

Abschlussbericht Transferprojekt

Course Instructor

Paul Schütze

Ethics and Critical Theories of AI

Institute for Cognitive Science

Universität Osnabrück

Seminar Overview

Title: *Critical Perspectives on AI*

- Weekly in-person seminar, 2 hours per week, Seminar language is English
- Participants: ~50 Bachelor's and Master's students in Cognitive Science. The group was very heterogeneous, both in terms of prior knowledge and theoretical background in Critical Theory and Philosophy of Technology.
- The seminar topic is “Critical Perspectives on AI.” The seminar examines AI as a social, political, and economic phenomenon. Students engage with Critical AI Studies, digital colonialism, the climate crisis, global data infrastructures, and the narratives surrounding AI. The goal is to understand AI through various critical frameworks – from postcolonial and feminist theory to political economy and environmental critique.

Summary of the Transfer Concept

The transfer concept aimed at integrating project-oriented learning into the seminar. The main component was a group project in which students worked in groups of 3-4 to create a scientific poster on a self-selected topic. The project aimed to increase internal motivation and allow students to develop various skills that go beyond pure text reception and theoretical work.

The project work began with selecting and formulating a research question or central theme. Students were asked to identify a relevant problem, articulate a focused idea, and define the scope of their inquiry. Their poster should build on the theoretical foundations developed throughout the semester, but go beyond the texts we have read. Ideally, students should show that they can transfer the seminar insights to current problems, and thus learn to situate their topic within existing research and current AI debates.

After defining the topic, each group was asked to collect, structure, and evaluate relevant material (from literature to case studies), with the aim to develop a coherent concept for their poster. I specifically highlighted the challenges of conceptualizing and visualizing complex topics to fit coherently onto a poster. In the end, the aim of this

project-based learning was that students develop and demonstrate skills in the following areas: 1) research and deepening knowledge, 2) problem/topic definition, 3) conceptualization, summarization and presentation, 4) collaborative work, project and time management, 5) critical reflection.

Description of the Transfer Session

The session of the TAP visit was explicitly dedicated to developing the poster projects. The goal was for each group to develop a clear and concrete plan for their project by the end – including a defined topic, conceptual focus, and preliminary structure.

The session began with a brief check-in (about 5 min.) where groups gave updates on their project progress and could address challenges. This allowed me to get an overview of the projects' status.

In the subsequent group work phase (about 15 min.), groups worked on brainstorming possible poster topics and structuring them using a three-step method:

1. Name the topic (= what are we researching about?)
-> “We are researching about...”
2. Develop a research question/ argument (= what do we want to know?)
-> “... because we want to understand / find out / comprehend ...”
3. Define the research goal (= why do we want to know this?)
“... in order to consider / determine / examine ...”

In addition to this first step, I also provided a worksheet/ template to write a poster exposé. This was meant to help the student move from vague ideas to concrete, actionable research questions.

After this phase came a peer review exchange (~15 min.). Each group presented their results to another group and received feedback on the clarity and focus of the topic, relevance and connection to seminar themes, as well as feasibility and scope in regards to the poster.

The session ended with a closing discussion (~10 min.) where each group shared their current planning status and could clarify open questions.

Presentation of Evaluation Results

The evaluation of the transfer project took place through a Teaching Analysis Poll (TAP) roughly in the middle of the semester. Of the 50 registered students, 42 were

present. The feedback has provided a clear picture of how students felt in regards to the project-based learning approach.

From my perspective as the instructor, it is rewarding to see that students appreciated the creative teaching methods as effective learning tools. I have intentionally prioritized an interactive environment, and the feedback confirmed that the involvement of everyone and the consideration of individual interests are the primary drivers of student engagement. Furthermore, the direct support during group work and my selection of contemporary literature seem to be providing the necessary theoretical background for this task. The feedback showed that the project-oriented nature of the course is functioning as intended, allowing for a high degree of agency and creative output.

However, the evaluation also brought several organizational friction points to light:

- *Group dynamics and time management*: The high number of participants was making plenary discussions rather difficult.
- *Feedback*: There is a gap between the students' need for regular homework feedback and what I was able to provide.
- *Structural documentation*: There seemed to be a demand for more documentation following discussions and more formal summaries of our findings.

Reflection & Experiences

The transfer project worked well for the most part. Students responded very positively to project-oriented learning and the group work. Almost all students felt included and appreciate the creative methodology. This is a major success, especially in a seminar with so many participants.

At the same time, the TAP clearly showed some challenges. The high number of participants (originally planned for 20-30, actually 50 registered) makes it difficult to give all students enough space for discussions. This is a structural problem that I could not fully solve. This is also resembled in the desire for more feedback. I tried to find the balance between an open, process-oriented task and clear orientation – but students sometimes seemed to need more guidelines. While the idea was to give students space to find their own way, especially in a heterogenous field students need more methodological orientation.

Regarding my uncertainties from the transfer project: I was unsure how much help students actually need and what I can expect from them. The TAP results show that students value my direct support, and want more structure and clearer guidelines. My concern about internal motivation was apparently unfounded. Students were very engaged. The challenge was more in doing justice to everyone with so many participants and giving enough feedback. As for control over learning content, I could not constantly supervise every group. But the TAP shows that students still felt like they learned a lot.

For example, the peer review phase in the transfer session worked well. This shows that students also learn well from each other.

Conclusion and Outlook

The main findings from the transfer project:

- Project-oriented learning works very well in this context. Students appreciate the opportunity to pursue their own interests and work creatively.
- Group work is conducive to learning, but it needs good structuring.
- The balance between openness and structure needs to be well adjusted. In the future I will provide clear guidelines on academic work (e.g., how to formulate a research question, how to structure literature) while maintaining content openness.
- Keep the combination of continuous work and creative projects.
- Build in more structured intermediate steps and give feedback more often
- Use the peer review method more often. It is a good learning experience for the students.