

Teaching with impact: Challenge-based learning as an approach for practice-oriented teaching



WELCOME / INTRODUCTION



1. Welcome & Introduction

2. Input

- a. Why is transfer to the classroom important?
- b. Definition of challenge-based learning and its benefits.
- c. Emphasise the importance of collaboration and creativity in this approach.

3. Group work session 1

- a. What challenges are or should be addressed in my discipline/at my uni?
- b. Presentation and discussion of ideas

4. Input: How do I find the right partner?

5. Group work session 2: How do I find external partners? Which partners are suitable?

6. Input: How do I design a CBL course now that I have the partners and the challenge? How do I implement CBL into the curriculum?

7. Group work Session 3

- a. for teachers: Developing a rough schedule for the course
- b. for didactics/admins: Developing a plan for implementation

8. Reflection & Conclusion



WHAT IS CHALLENGE-BASED LEARNING?

Competence-orientated teaching/learning method

No fixed definition

Central features :

- "real world problems"
- solution-orientated
- Interdisciplinary
- external partners
- often: reference to "future skills"



DELIMITATION CBL TO PROBLEM-BASED LEARNING, SERVICE LEARNING etc.

- **PROBLEM BASED LEARNING:** With PBL, unlike with CBL, problems can be purely fictitious and, unlike with CBL, the solution can be clearer to the lecturer beforehand.
- **PROJECT BASED LEARNING:** The problems can be purely fictitious. PjBL projects are often more open than PBL tasks, although they are somewhat more predictable in their outcome and may also be predefined than CBL tasks.
- **SERVICE LEARNING:** In a CBL setting, the students have a stronger influence on the design of the project work and are not purely in the "service" of the problem-solving institution.



WHAT DOES A CBL PROJECT LOOK LIKE?

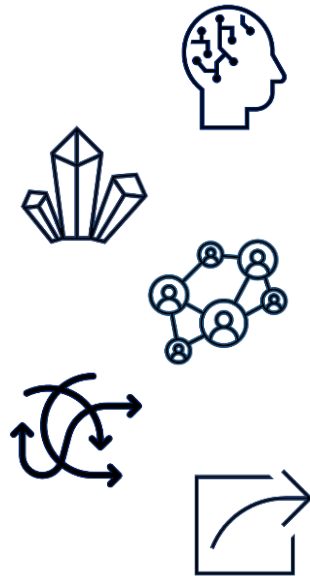
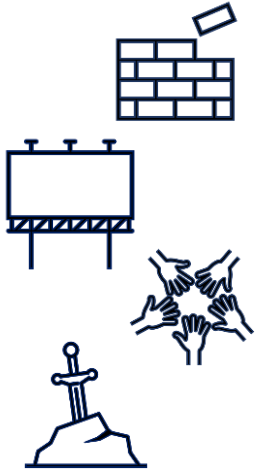
What the community says

PREREQUISITES:

- Scientific basis
- Teaching concept/framework
- Collaborative work (with partners)
- Challenge as the centre

PROCESS:

1. Confrontation with the task
2. Insights and gains on the go
3. Coaching by teachers
4. Ways and wrong ways, failure is possible
5. Moment of breakthrough, drawing connections, transfer



WHAT DOES A CBL PROJECT LOOK LIKE?

What the community says



PROCESS:

6. Evaluation of the process before the end



7. Sustainable safeguarding of results



8. Presentation of the results



9. Evaluation to ensure results and other added value



CHALLENGES:

- Attracting and supporting external partners
- Interdisciplinary, heterogeneous student body
- Uncertainty factors
- Transfer from research to practice
- Problem solving often not possible
- Change of roles for lecturers and students
- Formats often deviate from the classic (semester) rhythm



OUTLOOK

Challenge-based Learning:

- enables perceptible competence gains
- promotes the transfer between specialised science and (professional) practice
- establishes contacts with the outside world
- in in line with the goals of the European "Skills Agenda"

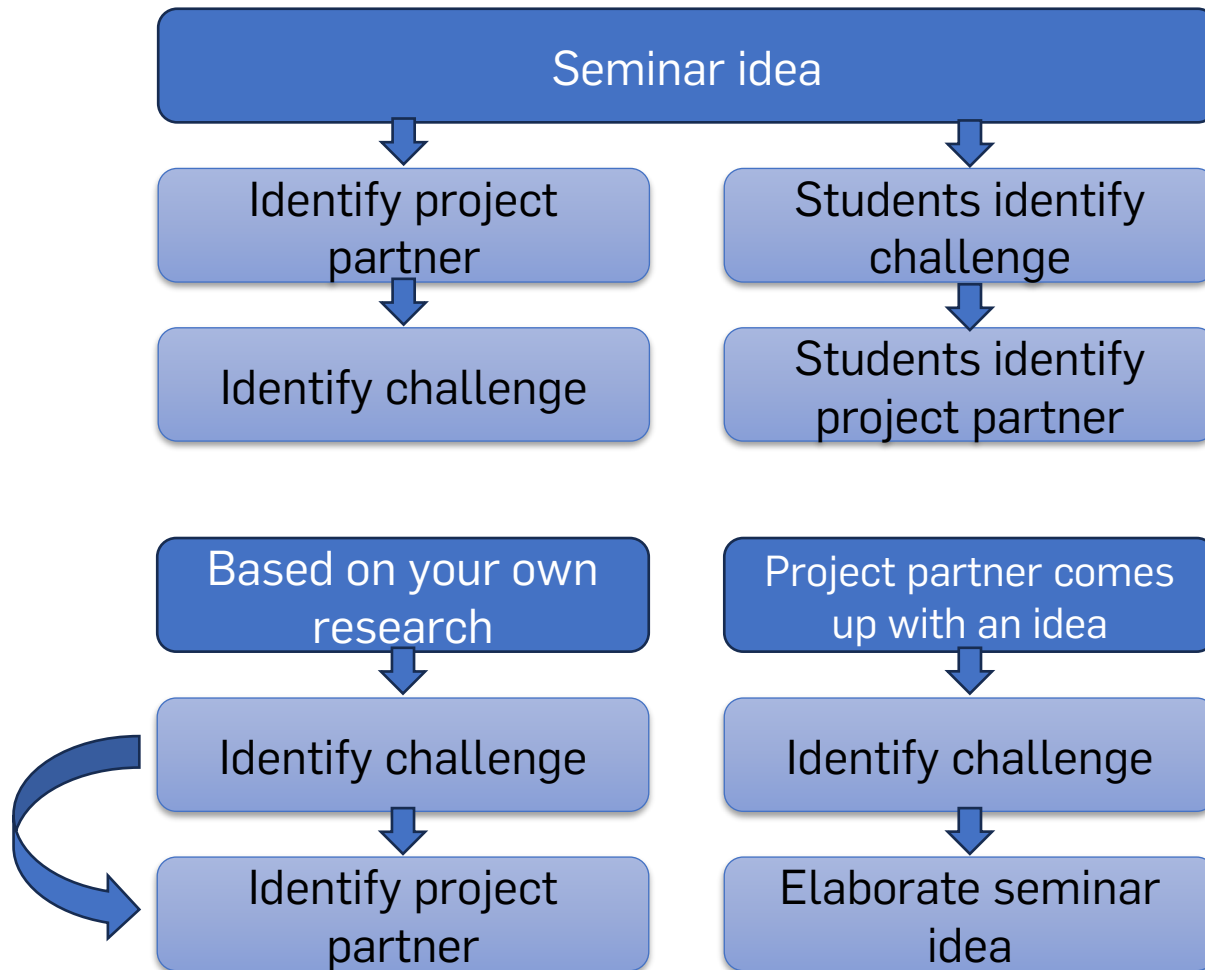


GROUP WORK SESSION 1

- What challenges are or should be addressed in my discipline/at my uni?
- What issues could interest students as well as possible practice partners and/or the urban society?
- 2-3 people per team
- 10 Min. shared exchange
- Followed by presentation and discussion of the ideas (10 Min.)



IDENTIFY CHALLENGES & PARTNERS



GROUP WORK SESSION 2

- How do I find external partners?
- Which partners are suitable?

- 10 Min. shared exchange



HOW DO I DESIGN A COURSE

Exemplary schedules

During the semester + block for working on the challenges/practical projects in the semester + final presentation at the end of the lecture period:

- 6 weeks with 4 hours each at the start of the semester
 - At the end of week 6: presentation of the planned project (challenges, planned approach, theories, methods, project management, etc.)
- 8-week self-study phase for working on the challenges or practical projects
 - Interim presentation after 4 weeks (current status, challenges, help needed, adjustments, etc.)
- Final presentation at the end of the lecture period with practice partners



HOW DO I DESIGN A COURSE

Exemplary schedules

Block during the semester break + longer self-study phase during the semester for working on the challenges/practical projects + final presentation at the end of the lecture period:

- 1 block week with 5 hours each day in the semester break
 - Presentation of the planned project at the end of the block (challenges, planned approach, theories, methods, project management, etc.)
- Approx. 14 weeks self-study phase during the semester
 - Interim presentation after 4 weeks (current status, challenges, help needed, adjustments, etc.)
- Final presentation at the end of the semester with practice partners



HOW DO I DESIGN A COURSE

Questions you should ask yourself when planning your course

- Which schedule is best suited to the semester periods at my university?
- Are there any offers of support?
- How much time can I spend preparing for and following up on the course and during the course itself?
- What goals am I pursuing with the course?
- And what competences shall the students acquire?
- What scope should the challenge have?



HOW DO I IMPLEMENT CBL

Bottom-up:

Find several key players in your institution who are willing to try out the method or are already working with it. Install a network for communication about projects, find funding and administrative support.

Top-down:

Alongside accreditation or while establishing new study programmes or revising older ones, implement CBL into your method portfolio and module handbooks. Offer didactical workshops to support teachers.

Both approaches require extensive discussion.



GROUP WORK SESSION 3

- For teachers: Develop a rough schedule for a CBL course, including the formulation of initial learning outcomes
- For didactics/admins: Developing a plan on how to implement CBL at your institution

- 15 Min. shared exchange
- Followed by presentation and discussion of the ideas (10 Min.)



REFLECTION & CONCLUSION



Thank you very much Meet the challenge!

For questions:

stephanie.heimgartner@rub.de

michael.weckop@rub.de

