

# ***Working Paper***

**Center for Learning in Virtual Environments  
(LiVE)**

**Interessetilkendegivelse vedrørende oprettelse  
af et tværinstitutionelt center for grundforskning  
i "Læring i virtuelle miljøer"**

**By**

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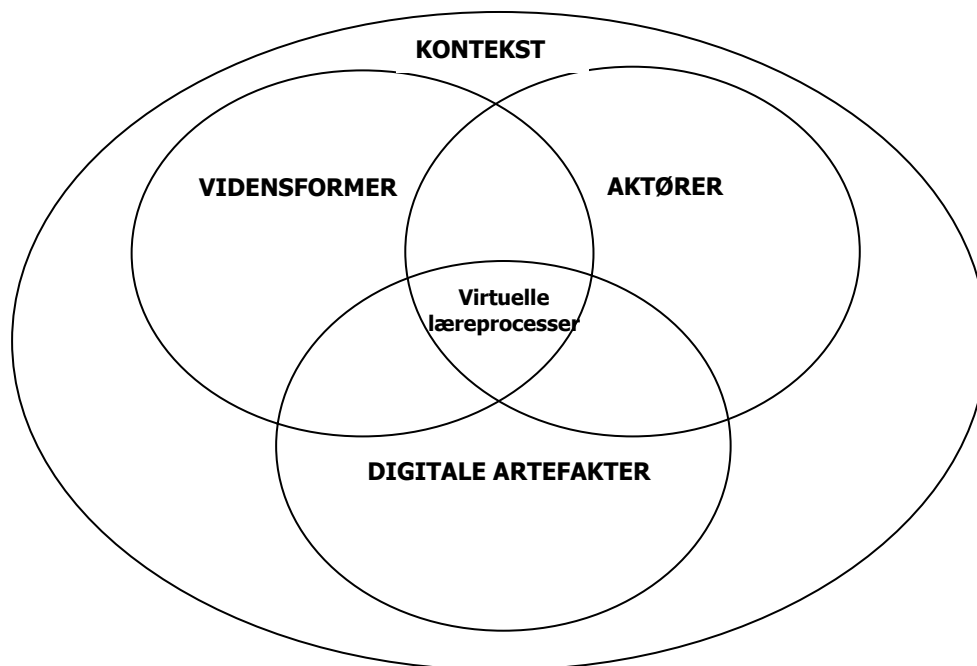
## Center for Learning in Virtual Environments (LiVE)

### Interesstillæg til oprettelse af et tværinstitutionelt center for grundforskning i "Læring i virtuelle miljøer"

Læring i virtuelle miljøer (e-learning) er et nyere felt udviklet gennem de sidste 20 år. Det er tværdisciplinært og trækker på teorier fra såvel psykologi, pædagogik, læring, informatik, design, kommunikation og organisation. Væksten inden for feltet er overvældende, både nationalt og internationalt (Dillenbourg P. 1999, Ørngreen mfl. 2003). Udviklingen er ikke fulgt op med teoretisk og metodisk velfunderet forskning, videnskabelige eksperimenter eller komparative studier. Der savnes også forskning, der bidrager til en egentlig teoridannelse for området (Sorensen 2003). En sådan forskning skal være teoretisk og samtidig bidrage med eksperimentel nytænkning. Den skal kunne føre til metodisk udvikling og give ny erkendelse i forhold til det tværdisciplinære felt. En større dansk forskningsindsats inden for området kan få stor international betydning på grund af den særlige danske forskning i virtuelle læreprocesser og design baseret på en "human-centreret" tilgang til teknologiudvikling (Ehn 1988; Nielsen, Dirckinck-Holmfeld et al. 2003).

#### FORSKNINGSTEMA

LiVE arbejder ud fra den antagelse, at informations- og kommunikationsteknologi (ikt) er en konstituerende og medierende faktor i læreprocesser og design af læringsmiljøer. Digitale artefakter rummer nogle særlige potentialer i forhold til individuelle såvel som organisatoriske lære- og vidensformer. Nedenfor er skitseret en model, som viser forskningstemaerne i LiVE.



Med *digitale artefakter* forstår vi ikt-systemer, som kan være pc-baserede, netværksbaserede, ’pervasive og/eller håndholdte ( Weiser 1998, Weiser m.fl. 1999). *Aktørerne* i læringsmiljøet er de(n) lærende, underviserne, designere, tekniske supportere etc. *Vidensformer* er såvel de eksplicite som de tavse (emotive, sanselige og kropslige). Virtuelle læreprocesser udspiller sig i særlige *kontekster*, der udstrækker sig spatiale, fx nationale og globale læringsmiljøer samt på forskellige niveauer i uddannelsesinstitutioner eller virksomheder.

## **FORSKNINGSFELTER**

Forskningsarbejdet indskrives sig i forskningsfelterne ”Computer Supported Collaborative Learning” (CSCL) og ”Computer Supported Cooperative Work” (CSCW). Disse forskningsfelter er karakteriseret ved en interesse for at udforske det komplekse samspil mellem aktører, digitale artefakter og vidensformer i specifikke kontekster. CSCL fokuserer særligt på samarbejde i virtuelle læreprocesser i digitale uddannelsesnetværk. CSCW fokuserer på samarbejdsaspekterne i virtuelle arbejdsprocesser i virksomheder og organisationer. Overordnet kan man sige, at CSCW retter sig mod produktive og resultatorienterede praksisformer, medens CSCL retter sig mod konstruerende og reflektive praksisformer (Fjuk, Dirckinck-Holmfeld 1997).

Centret ønsker at fokusere på følgende forskningsområder:

- Kollaborative læringsformer
- Vidensformer, vidensdeling og læring i organisationer
- Digitale artefakter og virtuel interaktion
- Pervasive ”læringsobjekter”
- De nye lærende

### **Kollaborative læringsformer**

Læring i virtuelle rum er underlagt særlige betingelser for samarbejde og kommunikation. Kollaborative læringsformer forudsætter en kobling af rammerne for samarbejde gennem digitale artefakter, som skal designes, så de støtter fælles konstruktion, koordination og deling af viden. Kollaborative læringsformer kræver derfor en reformulering af didaktiske design, deltagerroller, pædagogisk-didaktiske genrer og evaluering-/eksamensformer. Hvordan kan man undersøge og udvikle digitale værktøjer, der støtter strukturering af læreprocesser? Det er allerede påpeget i forbindelse med problem- og projektorienterede arbejdsformer (Dirckinck-Holmfeld 2002), dialogiske seminarformer og virtuelle porteføljer (Sorensen, 2003) samt procesorienterede evalueringer (Takle et al., 2001).

### **Vidensformer, videndeling og læring i organisationer**

En organisations syn på den interne kommunikation har umiddelbart en afsmittende virkning på aktørernes muligheder for læring (Putnam, Phillips, Chapman 2001). I organisationer, hvor den interne kommunikation i overvejende grad betragtes som transport af informationer fra en afsender til en modtager, vil synet på læring i organisationen i lighed hermed let blive transport af undervisningsmaterialer fra en afsender, f.eks. en undervisningsafdeling til de i organisationen spredt placerede enkelte medarbejdere. I modsætning hertil vil organisationer, der bevidst arbejder på at gøre videndeling (Nonaka, Nishiguchi 2001) til en vigtig kompetence hos

medarbejderne, have et større potentiale for at organisere e-læringen, så den samtidig bidrager til organisationens videndeling gennem formelle og uformelle læreprocesser.

Informations- og kommunikationsteknologiens potentialer for læring hænger nøje sammen med forskellige vidensformer (Gustavsson 2001). Umiddelbart er teknologien velegnet til distribution af eksternaliserbar viden. Den tavse viden (tacit knowledge) (Polanyi 1968) kan dog også deles ved interaktionsformer båret af lyd og levende billeder. I forhold til udvikling af læring i organisationer er nogle centrale forskningsspørgsmål: Hvilke faglige problemstillinger egner sig bedst til de to skitserede organiseringer af læring? Hvilke drivkræfter og barrierer i organisationen skal henholdsvis aktiveres og overkommes for at udvikle e-læring som led i organisationens videndeling? Hvordan kobles mellem forskellige vidensformer, og hvorledes udvikles og designes ikt som støtte herfor?

### **Digitale artefakter og virtuel interaktion**

En forudsætning for at deltage i virtuelle læringsforløb er, at den lærende oplever sig som tilstede, som værende i det virtuelle rum. Denne 'væren i' stiller som betingelse, at det virtuelle design er ikke-forstyrrende, og at det tillader den lærende at fokusere på interaktionen og på indholdet, ikke på teknologien. Design af virtuelle læringsrum rejser spørgsmålet om, hvad der skal til for at brugeren/den lærende føler sig som værende i det virtuelle. Forskningsinteressen samler sig om den virtuelle kontekst og mennesket, der mentalt interagerer i denne - og med andre. Immersense er et nyt begreb, der giver mulighed for en teoretisk indfaldsvinkel. Ikke immersion i fysisk forstand, men immersense i mental forstand. Men hvordan skal vi forstå den mentale kognitive proces, der er grundlaget: A trick of the senses? Som når deltageren i det virtuelle spil ikke når at stoppe sit frie fald og hele kroppen går i alarmberedskab. Ikts indgriben i, og "enhancement of" de kognitive processer stiller krav om radikal nytænkning. Den kognitive teori må medtænke og forstå det kropslige, det sanselige og det emotive (Nielsen 1997, Preece et al 2002). Hvad er det for en symbolsk repræsentation og interaktion, som skal designes for at mennesker, der interagerer gennem systemer, føler sig tilstede og nærværende?

### **Pervasive "læringsobjekter"**

Et formelt læringsmiljø er struktureret gennem en *didaktisk tilrettelæggelse af materialer, aktiviteter og kommunikation*. I forbindelse med materialer tales om såkaldte læringsobjekter, der kan understøtte læringsformål i forskellige kontekster. Disse læringsobjekter understøtter ofte instruktivistisk læring baseret på transfer (Merril 1999, Koper 2001). Dog er der i de senere år eksempler på udvikling af læringsobjekter, hvor udgangspunktet er et konstruktivistisk og kollaborativt læringsdesign (Fibiger 2004). Vægten ligger her på en undersøgelse af betingelserne for udvikling af læringsobjekter, der i højere grad kan understøtte aktiviteter og kommunikation på et kollaborativt grundlag. Det betyder, at den læringsmæssige kontekst trækkes med ind i læringsobjektet. I denne sammenhæng inddrages nyere teknologier til opbygning af virtuelle rum: 360 graders præsentation, 3D, croma key, pervasive computing etc. Teknologier er til rådighed på flere af de deltagende universiteter, men mangler udvikling i forhold til et læringsperspektiv. Disse teknologier kan udnyttes både til at udvikle nye læringsobjekter, nye former for interaktion og nye kommunikationsformer i virtuelle læringsmiljøer.

## De nye lærende

Det er blandt børn og unge vi finder ”power users”. Det er særlig aktive brugere og de anvender i høj grad de digitale medier til leg, kommunikation, læring og til etablering af sociale relationer. De har i brugen af de digitale medier udviklet kompetencer, som ligger på et højere niveau end mange voksnes kompetencer (Jessen 2001).

Dette er en historisk ny situation. I disse børn og unges brug og udforskning af de forskellige digitale artefakter og kommunikationssystemer, udvikler ”power users” nye måder at anvende og kombinere digitale artefakter på. I et grundforskningsperspektiv bliver ”power users” således særlig interessante som en ny angrebsvinkel til udforskning af feltet, idet de i deres eksperimenterende, udforskende og kreative brug af de digitale artefakter kan vise nye veje i aktør–artefakt–vidensformrelationen i et læringsperspektiv. De kan pege på udviklingen af nye kognitive og kommunikative kapaciteter samt nye potentialer for, men også nødvendige didaktiske tilpasninger af institutionsbaseret læring.

Forskningsinteressen samler sig om, hvordan ”power users” tilegner sig de digitale medier (Holm Sørensen 2003, Livingstone, Bovill 2001, Drotner 2001). Hvordan ”power users” gør brug af nye samarbejds- og læringsformer, f.eks. netværkslæring på et globalt plan. Hvordan udfordrer ”power users” gennem anvendelse af digitale artefakter de traditionelle tekstbaserede vidensformer og den traditionelle institutionsbaseret læring?

## SKITSE TIL METODISK RAMME

På det metodiske plan står grundforskningsprojektet overfor udvikling af nye metoder, idet forskning i kommunikation og læring i digitale netværk endnu er i sin vorden. Designeksperimenter i laboratorier er væsentlige i forhold til at evaluere specifikke og velafgrænsede problemer, f.eks. i forbindelse med interfacedesign eller for at teste kommunikation, navigation eller interaktion i et ’virtuel environment’. Laboratorieeksperimenter må funderes i en mere kontekstbundet forskningstilgang (Nardi 1996). Disse viser sig overlegne i forhold til at opnå indsigt i og forståelse for det komplekse samspil mellem sociale, kulturelle, teknologiske og læringsmæssige forhold, som knytter sig til integration af teknologi i praksis og i design af teknologier til at forbedre praksis.

Den metodiske nyudvikling vil tage afsæt i medie-etnografiske metoder i kombination med andre kvalitative metoder (Blomberg m.fl.). Også eksperimentelle og aktionsorienterede metoder, der tillader de forskellige multimediale artefakter (billede, lyd, animationer etc.) at spille sammen i videreudvikling og design af konceptuelle læringsmodeller og virtuelle læringsmiljøer, vil blive anvendt. Læringserfaringer og læringsmåder er forskellige fra kultur til kultur, hvorfor komparative studier gennem udbygning af internationale samarbejder er vigtige.

Forskningscentret har adgang til en række unikke cases, som er udviklet af partnerne, eller hvor partnerne indgår som aktive medspillere. Den overordnede fælles case er den virtuelle masteruddannelse (MIL), ”Master i IKT og læring” ([www.hum.auc.dk/mil](http://www.hum.auc.dk/mil)), som partnerne driver i fællesskab. Eksperimenter kan gennemføres både i forhold til de teknologier, de studerende råder over hjemme og på

arbejde, og i forhold til de teknologier der i kraft af sektornettet er muligt at anvende de involverede forskningsinstitutter imellem. Endvidere har vi adgang til en række globale virtuelle læremiljøer: Det Danida-støttede projekt VISCA – Virtual Learning and Sustainable Development in Central America ([www.hum.auc.dk/visca](http://www.hum.auc.dk/visca)), det EU-støttede projekt ELAC (European and Latin American Consortium for IST Enhanced Continued Education in Environmental Management and Planning), og det ligeledes EU-støttede projekt: [Vo@NET](#) (Virtual Open-Access Network for Education and Training – Enhancing Interconnectivity between European and Asian Universities).

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- Virtual Learning and Sustainable Development in Central America  
([www.hum.auc.dk/visca](http://www.hum.auc.dk/visca))
- [Vo@NET](#) (Virtual Open-Access Network for Education and Training – Enhancing Interconnectivity between European and Asian Universities).



## INTERNATIONALT FORSKNINGSSAMARBEJDE

### EU 6th framework Network of Excellence

#### **Kaleidoscope: concepts and methods for exploring the future of learning with digital technologies**

The consortium represented by Professor Lone Dirckinck-Holmfeld has been strongly involved in the construction of the European 6<sup>th</sup> framework Network of Excellence, Kaleidoscope. Professor Lone Dirckinck-Holmfeld is part of the Core Group, which is the policy forming mechanism of the Kaleidoscope network. As partners in Kaleidoscope network we have access to the most advanced research centres, research groups and individual researchers in the field of learning and ICT in Europe. Together the network will structure the European Research Area (ERA) in Technology Enhanced Learning (TEL) for the future.

As partners in Kaleidoscope we will be able to bring Danish research to the European community in an efficient way. Already in the first 18 months several researchers are participating in integrating research projects (JEIRP) where Danish research will be integrated with that from other European partners and in special interests groups. Lone Dirckinck – Holmfeld is the leader of the JEIRP: “Conditions for Productive Netbased Learning Environment”. Through the Virtual Doctoral School our Ph.D students will have access to state-of-the-art Ph.D. courses from the Kaleidoscope community and Advanced Training Activities with up-to-date specialized advanced courses. In addition we will have access to relevant dissemination channels for publications and collaboration on writing books, etc.

#### **E-quality in E-learning research Laboratory**

The consortium represented by Professor Lone Dirckinck-Holmfeld and Assoc. Prof. Elsebeth K. Sorensen has been strongly involved in the construction of the European EQUEL project: E-quality in E-learning research Laboratory. The aim of the EQUEL project is to foster European knowledge and understanding of the effects of e-learning practice, theory and philosophy through building a research and practitioner network of experts working in the field. As partners in EQUEL we are participating in the building of a dual mode virtual centre and space for sharing ongoing work and developing collaborative project activities with other researchers and practitioners. Through EQUEL Ph.D. students and junior researchers will have access to a network of internationally recognized researchers within e-learning.

**Power Users of Technology.** The longterm research project “Power Users of Technology” is under establishment with regional research centers in North America, Central America, and Europe. The project is led by Educational Development Center, US. The consortium represented by Professor Lone Dirckinck-Holmfeld has been strongly involved in establishment of the project. She is participating in the international advisory board. A European research center is going to be established led by Aalborg University and The Danish University of Education.

**ELAC:** European and Latin American Consortium for IST Enhanced Continued Education in Environmental Management and Planning. Partners: Aalborg University/E-learning Lab, Universidad Nacional de Costa Rica, Universidad Nacional Autonoma de Nicaragua, Universidad CentroAmericano de Nicaragua, Danish Technical University /Danish University Consortium on Environmental Development, Lancaster University, University of Barcelona, Universidad Autónoma Metropolitana in Mexico. Supported by @LIS programme in EU.

**VO@NET:** Virtual Open-Access Network for Education and Training – Enhancing Interconnectivity between European and Asian Universities. Partners: Danish Technical University, Danish University Consortium on Environmental Management (DUCED), Malaysia University Consortium on Environmental Management (MUCED), Thailand University Consortium on Environmental Management (TUCED), Barcelona University, Aalborg University/E-learning Lab. The project is funded by Asia-link programme in EU.

**VISCA:** Virtual learning and Sustainable Development in Central America. Partners: Aalborg University/E-learning Lab, Universidad Nacional de Costa Rica, Universidad Nacional Autonoma de Nicaragua, Universidad CentroAmericano. Supported by the ENRECA, DANIDA  
[www.hum.auc.dk/visca](http://www.hum.auc.dk/visca)

## Bilag 1: CV FOR HOVEDANSØGER

### Lone Dirckinck-Holmfeld

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[www.hum.auc.dk/ansatte/ldh](http://www.hum.auc.dk/ansatte/ldh), e-learning lab NJ: [www.ell.auc.dk](http://www.ell.auc.dk), Master in ICT and Learning: [www.hum.auc.dk/mil](http://www.hum.auc.dk/mil), Doctoral School on Human Centered Informatics: [www.hci.hum.auc.dk](http://www.hci.hum.auc.dk), Aalborg University [www.auc.dk](http://www.auc.dk)

### Short CV

Research professor on ICT and Learning at Aalborg University, Department of Communication. Ph.D. from Roskilde University in computer-mediated communication and learning. Scientific Leader of E-learning lab and several research projects on virtual learning, and computer supported collaborative learning. Scientific Leader of the Postgraduate Research School on Human Centered Informatics, and programme coordinator of Master on Information and Communication Technology and Learning (MIL). Main field of research is computer-supported collaborative learning (CSCL) in distributed environments, participatory design and implementation. Has authored and co-authored several books, and authored and co-authored more than 100 papers, articles, and reports on ICT and learning. Recent book: Dirckinck-Holmfeld, L & Fibiger, B (Eds.): *Learning in Virtual Environments*, Samfundslitteratur Press (2002).

### Current Positions:

**Research Professor**, Dept. of Communication, Aalborg University, Sponsored by Spar North.  
**Scientific Leader** of E-Learning Lab, Aalborg University.  
**Program Coordinator** of the Postgraduate Research School on Human Centered Informatics, Aalborg University.  
**Program Coordinator** Master in ICT and Learning, Aalborg

University.

### Academic Degrees

- **Doctor of Philosophy**: Department of Communication, Education, and Epistemology, Roskilde University, 1990. *Dissertation: Kommunikation på trods og på tværs* (Project pedagogy and computer-mediated communication in distance education).
- **Master of Art (MA)**, social science and psychology, Aalborg University, 1983.
- **Master of social science**, Aalborg University, 1980.

### Academic Leadership - (selected)

- **Member**, CORE Group (22 members), Kaleidoscope EU Network of Excellence.
- **Board member** for the Danish Educational University.
- **Technical Advisory Panel** for Info Development, World Bank.
- **Advisory panel** Power Users of Technology, EDC.
- **International Evaluation Board** of InterMedia, Oslo.
- **Listed for EU restricted invitations** to tender for studies or consultancy services for Education, Vocational Training and General Questions
- **Steering/Program Committees**: CSCL 2003. Doctoral Consortium CSCL 2003.
- **Paper reviewing**: CSCL 2003, Doctoral Consortium CSCL 2003, Networked Learning 2004 Conference, Learning Lab DK/ Consortium for Workplace Learning: Kanstrup, A (ed. 2004): "eLearning at work" (eLæring på arbejde), Samfundslitteratur Press

### Research Grants - (selected)

- **KALEIDOSCOPE**, European Research Network of Excellence. More than sixty research lab in Europe are participating in the Network. Supported by EU 6<sup>th</sup> Framework. Joint project on "productive e-communities", <http://www-kaleidoscope.imag.fr> (partner/JEIRPleader).

- **ELAC:** European and Latin American Consortium for IST Enhanced Continued Education in Environmental Management and Planning Supported by @LIS programme in EU (partner).
- **VO@NET:** Virtual Open-Access Network for Education and Training – Enhancing Interconnectivity between European and Asian Universities. Funded by Asia-link programme in EU (partner).
- **EQUEL** ‘e-quality in e-learning’ (partner), <http://tecfaseed.unige.ch/equel/equel.php>
- **VISCA:** Virtual learning and Sustainable Development in Central America. Partners: Supported by the ENRECA, DANIDA (Principal Research Co-ordinator), [www.hum.auc.dk/visca](http://www.hum.auc.dk/visca)
- **Virtuelle Læringsmiljøer og Læringsformer (ViLL)** (Virtual Learning and Learning environment), Supported by Det Digitale Nordjylland (The Digital Northjuttland) (Principal Research Co-ordinator), [www.ell.auc.dk](http://www.ell.auc.dk)
- **FLEXNET.** Supported by IT-Vest (partner), [http://qp.ell.auc.dk/QuickPlace/flexnet/Main.nsf/h\\_Toc/e675d4c4eebdfcabcl256c760036c92b/?OpenDocument](http://qp.ell.auc.dk/QuickPlace/flexnet/Main.nsf/h_Toc/e675d4c4eebdfcabcl256c760036c92b/?OpenDocument)
- **Consortium on Work-based Learning.** Learning Lab DK & Ministry of Education (Partner), <http://www.ild.dk/default.asp?path={223CDD2C-669E-4854-BF65-3A6B7EA9DA89>
- **Participatory action-research on The Digital North Juttland.** Supported by Det Digitale Nordjylland (The Digital Northjuttland) (Principal Research Co-ordinator), [www.hum.auc.dk/ddn](http://www.hum.auc.dk/ddn)

#### ***Reviewed publications - (selected)***

- Dirckinck-Holmfeld, L. (forthcoming): Et europæisk perspektiv på eLæring, (A European Perspective on E-learning) in Kanstrup, A (Ed): *Elæring på arbejde*. Samfundslitteratur Press (20 p.)
- Littig, P., L. Dirckinck-Holmfeld, et al. (2003): *eLearning – Monitoring*. Thematic Analysis within the framework of the Leonardo da Vinci Programme. Brussels, EU Leonardo da Vinci Programme.
- Nielsen, J., Dirckinck-Holmfeld, L. & Danielsen, O. (2003) *Dialogue Design in International Journal of Human-Computer Intercation*, "Readings from NordiCHI2000" in the International Journal of Human-Computer Interaction (special issue), Lawrence Erlbaum Associates, Inc.
- Dirckinck-Holmfeld, L. (2003): *Forskerskolen i Human Centered Informatics (The Research School in Human Centered Informatics)*, IMPACT – In Memoriam Inger Lytje, edited by Henrik Schärfe, Aalborg Universitetsforlag 2003, ISBN 87-7307-707-0.
- Dirckinck-Holmfeld, L. (2003): *Refleksioner over skolernes midtvejsevalueringer (Reflections on schools midway evaluations)*. The development project "Det virtuelle gymnasium" (The virtual High School), Følgeforskningsrapport (Participatory Research Report) I, the school year 2002/2003, vol. II, edited by Helle Mathiasen.
- Dirckinck-Holmfeld, L. & Lorentsen, A. (2003): *Transforming University Practice Through ICT-Integrated Perspectives on Organizational, Technological, and Pedagogical Change*. Interactive Learning Environments, Vol. 11, No 2, August 2003. Special Issue: Technology-based Learning: some Issues, p. 91 – 111.
- Dirckinck-Holmfeld, L. & Fibiger, B. (eds.) (2002): *Learning in Virtual Environments*, Samfundslitteratur Press (343 p.), ISBN 87-593-0862-1.
- Dirckinck-Holmfeld, L., Tolsby, H., Nyvang, T. (2002): *E-learning systemer i arbejdspladsrelateret projektpædagogik (e-learning systems in workrelated project pedagogics)*, Illeris, K. (Ed.): Presentation on learning in the working environment, Roskilde Universitetsforlag/Samfundslitteratur, Frederiksberg. ISBN:87-7867-176-0 (22 p.).
- Danielsen, O., Dirckinck-Holmfeld, L., Sørensen, B.H., Nielsen, J., Fibiger, B. (eds.) (1999): *Læring og Multimedier (Learning and Multimedia)*, Aalborg University (176 p.), (2. ed.): ISBN 87-7307-600-7.
- Dirckinck-Holmfeld, L. (ed.) (1997): *Dialogue Design - Methodological Considerations on the MANICORAL-project*, Deliverable Number 05.8.2. Copenhagen Business School (pages 1 to 83).

- Alrø, H. and Dirckinck-Holmfeld, L. (Eds.) (1997): *Videoobservation*, Aalborg University, 1997, ISBN 87-7307-600-7 (121p. Edition work).
- Dirckinck-Holmfeld, L. (1990): *Kommunikation på trods og på tværs (Project pedagogy and computer-mediated communication in distance education)*, PICNIC-NYT no. 9, Aalborg University (Dissertation) (225 p.)

## **Bilag 2: CV FOR SENIORFORSKERE**

- **Danielsen Oluf, RUC**
- **Fibiger, Bo, AU**
- **Nielsen Janni, CBS**
- **Sørensen, Birgitte Holm DPU**

### **CV Oluf Danielsen**

Born 13.8.1942

Associate professor at Department of Communication, Journalism and Computer Science

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#### **Selected publications:**

Nielsen, J., Dirckinck-Holmfeld, L. & Danielsen, O. (2003) *Dialogue Design in International Journal of Human-Computer Interaction*, "Readings from NordiCHI2000" in the International Journal of Human-Computer Interaction (special issue), Lawrence Erlbaum Associates, Inc.

Lone Dirckinck-Holmfeld, Oluf Danielsen & Janni Nielsen: Collaborative Learning through Multimedia in a Community of Geo-scientists, side 53-66 i Oluf Danielsen, Janni Nielsen & Birgitte Holm Sørensen(eds): Learning and Narrativity in Digital Media, Samfundslitteratur 2002, 181 sider

Oluf Danielsen, Birgitte Ravn Olesen & Birgitte Holm Sørensen: From Computer Based Educational Games to Actions in Every Day Life ?, i Oluf Danielsen, Janni Nielsen & Birgitte Holm Sørensen: Learning and Narrativity in Digital Media, Samfundslitteratur 2002, 181 sider

Oluf Danielsen: Fra medier til multimedier, side 11-20 i Oluf Danielsen(red). Læring og Multimedier, Aalborg Universitetsforlag, 1997, 176 sider + bilag

Nielsen,J, Lindgaard,G, Dirckinck-Holmfeld,L, Vendelø, M, Danielsen,O and Georgsen, M: User Requirements Capture for a Multimedia CSCW System,(1997) paper accepted at the CHI conference, Interact97 and for publication in the Conference Proceedings

Danielsen,O, Nielsen,J & Dirckinck-Holmfeld, L: Conceptual framework -Introductory reflections upon central theoretical concepts, WT03.1, Copenhagen Business School (1996)

## **CV Bo Fibiger,**

**Department of Information and Media Science, Århus University**

MA in Danish language and literature 1969

Ph.D. in Danish Language 1971

Associate Professor, Department of Scandinavian Language and Literature, University of Aarhus  
1971-86

Department of Information and Media Science, University of Aarhus since 1986

Lecturer Royal Danish Academy for Education of Teachers 1970-79

Danish School of Journalism 1993-94

Bo Fibiger has been Director of Department for Information and Media Science from 1988-90, from the establishment in 1986 -1988 and again from 1990 - 93 Vice Director.

As a teacher and educational planner he has an experience from several courses related to Jutland Open University (1980-2001). Course material on print, web and video -discussions on video conferencing.

For several years he has been Chairman of the Audio-Visual Planning Committee at the University/Faculty and Chairman of the University Radio and Television Board at the University.

As a researcher he has been coordinator of a basic research project on video and computers - narrativity and educational systems (VENUS) (1990-93) and coordinator of a Nordic research program related to multimedia (1993-95). Furthermore, he run a project on Pedagogy in Distributed Learning, sponsored by the Ministry of Education/CTU (1995-97) He has been a member of the coordination group for a Danish research network on learning and multimedia (1995-2001) and in co-operation with three other European countries he was responsible for the production of a transnational coursebook on multimedia, supported by ECC/LEONARDO (1996-99) and a pan-European report based on analysis of qualification needs related to IT supported from ECC/LEONARDO (1997-2001).

From 1998 – 2002 member of the research team running a national project on distributed multimedia - connected to the organization InterMedia - with special responsibility for the task Distributed education.

Member of the coordination group for IT-West master degree on ICT and learning (2000-) - based on web and Virtual-U conferencing system, and member of the research and development team for development of a virtual learning environment FLEXNET for courses related to IT University West. From 1994-98 Vicechair for the education committee in the County of Aarhus, from 2002 Chair for the area (responsible for secondary education and some educational colleges with bachelor degree)

### *Selected publications on ICT and learning from recent years:*

Fibiger, Bo: *Multimediesemiotik - om teori og praksis*. In: Juul, Henrik (ed.): *Multimedieteorier - om de nye mediers teoretiske udfordringer*. Odense Universitetsforlag 1997.

Fibiger, Bo: *Interaktive medier - montage eller image*. In: Jens F. Jensen (ed.): *Multimedier, Hypermedier, Interaktive Medier*, Aalborg Universitetsforlag 1998.

Fibiger, Bo: *Pædagogik i distribueret undervisning*. Paper til 13. Nordiske konference for massekommunikationsforskning, Finland 1997/Forskningsrapport CTU 1998.

Fibiger, Bo (ed.): *Design af medier*, Aalborg Universitetsforlag 1997.

Fibiger, Bo (ed.): *The semiotics of multimedia*. LEONARDO Programme 1998.

Fibiger, Bo: *Didactic Design of Virtual Learning Environments*. Paper presented to the XI.Nordic konference on Media and Communication, Gotenburg 1999.

Fibiger, Bo et. al.: *Qualifications for Information Technology in Europe*, tome 1 and 2, LEONARDO Project, Aarhus, Wützburg, Porto Zaragossa, Athens, Gent 2000.

Fibiger, Bo et al. (ed.): *Learning in Virtual Environments*. Samfundslitteratur 2002

Fibiger, Bo: *Informationskompetence og materialetilrettelæggelse i det virtuelle læringsmiljø*. NordINFO NYTT nr. 4, 2002

Fibiger, Bo. *Streaming video – tv eller computermedieret kommunikation?* IN Heilesen, S.: *Det digitale nærvær. Viden og design i nye medier*. Roskilde

Universitetsforlag 2004 (in press).

**CV Janni Nielsen, Professor**

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- head of the HCI research group at CBS. She has been main contractor and manager of both international and national projects: MANICORAL (Multimedia And Network In Cooperative Research And Learning: EU 4th frame program), KA-CHE (Knowledge Acquisition in Computer Human Environments/Continued Health Education: Lundbeck Institute, DIT (Design of Interactive IT-Interfaces), The Danish Research Council for the Social Sciences. She is member of review board for Journal of Digital Creativity, has been member of program committees at HCI conferences since 1995, reviewer for conferences in Europe and abroad.

*SELECTED Reviewed papers from 2002 and 2003*

- Nielsen Janni (2003) The Imaginative Powers of the User's Mind – a prerequisite in Human-Computer Interaction, *Proceedings of HCI International, 2003*, Lawrence Earlbaum Associates, Inc.
- Nielsen Janni and Carsten Yssing (2003) Getting beyond the disruptive effect of Think Aloud, *Proceedings of the Third Danish Human-Computer Interaction Research Symposium*, 67-70
- Nielsen Janni, Christiansen Nina, Clemmensen Torkil and Carsten Yssing (2003) Mindtape – a Technique in Verbal Protocol Analysis, *Proceedings HCI International 2003*, Lawrence Earlbaum Associates, Inc.
- Nielsen Janni, Dirckinck-Holmfeld Lone and Oluf Danielsen (2003) Dialogue Design –With Mutual Learning as Guiding Principle, *International Journal of Human Computer Interaction*, vol15,n.1,21-41
- Ørngreen Rikke, Nielsen Janni, Levinsen Karin, Christensen Elise S. And Ole Mortensen (2003) KA-CHE: Knowledge Acquisition in Computer-Human Environments/Continued Health Education, Pre-project report, HCI research Group, Dept. of Informatics Copenhagen Business School/Lundbeck Institute
- Nielsen Janni, Clemmensen Torkil and Carsten Yssing (2002) People's Heads, People's Minds? Theoretical reflections on Thinking aloud, in Dai Guozhong (ed) *Proceedings of the APCHI 2002 (5th Asian Pacific Conference on computer Human Interaction: Beijing, vol. 2,(pp 897-910)*
- Nielsen Janni, Clemmensen Torkil and Carsten Yssing (2002) Getting access to what goes on in People's Heads? ? Reflections on the think-aloud technique, *Proceedings of NordiCHI 2002, ACM SIGCHI, Aarhus*, pp. 101-111)
- Nielsen, Janni (2002) Visual Communication and interaction, in *Digital Creativity, vol. 13, no. 2, p. 65-71*

- *Petersen Helle and Janni Nielsen (2002) The eye of the user: the influence of movement on users' visual attention, in Digital Creativity, vol. 13, no. 2, pp. 109 -*

## CV Birgitte Holm Sørensen

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Birgitte Holm Sørensen has from 2001 been Research Programme Director of the Research Programme on Media and ICT in a Learning Perspective, The Danish University of Education and she has been Director of Department of Aesthetic and Media Education, The Danish University of Education 1995-97

She has been head of the research project: Children growing up with interactive media - in a future perspective. Supported by The Danish Research Councils under the research program Children's living conditions and welfare 1989 -2002. Furthermore, head of the research project: Children and Computer Games, supported by Ministry of Culture and Media Council for Children and Young People 1999, and head of a development and research project: Multimedia didactics and learning under The Nordic Council of Ministers 1996-1999. From 1996-1997 she has been member of a working group on the Danish Board of Technology concerning information technology in primary and lower secondary school. She has been participant in The Media Commission's work with the national curriculum regulations on Children and media 1995 - 1996. From 1994-95 she has been chairman of a commission under The Ministry of Culture investigating research on violence in the media and from 1994 - 1996 head of a working group under the Nordic Council of Ministers on media education for teachers in the Nordic countries.

### Selected publications from the last years

*Birgitte Holm Sørensen 2003: If spare time didn't exist - a future perspective on children's off-school virtual learning processes. Institute for Media Research and Media Education. Germany Merz Wissenschaft: Virtuelle Lebenswelten, Nr. 5/2003*

Birgitte Holm Sørensen: ICT and the Gap Between School Pedagogy and Children's Culture. Journal Pedagogy, Culture and Society, UK (2004)

*Birgitte Holm Sørensen 2003: Online Games: Scenario for Community and Manifestation of Masculinity. Nora, Nordic Journal of Women's Studies 2003 number 2 Volume 13*

Sørensen, Birgitte Holm 2003: The forms of practice used by children outside the school, - seen in the perspective of the didactic concept of 'pupils prerequisites' Paper NFPF Conference, The Danish University of Education, Copenhagen Denmark 6-8 March 2003

Danielsen, Oluf, Olesen, Birgitte Ravn & Sørensen Birgitte Holm 2002: From Computer Based Educational Games to Actions in Everyday Life? In: Danielsen, Oluf, Nielsen, Janni and Sørensen, Birgitte Holm: Learning and Narrativity in Digital Media. Copenhagen: Samfundslitteratur Press

Sørensen, Birgitte Holm 2001: Children's Use of the Internet. - Play, sociality and communication. Paper. Conference: Minori in Internet. Doni e danni della rete. Napoli 16-17 November.

Sørensen, Birgitte Holm 2001: Børns brug af Interaktive medier - inspiration til ny læringspraksis i skolen. [Children's Use of Interactive Media - Inspiring a New Learning Practice in School]

København: The Danish Ministry of Education

Sørensen, Birgitte Holm 2001: Chat. Leg, identitet, socialitet og læring. [Chat, play, identity, sociality and learning] Gads Forlag

Sørensen, Birgitte Holm, Audon, Lone & Olesen, Birgitte R. 2001: Det hele kører parallelt. De nye medier i børns hverdagsliv. [The New Media in Children's Life] Gads Forlag.

Sørensen, Birgitte Holm 2002: Growing up with Interactive Media. Inspiring a New Learning Practice in Schools Children and ICT. Symposium: Living and Learning with the New Media. 28 –29 september. Edinburgh.

Sørensen, Birgitte Holm 2000: Chat and Identity – Playing with the Forms of Chat. Paper. Forum of Youth and Media Research, Sydney 26-29 November  
Sørensen, Birgitte Holm & Jessen, Carsten 2000: It isn't real - Children, Computer Games, Violence and Reality. In: Cecilia von Feilitzen & Ulla Carlsson (ed.): Children in the New Media Landscape. Yearbook 2000. The UNESCO International Clearinghouse on Children and Violence on the Screen  
Sørensen, Birgitte Holm & Olesen, Birgitte R. (red.): Børns opvækst i en digital kultur [Children's growing up in a digital culture]. København: Gads Forlag