**FLIPPED IRSPBL 2021: MOVING TOWARDS A VIRTUAL PBL COMMUNITY**

**PROGRAMME • WEBINAR SESSIONS • FALL 2020/ SPRING 2021**

**OCTOBER 28, 2020**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session 1: Sustainability, Complexity and Interdisciplinarity – Generating innovative and interdisciplinary knowledge and practice: PBL and future complex challenges</th>
<th>Moderator: Kristina Edström (KTH, Sweden)</th>
<th>Presentations:</th>
</tr>
</thead>
</table>
| 13:00 – 13:55 (CET) | **Virginie Servant-Miklos, Jette Egelund Holgaard and Anette Kolmos**  
“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 | Moderator: Aida Guerra (Aalborg University, Denmark) | Presentations: |
| | **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 | | |
| Time          | 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, María 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 |
|--------------|---------------------------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------------------------------------------|
Characteristics, benefits, challenges and socio-cultural factors of implementing PBL in Qatar  
Kristina Nyström, Sara Nyberg and Gunaratna Kuttuva Rajarao  
Experience and reflections – implementing European teaching methods in 5 African Universities |
| 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 |

**NOVEMBER 25, 2020**
<table>
<thead>
<tr>
<th>Time</th>
<th>Session 3:</th>
<th>Moderator:</th>
<th>Presentations:</th>
</tr>
</thead>
</table>
| 14:00 –      | Varity and | Xiangyun Du (Qatar      | **Bettina Dahl and Annette Grunwald**  
| 14:55 (CET)  | Understanding of     | University, Qatar)            | Variation in PBL in different university STEM study programmes: How elastic is PBL?  
|              | Problems and  |                         | **Kaushik Mallibhat and Gopalkrishna Joshi**  
|              | Projects:      |                         | A Systematic Review on Frameworks of Project-Based Learning  
|              | Variations in  |                         | **Karsten Menzel, Johannes Schüler and Nicolas Mitsch**  
|              | PBL           |                         | A PBL-environment for Smart Buildings |
| Session 4:   | Blended PBL   | Lykke Bertel (Aalborg    | **Godfred Annum, Daniel Adjei-Boateng and Regina Edziyie**  
|              | Environments:  | University, Denmark)      | The Impact of E-learning in the Running of Laboratory-Based Programmes in Higher  
|              | Online PBL    |                         | Educational Institution. A Case Study of the Department of Fisheries and Watershed  
|              | education     |                         | 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 1:</th>
<th>Moderator:</th>
<th>Presentations:</th>
</tr>
</thead>
</table>
| 13:00 –      | Democracy, | Lelanie Smith (University | **Banjamin Asubam Weyori, Francis Attiogbe and Samuel Gyamfi**  
|              | PBL:        |                         | **Richard Lamptey, Richard Tawiah, William Oduro and Gabriel Okyere**  
|              | Implementation |                         | Problem Based Learning at Kwame Nkrumah University of Science and Technology: Reporting  
|              | of PBL       |                         | on Policies, Practices and Needs |
### Session 2:
**Variety and Understanding of Problems and Projects: PBL and project group work**

**Moderator:** Pia Bøgelund  
(Aalborg University, Denmark)

**Presentations:**
- Fernando Rodríguez-Mesa and Claus Monrad Spiiid  
Information management impacts when students configure the project-work  
- Vincenzo Liso  
Issues and practical solutions in project group writing in the PBL education

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  
- Virginie Servant-Miklos and Irene van Oorschot  
Collaboration, Reflection and Imagination: rethinking Assessment in PBL education for sustainability
### Session 1:
**Innovation in the Role of the Teacher in PBL: Ways of doing PBL**
**Moderator:** Bart Johnson (Itasca Community College, USA)
**Presentations:**
- *Imad Abou-Hayt, Bettina Dahl and Camilla Østerberg Rump*
  A Problem-Based Approach to Teaching a Course in Engineering Mechanics
- *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 Krog Skott, Morten Rask Petersen, Jørgen Haagen Petersen, Lone Dajners Olsen and Steffen Elmose*
  Using a PBL perspective in continuing education of science and mathematics lower secondary teachers

### Session 3:
**How to support international and interdisciplinary PBL in a digital format?**
**Moderator:** Jens Myrup Pedersen (Aalborg University, Denmark)
**Brief description:**
In connection with end of the Erasmus+ project EPIC. A project where students work on joint projects across nationalities and disciplines - usually in collaboration with companies.

### 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 (CET)</th>
<th>Session 1:</th>
<th>Moderator:</th>
<th>Presentations:</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:00 – 13:55</td>
<td>Teachers role in PBL: The role of the teacher</td>
<td>Erik de Graaff (Aalborg University, Denmark)</td>
<td>Mette Møller Jeppesen, Henrik Worm Routhe, Rikke Slot Kristensen and Jutta Prip</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>The role of the teacher in a PBL teaching process</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Liliana Fernández-Samacó, Lorena Maria Alarcón Aranguren, Claudia Isabel Rojas</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>and Alejandra María González Correal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Karsten Menzel and Michal Otreba</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Assessment methods in split-level (PBL)2 for Building Information Modelling</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Session 2:</td>
<td>PBL Implementation – Advantages and Disadvantages</td>
<td>Preethi Baligar (KLE Technological University, India)</td>
<td>Giang Tran Thi Minh</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Empowering English-Majored Students at DUY TAN University through Project Based Learning to Upgrade their Graduation Theses</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Jonathan Montoya, Forest Peterson and Sade Bonilla</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Opportunity Gap and Women in the Energy Infrastructure Workforce</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bettina Knappe, Gesine Cornelissen, Dagmar Rokita, Christoph Maas and Gerwald</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Lichtenberg</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>An interdisciplinary Biotechnology Project – Experiences with a change to PBL</td>
</tr>
<tr>
<td>14:00 – 14:55</td>
<td>Curriculum Design: PBL curriculum and competencies</td>
<td>Jonte Bernhard (Linköping University, Sweden)</td>
<td>Jette Egelund Holgaard, Anette Kolmos and Maiken Winther</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Designing Progressive Intended Learning Outcomes for PBL: A Workshop Format for Curriculum Redesign</td>
</tr>
</tbody>
</table>

**MARCH 31, 2021**
| Session 4: PBL Implementation – Experiences and Workflows: Implantation of PBL | Moderator: Anette Kolmos (Aalborg University, Denmark) | 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
Kjell Staffas, Steffi Knorn, Aida Guerra, Damiano Varagnolo and André Teixeira
Using different taxonomies to formulate learning outcomes to innovative engineering curriculum towards PBL: perspectives from engineering educators |