Adult CS Learning Teaching considered harmful

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Our Research Quest

Does ICT allow us to improve support for adult learning in the domain or Interaction Design?

How?

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Aim: design patterns for adult Interaction Design

Interaction Design

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Distance learning and blended learning

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Many different curricula

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Many counties (Europe and China)

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Adults, Artists, Post Doctoral, and Professionals

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Team work, and team learning

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Interaction design is for people (multiple stakeholders)

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There is no "best" solution or design

Team products for real client in context (no "use cases")

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Contribution to learning

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- Contribution to learning
- Staying involved (or drop out)

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- Contribution to domain's body of knowledge
- Contribution to learning
- Staying involved (or drop out)
- Having reached primary learning goals

examples

Student work: Human Information Processing

www.opener2.ou.nl/opener/hip/

examples

Student work: Visual Design Patterns

patternwizard.nl/pattern/wizard/

examples

Student work: Tools & techniques for task analysis

www.nibuk.nl/taskanalysis/tool/

Action research

- Reflective
- Allows inquiry no experiments needed
- Collaborative activity (with all stakeholders)
- Searching solutions to actual problems
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Suitable for adult students in their own context

Action research cycle

Cycle of the following steps

- Plan
- Action
- Observe
- Reflex

Opportunities for action research

Action research during courses of interaction design

- When teaching goals & learning goals match
- When the customer is king
- Youngsters can be adults as well
- Even if the authorities do not see the goals

Adults are not kids

Most of our adult learners

• Have a professional life and job

• Often responsible for a household or family

• Have intrinsic motives for learning

Adult are capable to

decide for themselves on what, when, and how

set their own goals and change them

find learning resources on their own

 speak freely, sharing learning experiences, identify learning goals that fit their own context and needs

Different learning goals

• First person learning goals: goals from the learner

 Second person learning goals: goals set by the teacher

Learning versus teaching

 In Dutch "leren" means both learning and teaching, elsewhere ...

Adult education often focus more on teaching than learning

Different learning goals

• First person learning goals: goals from the learner

• Second person learning goals: goals set by the teacher

 Third person learning goals: goals of the educational institutes or authorities e. g. Dublin descriptors

Dublin descriptors

Acquiring knowledge and understanding;

Applying knowledge and understanding;

Making informed judgments and choices

Communicating knowledge and understanding;

• Learning skills: capacities to continue learning.

educational institutes' goals

"improving efficiency and increasing the inflow" where efficiency is defined as the percentage of students that graduate.

European university for distance education, January 2013

educational institutes' goals

"impact of scientific publications, increase of external financing of research, and an increase of international students" in that order.

> European university Faculty of Sciences, January 2013

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motivation to learn is internalized.

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- Students want to upload and discuss their work in advance ...

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- Because tutors supported self-learning and peerteaching, students became more active

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Learn from the strong points of each other

different cultures of learning and teaching

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e.g., course on design for cultural heritage

 Authorities not interested, but students contribute very personal and private stories and object.

 get definition; get example; try to make example; find source; download text

~ 1 min. primary learning goals

context dependent (internet?) individual need and proposed solutions

- understand a concept / a tool / get an explanation / attend a presentation at NIOC / show understanding (to peers, team members, tutor)
 - ~ 10 min. (partly) primary learning goals, partly tutor suggestion

context dependent need (internet?) and solutions (what if student cannot attend)

3. attend a class, read a chapter, see a performance

~ 100 min. primary learning goals

mainly teacher / domain expert / defined learning goals and structure

4. Understand a sub-domain (HIP, Task Analysis, ...)

~ 3 months part time / 100 hours. primary learning goals / domain expert goals / tertiary goals

solutions dependent on who owns the goal

Fred Brooks, SIGCSE 2012

The teacher's job is to design learning experiences

Not principally to deliver information

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- Being a learner is a good way to be a teacher