

Studying pedagogical interactions in synthetic worlds

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Studying pedagogical interactions in synthetic worlds

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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…)



Interactions within synthetic worlds

- Multimodal : synchronous interactions through different modes available in the environment, used simultaneously or not
- Sallnas (2002), Betbeder et al (2007)

Modes	Functions / Tools
Textual	Chat, notecards, boards…
Oral	Audio
Gestual	Gestures
Spatial	Movements
Actionnal	Interactions with objects / environment

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

From an avatar's perspective

About avatars

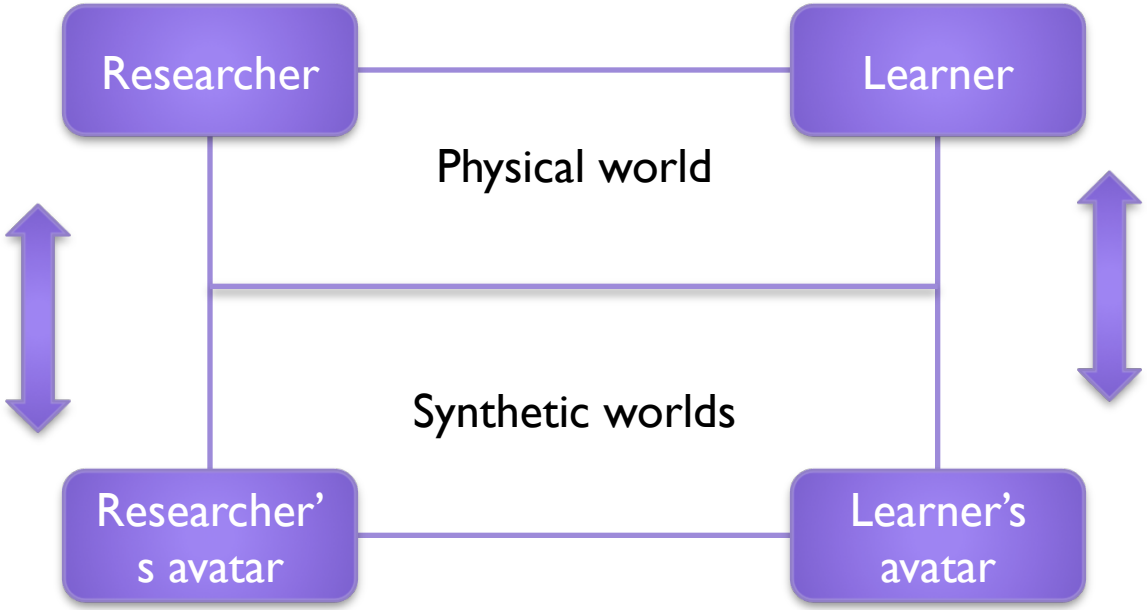
- Implications :
  - Identity of the actors
  - Researcher's positioning
  - Data collection



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?



Ethical issues

- Consent form
  - Explaination 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-practitionner (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

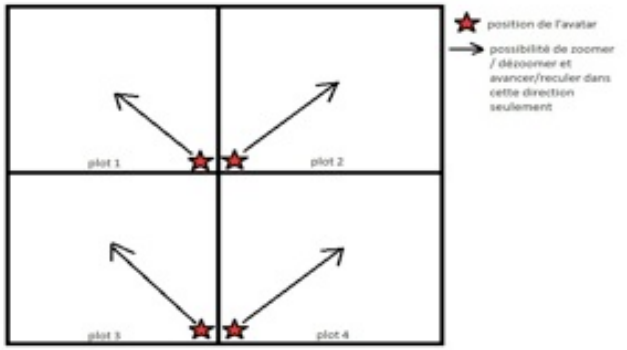
- Learners: creation of an avatar for the project, with a defined name (first name + suffix specific to project)
  - To identify learners and ensure their anonymity
- Research avatars
  - Animal characters



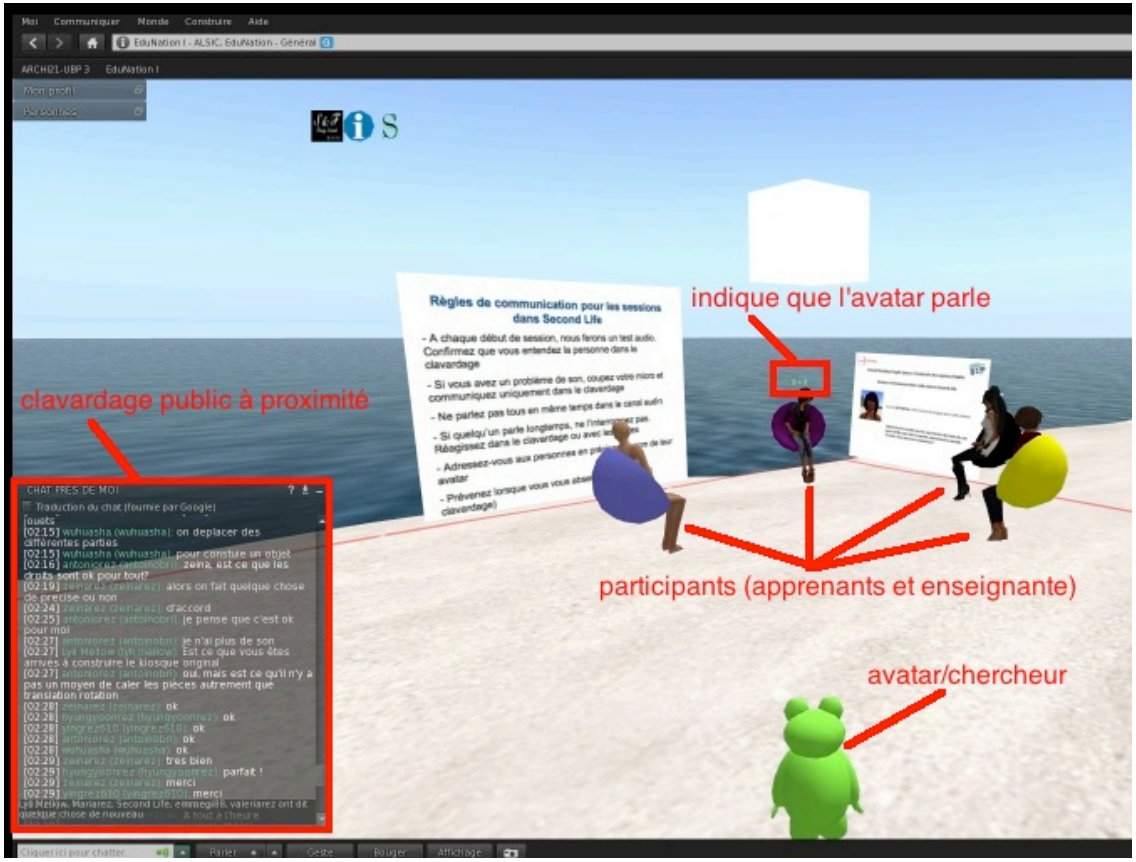
    - To identify the researcher as such
    - To avoid interactions with the researcher
  - Recording of the training sessions using these avatars (1 researcher per session / per group)
    - Limited movement and point of view
    - Access limited to public communication
- Consent form sent by email
- Questionnaires 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

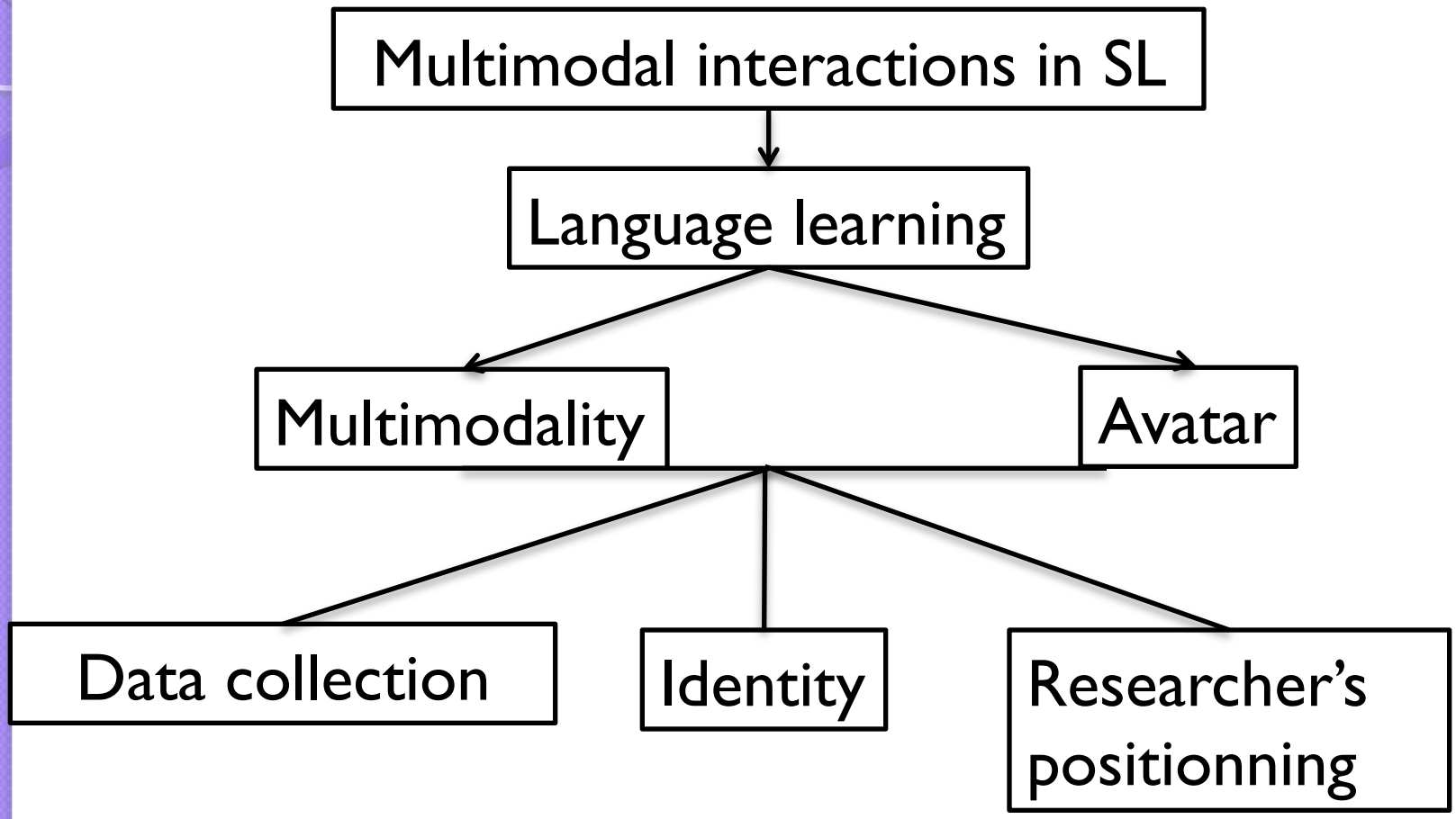
Data analysis

- 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 positionning



Thank you !

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