PhD Defense by Heidi Hautopp

20th of April 2022

OVERVIEW OF RESEARCH PROJECT

RESEARCH AFFILIATION

Department of Culture and Learning, Aalborg University (AAU)

Research Lab: IT and Learning Design (ILD-Lab)

Main supervisor:
Professor, Rikke Ørngreen,
Aalborg University (AAU)

Assistant supervisor:
Professor Morten Misfeldt,
University of Copenhagen (KU)

ARTICLE-BASED DISSERTATION

- **Paper 1:** Hautopp, H., and Ørngreen, R. (2018). A Review of Graphic Facilitation in Organizational and Educational Contexts. Designs for Learning, 10(1), 53–62. DOI: http://doi.org/10.16993/dfl.97 (published).
- **Paper 2:** Hautopp, H. (2022). The Lazy Netflix B: An Ethnographic Study on the Use of Humour and Visual Metaphors in Teaching Graphic Facilitation (under 2nd round of review by Journal of Designs for Learning).
- **Paper 3:** Hautopp, H., and Ørngreen, R. (2022). From training to practice: Long-term perspectives and effects of teaching graphic and visual facilitation to employees (submitted for review by Journal of Visual Communication).
- **Paper 4:** Hautopp, H., and Ejsing-Duun, S. (2020). Spaces of Joint Inquiry Through Visual Facilitation and Representations in Higher Education: An Exploratory case study. Electronic Journal of ELearning, 18(5), pp. 373-386. https://doi.org/10.34190/JEL.18.5.001 (published).
- **Paper 5:** Hautopp, H., and Buhl, M. (2021). Drawing as an Academic Dialogue Tool for Developing Digital Learning Designs in Higher Education. Electronic Journal of E-Learning, 19(5), pp. 321- 335. https://doi.org/10.34190/ejel.19.5.2466 (published).
- **Paper 6:** Hautopp, H. (2021). The process from teaching to assessing students' designerly and creative ways of working in higher education. In: Proceedings of ICERI2021 Conference 8th-9th November 2021, pp. 6906-6924 (published).

Agenda of the presentation

Drawing Connections
- Background and motivation
- Research question

An Exploration
- Research design
- Methodological and theoretical frame work

Graphic and Visual Facilitation
- Literature review – a direction for the research project
- Elaboration of the field of research

Organisational and Educational Contexts
- Findings
- Conclusion and contribution

Brief introduction to graphic facilitation

- Graphic facilitation is often used to describe **what professionals do when visually representing group processes**
- Graphic facilitation was **initiated by a group of California-based consultants in the 1970s** (Sibbet, 2001)
- The method is **inspired by the ways in which designers and architects utilise visualisations** and sketching methods
- Graphic facilitation is **interpretive**, as the graphic facilitator listens to the story in the conversations, translating verbal and nonverbal inputs into visual forms
- **The purpose is not to depict reality;** instead, it is about representing ideas and icons in relation to other ideas illustrated in real time on the basis of participants' contributions
- Demands on drawing techniques to **be quick and easy to draw**
- Having a **symbolic significance**, and **being familiar to both the** also ensuring that the communication at hand is addressed
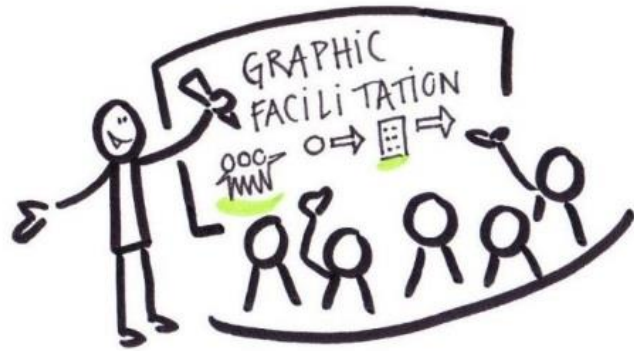
Visual display
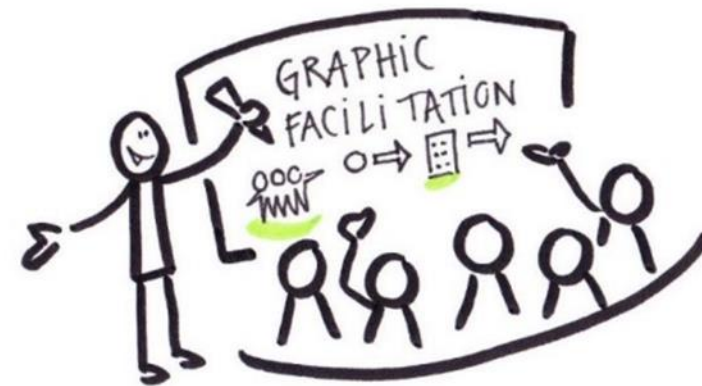
Facilitator

Participants

(Sibbet, 2001; Tyler et al., 2005; Valenza and Adkins, 2009; Smith, 2014; Madsen and Frank, 2014; Nielsen et al., 2016)
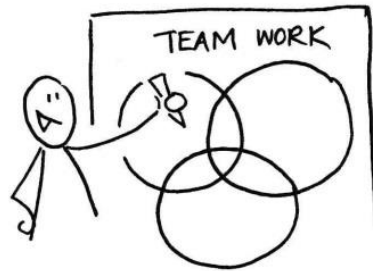
Different roles

Presentation drawings

Graphic recording

Graphic facilitation: Live drawing while facilitating

Visual templates

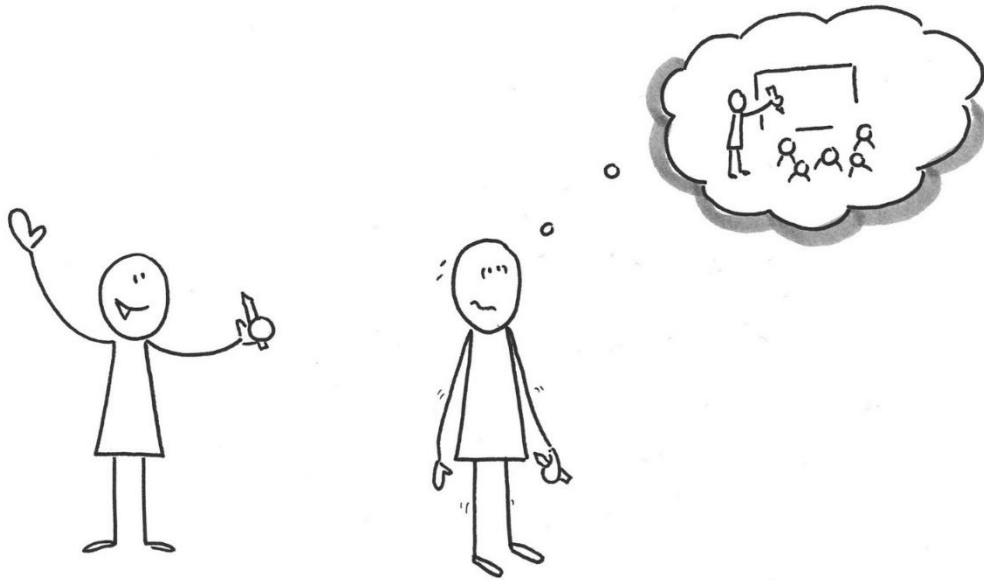# Background and motivation

- Graphic facilitation and visual facilitation – an emerging field, but there is a lack of empirical research within the field

- Design practices enter new interdisciplinary domains → a need for students to adapt concrete design methods when developing ideas

- Explore the possibilities of using graphic and visual facilitation in Higher education, especially within Humanities
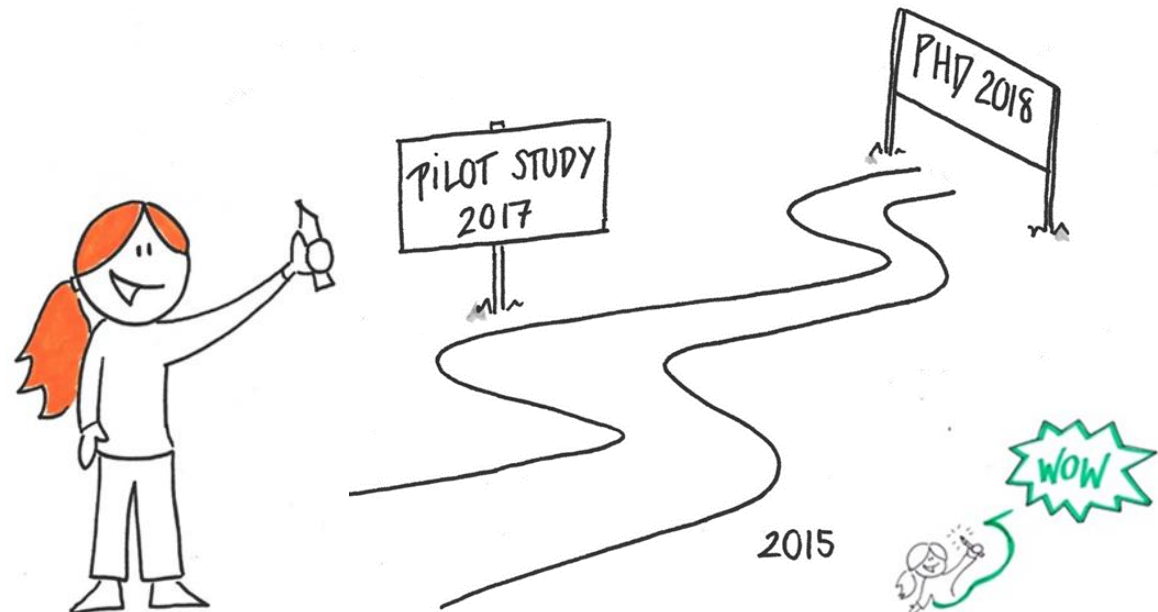
Teaching dilemma: "I want to draw – I cannot draw"

*"It would be **overwhelming** for me to stand in front of my employees and draw"*

*"It would be nice to get more practice in actually **doing** graphic facilitation during presentations"*

*"There is somebody who always takes the pen and just starts drawing. **Someday**, I would like that to be me".*

Experiences also reflected in practioners' handbooks
(e.g. Agerbeck, 2012; Pohl, 2019)

Pilot study: 2017
Teaching experimentation: 2015 - 2018

Challenging academic practice in Humanities
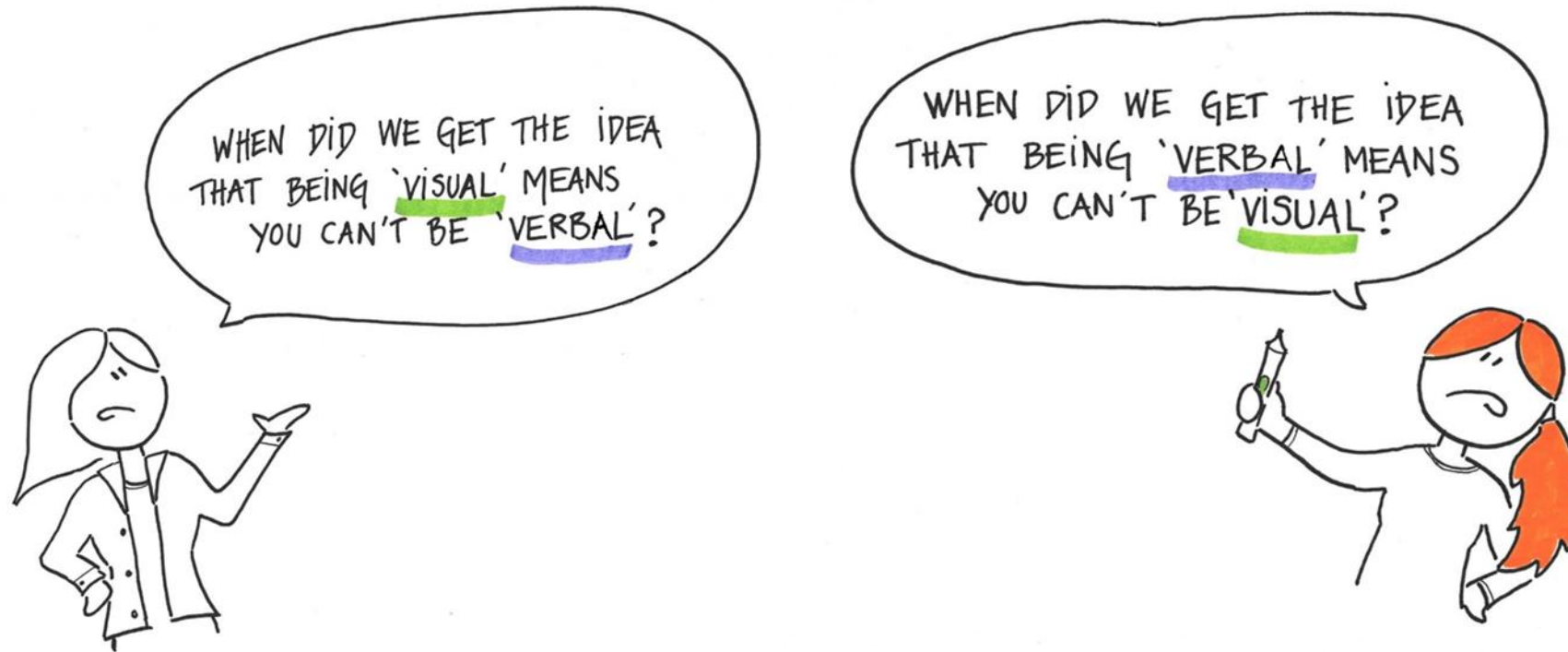
Professor in Design and Arts, Nathalia Ilyin (2019): "*Writing for the Design Mind*"
- Traditional division of students into 'verbal' or 'visual' – 'academic' or 'practical'

Research question:

How is graphic and visual facilitation being practised and how can graphic and visual facilitation support design exploration in higher education?

Aim: To investigate the method of graphic and visual facilitation in organisational contexts and explore the potentials of teaching this method in higher education, especially within the humanities, challenging this area which traditionally relies upon oral and written language (e.g. Mirzoeff, 2000; Bowen and Edwards, 2015).

Learning and teaching

- As this PhD project aimed at drawing connections from organisational context to a higher educational context, there was a focus on **learning processes and teaching processes from both teacher's and learners' perspective.**

DRAWING CONNECTIONS

HE CONTEXT
- HUMANITIES
- CROSS-DISCIPLINARY

DESIGN SKETCHING

ORG. CONTEXT
- MEETING CULTURE

GRAPHIC AND VISUAL FACILITATION
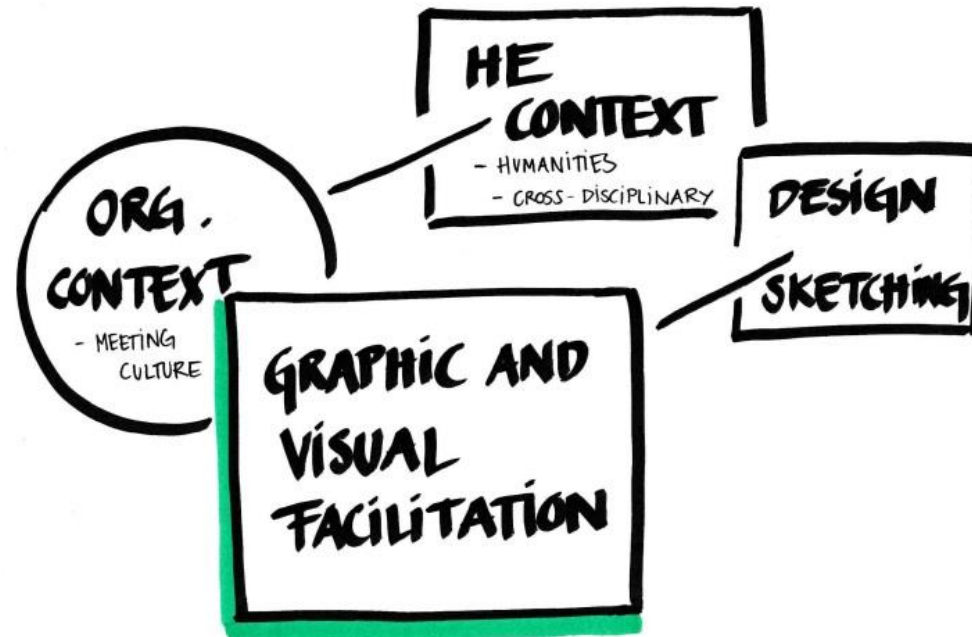
Exploring possibilities and implications: Tap into the the emerging practice in organisational contexts in order to *explore* and *develop* the practice in higher educational contexts

Research design
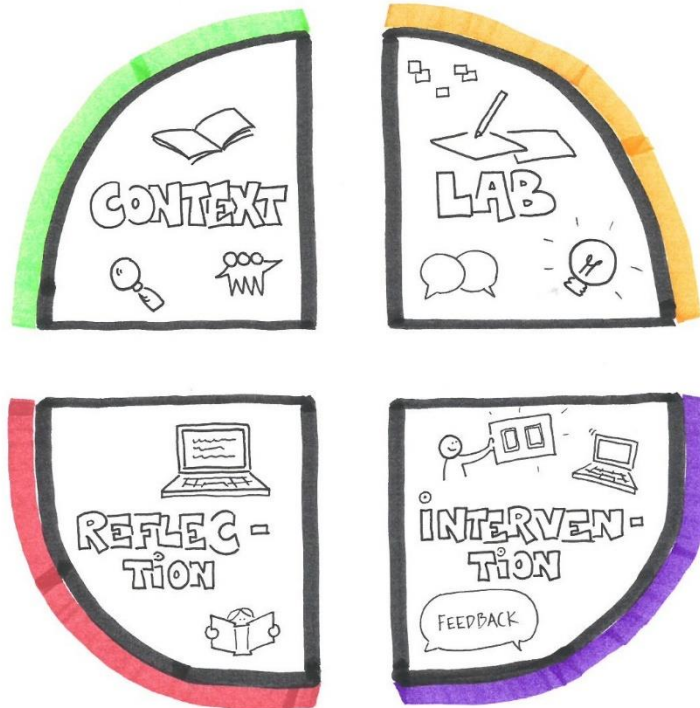
Design Based Research (DBR) is an approach to research which focus on both **understanding and developing** learning environments

Design experiments are claimed to be a core means of inquiry in the research tradition of DBR

As a central part of design based research, it is crucial to examine the *context* in order to targeting interventions

1. **Context phase:** Domain research e.g. through literature review and fieldwork
2. **Lab phase:** Development of educational designs e.g. through design framework and prototyping
3. **Intervention phase**: Test of educational design in practice involving analysis and redesign in iterative processes
4. **Reflection phase:** Documentation of results, theory generation and reporting

(Brown, 1992; Barab and Squire, 2004; Anderson and Shattuck, 2012; Christensen et. al., 2012)

Research design in relation to research question

RQ 1: How is graphic and visual facilitation being practised?

Paper 1: A Review of Graphic Facilitation in Organizational and Educational Contexts (Hautopp and Ørngreen, 2018)
Approach: *Literature review and desk research*

Paper 2: The Lazy Netflix B: An Ethnographic Study on the Use of Humour and Visual Metaphors in Teaching Graphic Facilitation (Hautopp, in review)
Approach: *Fieldwork following two professional graphic facilitators' teaching basic courses, follow up interviews*

Paper 3: From training to practice: Long-term perspectives and effects of teaching graphic and visual facilitation to employees (Hautopp and Ørngreen, submitted for review)
Approach: *Interviewing three employees who have attended a basic course in graphic facilitation – two interviews eight months and two years after completing the course*

CONTEXT

RQ 2: how can graphic and visual facilitation support design exploration in higher education?
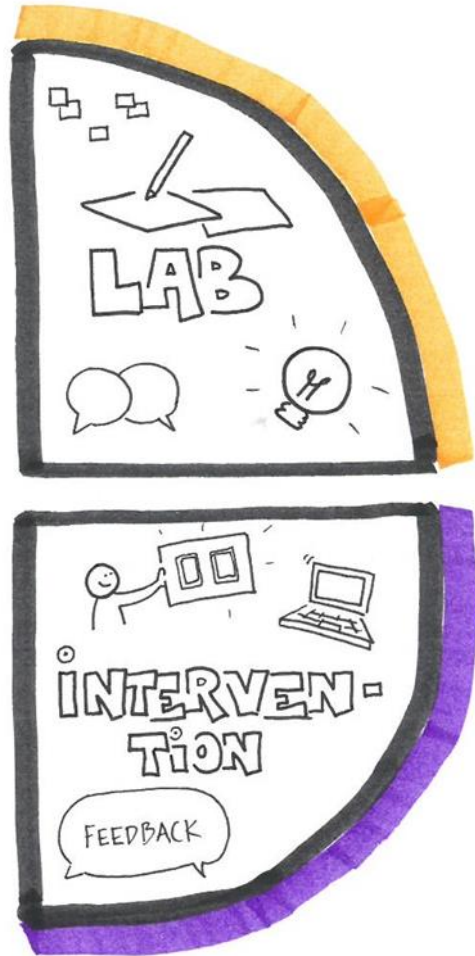
Paper 4: Spaces of Joint Inquiry Through Visual Facilitation and Representations in Higher Education: An Exploratory case study (Hautopp and Ejsing-Duun, 2020)
*Approach: Teaching observations in **2018**, students' videos of play sessions and visual productions, students' reflection papers, written and oral evaluations (15 students)*

Paper 5: Drawing as an Academic Dialogue Tool for Developing Digital Learning Designs in Higher Education (Hautopp and Buhl, 2021)
*Approach: Teaching observations in **2019**: students' visual productions, post-course group interviews (9 groups, 27 students)*

Paper 6: The process from teaching to assessing students' designerly and creative ways of working in higher education (Hautopp, 2021)
*Approach: Teaching observations in **2019**: Observation of students' final group examination, students' visual productions and interview with examiner (6 groups, 30 students)*

Primary empirical foundation

- Interviews with 7 graphic facilitators
- Participation in EuViz Conference 2018
- GF workshop – analogue/digital focus
- Attending GF/VF courses, network meetings and free hand drawing courses

1. Literature review
2. Fieldwork: Basic graphic facilitation couse / follow up interview with teachers
3. Interview with employees – 8 month and 2 years after course

- Design experiments with students from other Master programmes
- LFP, MIL, MDO (AAU)
- Master's students from Design School Kolding

Teaching observations and students' visual – and video productions:
4. Students' reflection papers, written and oral evaluations (15 students)
5. Post-course group interviews (27 students)
6. Observation of final group exams (30 students)

The twofold function of Design Based Research

1) DBR as the overall approach in the PhD project

1) DBR approach in each design experiment

2) DBR approach as a teaching frame

Theoretical framework – main perspectives
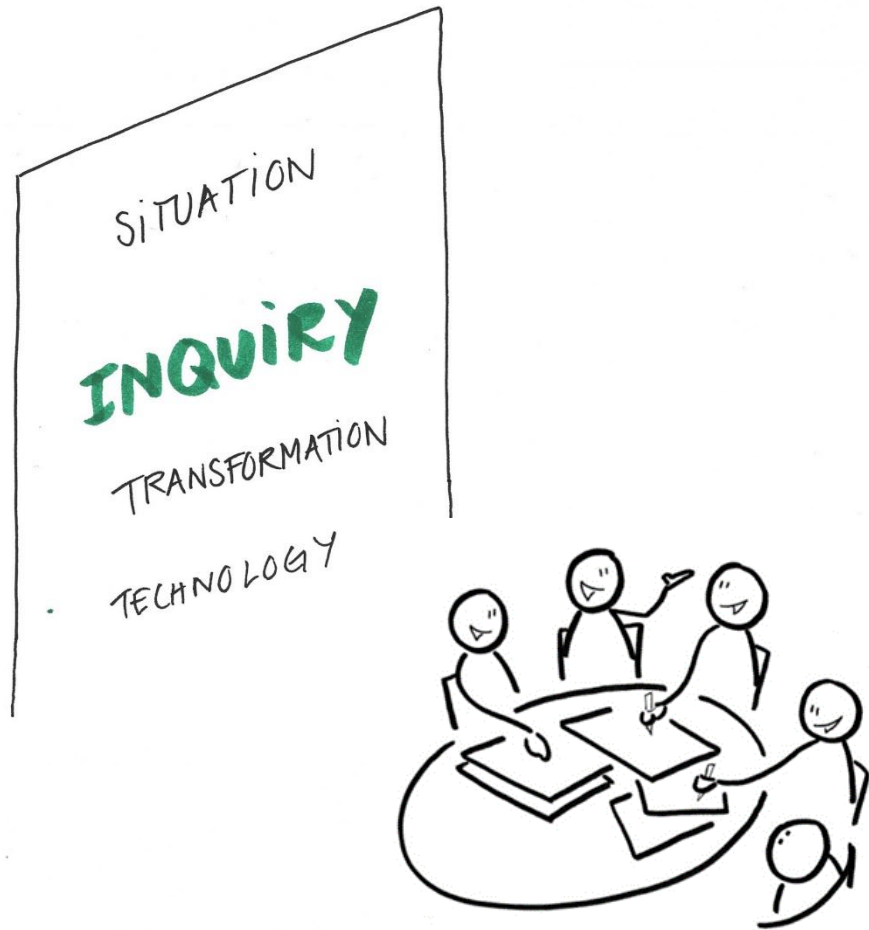
Research project based on Pragmatism:

- The primacy of practice - theory and practice as intertwined

- **The reflective practioner** (Schön, 1983) going into a conversation with the situation – based on the architect field, broadened to orther professions

- Acknowledgement of *knowing-in-action, reflection-in-action and reflection-on-action*

- **Theories as tools** to reflect on experiences in practice

(Dewey, 1922; Schön, 1983; 1992; Brinkmann, 2012)

Inviting theories into dialogue around a *design table*

Inspired by lecturer from university college Absalon, Marie Neergaard, who has written about dialogical education (Neergaard, 2021).

- **For me:** An illustrative way of describing how we as researchers combine theoretical perspectives by inviting these into a conversation based on our own empirical experiences and involvement with the theories.

- Connecting personal experiences to the work of others (Brinkmann, 2012)

About writing PhD thesis – inviting theories/the work of others to **a dinner party:**

- "*As host to this party, she makes space for the guests to talk about their work, **but in relation to her own work.** Her own research/thesis is never disconnected from the conversation, for after all it lies on her table. It is part of the food the guests eat, chew and digest*" (Kamler and Thomson, 2006, p. 7)

Drawing as a *Research approach*

1. **Exploration of drawings as a means of doing visual research** (Inspired by e.g., Harper, 2002; Pink, 2007; Causey, 2016; Leavy, 2020)

2. **Exploration of drawings as a means of development of educational designs** (Inspired by the design field, e.g., Schön,1983; Goldschmidt, 2003: Olafsson and Sjölen, 2007; Twersky and Suwa, 2009) **(Examples under Findings)**

3. **Exploration of drawings as a means of research presentations** (Inspired by the graphic and visual facilitation field, e.g., Sibbet; 2008; Ovist-Sørensen and Baastrup, 2019; Frank and Madsen, 2020) **(Examples under Findings)**

Exploration of drawings as a means of doing visual research – *examples from research*
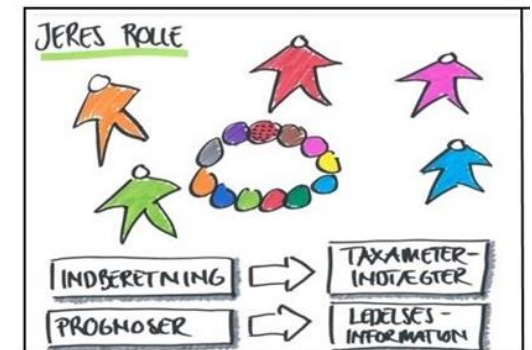

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1B

2
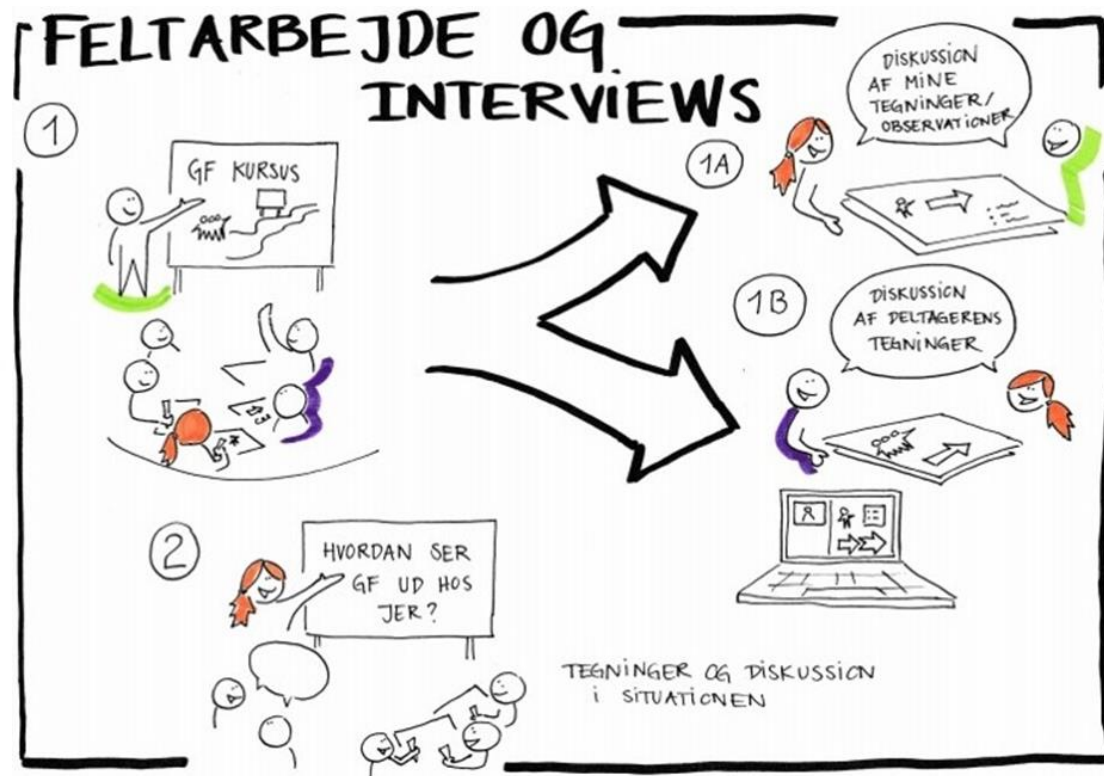
'Ground the interview in experiences'
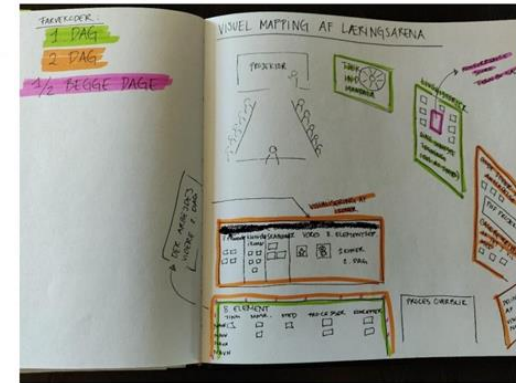
Paper 1: Hautopp, H., and Ørngreen, R. (2018). A Review of Graphic Facilitation in Organizational and Educational Contexts

Paper 1 contributes towards ***identifying a research gap in the field of graphic facilitation***. Thus, it was an outset for conducting the research project

The results from the literature review were presented in three themes that were analysed in preparation for **further research**:

1. Graphic facilitation: analogue drawing techniques, icons, and models
2. The graphic facilitator: roles, responsibilities, and dominant concepts
3. Design sketching as a concept in graphic facilitation

Moreover, two additional perspectives for future research were presented:

- A pragmatic approach and social learning perspectives in graphic facilitation
- Graphic facilitation and digital possibilities

Highlighted focus

Paper 1: Hautopp, H., and Ørngreen, R. (2018). A Review of Graphic Facilitation in Organizational and Educational Contexts

- **The analogue drawing techniques are referred to as the typical way of doing graphic facilitation** and the drawing activity in graphic facilitation is typically performed by the facilitator based on the dialogue with participants.

- Practitioners within the field point to an awareness of the facilitators' definition power in dialogues with the pen at hand (Nielsen et al., 2016) and **advocate for distributing the pen to participants**, which echoes advice from other practitioners (Blijsie, Hamons and Smith, 2019).

- However, there is a *lack of long-term perspectives on distributing the roles in graphic facilitation* (Paper 1). This research project contributes to the development of the roles in graphic and visual facilitation by placing an emphasis on the *participants as active drawers* (Paper 3) in meetings and group processes (Papers, 4 – 6)

Paper 3: Hautopp, H., and Ørngreen, R. (2022). From training to practice: Long-term perspectives and effects of teaching graphic and visual facilitation to employees

The study provided insights to the knowledge about how employees incorporate visual methods in their own work practices as they *transition from training to practice.*

- All employees used graphic facilitation in their work throughout the two years – and were also **known as 'the drawer'** in their companies helping other colleagues to prepare for meetings

- The result of the study found that graphic facilitation was valuable for giving new insights into and **overviews of work processes and tasks, and was used to create common ground and goals.**

- The drawing practices allowed the employees to show and use various parts of their academic competences, such as *creative, humorous and informal aspects* in their professional lives.

- The employees utilize their **contextual knowledge about the organization** to aid the process and **where sensitive to different groups' needs and personal preferences.**
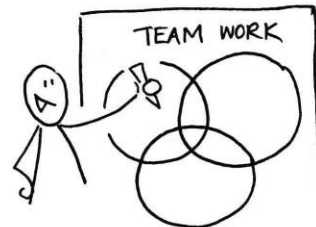
Different roles
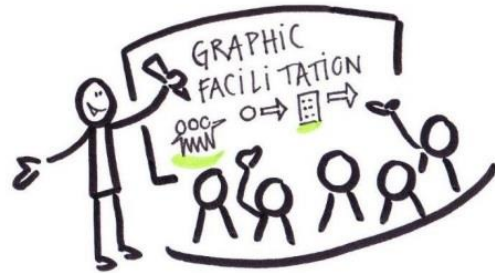
Graphic facilitation: Live drawing while facilitating
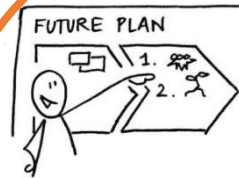
Presentation drawings

Visual templates

Based on the different visual formats in GF, the findings show that the trainees typically used **visual templates or presentation drawings** in their facilitation of meetings.

Thus, **the research project supports the inclusion of various visual formats** as part of graphic and visual facilitation practice.

However, the study also illuminates a request from trainees for further practice in doing both during meetings, as they may feel challenged when live drawing: "*I had drawn it beforehand. And I had that because **my ability to draw is still not where it's something I throw myself into to doing**, not in a big way at least.*"

Suggestion for further research and awareness
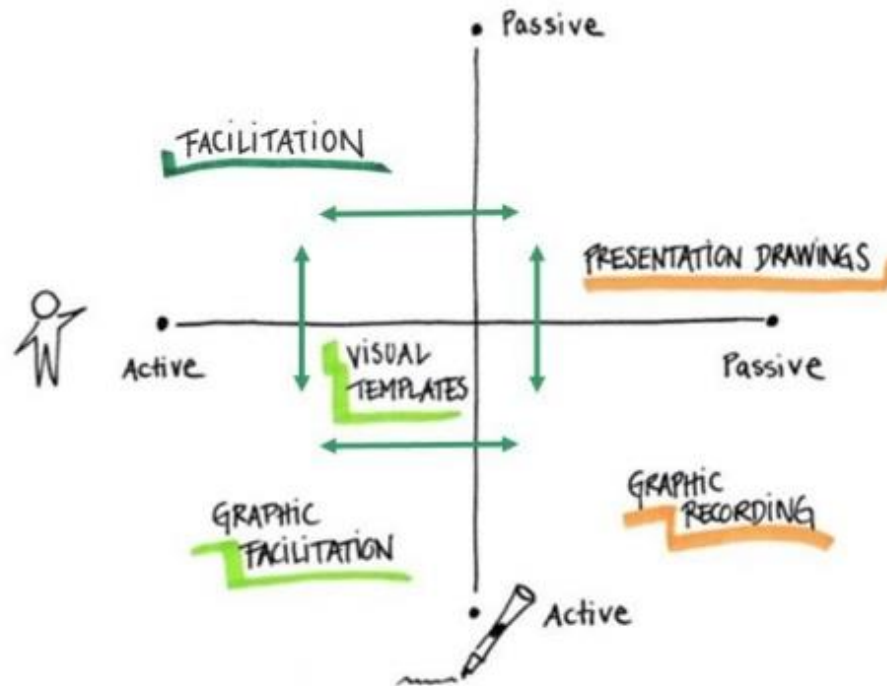
A need for teaching that focus on both **drawing and facilitation skills combined**

Exploration of drawings as a means of research presentations – *examples of results from Paper 2*
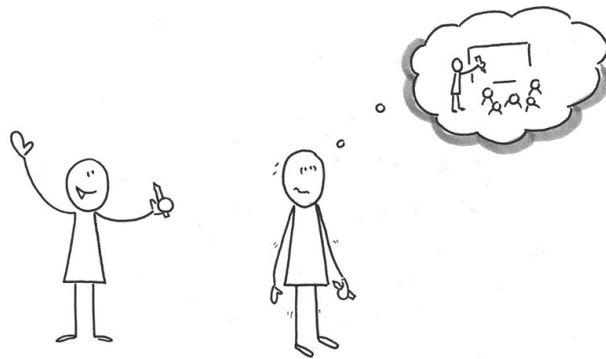
'The teaching dilemma'

Focus on the teacher's role – didactical considerations

The primary research question of the study: *How are teaching situations in basic graphic facilitation courses framed and reframed by teachers and participants?*

Paper 2: Hautopp, H. (2022). The Lazy Netflix B: An Ethnographic Study on the Use of Humour and Visual Metaphors in Teaching Graphic Facilitation

Content:

- **Identification:** the emergence of play and humour as social signals among teacher and participants.

- **Analysis:** Two empirical examples of how the emergence of play and humour were **built up throughout the courses as social memories** carried out and refined by teacher and participants.

- Afterwards, the **teachers' reflections on the use of humour and visual metaphors** in the graphic facilitation courses were analysed

When the shit hits the fan

The Lazy Netflix B

Teacher's consciously use of humour and visual metaphors – example: The Lazy Netflix B

*"I continuously try to **implement something crazy** which we can laugh about [...] then there will be enjoyment and remembering of a good time"* (Teacher, graphic facilitation)

The Lazy Netflix B

Teachers' important role: initiating, acknowledging, and supporting the use of humour in the teaching situations

Participants in the courses:

*"If you are not a person cracking jokes, then the **visuals themselves often give something to laugh about**, because of the childish drawings. **You can almost not avoid joy and laughter** [...] so if you as a teacher do not use humour to begin with, it will eventually start, because it evolves continuously together with the visuals and with what people bring to the table."* (Teacher, graphic facilitation)

'It could look like a toilet paper roll, but actually it is the agenda for the meeting'

'It was supposed to look like a dandelion, but it looks like a toilet brush...'

Didactical consideration from teachers

Awareness:

"one visual image can take up too much space in a teaching session, this is both the strength and weaknesses of visuals […] that it can take up too much space in relation to other learning content'.

Handling recurring dilemma from participants:

"how can I stand up and be serious and professional during my presentations when I have made these funny drawings?"

Draw quick and ugly:

Being a teacher in graphic facilitation is not a place to show 'how good you can draw', which might be an aim when doing, for example, professional graphic recording work → The teachers consciously draw 'ugly' to invite participants into an exploratory mode of developing their own personal drawing style.

Elaboration of the field of research

- Literature review only used "graphic facilitation" OR "graphic facilitator"
- Further investigation – EuViz Conference 2018
- **Two anthologies broadening the field:** 'Beyond the paper- virtual and visual' and 'Intersections with other fields' (e.g. Visual facilitation in 3D) (Blijsie, Hamons, and Smith, ed., 2019; Agerbeck, Bird, Bradd and Sherpherd, ed. 2016)
- **Identification of convergence** between the use of the concepts
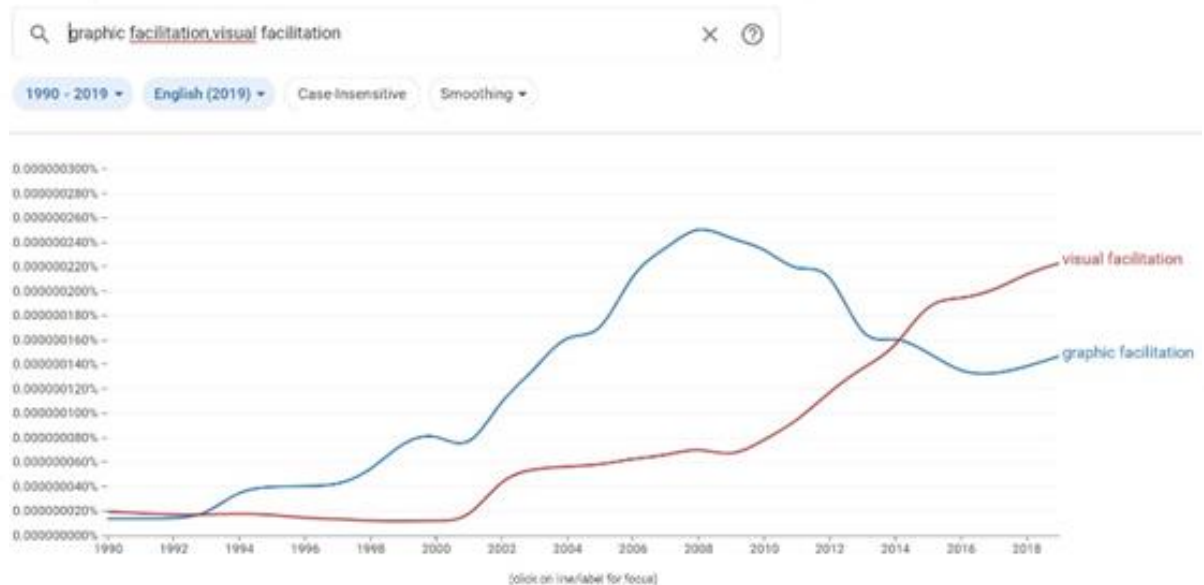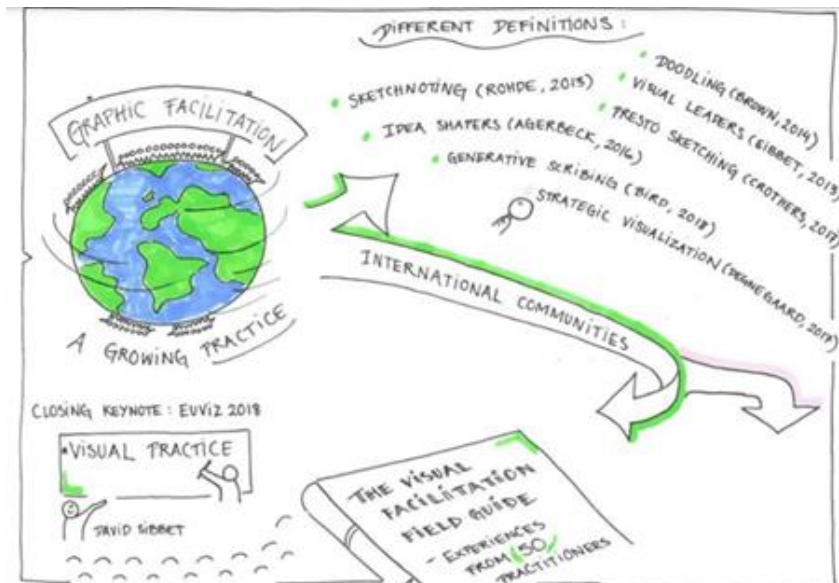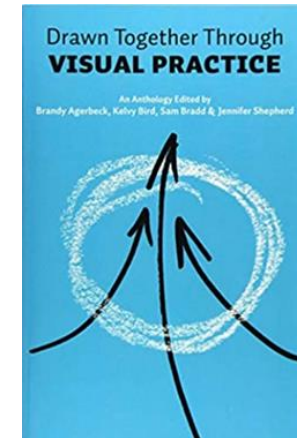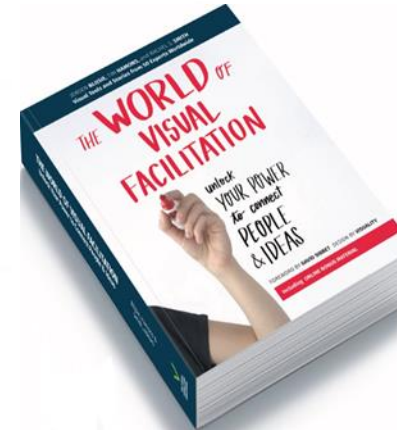
Publication by Danish authors – uses both 'graphic' and 'visual' facilitation

Publications in Danish

DEN VISUELLE LÆRER

GRAFISK FACILITERING

2014

2016

Tegn mere sammen

Hvordan visualisering kan styrke måden, du tænker, kommunikerer og samarbejder på

2019

PROFESSIONEL VISUEL FACILITERING

2020

KORT&GODT OM GRAFISK FACILITERING

2021

Publications in English

lise grastrup draw

up your game with professional graphic facilitation skills

2018

Visual Collaboration

A Powerful Toolkit for Improving Meetings, Projects, and Processes

WILEY

2019

DRAW TO LEARN

NANNA FRANK & ANNE MADSEN

2020

PROFESSIONAL VISUAL FACILITATION
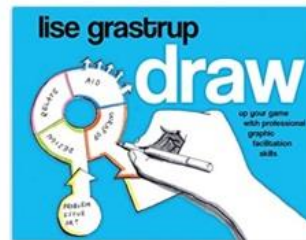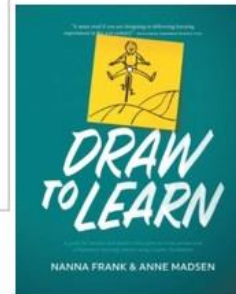
2021

Decision to include both 'graphic' and 'visual' facilitation as part of the field of research object

Findings relating from organisational contexts to higher educational contexts

The messy (research) reality – Frayling (1993, p.3): "*research involves irrationality, craftsmanship knowledge and negotiation with reality rather than hypothesising about it*"
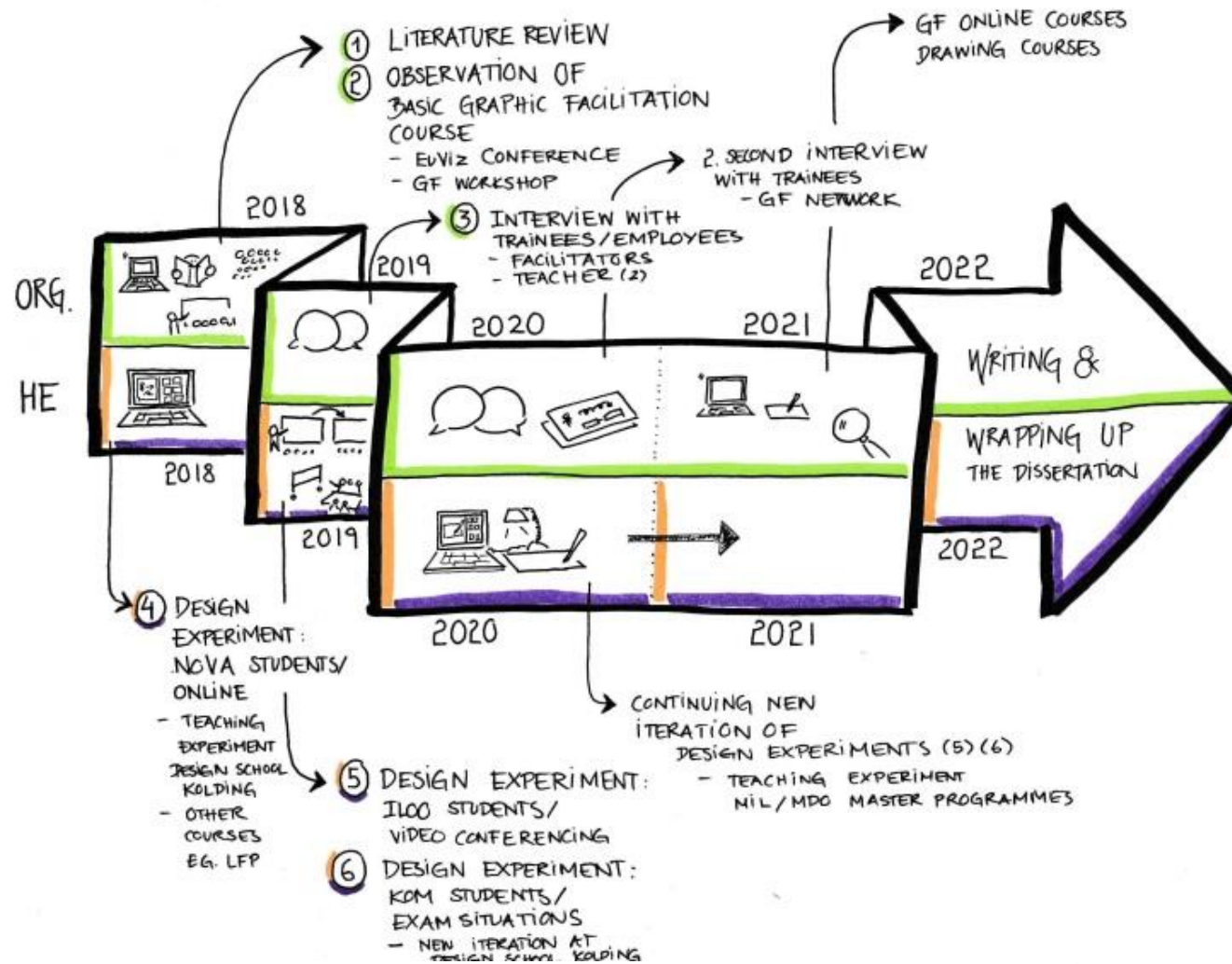
Transition from organisational to higher educational context

Van Vree (2011): Nuanced meeting formats have increased

- *"Having to meet has become **the fate** of civilized people"*

- The meeting paradox

From an intellectual historical perspective (Thorup, 2019), it can be argued that visual facilitators' arguments for using graphic facilitation try to **transgress the conventional ideas about meetings**.

SO THE NEXT MEETING WILL BE AT....

*"**Learning how to participate in meetings** has become an important part of the rearing and education of the young"* (Van Vree, 2011, p.252)

Transition from organisational to higher educational context

"Creation of common futures together"

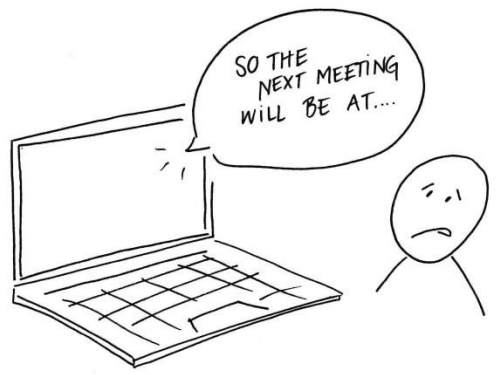Anyone who wants to **participate in society** with some degree of success needs to know and be able to apply elementary meeting rules, and to have mastered the **type of language spoken in meetings**" (Van Vree, 2011, p.252).
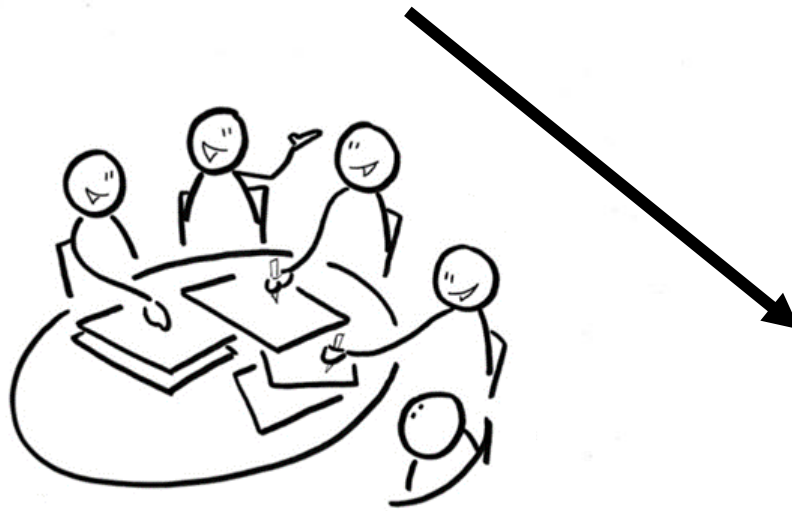
Problem-based Learning

Self-directed learning in groups (Savin-Baden,, 2003)

Facilitation skills are an important part of the professional repertoire for the students to develop in relation to problem-based learning (Newmann, 2005, p.16), cf. relation to findings in Paper 3

"The group work includes aspects such as **knowledge sharing, collective decision-making, academic discussions, action coordination and mutual critical feedback**" (AAU PBL Model, 2015, p. 4-5)

Transition from organisational to higher educational context

Problem-based Learning (PBL)

The purpose of PBL is for students to **develop 'criticality'**, meaning emotional, intellectual and practical independence (Savin-Baden, 2003)

Self-directed learning that support critical thinking (Brown, 1992)

Martha C. Nussbaum (2016): Not for profit – why democracy needs humanities

- provide skills of critical thinking and imagination
- Foster thinking that does not only rely on logic and rationality alone

Hartmut Rosa (2019): Resonance

- In modern society's focus on constantly optimisation, people are seeking for *resonance*
- **A relationship to the world**, formed through affect, emotion, self-efficacy
- Nature, art, and religion are **constitutive** resonant spaces
- Resonance: "**is not identical to pleasure or positive affect**; things that we find stimulating and fulfilling can be a source of stress or ambivalence. It is not simply opposed to alienation, but also interrelated with it" (Felski, 2020, p.2).

How did I go from insights from organisational contexts to exploration in higher educational context?

The quick and ugly drawings – *show* students the process from rapid sketching to presentation drawings

2015: From theory to practice….pragmatism??   **2019:** From exploratory to explanatory mode

Adventure of thought: Drawing as a way to slow down the pace in academia, support creative and holistic ways of working

Exploration of drawings as a means of developing educational design – *examples from teaching*
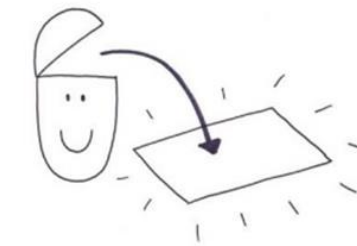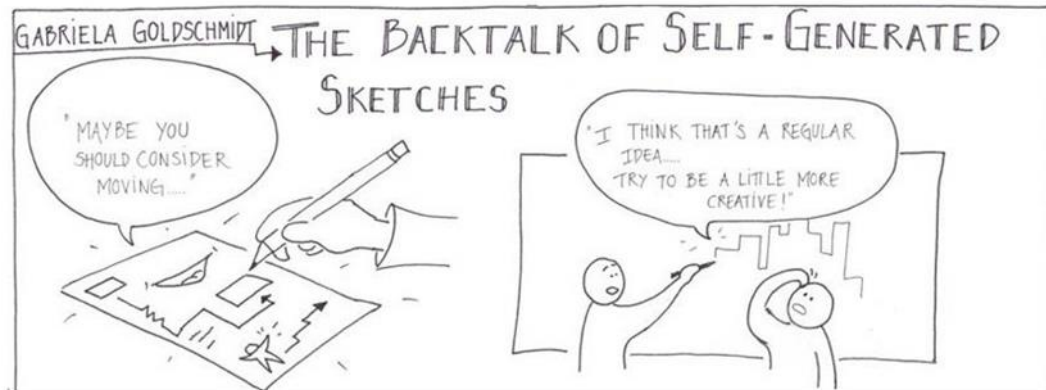
The use of drawings

- Introducing **drawing as an academic dialogue tool** (papers 5 and 6)
- To show the process from sketching to presentation drawings
- To visualise main points within the pragmatic approach to materialisations

How did I go from insights from organisational contexts to exploration in higher educational context?

The use of document camera - *the drawing exercises shown from a position relatable to the students' working positions in groups*

How did I go from insights from organisational contexts to exploration in higher educational context?

The use of mobile design walls – *an explicit focus on the documentation of students' inquiry processes* (paper 6)

"Visual learning arena" (fieldwork)

Stationary design wall (2018)

Mobile design wall (2019)
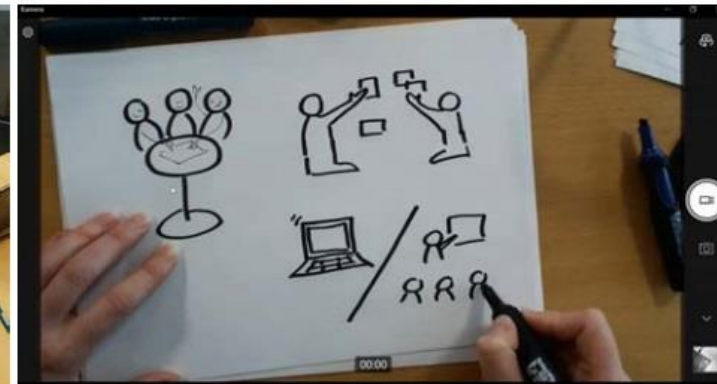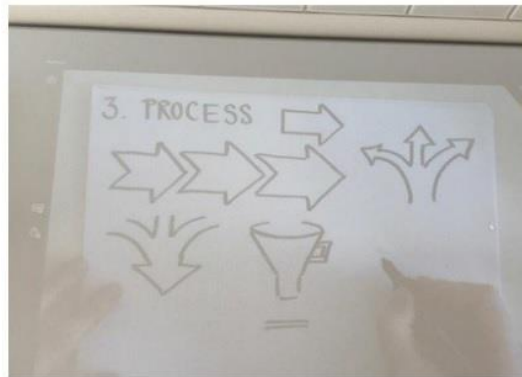
Reflections from an examiner regarding the students' use of visual materials in exam situations

'*When students bring materials into the examination room, it provides an opportunity for me to ask some questions and **gain insights into their design processes** that would otherwise be invisible to me as an examiner. The visual materials becomes objects that makes it possible to **go into dialogue around the phenomenon of 'inquiry'.** They give a more profound understanding of the way, the students have negotiated through the materials (...) **Often the present of materials in the exam situations can trigger students' memory and then they can refer to them'.***
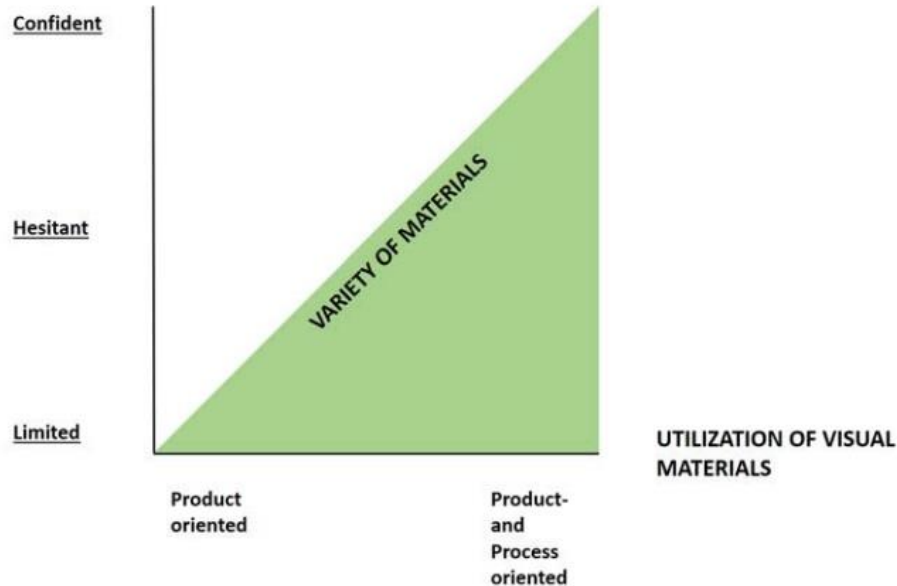
(Interview with Teacher/examiner, Paper 6)

Mobile design wall (2019)

The students' different approaches to utilization of visual materials in the exam situations (Paper 6)

STUDENT GROUPS'
APPROACHES

Confident

Hesitant

VARIETY OF MATERIALS

Limited

UTILIZATION OF VISUAL
MATERIALS

Product
oriented

Product-
and
Process
oriented

Limited approach: *Student groups brought their final redesign, but not other visual materials they have worked with during the course.*

Hesitant approach: *Student groups brought different visual materials such as early sketches, prior design ideas and photos from interventions. But hesitated using them in the exam situation*

Confident approach: *Student groups brought different visual materials such as early sketches, prior design ideas and photos from interventions and actively referred to the visual materials along the examination, exemplified in pointing to the design walls*

The students' different approaches to utilization of visual materials in the exam situations (Paper 6)

- The different student approaches should not be understood as closed categories, but as **a continuum where the approach can be identified from primarily product oriented to both process and product oriented**.

- The model can be used by teachers and examiners as **awareness points** in order to support students in showing and articulating their design processes in the exam situations.

- As one of the examiners argued: '*It is these types of experiences that the students with good reason do not have a language for, **because they are not usually taught in these inquiry approaches**'*

- The examiners had an important role of acknowledging and supporting the students' use of visual materials in the exam situations.

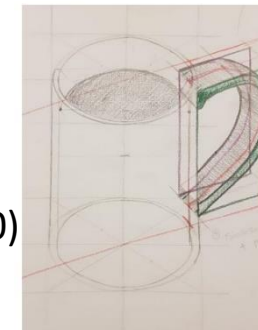# Graphic and Visual facilitation vs. the Design and Architecture field – *from context investigation*

GF/VF in relation to field of Humanities

- **A combination of drawing and words** = GF/VF (e.g. Nielsen et. al., 2016)

- The act of drawing is **process-oriented** (Agerbeck, 2012), concerned with the discussion of concepts in groups

- **PBL activities** – focus on group processes and peer-feedback

Sketching in relation to the field of Design and Architecture

- **Drawing and talking** = the 'language of designing" (Schön, 1983)

- The act of drawing is **product oriented**, i.e. focused on the development of a specific product.

- Focus on feedback with teachers and external stakeholders (Desk-crit and pin-ups, Hyam, 2020)

A combination of graphic and visual faciliation and design sketching

My working hypothesis : *a combination of graphic and visual facilitation and sketching can provide an operationalisation of pragmatic inquiry perspectives for humanities students to enter design exploration in higher education.*

WORKSHOP 1

- Initial drawing exercises – *ideas from head to paper*

- Focus on idea generation, sketching

- Investigative and exploratory modes

- Theories: e.g. Goldschmidt, 2003; Twersky & Suwa, 2009; Hansen & Dalsgaard, 2012

WORKSHOP 2

- From initial sketching phase to presentation drawings, prototypes

- Focus on presentation, visual facilitation - feedback session

- Explanatory and (persuasive) modes

- Theories: e.g. Qvist-Sørensen and Baastrup, 2020; Causey, 2017

WORKSHOP

- From static drawings and photos to animation based sketching

- Focus on temporal and narrative aspects of presentation – feedback session

- Exploratory and explanatory modes

- Theories e.g. Vistisen, 2016
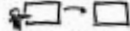
Workshop 3: Redesign in 2019
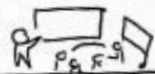
Across the three Design experiments

Paper 4	Paper 5	Paper 6

NOVA MASTER STUDENTS 2018
ONLINE TEACHING - THREE DIFFERENT CAMPUSES
COURSE: GAMES FOR CHANGE
MANY OF THE STUDENTS: FAMILIAR WITH THE USE OF VISUAL METHODS
DESIGN CHALLENGE: DEVELOPING GAMES FOR CHANGE, INVITING PARTICIPANTS TO RELATE TO WICKED PROBLEMS

ILOO MASTER STUDENTS 2019
CROSS-CAMPUS VIDEO CONFERENCING
COURSE: IT AND LEARNING DESIGN
MANY OF THE STUDENTS: NOT FAMILIAR NOR TRAINED IN USING DRAWINGS IN ACADEMIA
DESIGN CHALLENGE: DEVELOPING DIGITAL LEARNING DESIGNS TARGETING DIFFERENT COLLABORATIVE LEARNING ENVIRONMENTS

BACHELOR OF COMMUNICATION AND DIGITAL MEDIA 2019
TEACHING ON CAMPUS
COURSE: 'COMMUNICATION: DESIGN; EXPERIENCES, TIME AND SPACE
MANY OF THE STUDENTS: NOT FAMILIAR NOR TRAINED IN USING DRAWINGS IN ACADEMIA
DESIGN CHALLENGE: DEVELOPING COMMUNICATION DESIGNS TARGETING AN ART CENTER, HELPING THEM MAKING THEIR EXHIBITION MORE ACCESIBLE TO VISITORS

- **PBL activities**; lectures, reflexive exercises, students self-directed learning in groups, presentation and feedback sessions.
- Student groups tasked as the **role of designers** developing designs for different target groups to engage in.
- The students worked **cross-diciplinary** connecting different fields.

Didactical considerations regarding different student groups

*How graphic and visual facilitation was applied in each design experiment **varies depending** on the student groups.*

*For example, the design experiment with NoVA art students had **more focus on scaffolding learning spaces for students to use their familiar visual skills when exploring game design** (see Paper 4)*

*Design experiments targeting students within the humanities – with less familiarity with the use of visual methods in academia – **were introduced to graphic and visual facilitation and sketching through workshops** (see further description, Paper 5 and Paper 6)*

(Hautopp, 2022, dissertation, p. 48)

How did I go from insights from organisational contexts to exploration in higher educational context?

1. Explore the boundaries of GF/VF – e.g., exploration of using the method in visual ethnography (Context phase) and animation-based sketching and video sketching (Lab – and intervention phase)
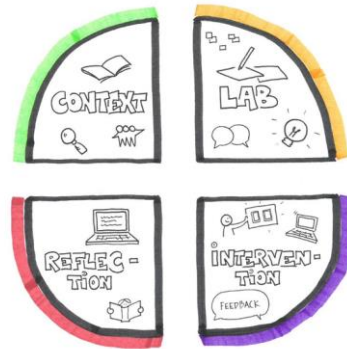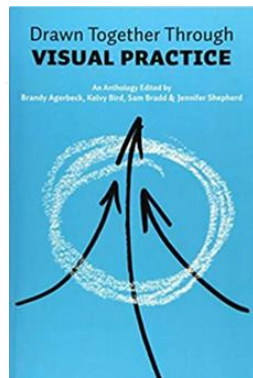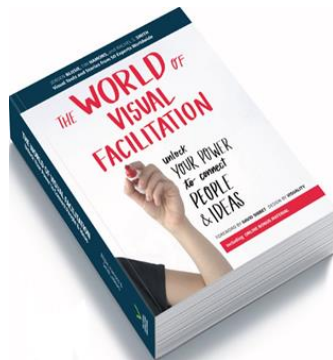
- Tap into the broadening of the field (cf. the two anthologies from 2016 and 2019)
- Inspired by the work of and with colleagues (Vistisen, 2016; Vistisen and Hautopp, 2017; Ørngreen, Henningsen, Gundersen and Hautopp, 2017)

Empirical-based analysis

Paper 4

SPACES OF JOINT INQUIRY THROUGH VISUAL FACILITATION AND REPRESENTATIONS IN HIGHER EDUCATION
AN EXPLORATORY CASE STUDY
EJEL-JOURNAL 2020 HAUTOPP & ESSING-DUUN

Paper 5

DRAWING AS AN ACADEMIC DIALOGUE TOOL FOR DEVELOPING DIGITAL LEARNING DESIGNS IN HIGHER EDUCATION
EJEL-JOURNAL 2021 HAUTOPP & BUHL

Paper 6

THE PROCESS FROM TEACHING TO ASSESSING STUDENTS' DESIGNERLY AND CREATIVE WAYS OF WORKING IN HIGHER EDUCATION
HEIDI HAUTOPP
RESEARCH LAB: IT AND LEARNING DESIGN, AALBORG UNIVERSITY, DK

The 4. phase of DBR research revolves around reflective processes and ***conducting a retrospective analysis*** of the data sets generated during the experiments (Cobb et. al., 2003)

- The analysis focus on both teachers' framing of design experiments and students' experiences working with the visual methods as part of their design exploration in groups

- Empirical based findings across papers – I will extract some examples in a 'bricolage' **focusing on students' meaning-making in groups and learning processes**

Students' reflections - designing for others

Paper 4: Student developing 'Games for chance'

*"In artistic creativity - when designing workshops or learning class, **now I could include different approaches** (…) Also when thinking about community based art projects, I will definitely remember about games as part of activism"*

Paper 5: Student group developing digital learning designs:

'***You can talk about innovation**, but how might you make a design about it? How can we make a product that supports [the process of innovation]? In other words, we can talk about it, **but how should it look visually**?'*

'We *went through an innovative process ourselves'*

- The student group used their own *production* of visuals to reflect on their target group's *utilization* phase (Pauwels and Mannay, 2020).

- The students reflected on and applied their own experiences of drawing in developing of their designs for the target groups

Students' reflections – on their own design processes

Paper 6: Student groups developing communication designs

*'**The whole process has really improved our understanding of epistemology;** we have had a lot of ideas that we have sharpened through the process of sketching.'*

*'It has worked really well with sketching, that we have been able to visualise the process. **This literally made the inquiry processes more explicit**'*

'It has been fruitful for our understanding of pragmatism that the processes were visualised'

*'The pragmatic approach break with the academic traditions. **My understanding of our academic discipline has been put to the test**'.*
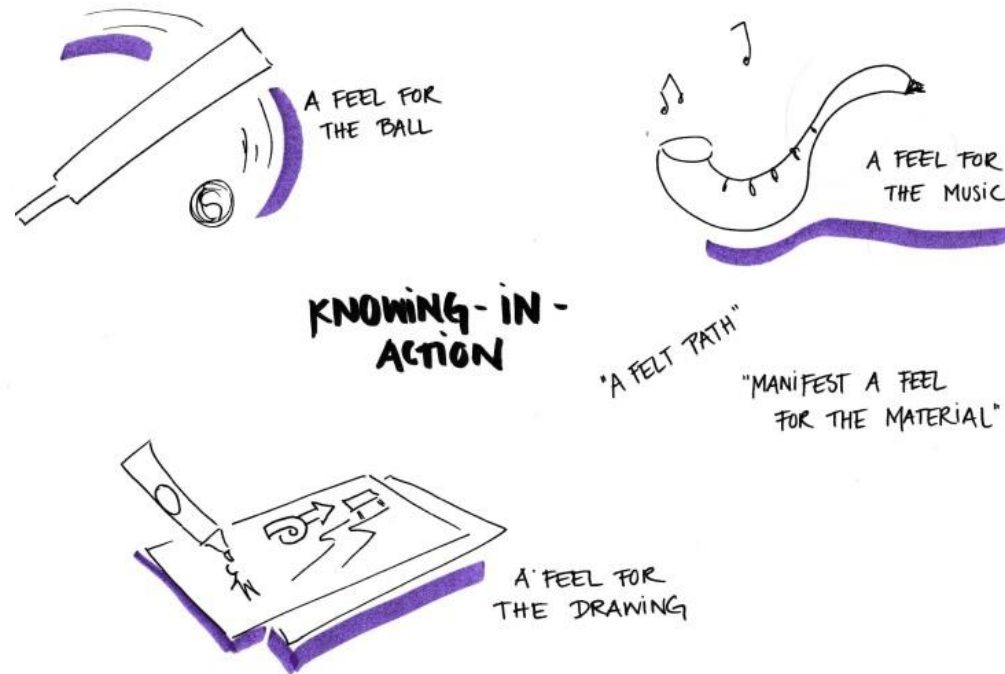
The connection between designing and learning

Schön: Designing and learning are closely coupled forms of inquiry

"Because learning is essential *to* designing, there is a great potential of learning through designing (Schön, 1992, p.131)

Designing is a mode of **discovery**

- Enable students to be aware of own preconception (knowing-in-action)

- *"When a designer reflects on the strategies and assumptions that underlies her choices, daring to disrupt them, she may learn critically important things about **herself**"* (Schön, 1992, p.132)

A FEEL FOR THE BALL

KNOWING-IN-ACTION

A FEEL FOR THE MUSIC

"A FELT PATH"

"MANIFEST A FEEL FOR THE MATERIAL"

A FEEL FOR THE DRAWING

Interfering with the felt path of academic practice
Introduction to graphic and visual facilitation – to get a feel for the drawing and critically reflect on it's use in own work practice (self-observation)

Designing for spaces of resonance

Schön (1992) Teaching as: **Inquiry-enhancing**

Students' reflection on the drawing activities: "*it was **extremely surprising** that we had to draw*"

As shown in the papers, the use of drawings in academia are typically surprising for the students in the first place → it can be argued that there is a possibility of creating spaces of resonance (Rosa, 2019), where the teaching **come to concern and affect the students** (Fenwick, 2020)

Designing for spaces of resonance

Student reflection: "*I am not found of the explorative approach to problem framing. I prefer to go directly to problem solving*"

For some students the use of drawing as an academic dialogue tool is an **approach that resonates positively with their relations to academic practices.** For other students taken a more critical stand towards the teaching, **the approach seems to interfere with their experiences of academic practice.**

Future aim
If we can affect the students to go into a critical inquiry of the cases and teaching presented in higher education and create a space, where they 'dare to' present their visual inquiries and critique; I think we have succeeded in encouraging them to draw their own connections in relation to the different tools, theories and empirical cases presented in higher educational teaching.

Concluding remarks about the teacher's role

Teaching graphic and visual faciliation demands for a teacher to **be a role model** in order:

- Introduce **drawing as an academic dialogue tool** drawing together with the students
- To initiate, acknowledge and support the use of humour and visual metaphors in teaching situations → creating a safe, playful and positive learning environment
- To draw quick and ugly supporting an explicit focus the **process of drawing** rather than an aesthetic focus

The framing of teaching:

- Placing participants as **active drawers** to support their inquiry processes
- Creating **spaces of joint inquiry** for students and teachers to enter design exploration through different PBL activities

Contributions

An empirical research and theoretical groundwork within the field of graphic and visual facilitation

- Cross-relating the field to other research areas, especially within the design field

Draws attention to the cultures of recognition in academia:

- Insights on the humanities students' cross-disciplinary work combining different materials and technologies in their design explorations.
- Method innovation in relation to how design experiments and pragmatic approaches can be brought into action in higher education

Comment from the commitee:
"An activist, almost subversive streak that have change potential"

If nothing ever changed, there would be no butterflies

Thank you for your time.
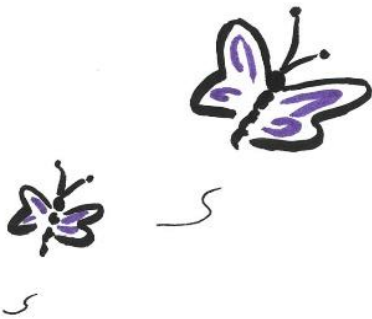
About the PhD project:

Conducted by: Heidi Hautopp, Aalborg University, Copenhagen, PhD defense 20th of April 2022

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Online version of the dissertation available: https://vbn.aau.dk/ws/portalfiles/portal/469549955/phd_HH_e_pdf.pdf