Didaktikforum 2016

Project-Oriented Studies (PST)
Innovative Teaching/Learning Concepts for First Semester Students

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Outline

- Method / Thematic Field
- Basic Conditions
- Objectives
- Implementation
- Impact
- Lessons Learned
- Open Questions
- Discussion
Method / Thematic Field

- Implementation of additional support for (first semester) students
  - Mentoring
  - Counseling
  - Tutorials
- Collaborative Learning
Basic Conditions of the PST

- **Target group:** first semester students (B.Sc.)
  - computer science
  - medical computer science
  - applied computer science

- **Average grade of the university entrance certificate:** 2.8 (over the last 10 years)

- **Participating at the organization/implementation of the PST:**
  Almost every member of the department of computer science and media
Objectives

- **Primary objective**: Quick familiarization of the first semester students with the everyday life at our university
  - university ≠ school
  - self-determined learning vs. externally-determined learning
- **Long-term goal**: reduction of the dropout rate
- **Crucial**: a successful first semester
Sub-Objectives

- overview of the range of courses/topics offered at our department
- experimental learning culture
- team building
- social skills
  - self-organisation
  - communication
  - collaboration
  - presentation
  - ...

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Implementation

- preparatory courses
- two-day start-workshop
- barbecue at the end of the second day
- eight-week project phase with supporting tutorials
  - scientific work
  - examination regulations
  - social skills (presentation, collaboration, communication,…)
- project presentation (Audimax)
- final party (Nikomatik)
PST Overview

- **Start-Workshop**
  - 26./27.09.16 (daylong)

- **Project Phase (in teams)**
  - Consultations
  - 27.09. - 30.11.16
  - 29.09.16, 12:30: First Team Meeting
  - 10.11.16, 12:30-14:00 Workshop „Presentation“
  - 24.11.16, 12:00-14:00 Final Rehearsal

- **Final Presentation**
  - 30.11.16 Closing Event (Audimax)
  - 08.12.16 10:00-14:00 Workshop „Study Organisation“
Monday 26.09. / Tuesday 27.09.16  
**6 Topics**  
**4 Groups**  

### Start-Workshop

**Library**  
- Mrs. Zänker, Mrs. Kaepke  
- Library

**Teamwork (Org. & Pres.)**  
- Prof. Kindsmüller  
- Room 301, 3. Floor

**Social Software - Moodle**  
- Mr. Mrkor  
- PC-Laboratory 224, 2. Floor

**IT-Infrastructure**  
- Mr. Doletzki, Mr. Weidner  
- PC-Laboratory 223, 2. Floor

**Math-Check**  
- Prof. Socher (Mrs. Fröhlich)  
- PC-Laboratory 232, 2. Floor

**Student-Guided Campus-Tour**  
- Nico Bandt  
- Meeting Point: Foyer

Break Room: R 035
PST Topics

(1) Evolution of Computer Games (Prof. Syrjakow)
(2) Programming of Interactive Objects with Arduino (Prof. Jänicke)
(3) Poster Design - Nikomatik (Prof. Urban)
(4) 2.5D-Animation and Projection (Prof. Hasche)
(5) Electronic Cube (Prof. Kell)
(6) Cross Platform Apps with Kivy (Prof. Preuss)
(7) Panorama Photography (Prof. Kim)
(8) Hyperspectral Imaging (Prof. Schrader)
(9) Gait Analysis (Prof. Loose)
(10) Patient Information (Prof. Beck)
Impact

- **Disadvantages**
  - a lot of effort
  - almost every member of our department is involved

- **Advantages**
  - quick familiarization of the first semester students
  - quick team building
  - overview of
    - the range of topics
    - professors
    - scientific/technical employees
  - approved by positive evaluations
Some Data Regarding the Dropout Rate
(without consideration of ticket students)

Development of the WS 2012/13 - cohort (B.Sc. Computer Science, not cumulative)
Lessons Learned

- positive impact on the students
  - socially (many PST groups persist for the entire course)
  - study success (small dropout rate)
- beneficial for the team spirit
  - in our department
  - among the students
- creation of a (very) positive atmosphere
Open Questions?

Please feel free to ask!