

The design of blended environments for second language learning

(Part B - continued from Part A)

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Actor Network Theory

Background

- ★ Emergent from sociological fields, especially STS (Science, Technology and Society)
- ★ Philosophical roots in general constructivism, not social constructivism
- ★ Also called ‘materialist semiotics’

Unit of ontology: “actor network”

- ★ any collection of human, non-human, hybrid actors participating in collective action



Actor Network Theory

Example of L2 classroom network

- ✦ **Human:** teacher, local students, email correspondent students, visitors who speak target language
- ✦ **Non-human:** desks, chairs, classroom, blackboard, chime, photocopier, mobile phones, notebooks, computer lab
- ✦ **Hybrid:** textbooks, handouts, daily schedule, syllabus, curriculum requirements, grading requirements, target language, native language

Example of L2 curriculum network

- ✦ **Human:** School president, Ministry of Education officials, Curriculum committee members, teachers, students, parents, Departmental committees, Teacher associations, Textbook writers
- ✦ **Non-human:** committee meeting room, internet, books
- ✦ **Hybrid:** School catalog, Accreditation rules, Curriculum conferences, Newspaper opinion articles, Student course choices,



Actor Network Theory

Attributes

- ★ Post-structural & non-categorical
- ★ Relational & non-essentialistic
 - ★ Focuses on actions, not entities
 - ★ Looks at circulations, not territories
- ★ Heterogeneity & complexity
 - ★ Avoids simplicity, purification of notions
- ★ Symmetry & agnosticism
 - ★ All actors treated neutrally, human or non-human
 - ★ No actor is given particular attention



Actor Network Theory

Analytic Framework

★ Actions

- ★ Translations: the invisible work of maintaining a network
- ★ Inscriptions: convincing/aligning actors using semiotic instruments
- ★ Delegations: substitutions of human >> << non-human actors

★ Flows

- ★ Boundaries/Passage Points: contracts, memberships, rules
- ★ Instruments: a device giving visual display to a text

★ Scale

- ★ Micro actor networks, macro actor networks
- ★ Black boxes: stable networks considered a single thing
- ★ Opened boxes: a thing entering instability, or needing change, that is 'opened' up and its internal actors analysed



Actor Network Theory

Suitability (for this research)

- ★ ‘Blended’ is hybrid, transitional, multifaceted
- ★ ‘Design’ is action, continuous
 - ★ Pedagogical design is clearly translation, not invention (especially since photocopier)
 - ★ Translation is active changes by participants
- ★ ‘Environment’ is network-like, both in physical and virtual venues. Fits with ecological metaphor.
 - ★ Unknown effects of non-human participants
 - ★ Cares not about essential properties of computer or internet, but their actions and effects on other actors



Actor Network Theory

Suitability (over other methodologies, theories)

- ★ **Activity Theory:** focuses more on roles, division of labor, rules of behavior. Relegates technology to artifact/mediator status.
- ★ **Diffusion Theory:** a social-deterministic theory. Focuses on human actors, looks at design as invention, not continual translation
- ★ **Second Language Acquisition Theory:** an essentialist theory focusing on competencies--endstates. Does not account well for sociological aspects of learning communities.



Actor Network Theory

Past Research

- ★ Large-scale socio-technical systems
 - ✦ Transportation systems: Paris Aramis
 - ✦ Illness treatment: hospital/doctor/patient
 - ✦ Aircraft engine design
- ★ Education
 - ✦ Mulcahy (1997)
 - ✦ Busch (1997)
 - ✦ Tatnell (2000)
 - ✦ Campbell (2004)
- ★ CALL and Language learning
 - ✦ None to date



Actor Network Theory

Methods and Procedures

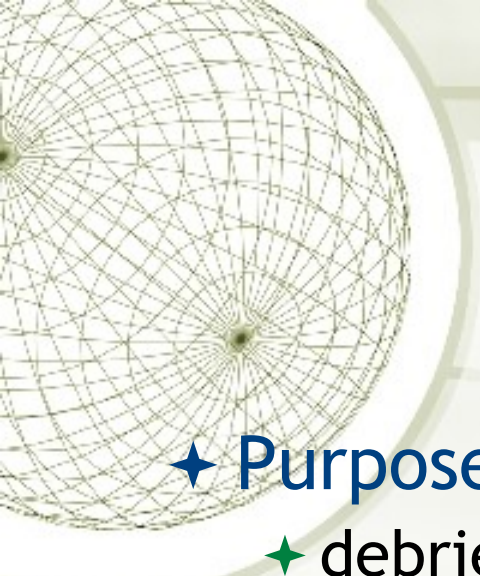
- ✦ No handbooks, blueprints available
Perspectives emphasized over procedures
- ✦ Emphasis on holistic data collection, not data reduction
- ✦ Analysis based illustrative narrative, vignette reporting, self-conscious reflection



Actor Network Theory

Weaknesses

- ◆ Ignores human volition
 - ◆ Motivations, consciousness, meaning-making
- ◆ Tends to follow ‘star’ actors
 - ◆ Silenced actors may be ignored
 - ◆ Example: focus on teacher-as-designer or cutting edge internet tools, rather than student-as-designer or minor technologies
- ◆ Often non-critical
 - ◆ May ignore power relations. Example: how are power patterns affected when low-cost photo copying is introduced. Publisher power down, teacher power up.



Autoethnography

✦ Purpose:


- ✦ debriefing experience, adding historical reflection, examine motivations of researcher, create identity

✦ Focus:

- ✦ my thirty years of ethnography, blended learning experiments, educational inquiry

✦ Aims:

- ✦ Acknowledge paradigmatic change of author
- ✦ Technique for improving research quality
- ✦ Develops a minority discourse community



Autoethnography

✦ Data Collection:

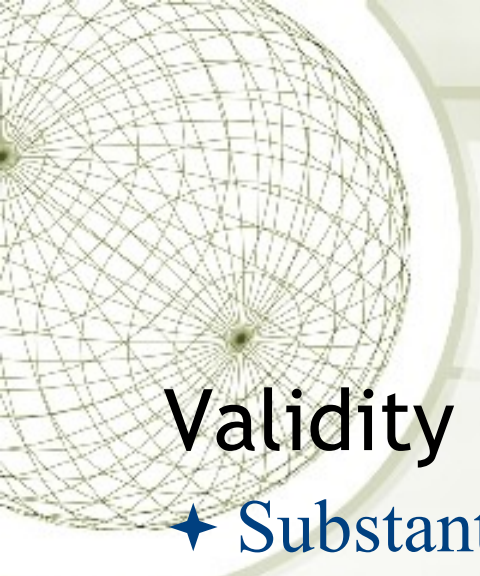
- ✦ Selective, thematic writing
- ✦ Triggering tools: questions, snapshots, journey, artifacts
- ✦ Epiphanies: major, culmulative, problematic, reliving

✦ Data Interpretation:

- ✦ Published narratives, critical friend dialogue, cross-methodology comparison

✦ Problems:

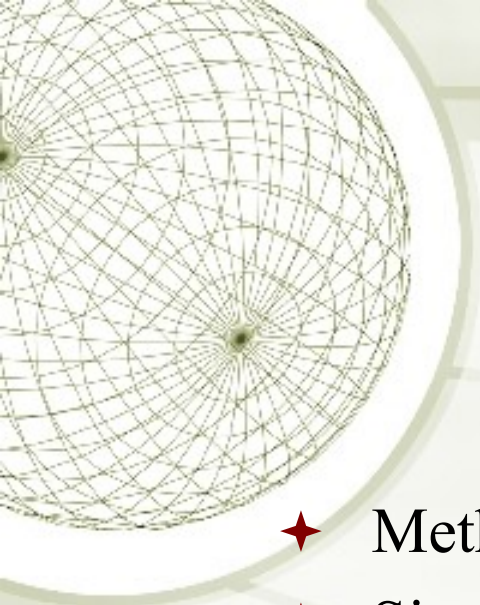
- ✦ Lies on boundaries of qualitative research
- ✦ Danger of naricissism and self-indulgence
- ✦ No agreed upon verification criteria



Autoethnography

Validity Criteria (Richardson, 2000)

- ✦ **Substantive contribution:** Does the piece contribute to our understanding of social life?
- ✦ **Aesthetic merit:** Is the text artistic, captivating and avoids simplification?
- ✦ **Reflexivity:** Is it clear how author developed the text?
- ✦ **Impactfulness:** Does the text generate new questions or move the reader to action?
- ✦ **Expresses a reality:** Does the text express an embodied lived experience?



Research Design

- ✦ Methodology Selection
- ✦ Site Selection



Methodology Selection

- ✦ action research
 - ✦ to focus on the interventions of human actors

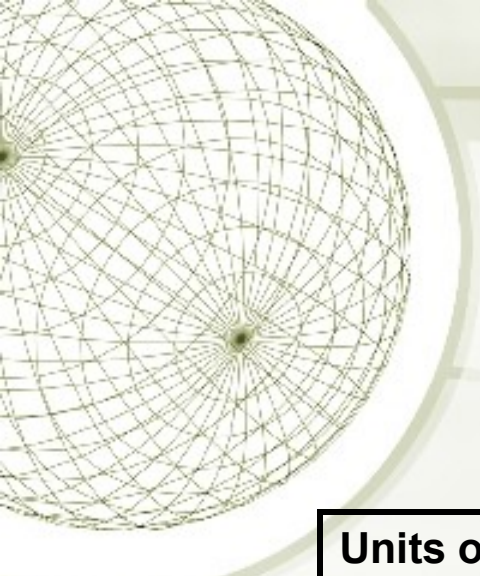
- ✦ actor network theory
 - ✦ to discover material roles and power relationships from a realist perspective

- ✦ autoethnography
 - ✦ to uncover past experiences relevant to confirm and illuminate the present studies.



Site Selection

- ★ Case study, not ‘study’
 - ★ Location irrelevant, or less immaterial to framework being studied
 - ★ Sites chosen for convenience and relevance to theme
- ★ Two universities in Japan
 - ★ My own courses, team courses at SGU
 - ★ A whole department, at KU



Research Design I

| | |
|---|---|
| Units of Analysis: Themes of Interobjectivity | Roles/actions of all actors Boundaries/responsibilities, negotiation spaces Size of actors Micro (self, teacher, task, course, classroom) and, Macro (curriculum, faculty, campus, environment) |
| Units of Analysis: Themes of Intersubjectivity | Community of practice Decisions and justifications of stakeholders Group aims and interests Conflicts, challenges, emergencies |

Research Design II

Site Comparison—Cycles, Methodology, Participants, Data Collection, Data Analysis

| Site | Cycles | Methodology | Participants | Data Collection Methods | Data Analysis Methods |
|--------------------------------------|--------------------------|---|---|--|---|
| Home/office 1970-2010 | 40 years continual | Autoethnography | Researcher | diary, blog | critical incidents innovations key issues |
| SGU Cycle 1 2005-2006 | 2 semesters onsite | Nested Case Study -three classes -single LMS mod | Research team Students Software engineers | teacher diaries observation interview materials/interface | Role, task, time, venue analysis. Movements and boundaries |
| SGU Cycle 2 2006-2007 | 2 semesters onsite | Nested Case Study -three classes -single LMS mod | Research team Students Software engineers | teacher diaries observation interview materials/interface | Same |
| KU Cycle 1 2005-2006 | 1 week+ onsite | Dept. Case Study -Engl. curriculum, - multiple teachers | Research team Administrators Teachers, students | observation interview materials/interface | Role, task, time, venue analysis. Movements and boundaries |
| KU Cycle 2 2006-2007 | 1 week+ onsite | Dept. Case Study -Engl. curriculum, - multiple teachers | Research team Administrators Teachers, students | observation interview materials/interface | Same |

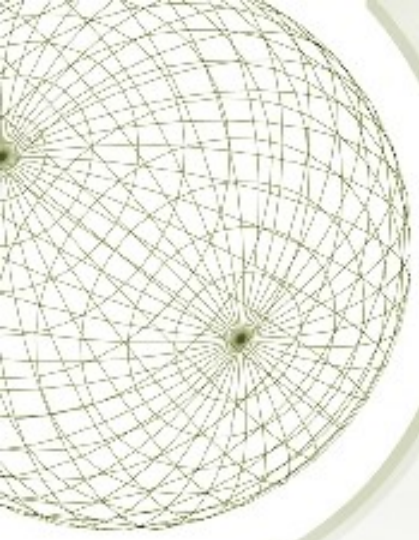


Research Design III: Positionality

| Site | Participants | Positionality Level | Positionality Description |
|-----------------|---|----------------------------|----------------------------------|
| Home/office | Researcher | 1 | Insider alone |
| SGU-1 classroom | Research team Students Software team | 2 | Insider team |
| SGU-2 classroom | Research team Students Software team | 2 | Insider team |
| KU-1 campus | Research team Administrators Teachers, students | 5 | Outsider working with insiders |
| KU-2 campus | Research team Administrators Teachers, students | 5 | Outsider working with insiders |

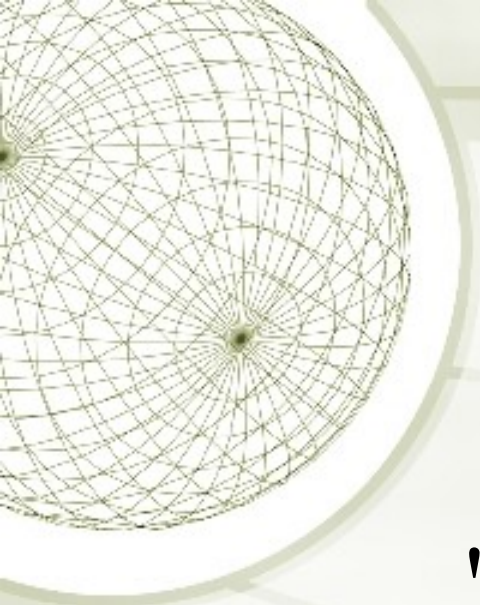
Research Design IV: Validity

| Type of Validity | Site | Questions of Validity | Importance |
|---------------------|------------|---|------------|
| Outcome Validity | KU | Does the research identify a problem and does the agreed upon action move to resolve it? | 5% |
| | SGU | Can a low level English class benefit from blended learning? Low cost/student satisfaction/learning? | |
| Process Validity | KU- SGU | Does the cycle lead to further problem identification? Does triangulation work well? | 15% |
| Catalytic Validity | KU- SGU | Is the research recognized across the department, and to other departments, causing further change? | 30% |
| Democratic Validity | KU- SGU | Are silenced actors given voice in the process? Are teachers and students empowered? Are technophobic teachers/students represented? | 20% |
| Dialogic Validity | KU- SGU | Is the research accepted for publication, in-house, nationally, internationally? Does the research create a dialogue amongst researchers, practitioners? How? What degree? | 30% |



Next Steps

- ★ Regional Conference Keynote--October 2005
- ★ KU Field Visit--November 2005
- ★ SGU Classes Arrangement--April, 2006
- ★ Retrospective Journal Writing
- ★ Supervisor/Colleague Meetings
- ★ National Conference/Publications



Closing

"The hottest places in Hell
are reserved for those who,
in times of moral crisis,
maintain their neutrality"

Dante