



KnowledgeFOR ResilientsoCiEty



CONSORTIUM MEETING, WBB MEETING & S-FORCE SYMPOSIUM

University of Novi Sad

September 26-29, 2018

2nd Day – September 27, 12.00 – 13.00

VENUE: UNS, Faculty of Technical Sciences, **Building:** Department for Civil Engineering and Geodesy,
Address: Sime Miloševića 12, Novi Sad, First floor, Amphitheatre

AGENDA ITEM: STUDENT CENTRED LEARNING METHODOLOGIES WORKSHOP

Prepared by DTU in cooperation with Lund & AAL

Presenter: Frank Markert, DTU-BYG (Civil Engineering Department)

Contributions by Luisa Giuliani, and Per Goltermann

REPORT ON WORKSHOP ACTIVITIES AND RESULTS

The introductory presentation by Frank Markert Ph.D., Associate Prof. at DTU-BYG, explained the implementation of the concept of Project Families in interdisciplinary courses in Building Design & Processes at the Civil Engineering Department. This model of student centred learning approach has been successfully conducted for several years in this HEI. Consequently, it was awarded the DTU educational price in 2017.

The representatives of the WBC HEIs at the meeting workshop then formed three working groups to discuss the concept of project families focusing on the following issues:

- *What are the pros and cons for the project family approach conducted at your HEI?*
- *What other student centred methods are applied to your HEI?*
- *Plan a potential project family thesis project for 2019. What student centred methods will be included?*

The group discussions took about 20 minutes, while LU and AAL representatives acted as moderators to the discussions with their experiences regarding the topic. After that, one speaker from each group briefly highlighted the main results of their discussion.

Working group 1

Members from UT (Elona Pojani, Dorina Koci, Mariola Kapidani), and EPOKA (Miriam Ndini, Sokol Dervishi), Moderator Enrico Ronchi, from LU

Working group 2

Members from UNTZ (Edisa Nukić, Aneta Jokić, Damir Zenunović, Rijad Šišić), and UNS (Slobodan Kolaković, Mirjana Laban, Ivan Lukić, Mirjana Malešev, Igor Džolev)

Moderator: Frank Markert, from DTU

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Working group 3

- Members from UBL (Gordana Broceta, Gordana Jakovljevic, Dragana Zeljic) and VTSNS (Branka Petrovic);
- Moderator, Linda Nielsen from AAL.

Generally, the concept of project families suits the mentality of the people from the Balkans as empathy, willingness to help and collaborate, as well as the sense of togetherness, are deeply incorporated in most individuals. However, this seems to be the only reason pro the project family approach the group has found in this very short discussion. There are far more cons, and they include: large student groups that enable closer student connections; no additional teacher education and training on pedagogical issues, particularly in technical institutions of the HE system; few laboratories, usually small and inadequate for team work; the proposed form of student centred learning is not applicable to all courses.

Although the Bologna process in HE principally puts the student in the centre of the teaching/learning activities, group work and team building are not emphasised. It is individual students and their needs that are to be met. Even if grouped in teams, they get directions and precise instructions from the teaching staff concerning their tasks, so there is little space for them to deal with a problem as a creative team, or interdependent individuals relying on one another when solving the same or different problems.

Workgroup 1:

Group learning methodologies via project family approach are efficient instruments for student motivation, encouraging active learning, having critical-thinking, and decision-making skills. However, a careful planning needs to be made in order not to create student frustration. At first, group arrangement needs to be carefully implemented, to have a comfortable environment. The objectivity and the theme of the work needs to be challenging. Otherwise, project family approach can create complex scenarios, difficult to manage. Secondly, the work for each student of the group work (project family approach) should arouse students' field of research interest. In addition, the project family approach should encourage involvement and a very fair work division.

Sometimes, it is very difficult to share the work in equal distribution and complexity. In addition, the group size is a determinant factor in the work distribution. It is also challenging while explaining the tasks clearly for each student. Project Family, if not designed appropriately, approach might create dependency and less responsibility for the work done, as the work done is shared with the others. Other difficult situations such as: members of the project family not contributing, ineffective communication and different personalities can create complex situations which might create difficulties in managing the work as a family.



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Workgroup 2:

The most suitable course for applying the project family concept could be Professional Practice that is a compulsory course in all institutions educating young people in engineering. Student placement in companies offers a variety of real situations they have to handle, but being students, they rarely do it by themselves. There are supervisors in the companies and their teacher-mentors at schools. Nevertheless, peer to peer help is always desirable, avoids barriers of the teacher/supervisor relationship with the student. Hence, the project family approach engaging fellow students in problem discussion and concrete support regarding better understanding of tasks they all face at work would give an additional dimension to student placement. It is applicable in cases when several students are in the same enterprise, but could work even if they are all in different companies. Brainstorming, workshop, discussion, Q&A session, debate, etc. could be included as segments of the project family approach.

Workgroup 3:

PROS:

- students with different background can work together
- it trains student for team work
- develops responsibility
- good for teambuilding
- opportunity to recognize individual students potentials
- opportunity to identify students who are not willing to work as a team (or individually)

CONS:

- how to evaluate individual effort and involvement? (students are usually backing up each other)
- our student are often employed and busy – hard to organize project family (to group them together)

Example of our project family:

Project: **Fire Risk Assessment for Public Building**; students are divided in 3 groups

1st group tasks:

- group of students collect Project design documentation;
- then they conduct building inspection and confirmation of design plans;
- fire resistance assesment – constructural fire safety and fire performance of building materials.

2nd group tasks:

- group has to identify quantity and quality of flammable and explosive materials;
- determine properties of dangerous materials (if found);
- calculation of fire load.

3rd group:

- use various software packages to simulate fire and evacuation.

All 3 groups:

- Students get together and define recommendations and conclusions.



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