Teachers and mobile technologies: the challenges of integrating research and teacher training in a Brazilian experience

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February, 2014
São Paulo, Brazil
Um Computador por Aluno programme (OLPC – One Laptop Per Child)

• Um Computador por Aluno – PROUCA is an initiative undertaken by the Ministry of Education, Brazil
  • and its purpose is to act as an educational project by employing technology and digital inclusion in the country.

• The professional training of the teachers takes place at three levels and involves:
  • Public schools
  • Universities (2 public, 1 private)
  • Secretaries of Education

• The teacher-training
  • blended learning methodology
  • modules: theoretical, technological and pedagogical dimensions
The 4 pillars that underpin the UCA Project

• Infrastructure
• Training
• Assessment
• Research
Research project

“The school curriculum in the 21st Century – the integration of ICT with the Curriculum: innovation, scientific knowledge and learning”

• Report of a collective research project undertaken by the One Laptop per Child (UCA-Um Computador por Aluno) scheme at the Pontifical Catholic University of São Paulo (PUCSP).

• The research was funded by CNPq [National Council for Scientific and Technological Development], CAPES [Coordination for the Improvement of Higher Education Personnel] and MEC [Ministry of Education and Culture] as shown in the PROUCA announcement.

• It was carried out from September 2011 to September 2013.
Objectives of the research

• To determine
  • the benefits and drawbacks of training activities and teaching practices carried out in the schools involved in the UCA Project;
  • the changes in the Curriculum and educational practices;
  • the signs of innovation in educational practices.

• Carry out contextualised training activities...
  ...that could foster the use of the laptop
  ...as a way of bringing about significant benefits
  ...to the development of the Curriculum.
Features of the research

• It entails the use of a laptop as a portable digital technology that is characterised by:
  • mobility
  • wireless connection to the Internet
  • media convergence in a single device
  • the availability of a computer for every student and teacher, the use of which provides technological immersion, with regard to its uses at any place and time.
The sample

The schools
- 2 in the State of Goiás
- 3 in the State of São Paulo
- 2 in the State of Tocantins
- Teachers: 50

The universities
- PUC São Paulo
- Univ. Federal State Goiás
- Univ. Federal State Tocantins
- Researchers: 34
The Methodology

• Qualitative Research
• Tools
  • Documentary Analysis
  • Observation Record
  • Reflective diary
  • Interviews
  • Questionnaires
  • Focus groups
  • Narratives
The Results

• Changes
  • in the reorganisation of teaching activities in schools with regard to space and time
  • in the relationships between teacher and student/ student and student/ and those with knowledge
  • in the environment of the classroom and other spaces in the school and its surroundings
  • and in the language of the students where words from the digital culture are appropriated
The Results

• Progress
  • in the reading skills of the students and the expression of their thoughts with the use of multiple languages employed in “mediatized” social practices by the Digital Information and Communications Technology (DICT);
  • improvement in the self-esteem of the students;
  • perception of errors as an object of reflection;
  • an increase in the motivation of the students;
  • reduction of failure in the classroom and drop-out rates.
The Results

• Production of new knowledge about Curriculum and Technology
• Training of new researchers
• Enhancement of integration of researchers of the 3 universities
Main challenges ahead

• The analysis of the results shows that there is a need to take into account other measures that are employed for the integration of DICT

• integration between the different dimensions
  • pedagogical
  • organisational (infrastructure, the logistics involved in the introduction and maintenance)
  • management
  • the professional training of the educators (teachers, managers and other personnel from the teaching networks)
  • policymaking
Pedagogical implications

• The experience of training as seen in this report, shows that although it raises a number of challenges, UCA achieves positive results. It has assisted in the professional training of teachers and the managers of public education networks in the use of digital technology and the laptop for teaching practices and learning.

• It has been found that this training has provided guidelines for pedagogical practices and encouraged students to use their laptops in both individual and collective activities.

• Collaborative work has been observed both in the area of teacher-training and in the activities with the students.
Scientific publications

- Articles in periodicals: 9
- Books published: 1
- Chapters of books: 15
- Compilation of published books: 2
- Complete studies published in the annals of events: 57
- Accepted theses: 6
- Accepted dissertations: 2
- Post-doctorate studies: 1
Publications in preparation and research studies being carried out

- Articles in periodicals: 4
- Compilation of books: 2
- Chapters of books: 12
- Theses in progress: 5
- Dissertations in progress: 2
- Post-doctorate studies: 2
Key areas in scientific production

• the benefits, difficulties and effects of the Curriculum detected in practices with the use of the laptop from the standpoint of managers, teachers and specialist students and parents

• the effects of the curriculum that provide evidence of change and show signs of educational innovation

• the pressing need for training that can lead to significant practices being undertaken with the use of the laptop
Key areas in scientific production

- the need for mobility and different languages (written, image-based, musical, and related to films and the theatre) and a recognition of the activities carried out with the use of the laptop (either within or outside the school)

- the support and preparation of the teacher in selecting digital teaching material and other resources from the laptop or the web in accordance with pedagogical objectives and contextual conditions
# Research Team and References

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PROUCA: [http://www.uca.gov.br/institucional/projeto.jsp](http://www.uca.gov.br/institucional/projeto.jsp)

O currículo da escola do século XXI – integração das TIC ao currículo: inovação, conhecimento científico e aprendizagem: [http://www4.pucsp.br/gpcted/](http://www4.pucsp.br/gpcted/)