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Potencial and Real Uses of ICT in the Classroom

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From a socioconstructivist perspective of teaching and learning processes our research points out:

- The relevance of joint activity for learning: the forms of relationships among teacher-content/tasks -students

- The impact of ICT in learning and instructional processes: from the technopedagogical design to actual uses imbedded in joint activity

- ICT as mediating tool of the teacher’s and students’ joint activity

Aims

- To identify and describe the uses of ICT in a face-to-face (F2F) instructional sequence

- To analyse the contrast between planned and actual uses of ICT in the instructional sequence
Questions

- What forms of organisation takes the participants’ joint activity both with and without ICT?

- What are the different uses that the participants make of ICT during the instructional process?

- Is there any difference between the initially intended process and its eventual development?
Methodology

- Observational approach, qualitative analysis, case study methodology

- The instructional sequence (IS):
  - 6th grade class of primary public school (12-y-olds).
    - “Project: Edumet. Climate and weather”
  - 20 sessions along 4 phases (4 months):
    - Presentation of participating schools
    - Joint construction of a meteorological data base
    - Investigation
    - Conclusions exchange

[Website Link]

www.edebedigital.com/proyectos/228/
Methodology

Collected data:
- Audio and Video classroom recording. Narrative notes
- Electronic interactions recording
- Interviews with teachers and students
- Instructional planning documents and other didactic materials and products

Data analysis:
- Analysis of planned instructional activities and ICT uses: *techno-pedagogical design*
- Analysis of *development of phases of instructional sequence*: joint activity segments, activity segments mapping, ICT actual uses
- Analysis of contrast between planned and actual uses of ICT
Results

- The different uses that teacher and students make of ICT during the joint activity segments (JAS) in the instructional process

  [Map of the types of JAS and uses of ICT in IS]

- The different forms of organisation of the participants’ joint activity both with and without ICT during the instructional process

  [Map of the evolution of JAS and uses of ICT in IS]
Results

☐ Correspondance/ not correspondance between planned and used ICT

[Map of contrast between planned and real uses of ICT in IS]

- High correspondence between planned and used ICT for teacher and students in all phases
- Not correspondence between planned and used ICT
  - ICT not planned (or not specified) but emerging uses of ICT in JAS during IS
  - Planned used of ICT but not real used ICT
Discussion-Conclusions

- Technological and pedagogical design can be stated as necessary in order to explain how ICT are used for teaching and learning . . .
  - Promoting different uses of ICT in connection with distinct instructional activities
  - Suggesting activities which simulate the real and functional context of application
  - Supporting collaborative learning among students

but . . .
Discussion-Conclusions

- The structure and organization of teacher-students joint activity along the instructional sequence can be stated as a key element in order to analyse and understand the impact of ICT in educational practices.

- The technological and the pedagogical dimensions must be considered in the design and in the actual development of instructional sequence.
Potencial and Real Uses of ICT in the Classroom: an integration of the technological and educational perspectives in the design and implementation in face-to-face teaching and learning environments

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Thank you very much!
[Map 2 of the evolution of JAS and uses of ICT in IS]

[Map 3 of the evolution of JAS and uses of ICT in IS]