<tr>
<td>Cloud computing</td>
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E: Use of digital resources

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<tr>
<td>Developing educational content repositories/metadata</td>
<td>X</td>
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<tr>
<td>Supporting the development of open educational content and resources</td>
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<td>X</td>
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<tr>
<td>Supporting the development of educational content/resources provided by publishers</td>
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Promoting the use and sharing of educational resources with teachers | X |   |   

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<th>F: Learning environments</th>
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<tr>
<td>Area</td>
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<tr>
<td>Linking formal and informal learning using ICT</td>
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<tr>
<td>Providing equitable access to ICT (infrastructure, devices and content)</td>
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<tr>
<td>Providing a safe learning environment to students and teachers</td>
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<td>Commissioning ICT related research</td>
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3. THE CURRICULUM AND ICT

3.1. ICT BASED ASSESSMENT

The ASSR School Road Safety Certificate – (Highway Code test) level 1 (age 14) and level 2 (age 16) is compulsory. Students take the exam on a computer with the ASSR software.

A few science exams (biology and physics) and technological exams for the baccalaureate have to be taken on computers (Evaluations des Capacités Expérimentales- ECE- Assessment of Experimental capacities).

3.2. SCHOOL IMPROVEMENT WITH ICT

ETIC (Enquête sur les Technologies de l’Information et de la Communication) is an annual national survey about ICT. It is conducted in primary and secondary schools. It aims at providing indicators on equipment, infrastructure, human resources, digital services, safety, teacher training, and more. The indicators are used:

- to organize information about ICT in schools;

- to analyze the evolution of the situation regarding ICT;
- to compare ICT policies at different levels (regional, etc.);
- by the local authorities, when they need information before equipping schools.

PROFETIC is a survey on the uses of ICT by teachers at secondary level.

3.3. THE CURRICULUM FRAMEWORK

The general national curriculum framework in France is centralized. It is defined at central level and defined for study cycles (3 years for instance). Within the curriculum framework, teachers are relatively free to choose their own pedagogical approach.

3.4. ICT IN THE CURRICULUM

ICT is not taught as a separate subject. It is embedded in all subjects, at both primary and secondary levels. ICT is included in MIL at lower secondary level and there are optional ICT courses in high schools (last year of high school).

3.5. STUDENTS’ ICT COMPETENCE

The B2i (IT and Internet Certificate) was created by an official memorandum issued by the Ministry of Education’s directorate for primary and secondary education. It aims to test students’ competence in ICT use ((BOEN no. 42 of 23/11/2000, updated in 2006: (BOEN no. 42 of 16/11/2006).

The B2i was updated in December 2011, as the evolutions of the internet and the development of the pedagogical uses of digital technologies have led to a reform of the framework of reference for B2i for primary and lower secondary schools to ensure that students are better prepared to use these technologies responsibly.

The B2i (IT and Internet Certificate) for higher secondary education was created in 2013 to test students’ competence in ICT use. It certifies:
• knowing how to work in an evolving digital environment;
• being responsible;
• producing, processing, exploiting and disseminating digital documents;
• organizing information research;
• communicating networking and collaborating.

3.6. ASSESSMENT OF ICT COMPETENCE

ICT skill assessments have been part of final examinations for lower-secondary schooling since 2007-2008: B2i level 2 (brevet des collèges) (see also section 3.5 Students’ ICT competence). A certain number of hours of IT training is mandatory to enter teacher training institutes.

Further information

4. DIGITAL LEARNING RESOURCES AND SERVICES

4.1. E-CONTENT DEVELOPMENT

To encourage schools to move forward into the digital era, the French Ministry of Education has created the Central Department for Digital School (DNE = Direction du numérique pour l’éducation - Directorate of digital Technologies for Education) which supports the production of numerous digital resources and services.

The government has launched a digital plan within the “Investment plan for the future”. It aims to tackle challenges like: How to ensure the digital transition to all actors? How to ensure the availability of a diversified offer, adapted to the needs of the schools? This “investment plan for the future” contains several e-education components, among them supplying students in primary school with tablets, via the programme ExTaTE (Expérience Tablets Tactiles à l’Ecole: Experimenting with Tablets in Schools).

CARMO serves as a reference framework for the state /communities relationships by providing a framework for the development and implementation of mobile equipment projects for access to digital learning resources. It should serve as a reference for mobility projects for education.

A - The existing resources during the school year 2014

1) Private publishers

Textbooks are produced commercially but the state prescribes the content and format. The state also approves and registers each textbook on lists from which teachers can choose the books they require. The schools provide textbooks to students at compulsory school level free of charge. At post-compulsory level, the textbooks have to be paid for by the parents. The traditional textbook publishers offer a digital license that cannot be dissociated from richly textured paper textbooks (Hachette et Editis, Belin, Magnard). The new textbook publishers offer a free digital version coupled with paying low cost paper textbooks (Sésamath, Lelivresco-laire.fr). Publishers also use EPNs (Espaces Numériques Publics – Public Digital Centres) and school Cyberbases to present their resources inside and outside schools.

“Pure player publishers”

• Multimedia publishers provide exercises databanks, digital educational games (Tralalère, Edumédia)
• Reference resource publishers: the Encyclopaedia Universalis and the publisher Robert offer online resources accessible to schools through digital licenses.
• Start’ups: resources to adapt or train like Aidodys, Dragonball, learnenjoy

2) Public publishers

2.1 The operators of the French Ministry of Education

Canopé (Réseau de création et d’accompagnement pédagogique (teachers’ resource center and learning support network) which provides teachers
with digital resources, for example:

- **Le site.tv** (a consortium of the France 5 TV channel Canopé provides registered schools (teachers/librarians and students) with a VOD service and corresponding teaching materials.
- **Musique Prim** offers primary school teachers a secure access to a music catalogue and teaching material thanks to a partnership with TPLM (Tout Pour la Musique) an association of professionals of the music sector.
- Service Eduthèque is a web portal of resources in free access for teachers.

Further, **CNED** (Centre National d’Enseignement à Distance/ National Center for Distance Learning) that caters for the needs of students unable to go to school produces an increasing number of digital resources. **ONISEP** (National Office for Information on Education and the Professions) has an online website.

### 2.2 The Scientific, Cultural and Professional Public Institutions (EPSCP)

- **EPSCP** : Établissements Public à caractère Scientifique, Culturel et Professionnel
- The Ministry has partnered with some major French public institutions or corporations to develop very popular, free or for-purchase resources for teachers and sometimes for students:
  - **BNF** (Bibliothèque Nationale de France – National Library, state funded) has had an educational site for a long time, with “Texte-image”, an image bank with copyright-free photos and scenarios.
  - **INA** (Institut National de l’Audiovisuel, state funded) has designed “Jalons pour l’histoire du temps présent » (milestones for present time history), a series of multi-media resources and their teaching materials for history teachers.
  - **Météofrance’s** (the state institute for weather research) education section contains animations in physics and chemistry developed specifically for teachers. They are freely accessible.
  - **BRGM** (bureau de recherches géologiques et minières: the geology and mining research institute): digital maps, catalogues and guides
  - **IGN** (Institut Géographique National: National Geographic Institute): digital maps

### 2.3 Institutions publishing digital resources for Education

- Public institutions like **CNIL** (Commission Nationale de l’Informatique et des Libertés: The National Commission for Data protection and Liberties) or the **Sénat** (the French Senate) publish digital resources.
- The Ministry of National Education publishes on the websites of “les academies” (educative administrative unit = 30 in France) (**education.fr**) free access digital resources created by groups of teachers or inspectors. They are also mutualized on **éduscol** (Edu’bases = a database of pedagogical scenarios for secondary education), **Prim** (TICE for primary education) and **TRaAM** (mutualized academic work).
- **SIALLE** provides teachers with information on open educational software.

When teachers publish open educational resources on their personal pages or blogs, they are under the private editorial responsibility of their author and are not officially validated. The validation of digital resources is increasingly becoming an issue.

The Ministry has published online the **baccalaureate exam questions** and plans to publish more exam questions and URLs towards pedagogical scenarios.

### Programme “écoles connectées”

The connected school plan is also called “The new rural digital school plan”. By September 2015, 500 primary and lower secondary schools will be labelled “connected schools” and will experiment with new forms of teaching thanks to digital technologies. The state will provide 8000 schools with financial support to have access to high speed or very high speed internet services. Public and school libraries showcase the work of publishers.
via the e-sidoc portal which presents all the publishers’ resources in school vocabulary and does not require mastering the logic of the documentation process.

See also section 1.1 Key educational challenges and priorities.

4) Mutualized productions of teachers:

They are quite numerous. Traditionally free, they are available on personal digital schoolbooks, personal websites and open mailing lists (webLettres, H-G clionautes).

B - The resources available in 2015 and 2016

There has not been any real change in the digital resources available in textbooks in 2015 due to the reform (new curricula) expected in 2016. New digital resources for education will be offered and will support the new programs and the Common Core of Knowledge Skills and culture in 2016.

4.2. CONTENT SHARING

Disciplinary portals exist for secondary education with repositories of pedagogical scenarios written by teachers and for teachers and validated by inspectorates, e.g. the Prim TICE and Musique Prim for primary education (see also section 4.1 E-content development).

The PrimTICE portal presents and advertises digital resources and pedagogical scenarios for primary education. It includes the content already available on the PrimTICE platform, together with a directory of several hundred teaching scenarios involving the use of ICT, from reception classes to Cycle 3 (the third stage of primary education in France). Latest resources are the production of a digital book and videos on tablets - a scenario on how to master your digital identity.

4.3. ACCESSIBILITY FOR LEARNER WITH DISABILITIES AND SOCIAL INCLUSION

Digital technologies are a relevant answer to the special needs of students with disabilities because it enables a personalized access to contents. Thus, several experiments show the increased value of digital technologies for students with pervasive development disorders (among them autism) or students suffering from impaired cognitive functions. An example is the local project “ClisTab”, implemented in nine schools around Paris. It is a project offering the use of tablets at school and at home to students suffering from impaired cognitive functions.

Publishers respect the 2006 law concerning heavy disabilities such as mobility impairment, they pass their files to the BNF for adaptation by an association or editor agreed upon by a special committee led by the Ministry of Culture. Negotiations are currently underway to improve the 2006 law for students with dyslexia.

For other disabilities like visual impairment, dyslexia or autism, no quality resources are available or planned in the Program “Investing for the future” but the Ministry works with specialized associations and supports the production of some resources for blind or deaf students at primary and secondary school level. The adaptation of existing resources has not been carried out by school publishers, but mainly by local medical associations. In addition, start-up companies offer resources to adapt or train, e.g. La Favé (Logiral), Learnenjoy (Educare), StreetLab (Visma vue), Aidodys.

Furthermore, as part of the future investment plan for the future, education projects are currently in the development stage. Provisions concerning accessibility have been included in the tender package. Some projects specifically concern students with disabilities to improve their education and learning (such as OpenLib, Eyeschool, CAPA, TagTice, Transition réussite).
4.4. WEB 2.0

No information available.

4.5. LEARNING PLATFORMS

Access to VLEs (espaces numériques de travail - Digital Work Spaces) is a priority for all schools. In France, a VLE includes a management system and pedagogical services. Digital content produced by teachers may be published online on VLEs or included in databases as pedagogical scenarios. The measures cover primary and secondary levels and include the generalization of VLEs to enable parents to understand and follow their children’s education. France aims to provide 100% of French teaching institutions with internet connections and to give all members of the educational community access to a virtual learning environment.

ENT deployment policy

Since 2003, the French Ministry for National Education has been following an ENT deployment policy on the national level. Currently, the generalization concerns more than 2,123 primary schools, 4,300 lower secondary schools and 2,200 upper secondary schools. Within this framework, the Ministry is preparing a master plan for ENT (called SDET in French) in order to guide the regional actors and the companies in this global project. The SDET which consists of a main document with technical annexes fosters the cooperation between the state and local authorities and provides a national coherent framework for the ENT projects. It offers:

- a set of functional, organizational and technical specifications to provide guidance on the formalization of functional requirements, to guide the realization or adaptation of products and services;
- legal, regulative, security and privacy requirements.

The ENT can be defined as an integrated set of digital services; they are selected, organized and made available for the educational community by schools. The ENT are secure spaces. The ENT solution is organized around three types of services:

- basic services which provide support to the application services (directory, identity and access management, presentation/personalization of services…). The back office ensures interoperability between services;
- network services which secure the transmission of the information flows between the different services;
- application services (textbook, mediacenter, LMS, collaborative tools…).

In terms of structure, ENT integration models and levels can differ, including variable levels of modularity; the ENT have to be interfaced with existing systems.

5. TEACHER EDUCATION FOR ICT

5.1. ASSESSMENT SCHEMES

The C2I (certificat informatique et internet enseignant - the ITC certificate for teachers) is not compulsory but new teachers must prove a few hours of training.

5.2. SCHOOL LEADER SUPPORT

This is a current issue; there are currently 220 lower secondary connected schools whose headmasters are and will be regularly gathered to exchange (if they are in Priority Education Zones, they may work together with local schools). The collaborative plateforme Cocon was created to enable them to exchange on practices and to provide them with an information guidebook.

5.3. ICT FOR INCLUSION

The ministry encourages programs such as ORDYSLEXIE. The ORDYSLEXIE IT solution significantly increases the autonomy of students with dyslexia in class. It consists of a computer with
touch pen, OneNote® Microsoft® software and a scanner. It also encourages associations such as FUSO France which trains teachers in charge of students with dyslexia within the class.

5.4. ICT IN INITIAL TEACHER EDUCATION

ICT in initial teacher education is compulsory. It is currently being reviewed for teacher training institutions (Écoles supérieures du professorat) that opened in September 2013.

5.5. ICT IN IN-SERVICE TEACHER EDUCATION

ICT-related in-service training is not compulsory but is encouraged. M@gister is a tutored and interactive in-service training system designed for teachers of primary and secondary education, which complements the existing training offer. It takes a blended approach combining face to face and online training.

5.6. TRAINING THE TEACHER TRAINERS

Each local education authority (académie) organises its training plan; some training sessions meet the needs of Teacher Trainers (teacher training being driven by the Ministry of Education).

6. ICT STUDIES

Local education authorities are encouraged to create digital observatories which help them analyze the enablers and barriers for the deployment of digital technology.