

Teaching Portfolio - Gunver Majgaard

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Undervisningserfaring

Jeg har undervist siden slutningen af 90'erne. I første omgang underviste jeg datamatikere og informatikassistenter, dengang underviste jeg primært i operativsystemer, datakommunikation og programmering qua min baggrund som elektroingeniør. Siden 2002 har jeg undervist ingeniørstuderende på Syddansk Universitet, det har primært været IKT-ingeniør-, robotteknologi- og spiludvikling- og læringsteknologistuderende. I begyndelsen underviste jeg særligt i kurser som datakommunikation, IT-sikkerhed og programmering. Efterhånden udviklede jeg en særlig interesse for spil, læring og interaktion i samspil med nye teknologier. Dette førte til en phd-grad i robotter som digitale læremidler. Mine faglige interesser afspejles i nedenstående kurser, som jeg har undervist i de seneste tre år:

- Fysisk interaktionsdesign og tilrettelæggelse af rummelige installationer, (OB – FI)
- Læring og Teknologi (OK-LT)
- Mixed Reality (OK-MR)

Derudover vejleder jeg en række bachelor og kandidatspecialer inden for temaerne spiludvikling, læringsteknologi, Augmented Reality og Virtual Reality.

Deruden vejleder jeg ph.d.-studerende:

- Human-Robot Learning in Danish Public Schools (Lykke Bertel er afsluttet)
- Mixed Reality (Patricia Lyk)
- VR and Health (Asge Matthiesen)

Pædagogisk grundsyn: Deltagelse og refleksion

Jeg underviser primært ingeniørstuderende. Mit grundsyn på undervisningspædagogik tager udgangspunkt i aktiv handlen og deltagelse (Schön, 1983)(Wenger, 1998). De studerende lærer primært ved at deltage. Deltagelse kan foregå i form af dialog med undervisere, medstuderende eller f.eks. interessenter i studenterprojekter. Derudover kan deltagelse f.eks. foregå ved i praksis at gennemføre ingeniørmæssige designprocesser, hvor de studerende udvikler digitale prototyper til brug i fremtidens samfund. Aktiv deltagelse i faglige fællesskaber på universitetet fremmer de studerendes socialisering i ingeniørprofessionen.

Den aktive deltagelse og handlen understøttes af refleksion. De studerende reflekterer f.eks. over de projekter de udvikler, imens de udvikler dem. Men det er også vigtigt at få de studerende til retrospektivt at reflektere over, hvordan de kan forbedre og optimere udviklingsprocessen og produktet. Schön (1983, 2001) deler refleksion op i refleksion-i-handling, hvor viden, erfaring og intuition glider sammen, imens der handles. Og refleksion-over-handling, som er den efterfølgende refleksion over en proces, der er hændt og dens eventuelle konsekvenser.

Når jeg tilrettelægger min undervisning overvejer jeg altid, hvordan kan jeg nu sætte de studerende i sving, og hvordan jeg kan få dem til at reflektere.

Pædagogisk uddannelse

I 2011 afsluttede jeg min phd-uddannelse i robotter som digitale læremidler. Denne afhandling havde netop fokus på læreprocesser i samspil med robotteknologi. Derudover var der fokus på inddragelse af brugere i designprocessen af robotlæremidler.

I 2007 afsluttede jeg en masteruddannelse i IKT og læring. På denne uddannelse forbandt vi undervisning, teori om læring og IKT.

Disse to uddannelser har i særlig grad medvirket til at skærpe og udvikle min interesse for, hvordan man lærer, imens man deltager aktivt i lære- og designprocesser med teknologi som omdrejningspunkt.

Derudover har jeg gennemført pædagogikum (2003), som er en slags praktisk og teoretisk grundkursus i

universitetspædagogik.

Udvalgte aktiviteter relateret til undervisning og undervisningsudvikling

De seneste år har udviklet kurserne Mixed Reality og Læring og Teknologi. Derudover deltager jeg aktivt i den løbende udvikling af uddannelse spiludvikling og læringsteknologi.

Medlem af uddannelsesforum på TEK SDU (2020)

Vikarierende uddannelsesleder for Spiludvikling - og Læringsteknologi (2020)

Med i arrangementskomité for konferencen ECGBL – The European Conference on Games Based Learning som blev afholdt på SDU (2019)

Tovholder på udvikling af civilingeniøruddannelsen Spiludvikling - og Læringsteknologi (2009)

International koordinator for udveksling af ingeniørstuderende (2004-2008)

Uddannelsesleder Datanom fjernundervisning Lyngbyuddannelsescenter (1998-2002)

Research outputs

The Island if play – reflections on how to design multiuser VR to promote social interaction

Walther, B. K., Larsen, L. J. & Majgaard, G., 2022, (Accepted/In press) *Conference Proceedings of HCI International 2022*. Springer

Didactic Planning of VR Alcohol Resistance Training Tool for Adolescents

Lyk, P. B. & Majgaard, G., Sep 2021, *Proceedings of the 15th European Conference on Game Based Learning ECGBL 2021*. Fotaris, P. (ed.). Academic Conferences and Publishing International, p. 834-843 (Proceedings of the European Conference on Games-based Learning).

Quick and Dirty Group Testing of Mobile App for Educators Teaching Digital Literacy and Production

Majgaard, G., Sep 2021, *Proceedings of the 15th European Conference on Game Based Learning ECGBL 2021*. Fotaris, P. (ed.). Academic Conferences and Publishing International, p. 509-515 (Proceedings of the European Conference on Games-based Learning).

Virtual Reality in der Alkoholprävention: Co-Creation eines Simulationsspiels mit jungen Menschen

Stock, C., Dalgaard Guldager, J., Dietrich, T. & Majgaard, G., 9. Aug 2021, In: *Das Gesundheitswesen*. 83, 8/9, p. 762

Co-creating Virtual Reality Interventions for Alcohol Prevention: Living Lab vs. Co-design

Dietrich, T., Dalgaard Guldager, J., Lyk, P. B., Vallentin-Holbech, L., Rundle-Thiele, S., Majgaard, G. & Stock, C., 15. Mar 2021, In: *Frontiers in Public Health*. 9, 6 p., 634102.

User Experiences with a Virtual Alcohol Prevention Simulation for Danish Adolescents

Dalgaard Guldager, J., Lavasani Kjær, S., Lyk, P. B., Dietrich, T., Rundle-Thiele, S., Majgaard, G. & Stock, C., 1. Oct 2020, In: *International Journal of Environmental Research and Public Health*. 17, 19, 14 p., 6945.

Co-creating a virtual alcohol prevention simulation with young people

Vallentin-Holbech, L., Guldager, J. D., Dietrich, T., Rundle-Thiele, S., Majgaard, G., Lyk, P. & Stock, C., 9. Feb 2020, In: *International Journal of Environmental Research and Public Health*. 17, 3, 12 p., 1097.

Co-Designing and Learning in Virtual Reality: Development of Tool for Alcohol Resistance Training

Lyk, P. B., Majgaard, G., Vallentin-Holbech, L., Dalgaard Guldager, J., Dietrich, T., Rundle-Thiele, S. & Stock, C., 2020, In: *Electronic Journal of E-Learning*. 18, 3, p. 213-228

Creating a more immersive and "VR-like"360-degree video experience: Development of an Immersive and Interactive Alcohol Resistance Training Tool

Lyk, P. B., Majgaard, G., Vallentin-Holbech, L., Guldager, J. D., Dietrich, T., Rundle-Thiele, S. & Stock, C., 2020, *Proceedings of the 14th European Conference on Game Based Learning, ECGBL 2020: A Virtual Conference hosted by The University of Brighton, UK*. Fotaris, P. (ed.). Academic Conferences and Publishing International, p. 711-720

(Proceedings of the European Conference on Games-based Learning, Vol. 2020September).

Developing Digital Literacy Through Design of VR/AR Games for Learning

Weitze, C. L. & Majgaard, G., 2020, *Proceedings of the 14th European Conference on Game Based Learning, ECGBL 2020*. Fotaris, P. (ed.). Academic Conferences and Publishing International, p. 674-683 (Proceedings of the European Conference on Games-based Learning, Vol. 2020September).

Virtual experiential learning, learning design and interaction in extended reality simulations

Majgaard, G. & Weitze, C., 2020, *Proceedings of the 14th European Conference on Game Based Learning, ECGBL 2020*. Fotaris, P. (ed.). Academic Conferences and Publishing International, p. 372-379 (Proceedings of the European Conference on Games-based Learning, Vol. 2020September).

Co-designing a virtual reality game for alcohol prevention

Stock, C., Vallentin-Holbech, L., Dietrich, T. & Majgaard, G., 13. Nov 2019, In: *European Journal of Public Health*. 29, Suppl. 4, p. 294-295

13th International Conference on Game Based Learning, ECGBL 2019

Elbæk, L. (ed.), Majgaard, G. (ed.), Valente, A. (ed.) & Khalid, M. S. (ed.), Oct 2019, Dechema e.V. 1050 p.

Co-Designing an Immersive and Interactive Alcohol Resistance Training Tool Using 360-Degree Video

Lyk, P. B., Majgaard, G., Dietrich, T. & Stock, C., Oct 2019, *Proceedings of the 13th European Conference on Game Based Learning, ECGBL 2019*. Elbaek, L., Majgaard, G., Valente, A. & Khalid, S. (eds.). Academic Conferences and Publishing International, p. 450-458

Development of a Virtual Reality tool for patients with eating disorder

Matthiesen, A. F., Møllebæk, E. T. & Majgaard, G., Oct 2019, *Proceedings of the 13th International Conference on Game Based Learning, ECGBL 2019*. Elbaek, L., Majgaard, G., Valente, A. & Khalid, S. (eds.). Academic Conferences and Publishing International, p. 970-977 (Proceedings of the European Conference on Games-based Learning, Vol. 2019-October).

The Concept of the Magic Circle and the Pokémon GO Phenomenon

Larsen, L. J. & Majgaard, G., 10. May 2019, *Augmented Reality Games I: Understanding the Pokémon GO Phenomenon*. Geroimenko, V. (ed.). Springer, p. 33-50

Learning Anatomy with Augmented Reality: – learning design and app design for optimal learning

Nørgaard, C., Dyhrberg O'Neill, L., Chemnitz, J. & Majgaard, G., 31. Mar 2019, In: *Læring og Medier (LOM)*. 12, 20, 19 p.

Digital Literacy and Course Design

Majgaard, G. & Lamscheck-Nielsen, R., 2019, *Proceedings of the 18th European Conference on e-Learning ECEL 2019*. Orngreen, R., Buhl, M. & Meyer, B. (eds.). Academic Conferences and Publishing International, p. 369-377

Tilstedeværelse og flere virkeligheder – redaktørernes indledning

Majgaard, G. & Helms, N. H., 2019, In: *Læring og Medier*. 12, 20

Undervisning i programmering nu: I uddannelseskæden i Region Syddanmark. Didaktiske betragtninger

Lamscheck-Nielsen, R. & Majgaard, G., 2019

Digital dannelse på højskolen: Teknik, praksisfællesskab og transformation

Majgaard, G., 2018, In: *Læring og Medier (LOM)*. 11, 19, p. 1-23

Making video tutorials in the classroom - tacit knowledge on display

Majgaard, G. & Bertel, L. B., 2018, *HCI International 2018 – Posters' Extended Abstracts: Proceedings, Part III*. Stephanidis, C. (ed.). Springer, Vol. 852. p. 73-77 (Communications in Computer and Information Science, Vol. 852).

Students' Development of Virtual Reality Prototypes for Training in Alcohol-Resistance Skills

Majgaard, G. & Stock, C., 2018, *Proceeding of the 12th European Conference on Games Based Learning: ECGBL 2018*. Ciussi, M. (ed.). Academic Conferences and Publishing International, p. 362-370

Video Tutorial Designs for Learning: Facilitating engagement and entrepreneurship in welfare, learning and experience technology engineering students

Bertel, L. B. & Majgaard, G., 2018, *Proceedings of the 46th SEFI Annual Conference 2018: Creativity, Innovation and Entrepreneurship for Engineering Education Excellence*. Clark, R., Hussmann, P. M., Jarvinen, H-M., Murphy, M. & Vigild, M. E. (eds.). European Society for Engineering Education (SEFI), p. 605-612

Pokémon GO – A Pervasive Game and Learning Community

Majgaard, G. & Larsen, L. J., 2017, *Proceedings of the 11th European Conference on Games Based Learning*. Pivec, M. & Grundler, J. (eds.). Academic Conferences and Publishing International, p. 402-409

Seeing the unseen: Spatial visualization of the Solar System with physical prototypes and Augmented Reality

Majgaard, G., Larsen, L. J., Lyk, P. B. & Lyk, M., 2017, In: *International Journal of Designs for Learning*. 8, 2, p. 95-109

Teaching Game Programming using Video Tutorials: Teaching Game Programming using Video Tutorials

Majgaard, G., 2017.

Teaching Mixed Reality Using Video Tutorials

Majgaard, G., 2017, *Proceedings of the 11th European Conference on Games Based Learning*. Pivec, M. & Gründler, J. (eds.). Academic Conferences and Publishing International, p. 410-419

Expanding the Game Design Space: Teaching Computer Game Design in higher Education

Larsen, L. J. & Majgaard, G., 29. Jan 2016, In: *Designs for Learning*. 8, 1, p. 13-22

At se det usete - Rumlig visualisering af solsystemet med fysiske prototyper og Augmented Reality

Majgaard, G., Larsen, L. J., Lyk, P. B. & Lyk, M., 2016, In: *Mona*. 2016, 3, p. 23-40

Informal Communities for Hunter-Gatherers of Pokémons

Majgaard, G., 2016. 6 p.

8. klasse som kreative producenter af fremtidens velfærdsteknologi: konstruktionisme, problemløsning og dialog

Nielsen, J., Pedersen, R. & Majgaard, G., 2015, In: *Læring og Medier*. 8, 14, 24 p.

Humanoid Robots in the Classroom

Majgaard, G., 2015, In: *IADIS International Journal on WWW/Internet*. 13, 1, p. 72-86

Multimodal Robots As Educational Tools In Primary And Lower Secondary Education

Majgaard, G., 2015, *The 9th International Conference on Interfaces and Human Computer Interaction 22 – 24 July 2015, IADIS Multi Conference on Computer Science and Information Systems*. International Association for Development, IADIS, p. 27-34

På rejse med Virtual Reality i billedkunst: Erfaringslæring gennem kombineret fysisk og virtuel modelbygning

Majgaard, G. & Lyk, P. B., 2015, In: *Læring og Medier*. 8, 14, 26 p.

Plants vs Zombies as an Empowering Learning Machine

Majgaard, G., 2015, *The 8th International Conference on Game and Entertainment Technologies 2015, IADIS Multi Conference on Computer Science and Information Systems*. International Association for Development, IADIS, p. 271-274

Self-Assessment and Reflection in a 1st Semester Course for Software Engineering Students

Nielsen, J., Majgaard, G. & Sørensen, E., 2015, *E-Learning Systems, Environments and Approaches: Theory and Implementation*. Isaias, P., Spector, J. M., Ifenthaler, D. & Sampson, D. G. (eds.). Springer, Vol. IV. p. 263-275

Tema 1: Robotter i skolen

Helms, N. H. & Majgaard, G., 2015, In: *Læring og Medier*. 8, 14, 6 p.

Tema 2: Robotter i felten

Majgaard, G. & Helms, N. H., 2015, In: *Læring og Medier*. 8, 14, 6 p.

Fra digitalt design til fysisk udtryk – anvendelse af 3-d-printere og NAO-robotter i folkeskolen

Majgaard, G., Hansen, J. J., Bertel, L. B. & Anders, P., Dec 2014, In: *MONA - Matematik- og Naturfagsdidaktik*. 2014, 4, p. 7-26

A model for understanding and learning of the game process of computer games: Design paradigm, design space, problem-based creativity

Larsen, L. J. & Majgaard, G., 5. May 2014. 6 p.

Constructionist Prototype Programming in a First Semester HCI Course for Engineering Students

Nielsen, J. & Majgaard, G., 2014, *Human-Computer Interfaces and Interactivity: Emergent Research and Applications*. Isaias, P. & Blashki, K. (eds.). IGI global, p. 50-71

Initial Phases of Design-based Research into the Educational Potentials of NAO-Robots

Majgaard, G. & Bertel, L. B., 2014, *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction*. Association for Computing Machinery, p. 238-239

Teaching Design of Emerging Embodied Technologies

Majgaard, G., 2014, *Human-Computer Interfaces and Interactivity: Emergent Research and Applications*. Isaias, P. & Blashki, K. (eds.). IGI global, p. 188-206

The playful and reflective game designer

Majgaard, G., 2014, In: *Electronic Journal of E-Learning*. 12, 3, p. 271-280

Creating Games in the Classroom: from native gamers to reflective designers

Majgaard, G., 2013, *Proceeding of The 7th European Conference on Games Based Learning (ECGBL 2013)*. Porto, Portugal. UK: Academic Conferences and Publishing International, p. 253-258

Embodied Interaction Design in Engineering Education using Asus Xtion Pro

Majgaard, G., 2013, *Proceedings of the IADIS International Conferences Interfaces and Human Computer Interaction 2013*. Prague, Czech Republic. International Association for Development, IADIS, p. 245-248

Matematikundervisning med iPad - erfaringer og muligheder

Majgaard, G., Rønne, A. & Misfeldt, M., 2013, In: *Matematik*. 41, 3, p. 4-6

Merging Design and Implementation in a First Semester HCI-Course for Engineering Students

Nielsen, J. & Majgaard, G., 2013, *Proceedings of the IADIS International Conferences Interfaces and Human Computer Interaction 2013*. Prague, Czech Republic. International Association for Development, IADIS, p. 249-252

Picking the right interface for engaging physical activity into game based learning

Karoff, H. S., Majgaard, G., Elbæk, L. & Sørensen, M. H., 2013, *Proceeding of The 7th European Conference on Games Based Learning (ECGBL 2013)*. Porto, Portugal. UK: Academic Conferences and Publishing International, p. 261-267

Self-Assessment and Reflection in a 1st Semester Course for Software Engineering Students

Nielsen, J. & Majgaard, G., 2013, *Proceedings of the IADIS International Conference on Cognition and Exploratory Learning in the Digital Age (Celda 2013), Fort Worth, Texas, USA, October 22-24, 2013*. International Association for Development, IADIS, p. 150-158 8 p.

Surfplattematte – erfaringer og muligheder

Majgaard, G., Misfeldt, M. & Rønne, A., 2013, In: *Naemnaren*. 3, p. 36-38

Using Wiki Technology in the Classroom

Majgaard, G., 2013, *The possibilities of ethical ICT : ETHICOMP 2013 Conference Proceedings*. Print & Sign, Syddansk Universitet, p. 324-330

Abstract: Learning Processes and Robotic Systems, – design of educational tools and learning processes using robotic media and using children as co-designers

Majgaard, G., 2012, *Designs for Learning 2012: 3rd International Conference Exploring Learning Environments*. Stockholm university, Department of didactic sciences and early childhood education, DidaktikDesign, Sweden (ISSN 1654-7608), p. 49-51 3 p.

Brug af interaktive klodser i ingeniørundervisningen

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Design af computerspil i undervisningen: fra indfødt spilverdenen til reflekteret designer

Majgaard, G., 2012, In: *Læring og Medier*. 5, 9, 24 p.

Design of Trigonometry Apps for Vocational Education

Pedersen, J. B., Andersen, S. & Majgaard, G., 2012, In: *IASTED International Conference*. HCI.

The Learning Potentials of Number Blocks

Majgaard, G., Nielsen, J. & Misfeldt, M., 2012, *Towards Learning and Instruction in Web 3.0. Advances in Cognitive and Educational Psychology*. Springer, p. 289-302

Tre modeller om design af robotlæremidler

Majgaard, G., 2012, *Teknologi mennesker faglighed: muligheder og udfordringer i løsning af velfærdsteknologiopgaver*. VIA Systime, p. 79-104

Velfærdsteknologi i et samfundsmæssigt perspektiv

Majgaard, G., Ann Karin, P. & Hanne, K., 2012, *Teknologi mennesker faglighed: muligheder og udfordringer i løsning af velfærdsteknologiopgaver*. Systime, p. 14-52

Robotkæledyr, socialpædagogisk arbejde og voksne udviklingshæmmede

Jørgensen, O., Majgaard, G. & Kalsøe, H., Feb 2011, In: *Pio-nær*. 5, p. 6-7 2 p.

How Design-based Research, Action Research and Interaction Design Contributes to the Development of Designs for Learning

Majgaard, G., Misfeldt, M. & Nielsen, J., 2011, In: *Designs for Learning*. 4, 2, p. 8-21

How Design-based Research, Action Research and Interaction Design Contributes to the Development of Designs for Learning

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Læreprocesser og robotsystemer: Design af læremidler og læreprocesser med robotter som medier og børn som med-designere

Majgaard, G., 2011, 207 p.

Robotteknologi og læring - interaktion med kunstig intelligens som partner

Majgaard, G., 2011, Syddansk Universitet. Det Tekniske Fakultet.

Robotteknologi og leg som arena for tværfagligt samarbejde

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Pervasive technology in the classroom

Larsen, L. J. & Majgaard, G., 2010, *Global Learn Asia Pacific 2010: Global Conference on Learning and Technology*. Association for the Advancement of Computing in Education, 8 p.

Design based action research in the world of robot technology and learning

Majgaard, G., 2010, *The Third IEEE International Conference on Digital Game and Intelligent Toy Enhanced Learning: DIGITAL 2010*. IEEE Press, p. 85-92 8 p.

Robot technology and numbers in the classroom

Majgaard, G., Nielsen, J. & Misfeldt, M., 2010, *Cognition and Exploratory Learning CELDA 2010*. International Association for Development, IADIS, p. 231-234 4 p.

Legepladsen i klasseværelset: robotten som omdrejningspunkt for læreprocessen

Majgaard, G., 1. Oct 2009, In: On Edge. 1, 2, p. 11-13 3 p.

AN OUTLINE OF INTERACTION TYPES IN PHYSICAL SERIOUS GAMES

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Playtesting The Digital Playground

Majgaard, G. & Jessen, C., 2009, *PROCEEDINGS OF THE IADIS INTERNATIONAL CONFERENCE GAME AND ENTERTAINMENT TECHNOLOGIES 2009: part of the IADIS MULTI CONFERENCE ON COMPUTER SCIENCE AND INFORMATION SYSTEMS 2009*. Blashki, K. (ed.). International Association for Development, IADIS, p. 87-92 7 p.

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Eksempler på robotter i en læringsammenhæng

Majgaard, G., 2009, In: On Edge. 3, p. 11 16 p.

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Majgaard, G., 2009, *Cognition and Exploratory Learning in Digital Age*. Ukendt, K. & Sampson, D. G. (eds.). International Association for Development, IADIS, p. 10-17 7 p.