



Stichting NIOC en de NIOC kennisbank

Stichting NIOC (www.nioc.nl) stelt zich conform zijn statuten tot doel: het realiseren van congressen over informatica onderwijs en voorts al hetgeen met een en ander rechtstreeks of zijdelings verband houdt of daartoe bevorderlijk kan zijn, alles in de ruimste zin des woords.

De stichting NIOC neemt de archivering van de resultaten van de congressen voor zijn rekening. De website www.nioc.nl ontsluit onder "Eerdere congressen" de gearchiveerde websites van eerdere congressen. De vele afzonderlijke congresbijdragen zijn opgenomen in een kennisbank die via dezelfde website onder "NIOC kennisbank" ontsloten wordt.

Op dit moment bevat de NIOC kennisbank alle bijdragen, incl. die van het laatste congres (NIOC2025, gehouden op donderdag 27 maart 2025 jl. en georganiseerd door Hogeschool Windesheim). Bij elkaar zo'n 1500 bijdragen!

We roepen je op, na het lezen van het document dat door jou is gedownload, de auteur(s) feedback te geven. Dit kan door je te registreren als gebruiker van de NIOC kennisbank. Na registratie krijg je bericht hoe in te loggen op de NIOC kennisbank.

Het eerstvolgende NIOC vindt plaats in 2027 en wordt dan georganiseerd door HAN University of Applied Sciences. Zodra daarover meer informatie beschikbaar is, is deze hier te vinden.

Wil je op de hoogte blijven van de ontwikkeling rond Stichting NIOC en de NIOC kennisbank, schrijf je dan in op de nieuwsbrief via

www.nioc.nl/nioc-kennisbank/aanmelden_nieuwsbrief

Reacties over de NIOC kennisbank en de inhoud daarvan kun je richten aan de beheerder:

R. Smedinga kennisbank@nioc.nl.

Vermeld bij reacties jouw naam en telefoonnummer voor nader contact.

Adult CS Learning

Teaching considered harmful

Els Rogier

Gerrit van der Veer



OpenUniversiteitNederland

Our Research Quest

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

How?

Our Research Quest

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

How?

Aim: **design patterns for adult Interaction Design**

Our teaching experiences

Interaction Design

Our teaching experiences

Interaction Design

Distance learning and blended learning

Our teaching experiences

Interaction Design

Distance learning and blended learning

Many different curricula

Our teaching experiences

Interaction Design

Distance learning and blended learning

Many different curricula

Many countries (Europe and China)

Our teaching experiences

Interaction Design

Distance learning and blended learning

Many different curricula

Many countries (Europe and China)

Adults, Artists, Post Doctoral, and Professionals

Our domain is not “standard”

Structurally new knowledge needs to be discovered

Our domain is not “standard”

Structurally new knowledge needs to be discovered

Knowledge may (and should) be contributed to the domain

Our domain is not “standard”

Structurally new knowledge needs to be discovered

Knowledge may (and should) be contributed to the domain

Team work, and team learning

Our domain is not “standard”

Structurally new knowledge needs to be discovered

Knowledge may (and should) be contributed to the domain

Team work, and team learning

Interaction design is for people (multiple stakeholders)

Our domain is not “standard”

Structurally new knowledge needs to be discovered

Knowledge may (and should) be contributed to the domain

Team work, and team learning

Interaction design is for people (multiple stakeholders)

There is no “best” solution or design

Assessment of “mastery”?

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

Assessment of “mastery”?

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

Contribution to domain’s body of knowledge

Assessment of “mastery”?

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

Contribution to domain’s body of knowledge

Contribution to learning

Assessment of “mastery”?

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

Contribution to domain’s body of knowledge

Contribution to learning

Staying involved (or drop out)

Assessment of “mastery”?

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

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
- Solutions are working solutions proven in context

Action research

- Reflective
- Allows inquiry – no experiments needed
- Collaborative activity (with all stakeholders)
- Searching solutions to actual problems
- Solutions are working solutions proven in context

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

Knowles et al., 1984: Maturity effects

self-concept moves toward self-directed human being;

Knowles et al., 1984: Maturity effects

self-concept moves toward self-directed human being;

accumulating a growing reservoir of experience as resource for learning;

Knowles et al., 1984: Maturity effects

self-concept moves toward self-directed human being;

accumulating a growing reservoir of experience as resource for learning;

readiness to learn becomes oriented to social roles.

Knowles et al., 1984: Maturity effects

self-concept moves toward self-directed human being;

accumulating a growing reservoir of experience as resource for learning;

readiness to learn becomes oriented to social roles.

time perspective changes from postponed application of knowledge to immediacy of application, and learning shifts from subject-centered to problem centered.

Knowles et al., 1984: Maturity effects

self-concept moves toward self-directed human being;

accumulating a growing reservoir of experience as resource for learning;

readiness to learn becomes oriented to social roles.

time perspective changes from postponed application of knowledge to immediacy of application, and learning shifts from subject-centered to problem centered.

motivation to learn is internalized.

Observations when aiming at learner goals

- Student were so eager to prepare their design work and the related presentations that teachers of other courses complained about a declining number attending their class.

Observations when aiming at learner goals

- Student were so eager to prepare their design work and the related presentations that teachers of other courses complained about a declining number attending their class.
- In each of 4 cohorts of 25-30 students 1-4 dropouts

Observations when aiming at learner goals

- Student were so eager to prepare their design work and the related presentations that teachers of other courses complained about a declining number attending their class.
- In each of 4 cohorts of 25-30 students 1-4 dropouts
- Even if courses authorities do not see the goal ...

Observations when aiming at learner goals

- Student were so eager to prepare their design work and the related presentations that teachers of other courses complained about a declining number attending their class.
- In each of 4 cohorts of 25-30 students 1-4 dropouts
- Even if courses authorities do not see the goal ...
- Students want to upload and discuss their work in advance ...

We discovered

- Tutors should focus on supporting the self-learning process and less on the content of the resources

We discovered

- Tutors should focus on supporting the self-learning process and less on the content of the resources
- Students gradually developed habit of using forums for asking for, and providing, knowledge and pointers to knowledge

We discovered

- Tutors should focus on supporting the self-learning process and less on the content of the resources
- Students gradually developed habit of using forums for asking for, and providing, knowledge and pointers to knowledge
- Because tutors supported self-learning and peer-teaching, students became more active

We discovered

- Allow flexibility in time schedule and process

We discovered

- Allow flexibility in time schedule and process
- Accept teams that merge or split

We discovered

- Allow flexibility in time schedule and process
- Accept teams that merge or split
- Accept that some clients do not allow a team to present details of their design because of confidentiality

We discovered

- Allow flexibility in time schedule and process
- Accept teams that merge or split
- Accept that some clients do not allow a team to present details of their design because of confidentiality
- Learn from the strong points of each other

different cultures of learning and teaching

everywhere, students highly motivated to learn

different cultures of learning and teaching

everywhere, students highly motivated to learn

aim at knowledge, skills and experience that will
help them get the job they aim at

different cultures of learning and teaching

everywhere, students highly motivated to learn

aim at knowledge, skills and experience that will help them get the job they aim at

e.g., course on design for cultural heritage

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

Learning goals at different levels

1. 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

Learning goals at different levels

2. 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)

Learning goals at different levels

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

~ 100 min. primary learning goals

mainly teacher / domain expert / defined
learning goals and structure

Learning goals at different levels

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

Conclusion

- Adults are capable people and bring valuable experience and knowledge along

Conclusion

- Adults are capable people and bring valuable experience and knowledge along
- Teacher and students should share knowledge

Conclusion

- Adults are capable people and bring valuable experience and knowledge along
- Teacher and students should share knowledge
- Teachers can advance learning by influencing what the student does (Herb Simon)

Conclusion

- Adults are capable people and bring valuable experience and knowledge along
- Teacher and students should share knowledge
- Teachers can advance learning by influencing what the student does (Herb Simon)
- Being a learner is a good way to be a teacher