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Studying pedagogical interactions in synthetic worlds

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EUROCALL 2011, 31st August – 3rd September, Nottingham
What is a synthetic world?

- "a synchronous, persistent network of people, represented as avatars, facilitated by networked computers" Bell (2008 : 3)
- Affordances for language learning (Dalgarno & Lee, 2010 : 11; Educause, 2006 : 2; Avalon, 2010 : 5; Armitt et al., 2005...)

![Image of a synthetic world with avatars in a virtual environment]
Interactions within synthetic worlds

- Multimodal: synchronous interactions through different modes available in the environment, used simultaneously or not


<table>
<thead>
<tr>
<th>Modes</th>
<th>Functions / Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Textual</td>
<td>Chat, notecards, boards…</td>
</tr>
<tr>
<td>Oral</td>
<td>Audio</td>
</tr>
<tr>
<td>Gestual</td>
<td>Gestures</td>
</tr>
<tr>
<td>Spatial</td>
<td>Movements</td>
</tr>
<tr>
<td>Actionnal</td>
<td>Interactions with objects / environment</td>
</tr>
</tbody>
</table>
What kind of data and how to collect it?

- LETEC Corpus (Chanier & Ciekanski, 2010)
  - Verbal interactions
    - Chat
    - Audio
    - Video
  - Observation
  - Movement tracking and interactions with objects
  - Questionnaires / interviews
  - Other elements (learning scenario, research protocol, licenses, analysis…)

Background 1

- **Second language acquisition research**
  - Qualitative
  - Understanding
  - Action research
  - Semi-experimental research

- **Synthetic worlds** (*Second Life*)
  - Interest for language learning (Henderson et al, 2009)

- **Online pedagogical interactions**
  - Technological mediatisation and human mediation (Mangenot, 2007)
  - Computer Mediated Communication
Background 2

- Emergent research in synthetic worlds
  - Various fields (marketing, economics, psychology… and language learning)
  - Very poor explanations of the research methodology used
  - And/or methodology - copying that of other environments

- Need to develop research in didactics (Peachey et al, 2010)
Background 3

- European project ARCHI21
  - CLIL approach (content + language)
  - Intensive studio in architecture (French or English as a second language) face-to-face and in Second Life (February 2011)
  - Three kinds of activities combining architecture and language learning
    - Introduction to SL, socialisation
    - Building
    - Group reflective sessions
Second language research within synthetic worlds

- **Methodology**: same as in physical world + particularities of synthetic worlds
  - Avatar
  - Multimodal communication

- **Research protocol**
  - Depends on the aim and the object studied
  - Based upon the learning scenario
Aim of this presentation

- Epistemic perspective

- To expose problems, conditions and potential biases of qualitative research on pedagogical interactions in *Second Life*

- To give a few methodological leads
  → To put in place research protocols to study learners’ interactions in synthetic worlds
The avatar: what identity, what implications?

- Avatar = visual representation of a user
- Research in synthetic worlds

Implications:
- Identity of the actors
- Researcher’s positioning
- Data collection
The avatar: a virtual identity?

- Do we study an avatar, the person controlling it or both?
- How to ensure the person’s identity?
  - Several avatars for one user
  - Several users for one avatar
  - Easy to change your avatar’s appearance and name
Dual identity?

- Researcher
- Learner
- Physical world
- Synthetic worlds
- Researcher’s avatar
- Learner’s avatar
Ethical issues

- **Consent form**
  - Explanation of the data collected, participants’ rights, anonymity…
  - Not always easy to be in contact with the « real » person behind the avatar

- **Private / public communication**
  - Learners to collect interactions?
Researcher’s position

- Immersion / distance in relation to the research object
- Participant observation or not
- Position of the researcher-practitioner (De Lavergne, 2007)
- Participants’ perception of the researcher / Self-perception
- Do participants identify the researcher as such?
- What control over the data? How to measure of validity?
Questions

• Who collects?
  ◦ Researcher, tutor, learner?
  ◦ From what point of view
    • Avatar / 3D ➔ Subjective view

• What kind of data?
  ◦ Public or private communication?
  ◦ Need to access all of the data from the course?
    • What selection criteria?

• Where?
  ◦ In-world or in the physical world?
What we did for ARCHI21

- Learners: creation of an avatar for the project, with a defined name (first name + suffix specific to project)
  - To identify learners and ensure their anonymity
- Research avatars
  - Animal characters
    - To identify the researcher as such
    - To avoid interactions with the researcher
  - Recording of the training sessions using these avatars (1 researcher per session / per group)
    - Limited movement and point of view
    - Access limited to public communication
- Consent form sent by email
- Questionnaires and interviews conducted externally and not in the synthetic world
Screen recording procedure

- Technical aspects
  - Software for screen recording or avatar wearing a recording device
  - *Second Life* settings
  - Audio and video tests
  - Partitioning of the plot (sound)

- Researcher’s avatar movements
  - Point of view
  - Decision-making
  - With relation to the task
Video recording

Group reflective sessions – ARCHI21
Motionless participants
Limited movement of the researcher’s avatar and of the camera (zoom)
Video recording

Building activity - ARCHI21
Participants moving
Researcher’s avatar and camera moving a lot
Data analysis

- **Difficulties:**
  - Recording of the interactions
    - Movements of learners and researcher
    - Points of view
  - Multimodal data transcriptions
    - Depends on research aim
    - How to represent simultaneous multimodal behaviour in a 3D environment?
  - Anonymising interactions
    - Avatars’ names in videos and text chat scripts
    - Audio
Conclusion

Multimodal interactions in SL

Language learning

Multimodality

Avatar

Data collection

Identity

Researcher’s positioning
Thank you!

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