

# Design for reflection and transformation of practice in teacher education

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# Contribution to the field

Insights regarding promotion of **reflection and transformation of practice** in **dual** Teacher Education

Didactic design experiments as boundary objects:

- Case A: video and asynchronous reflection and feedback
  - Case B: work-placements and didactic 'close-ups'
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- In both cases the designs and the activities functioned as boundary objects bridging between boundaries, e.g. theory-practice, institution or school-workplace
  - It seems worthwhile to design deliberately for unearthing differences - and support reflection!



# Research question

**How do different didactic designs with the use of asynchronous video and workplace periods as boundary objects promote reflection and possibly transformation of knowledge and practice among student teachers and in-service teachers?**

Case A: Student teachers in Music Education

Case B: In-service teachers in Vocational Diploma Education

# Cases with design experiments

<b>Case A</b> <b>Music teacher education</b>	<b>Case B</b> <b>VET teacher education</b>
<i>Design experiment with asynchronous video</i>	<i>Design experiment with work-placement periods and thick descriptions</i>
Participants in this study: Two music teacher educators Two researchers	Participants in this study: Two in-service VET teachers Two VET teacher educators
Method: Case study with interviews	Method: Case study with interviews
Researchers' role: Co-design the experiment with two music teacher educators Follow-up research - Author 2	Researchers' role: Design the experiment and teach  Follow-up research - Authors 1 and 3

# Reflection in practice

The concept of practice-based reflection can be understood in several ways (Griffiths, 2000).

Schön (1984, 1987), reflection can be divided into three levels of activity:

1. Knowing-in-action - knowledge-in-action
2. Reflection- in-action - reflection-on-action
3. Reflection on reflection-on-action

# Boundary crossing and boundary objects

Intersecting sociocultural practices do not per se lead to boundary crossing - they necessitate deliberate pedagogical and didactical design to fulfil the potentials of dual education.

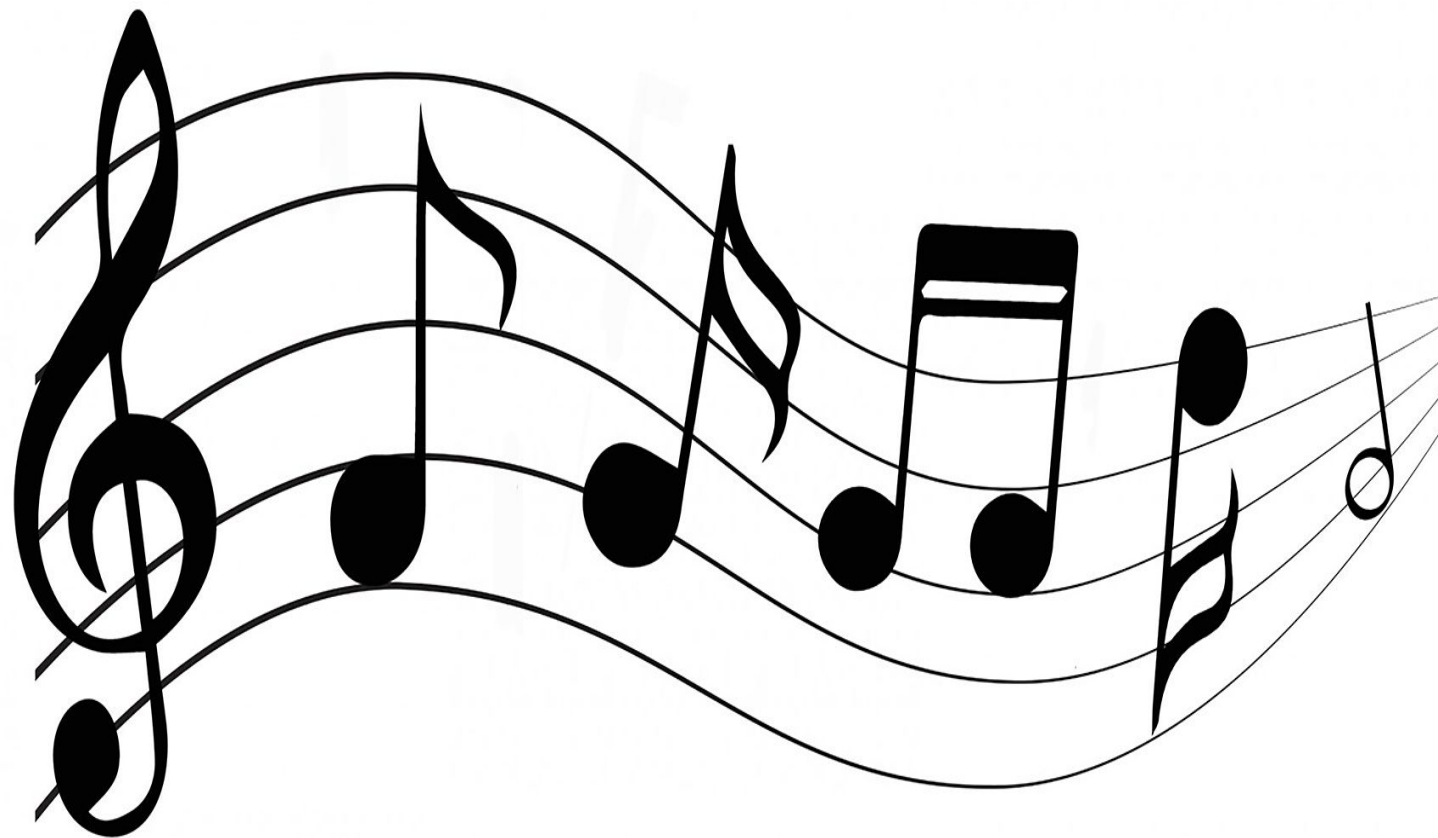
- *Boundary crossing* includes ongoing, two-sided actions and interactions between different domains, practices, and contexts with the purpose of finding productive ways of connecting and relating such differences to create meaningful sense of continuity and coherence.
- *Boundary objects* are 'artifacts doing the crossing by fulfilling a bridging function', e.g. digital tools, assignments, experiments, work placement etc.
- *Boundary workers* - the people facilitating the crossing and using the objects

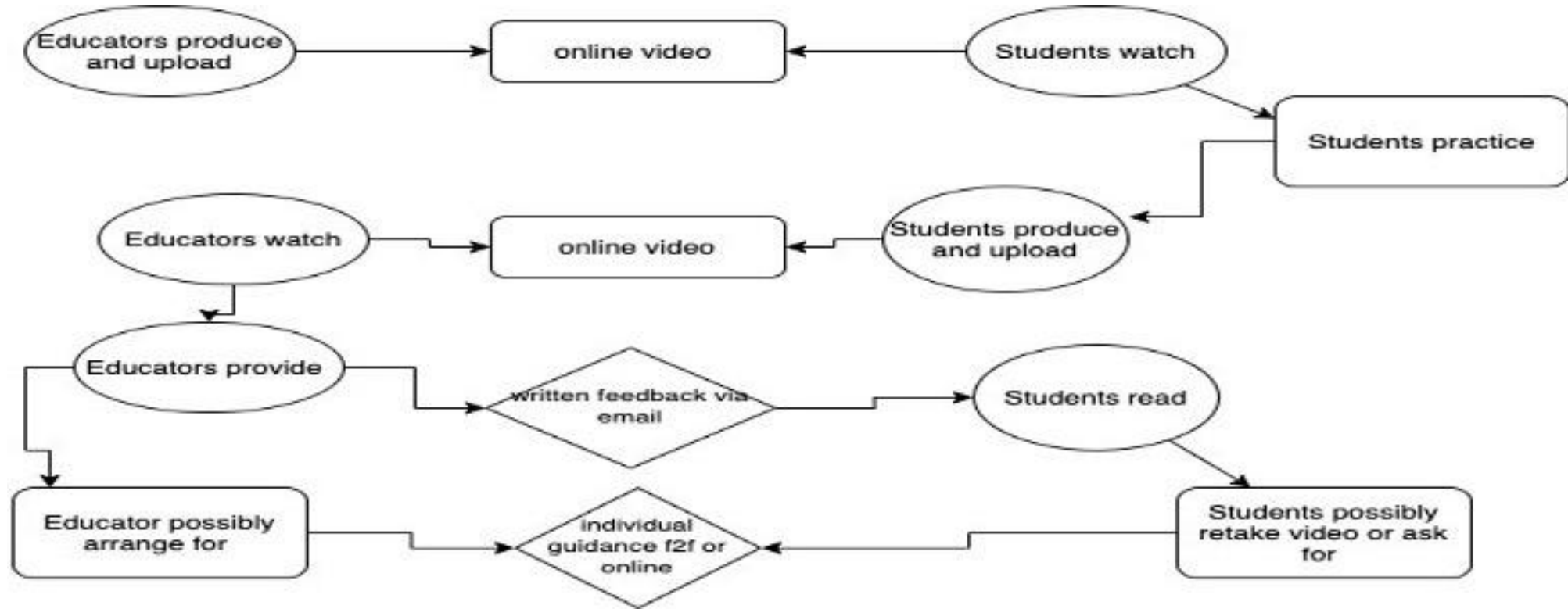
# Case A

Music in teacher education

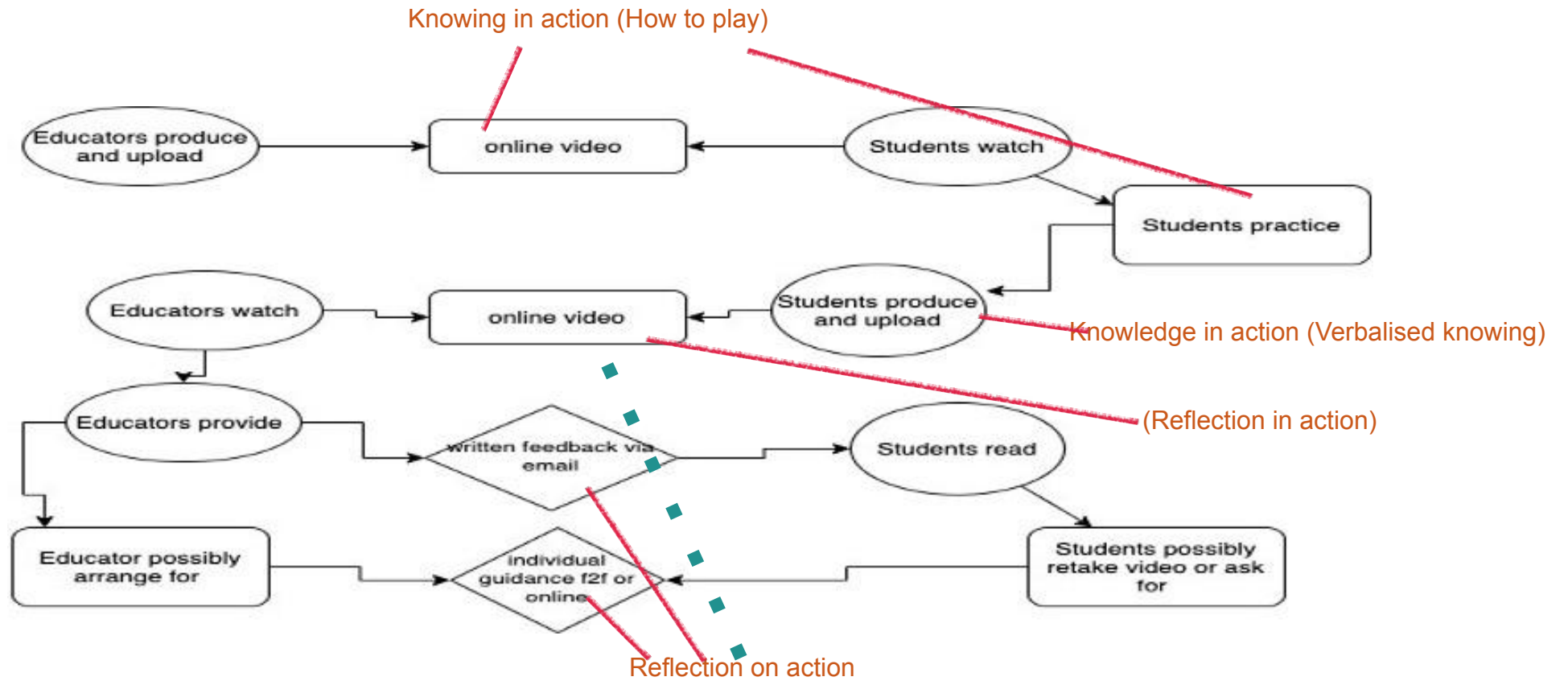
Design and findings

Videos, practice, feedback and reflection









# Case B

In-service vocational teachers

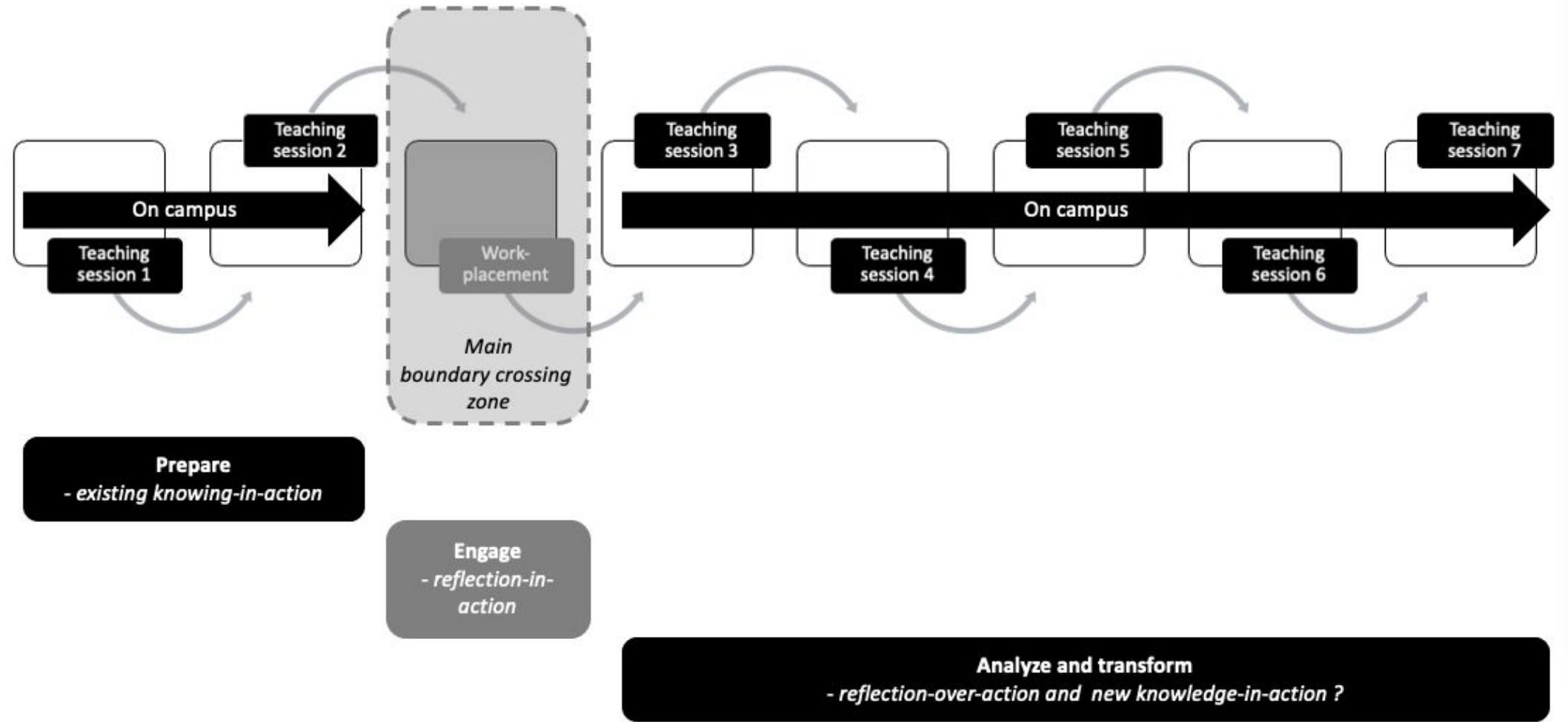
Design and findings

Work-placement periods

Thick descriptions 'close-ups'



# Case B - overall design





## Didaktisk praksis i virksomheden

Jeg møder Andreas, der har været i lære lidt over 1 år. Han står og skærer bøffer til nogle måltidspakker. Der skal laves 50 stk. pakker. Allan siger, at bøfferne skal veje 200 g pr. stk. og der skal 2 stk. i hver pakke. Andreas kikker på mig og siger "De skal veje 400 gr. for 2 stk.". Det kræver skære færdigheder og forståelse at kunne ramme vægten." og forsætter "Det er jo mesters penge det går ud over, hvis der er for stort udsving i vægten". Nu anser jeg jo mig selv som fagmand og har selv været slagtermester i mange år, så jeg observerer lige Andreas i nogle minutter. Jeg ser han har en masse svipsere, der ikke kommer op på de 200 g. De bøffer smider han op i en kasse til hakkekød. Det undrer mig, at svenden ikke siger noget og hvad vil mester sige?

Andreas bliver færdig med bøfferne og stiller kassen med det kød, der nu skal blive til hakket oksekød på vognen ved siden af sig. Svenden kigger på kassen og siger: "Nu har du været i lære i over et år, og så kan du stadig ikke ramme 200 g. Det bliver noget dyrt hakkekød". Han kigger på mig og siger: "Lærer de unge mennesker ikke noget på skolen?" og smiler. Allan kommer forbi og siger: "Nu er der ikke nogen af bøfferne, der vejer UNDER 200 g vel? Vi har jo skrevet i avisen, at det er 200 grams bøffer". "Nej", siger Andreas "Dem, der var for små, er i den røde kasse." Allan kigger i den røde kasse og siger: "Godt, så kan du gå i gang med at lave måltidspakkerne".

# Concluding remarks and further research

The boundaries between the learning spaces, content and activities can be crossed through didactic design that enable reflection and knowledge in action

- In both cases the artifacts functioned as boundary objects that enabled connections and promoted dialogue and reflection, which are prerequisites for transformative learning.
- The boundary objects were also designed to enhance the students' focus on (and practice of in case A) practical subject matter/vocational skills and knowledge.

Further, the two designs served as reminders of the different kinds of boundaries students encounter in dual education.