<table>
<thead>
<tr>
<th>Time</th>
<th>Session 1:</th>
<th>Moderator:</th>
<th>Presentations:</th>
</tr>
</thead>
</table>
A “PBL effect”? A longitudinal qualitative study of sustainability awareness and interest in PBL engineering students
Lelanie Smith and Nadia Trent
Student and staff experience of an interdisciplinary, multi-national co-curricular aerospace design project
Anette Kolmos, Lykke Brogaard Bertel, Jette Egelund Holgaard and Henrik Worm Routhe
Project Types and Complex Problem-Solving Competencies: Towards a Conceptual Framework |

| Session 2:  | PBL, cognition and Social interactions – Processes and Tools to Develop Collaborative Competences | Aida Guerra (Aalborg University, Denmark) | Jonte Bernhard, Jacob Davidsen and Thomas Ryberg
By hand and by computer – a video-ethnographic study of engineering students’ representational practices in a design project
Ron Ulseth and Bart Johnson
Design-Based Research: Students building workplace skills in a new educational model
Preethi Baligar, Gopalkrishna Joshi and Ashok Shettar
Assessment of Collaborative-Problem Solving Competency in Engineering Education: a Systematic Literature Review |
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Moderator</th>
<th>Presentations</th>
</tr>
</thead>
</table>
| 14:00 – 14:55 (CET) | **Session 3:** Development and awareness of Future Competences and Learning Spaces | **Moderator:** Jette E. Holgaard (Aalborg University, Denmark) | **Presentations:**  
Juebei Chen, Anette Kolmos and Xiangyun Du  
The Effectiveness of Teamwork on Students’ Engineering Professional Identity Development in the AAU PBL Model: From the Perspectives of International Engineering Students  
Oscar Ivan Higuera-Martinez and Liliana Fernández-Samacá  
Fostering Creativity in Engineering through PBL  
Tom Radisch, Johannes Schüler, Karsten Menzel and Ulrich Möller  
Cross disciplinary Project Based learning in the context of Building Information Modelling |
| 13:00 – 13:55 (CET) | **Session 1:** Sustainability, Complexity and Interdisciplinarity – Generating innovative and interdisciplinary knowledge and practice: PBL and Sustainability | **Moderator:** Thomas Ryberg (Aalborg University, Denmark) | **Presentations:**  
Carlos Efrén Mora, Shannon Chance, Inês Direito, Maria Dolores Morera, Lastenia Hernández-Zamora and Bill Williams  
INGENIA, a novel program Impacting Sustainable Development Goals locally through students’ actions  
Jette Egelund Holgaard, Carla K. Smink, Aida Guerra and Virginie Servant-Miklos  
Educating Engineering Educators for Sustainability – a case of online resources for staff development  
Virginie Servant-Miklos and Irene van Oorschot  
Collaboration, Reflection and Imagination: rethinking Assessment in PBL education for sustainability |
|            | **Session 2:** Democracy, Social progress and PBL: Overall experiences and reflections | **Moderator:** Ronald Ulseth (Iron Range Eng., USA) | **Presentations:**  
Khalid Kamal Naji, Hessa AL-Thani, Abdulla Khalid A M Al-Ali, Usama Ali Ali Ebead and Xiangyun Du  
Characteristics, benefits, challenges and socio-cultural factors of implementing PBL in Qatar  
Kristina Nyström, Sara Nyberg and Gunaratna Kuttuva Rajaraoo  
Experience and reflections – implementing European teaching methods in 5 African Universities |

**NOVEMBER 25, 2020**
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Moderator</th>
<th>Presentations</th>
</tr>
</thead>
</table>
| 14:00–14:55 (CET) | **Session 3:** Variaty and Understanding of Problems and Projects: Variations in PBL | Xiangyun Du (Qatar University, Qatar) | **Presentations:**  
**Bettina Dahl and Annette Grunwald**  
Variation in PBL in different university STEM study programmes: How elastic is PBL?  
**Kaushik Mallibhat and Gopalkrishna Joshi**  
A Systematic Review on Frameworks of Project-Based Learning  
**Karsten Menzel, Johannes Schüler and Nicolas Mitsch**  
A PBL-environment for Smart Buildings |
|             | **Session 4:** Blended PBL Environments: Online PBL education | Lykke Bertel (Aalborg University, Denmark) | **Presentations:**  
**Godfred Annum, Daniel Adjei-Boateng and Regina Edziyie**  
The Impact of E-learning in the Running of Laboratory-Based Programmes in Higher Educational Institution. A Case Study of the Department of Fisheries and Watershed Management, KNUST, Kumasi, Ghana  
**Aida Guerra, Franck Schoefs and Mathilde Chevreuil**  
Preparing engineering students for collaborative project-work: piloting an online course on PBL and project management  
**Thomas Bjørner and Marius Cristian Mic**  
Tech students’ perceptions of social media’s usefulness during PBL group work |

**JANUARY 27, 2021**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Moderator</th>
<th>Presentations</th>
</tr>
</thead>
</table>
| 13:00–13:55 (CET) | **Session 1:** Democracy, Social progress and PBL: Implementation of PBL | Lelanie Smith (University of Pretoria, South Africa) | **Presentations:**  
**Benjamin Asubam Weyori, Francis Attiogbe and Samuel Gyamfi**  
PBL Framework for African Higher Education: A Case Study in UENR  
**Richard Lamptey, Richard Tawiah, William Oduro and Gabriel Okyere**  
Problem Based Learning at Kwame Nkrumah University of Science and Technology: Reporting on Policies, Practices and Needs |
| Session 2: | Varity and Understanding of Problems and Projects: PBL and project group work | Moderator: Pia Bøgelund (Aalborg University, Denmark) | Presentations:
Fernando Rodríguez-Mesa and Claus Monrad Spliid  
Information management impacts when students configure the project-work  
Vincenzo Liso  
Issues and practical solutions in project group writing in the PBL education  
Americo Azevedo  
From the business model to business processes design and technological support: a project-based learning approach |
| --- | --- | --- | --- |
| 14:00 – 14:55 (CET) | Session 3: PBL, Industry and Entrepreneurship | Moderator: Bente Nørgaard (Aalborg University, Aalborg) | Presentations:
Ute Berbuir and Magdalena John  
Not in my backyard – Dealing with challenges of public participation in industrial and infrastructure projects in an engineering education course  
Maddi Garmendia, Gorka Alberro and Aida Guerra  
PBL to foster integration of company projects in engineering curricula – a case example  
Martin Jaeger, Gang Yu and Desmond Adair  
Industry Perspective on Project Based Learning – Comparing Chinese Managers Overseas with Chinese Engineering Managers at Home |
| | | | |
| Session 4: Innovation in the Role of the Teacher in PBL: PBL and educators | Moderator: Bettina Dahl (Aalborg University, Denmark) | Presentations:
Philip Duker  
Backwards Design, Standards-based Grading, and Scaffolding in the PBL Classroom  
Helene Clausen and Vibeke Andersson  
Linking Action Research and PBL. Case. A Mexican case of co-creation |
| 13:00 – 13:55 (CET) | Session 1: | Moderator: | Presentations:
Imad Abou-Hayt, Bettina Dahl and Camilla Østerberg Rump  
A Problem-Based Approach to Teaching a Course in Engineering Mechanics |
## Innovation in the Role of the Teacher in PBL: Ways of doing PBL

**Bart Johnson**  
(Itasca Community College, USA)

**Mona Lisa Dahms, Maryam Ismail, Anthony Zozimus Sangeda and Al Saah**  
The Jigsaw Classroom – a Student-Centered Learning approach applied in Training of Trainers in African Universities

### Session 2: Teachers role in PBL: Encouragement and support for teachers using PBL

**Moderator:** Claus M. Spiild  
(Aalborg University, Denmark)

**Presentations:**
- **Mary C. English**  
Tools for Scaffolding Educators’ Project Design Process
- **Annette Grunwald, Henrik Worm Routhe, Mette Hesselholt Henne Hansen, Martin Krabbe Sillassen, Charlotte Krag Skott, Morten Rask Petersen, Jørgen Haagen Petersen, Lone Djernis Olsen and Steffen Elmose**  
Using a PBL perspective in continuing education of science and mathematics lower secondary teachers

### Session 3: PBL Implementation – Experiences and Workflows: Implantation of PBL

**Moderator:** Anette Kolmos  
(Aalborg University, Denmark)

**Presentations:**
- **Carola Hernández and Carola Gómez**  
Developing Teamwork skills in a multidisciplinary project-oriented course
- **Preethi Baligar, Sanjeev Kavale, Kaushik Mallibhat and Gopalkrishna Joshi**  
Crafting design problems for Project-based learning in first-year undergraduate engineering education
- **Lisette Wijnia and Gera Noordzij**  
Development of Motivation in a Problem-Based Psychology Bachelor’s Program

### Session 4: Curriculum Design: Implementing a PBL approach

**Moderator:** Ulisses Araújo  
(University of San Paulo, Brazil)

**Presentations:**
- **Juan Carlos Cruz, Carolina Muñoz-Camargo, Francisco Buitrago-Flórez and Carola Hernández**  
Integrating two core Biomedical Engineering courses through a project-based learning approach: A framework for teaching student-centered comprehensive engineering design
- **Bente Nørgaard, Henrik Bregnhøj and Ernest Kira**  
Implementation of ABC Learning Design for curriculum development in an African context
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Moderator</th>
<th>Presentations</th>
</tr>
</thead>
</table>
| 13:00 – 13:55 | **Session 1**: Teachers role in PBL: The role of the teacher | **Moderator:** Erik de Graaff (Aalborg University, Denmark) | Mette Møller Jeppesen, Henrik Worm Routhe, Rikke Slot Kristensen and Jutta Prip  
The role of the teacher in a PBL teaching process  
Liliana Fernández-Samacá, Lorena Maria Alarcón Aranguren, Claudia Isabel Rojas and Alejandra María González Correal  
Encouraging faculty towards the curriculum transformation of engineering programs  
Karsten Menzel and Michal Otreba  
Assessment methods in split-level (PBL)2 for Building Information Modelling |
| 14:00 – 14:55 | **Session 2**: PBL Implementation – Advantages and Disadvantages | **Moderator:** Preethi Baligar (KLE Technological University, India) | Giang Tran Thi Minh  
Empowering English-Majored Students at DUY TAN University through Project Based Learning to Upgrade their Graduation Theses  
Jonathan Montoya, Forest Peterson and Sade Bonilla  
Opportunity Gap and Women in the Energy Infrastructure Workforce  
Bettina Knappe, Gesine Cornelissen, Dagmar Rokita, Christoph Maas and Gerwald Lichtenberg  
An interdisciplinary Biotechnology Project – Experiences with a change to PBL |
|              | **Session 3**: Curriculum Design: PBL curriculum and competencies | **Moderator:** Jonte Bernhard (Linköping University, Sweden) | Jette Egelund Holgaard, Anette Kolmos and Maiken Winther  
Designing Progressive Intended Learning Outcomes for PBL: A Workshop Format for Curriculum Redesign |
<table>
<thead>
<tr>
<th>Martin Wöker, Janina Müller and Ulla Tschötschel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promotion of competencies through case studies in logistics studies</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Anders Melbye Boelt, Nanna Svarre Kristensen and Nicolaj Riise Clausen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classification and framing in PBL: a case study</td>
</tr>
</tbody>
</table>