



Unité Mixte de Recherche - Sciences Techniques Education Training

The 'TEN' project: use of tablets in French middle schools

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French Education System

- Middle school: 4 grades, Age 11 to 14, **compulsory** for all students
- High school: 3 or 4 grades, Age 15 to 18, general or technical or vocational specializations
- **National curriculum**, official programs published by Ministry of Education
- School equipment funded by **local Authorities**



Mobile devices in French Schools

- **One-laptop-per-student operations (large scale)**
 - In geographical areas since 2002
 - 11-14 years old students (all students of 1 or 2 grades)
- **mEducation experiments (small scale)**
 - Tablets or mini PC since 2010
 - All grades in secondary schools
- Official aims:
 - Bridge the digital divide
 - Reduce schoolbag weight (ebooks)
 - Modernize school
- Issues
 - **Resources:** ebooks, learning environments
 - ***In and out school*** or *in school* or *at home* only.



The 'TEN' experiment

- "Tablets Students Nomad"
- **Grade-6** students (11 years old) and their teachers
In classroom and at home
- Orange (French operator), Samsung,
3 local authorities,
a local educational institution
- 6 schools, 6 classes
- 65 teachers
160 students
- 300 tablets





Questions

What is involvement of schools, teachers and students in the use of tablets?

- ✓ Changes in learning and teaching practices
- ✓ Teachers' attitude, intentions and practices
- ✓ Abilities with the technical device

Our point of view: comprehensive view based on main actors' discourse and traces of ICT use

Focus on the uses at school



Method

- **31 interviews (4 schools)**
 - Teachers in Mathematics, Literature, English, Physics, Biology, Technology, Music, Sport.
- **Web-logs** of tablets



Context and support



Stakeholders' involvement

- **Dynamic** schools were chosen
 - Involved in ICT projects
 - 2 teachers address technical problems
- With technical and **educational support**
 - 2 or 3 training days
 - Website, blog and discussion email lists.
- **Strong interest** of stakeholders
 - Teachers were asking to present their work on the website or during national or local seminars
 - Local decision-makers visited the schools
- **A set of motivational levers leading to an experiment 'syndrome'**



Technical environment

- A reconfiguration of the tablet system with specific apps...
 - File Manager
 - File-sharing: Dropbox, Frog Manager
 - Email: one Gmail address for a class
 - Parental Control
- ... in an existing school equipment
 - Computers, interactive whiteboards
 - Servers, proxy filter of Internet Access
- **Ease file manipulation and communication between teachers and students, and secure uses**



Outcomes

- Teachers' use





Teachers' use – attitudes

“I prefer my computer. The tablet is a gadget”

“I need time to become confident in the use of new ICT for teaching”

“We need training sessions and meeting with others teachers in my subject matter”

- **No personal** use (except technophiles)
- Time and training are required to become confident
- Exchange with colleagues



Teachers' use - resources

"The ebook I use is not available on the tablet"

"The touch screen isn't precise enough to select a point and draw a line" (geometry)

"We need an App, our use was 'do-it-yourself'"

- App or resources they know don't work
 - Not designed for Android
 - Unsuitable with touch screen technology
- Existing app not designed for education purposes
 - Polaris, Dolphin, Skitch, Recforge, body, Forest Keys ...
- Some teachers spent time adapting and creating their own resources
- **Teachers have two different needs: specific ready-to-use apps, and improved environment to design their own resources**



Outcomes

- Teachers' use
- Students' abilities





Students' abilities

- **1st-level skills** with the device
 - Managing photos, audio, video, touchpad, games
 - Difficulties with more **complex tasks**
 - Word processing, insert photos into texts
 - Difficulties with **technical manipulations**
 - Save files, enter password, recover a file
 - **Disparities** among students
- **According to teachers: identical problems as encountered with computers, but even more**



Students need training

- Teachers want to “**standardize students’ practices**”

“I prepared tutorials, with screen captures”

“We spent a lot of time on technical manipulation before entering in the core ...”

- Training takes **time and resources**
 - Some teachers would prefer not to spent time on it
- **Technical training vs subject matter activities?**



Outcomes

- Teachers' use
- Students' abilities
- Changes in teaching methods



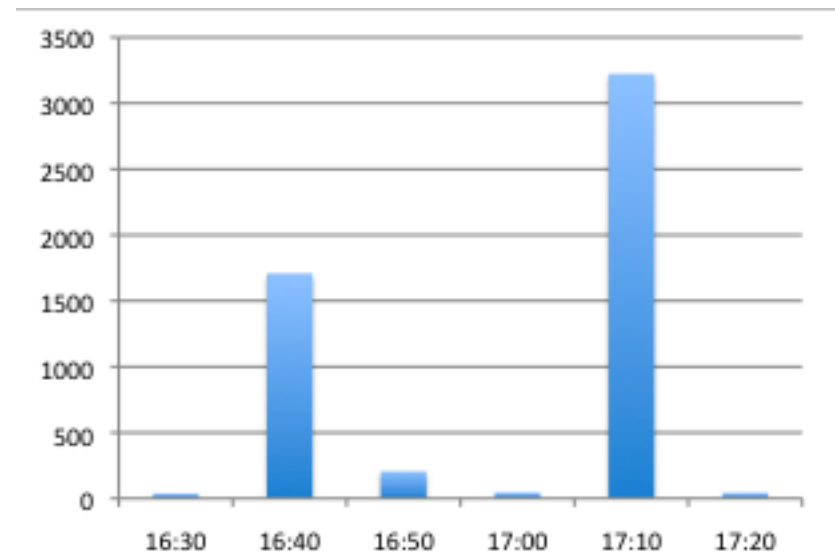


Varying rhythms and tasks in the classroom

“You can start a standard lesson and then take the tablet for few minutes.”

“They can record themselves at home, send me their production, and then make individual progress” (english)

- Do **short time tasks** with tablets
- **Individualize tasks**
- Alternate more frequently individual and collective tasks
- New opportunities for homework





Global diversity of learning tasks

- Tasks of different nature were proposed with tablets
 - Information research, exercises and training, knowledge acquisition, production, assessment
- For instance: **Audio or video recordings used for assessment and self improvement**
 - posture and gesture in Sport, or in Music
 - pronunciation and speaking in English or history classes
 - microscope manipulation in Biology.
- Other example: **Collective correction of personal works** by showing on IWB students' production with tablets
 - Grammar exercises in French ...



Discussion

- Opportunities
 - Students' emulation, mutual assistance, collaborative work
 - Individualization, diversity of rhythms, diversity of tasks
- Questions
 - How should the **tablet environment** be adapted for school use?
 - How should we adapt **apps already used** by teachers?
 - Which teaching and learning **apps should be developed?**
 - What support is needed to help **teachers produce resources?** ebooks or open resources?
 - What **training is needed for students?** When and by who?



Discussion

- Which **communication modes** between teachers and students?
 - Email
 - File exchange
- Which organization? **Supports and roles of stakeholders**: schools, local authorities, operators...
 - Who provides and maintains servers, services?
 - Who is responsible for data security, identity preservation?
 - Who is funding what?



Thank you for attention

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Web-logs

- Tablets use wifi inside schools and 3G outside schools
- All request are filtered by a proxy
- Log files:

Date ; tablet id ; in/out ; amount ; URL

- Quantitative analysis (amount, time, frequency of logs)
- Qualitative analysis (type of pages)
- Only web access, not all uses of tablets