

Introducing 'always connected' tablets into French schools – the Tablette Elève Nomade (student nomad tablet) project

The French education system is making increasing use of digital environments to support education in schools. This began with fixed desk computers and has progressed to the installation of digital working environments. These are a form of intranet-based resources network that is dedicated to an individual school. It provides school management systems (for example, for assessment and absence recording) and allows users to share timetabling and homework assignments. Today, each classroom has an interactive whiteboard to facilitate the immediate sharing of digital teaching and learning contents.

Collectivités locales (local authorities) in France have recently made increasing investment in technology to encourage public schools to embed digital resources into education. This investment represents up to 5% out of a Department's whole education budget and is steadily increasing: up by 25% in 2009–2010 and 9% in 2010–2011.

Orange believes that it would benefit the students to have their own tablet because:

- they are ergonomic and easy to handle
- they can easily fit into a student's schoolbag/backpack – if e-books are stored on the tablet, the weight carried may even be reduced
- they can be considered an 'always connected device' in that they can be used anywhere – at home, in school, outside the classroom and for independent learning activities (assuming a 3G connection)
- they power up quickly once switched on, which makes them easier to use for activities
- the learning material allows the student to go beyond digital books, using the many applications (apps) and learning content specially designed for tablets



- content can be easily updated, so they can become an integral part of the students' learning across many school years
- they can be used flexibly between student and teacher, with the teacher able to take control of the device to offer new activities, corrections or suggestions for new work tailored to the needs of the student.

Orange believes that tablets in the classroom are only part of the story

Orange believes that tablets have a real part to play in education. However, their use is only the 'tip of the iceberg'. To embed technology effectively into the education system other key issues also need to be addressed:

- a) **Involve teachers.** Teachers need preparation time – some teachers find the use of tablets intuitive but others do not, so teachers need time to become familiar with how they work, what they can best be used for, and

how their use can best be applied in education. The changes that their use will bring to a whole-class learning environment need to be thought through, and teaching and learning materials adapted. Teachers also need to source relevant apps.

- b) **Use a control engine.** Even though they are often thought of as 'personal devices', schools are responsible for students' activities with tablets. Access to forbidden content and materials on the internet needs to be filtered out using a proxy control engine through which all requested data flows before reaching the internet. For the Tablette Elève Nomade (TEN) trial (see below), this is handled by the Academy of Versailles.
- c) **Use a device management engine.** One of the benefits of tablets is that the environment can easily be changed – new apps can be installed and others deleted according to need. A device management engine can play a major role in adapting the tablets for use.

d) **Staying connected, always.** Orange believes that providing constant connectivity is very important for encouraging learning and maintaining students' interest in learning. Most schools have Wi-Fi, which means students can use their tablets online while they are at school, but Orange considers that a 3G connection for tablets is also important so that they can continue learning when and where they want to, and to negate any potential digital divide (eg where students might not have a broadband connection at home).



e) **Adapt learning content and encourage innovation.** In the past most digital learning materials were based on the Microsoft operating system because they were used on PCs. Orange believes that the increased use of tablets for education will encourage major content providers to adapt their materials for use on these operating systems (principally Android and iOS). This will also encourage innovation, as new small and medium-sized players emerge on the market.

Orange is focusing on the technical cloud-based environment to achieve the ideal above, so that it is built correctly and with sustainability in mind. The learning content remains at all times the responsibility of the educators.

Trialling the student nomad tablets

In October 2011 Orange began a trial in France in order to understand the real use of tablets and their benefits for teachers and students. Participating schools were chosen by the district (involving districts 78, 80 and 95) in order to be socially representative - including poor and wealthy districts and one in a Priority Educational Zone (Zone d'Education Prioritaire).

Three hundred Samsung Android tablets were provided in total and six schools took part. Tablets were distributed to forty 6th year students (aged 11–12, in their last year at primary school), seven teachers per school, and 18 to the Documentary Resources Centre (at Versailles and Amiens) for use by IT technicians and librarians.

The tablets were equipped with a 3G connection and a suitable data plan, provided free of charge by Orange. This allowed classes to be taught outdoors (mobile class) and students to work outside school, at home, on public transport, and where broadband connections were unavailable.

The trial was originally designed to last for one academic year (which finished in July 2012), but because all participants agreed that it was highly innovative and beneficial, it has been extended for another academic year. It is the first trial in France involving 3G, and the whole control and management system, rather than just Wi-Fi. Evaluation is being handled by the Ecole Normal Superior de Cachan (a top teacher-training university), and will be available in September 2012.

How teachers and students used the tablet computers:

- Teachers integrated the use of tablets into courses for short periods of time to:
 - vary the types of activities, for example using short segments of film to enliven a lesson
 - vary time and rhythm, such as changing the tempo of a class by opening and closing documents quickly
 - show internet/intranet content
 - encourage continuation of learning activities outside the classroom, such as finishing watching a film, reading a book, etc.

- Language teachers found it was very helpful to be able to comment on students' pronunciation and often helped shy students improve – students would record their work, listen to it, and then send it to the teacher for comment.
- In physical education, students found it useful to be able to compare photos of what they did with the 'ideal performance'; it meant that they could understand their mistakes and correct them immediately.

Our experience indicates that an initial investment in time and operation is required but once the technology is mastered learning gains are quickly seen:

"In the first lesson, three-quarters of an hour was spent on operational activities, leaving only a quarter of an hour for effective work. But that was only for the first lesson! Now, they understand how the tablets work, it only takes two minutes, and there is much more time for learning" (French literature teacher).

Some teachers noticed that students progressed rapidly in their understanding and use of new technologies. One English teacher reported:

"They (the children) are, almost, born with it (technology). They showed me how it worked. They know how to use it better than I do."

Involving teachers in introducing tablets into teaching and learning has proved to be an excellent method of professional development. In fact, it has been suggested that the best way to introduce technology such as tablets into pedagogy is to start with those who are enthusiastic about using technology, and then they can act as advocates or champions to cascade this within an educational institution.

Other interesting observations include:

- Almost all teachers reported that students having tablets made it easier for them to bring differentiation to the classroom. The more able students could work with minimal supervision and teachers could concentrate on students who required more assistance suited to their individual learning styles.
- Some reluctant learners have started to become more involved in their lessons now that tablets have been introduced.
- Some students have gained recognition within the class for their knowledge of tablets; they have shown increased confidence in becoming the class “geek”.
- Parental involvement in their children’s coursework and homework has increased now that it involves the use of tablets, despite some initial concerns. Parents feel that the technology has given them a sense of being able to contribute towards their children’s education as it uses technology which is part of their lives.

Concluding remarks – on the eve of a new education (r)evolution

- Tablets are going to be an essential part of the education process in the future and Orange has just taken the first steps towards using it in classrooms. To realise its full potential for teaching and learning, teachers, SMEs, publishers and students need to work together innovatively to ensure that it is used in a pedagogically sound manner and meets everyone’s needs.
- Although the tablet can be considered a personal device, in order for its full potential for education to be realized it needs to be part of a much bigger system guaranteeing security, management and support, and with plans for sustainability.
- Constant connectivity is very important to maintaining students’ interest in learning – the use of 3G allows teachers and students to teach and learn when and where they want to, and to negate any potential digital divide (eg where students might not have a broadband connection at home).
- Each of the stages of education – from primary, to secondary, to university / college – is different so it is important to involve all the ‘actors’ in planning and delivery from the outset if the initiative is to succeed.

For more information:

Nicolas Ibrahim
Education Project Manager
nicolas.ibrahim@orange.com
www.orange.com

See the link below for more information about the project (in French):
www.projet-ten.fr

Orange’s e-education strategy

Orange considers e-education to be an important part of its service strategy and acts as a ‘digital coach’ to its users. It intends to become a major actor within the e-education eco-system.

E-education offers everyone the opportunity to enhance their knowledge and skills. Learners can study and teachers can engage their students, using new and efficient ways of teaching and learning.

Orange is developing its core e-education services by investing in mobile education that allows learners to use their mobile devices to learn anywhere and everywhere.

About the GSMA Connected Living programme

Connected Living is a three year market development initiative whose mission is to help mobile operators accelerate the delivery of new connected devices and services. Our target is to assist in the creation of 700 million new mobile connections, whilst stimulating a number of service trials and launches in the Automotive, Education and Healthcare sectors. The Connected Living programme is also working with the city of Barcelona, the Mobile World Capital, to develop and showcase smart city services. We are working in mEducation to help bring the operator and education industries together to address market barriers, foster collaboration and speed up the adoption of mobile education services. For further information please contact us at meducation@gsm.org or visit www.gsma.com



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