Messing About with Technology in Higher Ed: Some Dispatches from the Field

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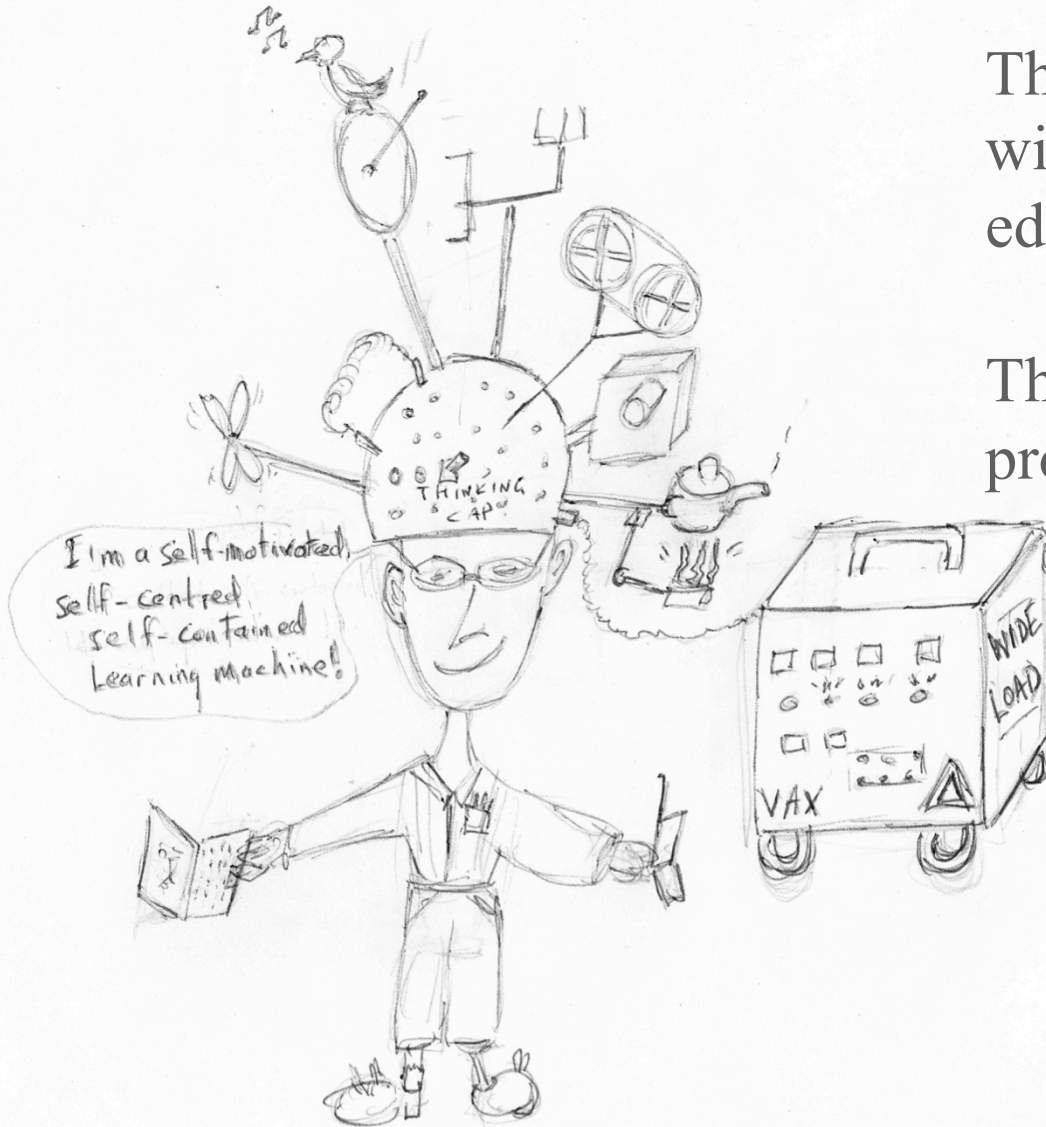
Concordia University

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Overview

- Introductions

- Technology for teaching and learning and the element of change

    – What drives change?

    – Where are the changes?

    – How much can you change?

- Thinking about technology and change

- Dispatches

    – Some examples of messing about from the field

- Discussion

Change

- What can go wrong?

Things go awry messing about with technology in higher ed….

The early "Thinking Cap" project …..

Change

- More realistically……..

  - Failure due to "primary" barriers

  - Not sustainable, usable or scalable

  - No impact (or harm)

  - Appearance of change

Change

- Technology as an "agent" of change

- What drives change?

  – Theories, models, "best practices", "evidence-based research", competition, tools, constraints, opportunities, assumptions

Change Driven by Assumptions

– Assumptions about learners -- the" Digitial Native" and learner experience

– Assumptions about teaching – constructivism, learner-centred and problem-based instruction

– Tapscott: *Educating the net generation* (1999)

– Prensky*: Engage or enrage me: what today's learners demand* (2005)

Frameworks

Grainne Conole provides another framework (http://e4innovation.com/?p=328)

At a glance representation	
Information and experience	**"Content and activities"** *Could include course materials, prior experience or student generated content* Readings, DVDs, podcasts, lab or field work, placements
Communication and interaction	**"Dialogue"** *Social dimensions of the course, interaction with other students and tutors* Course forum, email
Thinking and reflection	**"Reflection"** *Internalisation and reflection on learning* In-text questions, notebook, blog, e-portfolio,
Evidence and demonstration	**"Assessment"** *Diagnostic, formative and summative* Multiple choice quizzes, TMAs, ECA
Guidance and support	**"Learning pathway"** *Course structure and timetable* Course calendar, study guide, tutorials

Pedagogy

Goals (from UNESCO Policy Guidelines on Mobile Learning):

- Facilitate personalized learning
- Provide anytime, anywhere learning
- Provide immediate feedback and assessment
- Ensure productive use of classroom time
- Build new communities
- Support situated learning
- Enhance "seamless" learning
- Bridge formal and informal learning
- Improve communication and administration

Capabilities, functions

- Search
- Content distribution – text, audio, video (library access, case studies, podcasts…)
- Assessment
- Polling
- Recording (voice, text, video, stills)
- Games
- Collaboration (blog, twitter, secure SMS messaging,telephony…)
- Support functions (reminders, alerts, schedules, deadlines…)
- Scanning (enhanced bar codes…)
- Location services: activities, tasks or content driven by location

(Adapted from C. Schofield *et al*, *Going Mobile in Executive Education.* Ashridge, 2011)

Dispatches

- Storynet – an electronic memory for learning about software design methods and tasks

- Mini-cases for medical education

- "Prescriptive" learning for management development

- Using concordance for language learning

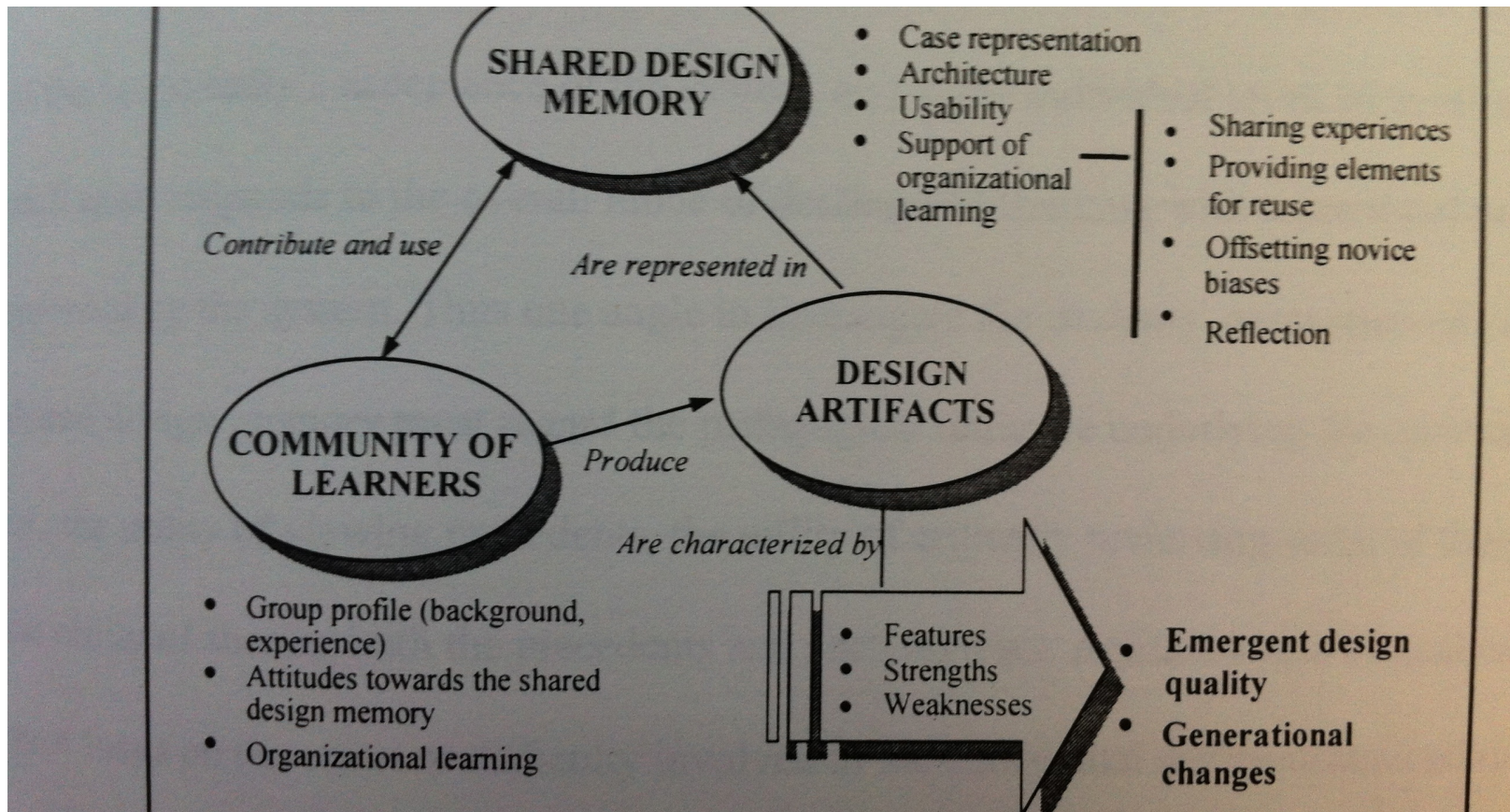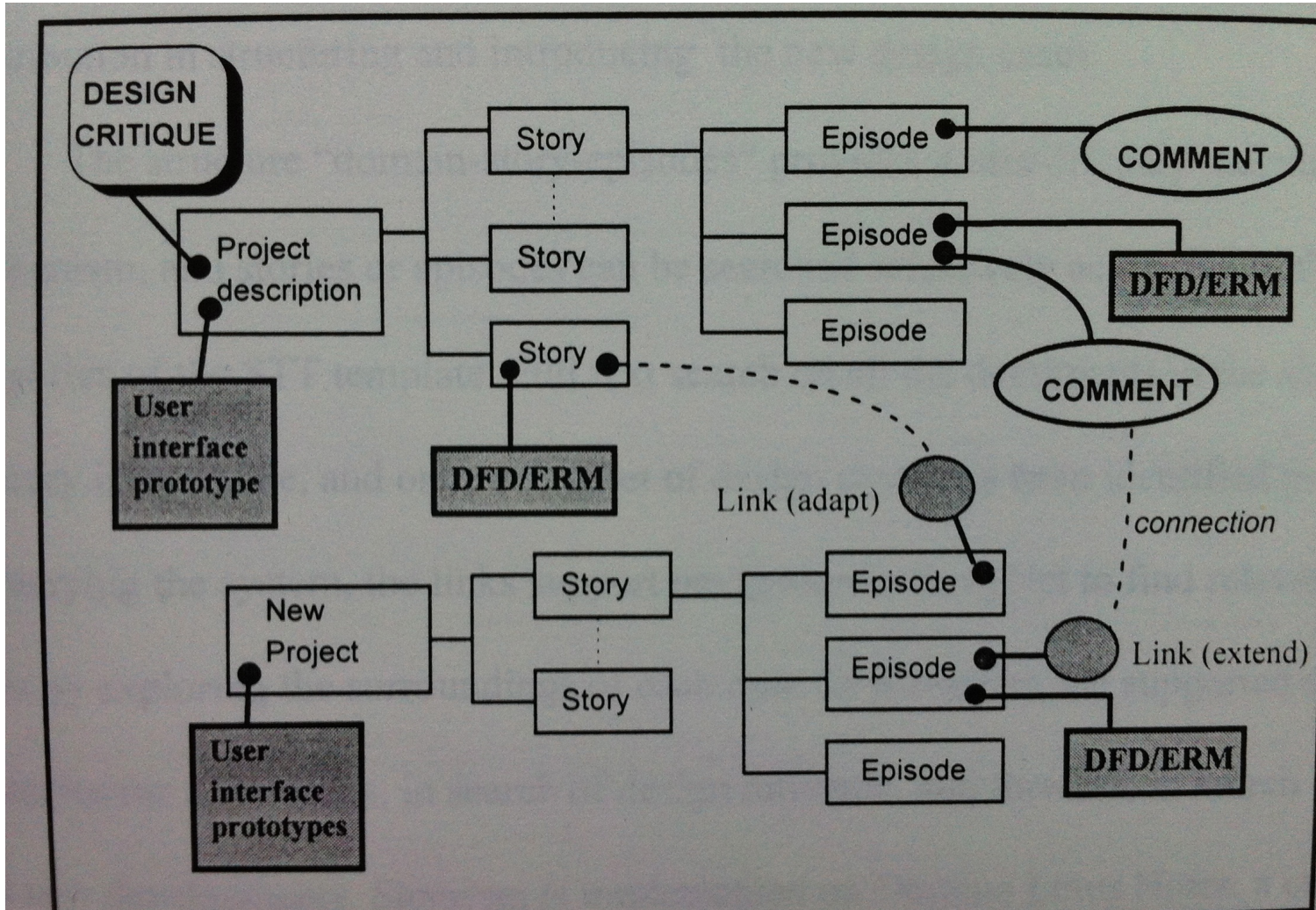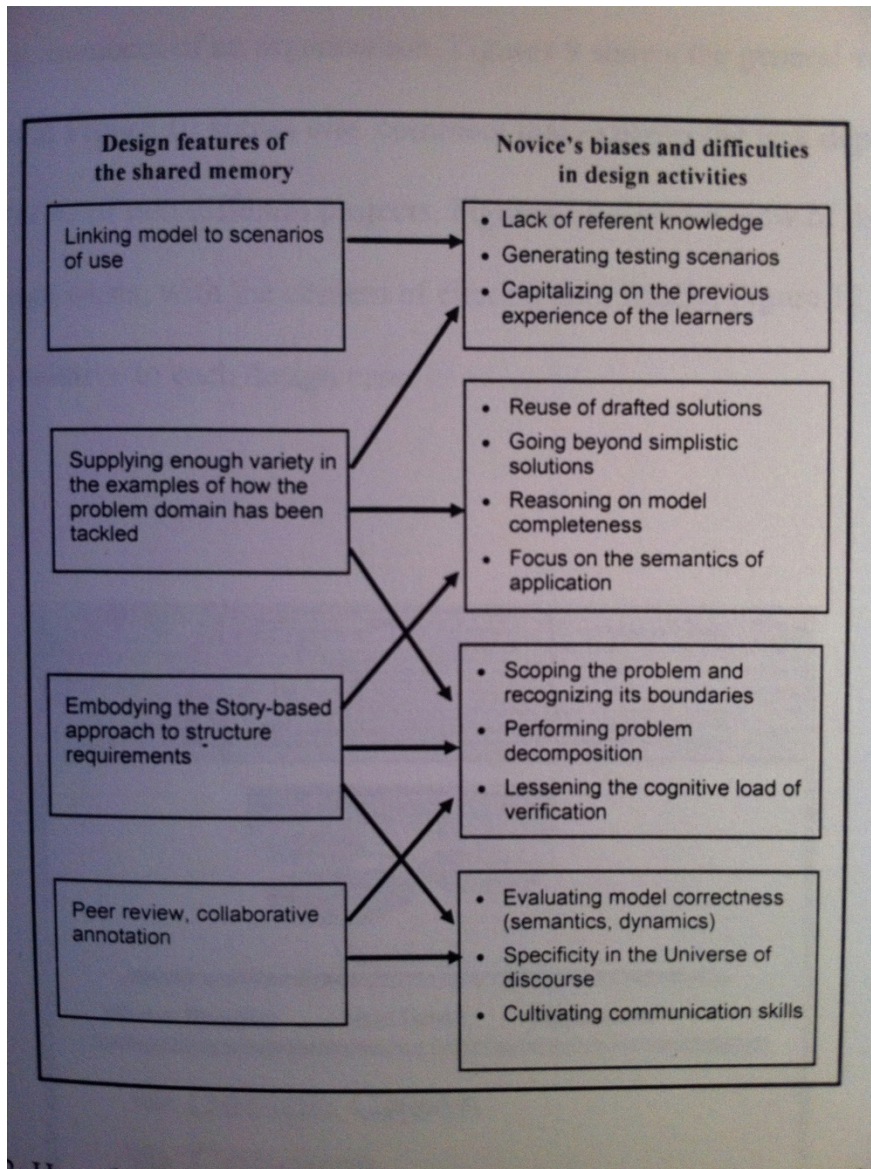# First Dispatch – Electronic Design Memory for Software Engineering

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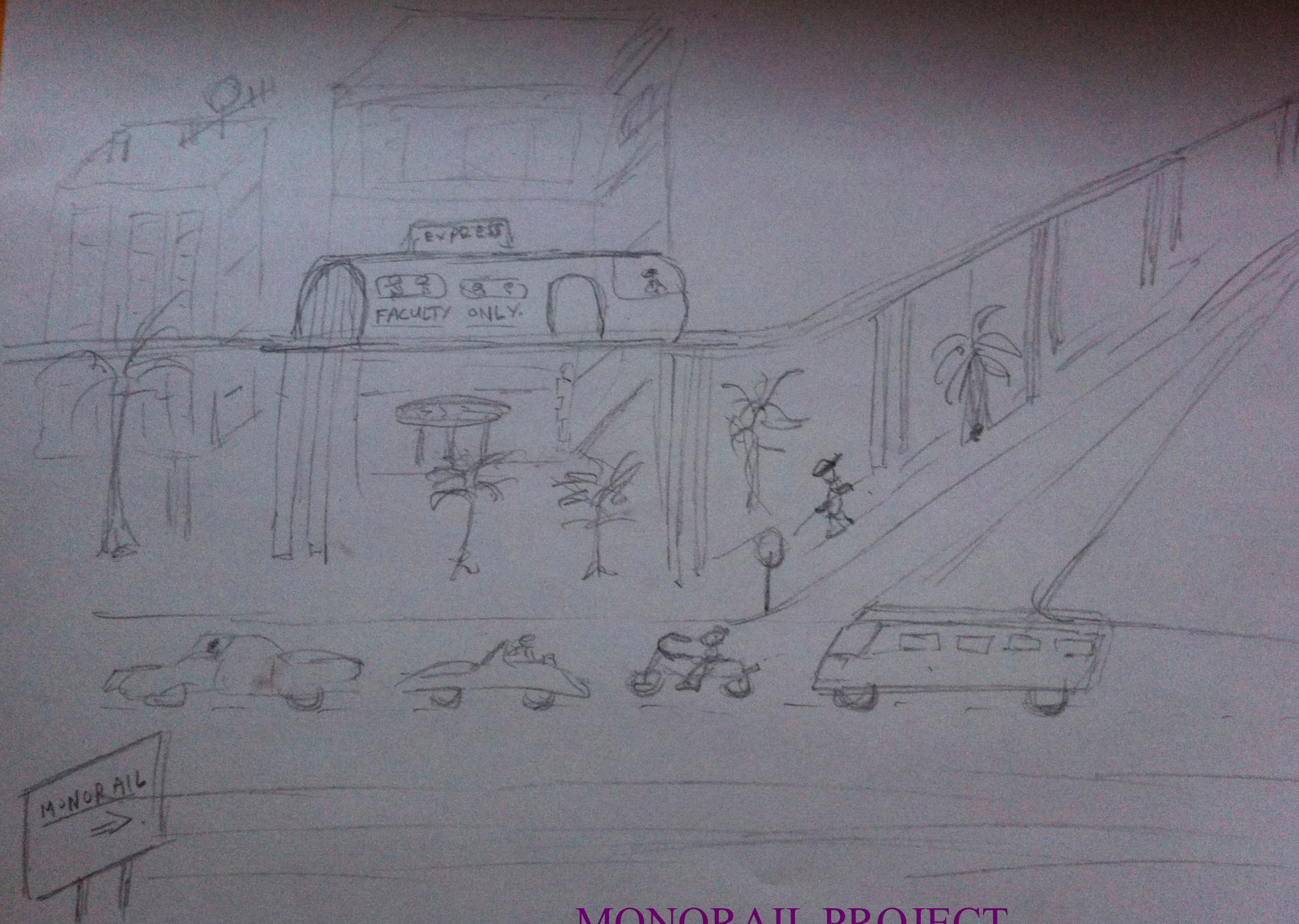
MONORAIL →

MONORAIL PROJECT

TELEPORTER PROJECT

THE BIG TOP

Shared Design Memory Concept

Design Memory Architecture

Design features of the shared memory	Novice's biases and difficulties in design activities
Linking model to scenarios of use	• Lack of referent knowledge • Generating testing scenarios • Capitalizing on the previous experience of the learners
Supplying enough variety in the examples of how the problem domain has been tackled	• Reuse of drafted solutions • Going beyond simplistic solutions • Reasoning on model completeness • Focus on the semantics of application
Embodying the Story-based approach to structure requirements	• Scoping the problem and recognizing its boundaries • Performing problem decomposition • Lessening the cognitive load of verification
Peer review, collaborative annotation	• Evaluating model correctness (semantics, dynamics) • Specificity in the Universe of discourse • Cultivating communication skills

Hypothesized influences on novice biases & difficulties in design activities

Dispatch from my classoom

Dispatch from Professional Education -- AMA Management Development & Blended Learning

- Improve learning in management development seminars

- Focus on pre-seminar preparation and post-seminar evaluation and remediation

- Offer individualized assessment and instruction based on use of Learning Content Management

Language Learning – using concordance strategies with text corpora

Dispatch from?

Cobb's PET 2000

- ESL academic setting
    - Students enter at Band 1 of proficiency test (500 words)
    - Must attain fluency (around 2000 words) by yr 2
    - e.g., pre-program podcasts

- Builds simple concordance with small corpora into regular weekly computer lab activites
    - Observes behaviours and any shift in belief systems
    - Gradually, students shift to contextual learning
    - Builds larger corpora based on 2000 word list
    - Shows strong effect for concordance

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Summary & Discussion