Technische Hochschule Brandenburg
University of Applied Sciences

Fachbereich Informatik und Medien

Didaktikforum 2016

Project-Oriented Studies (PST)

Innovative Teaching/Learning Concepts for First Semester Students

Michael Syrjakow

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

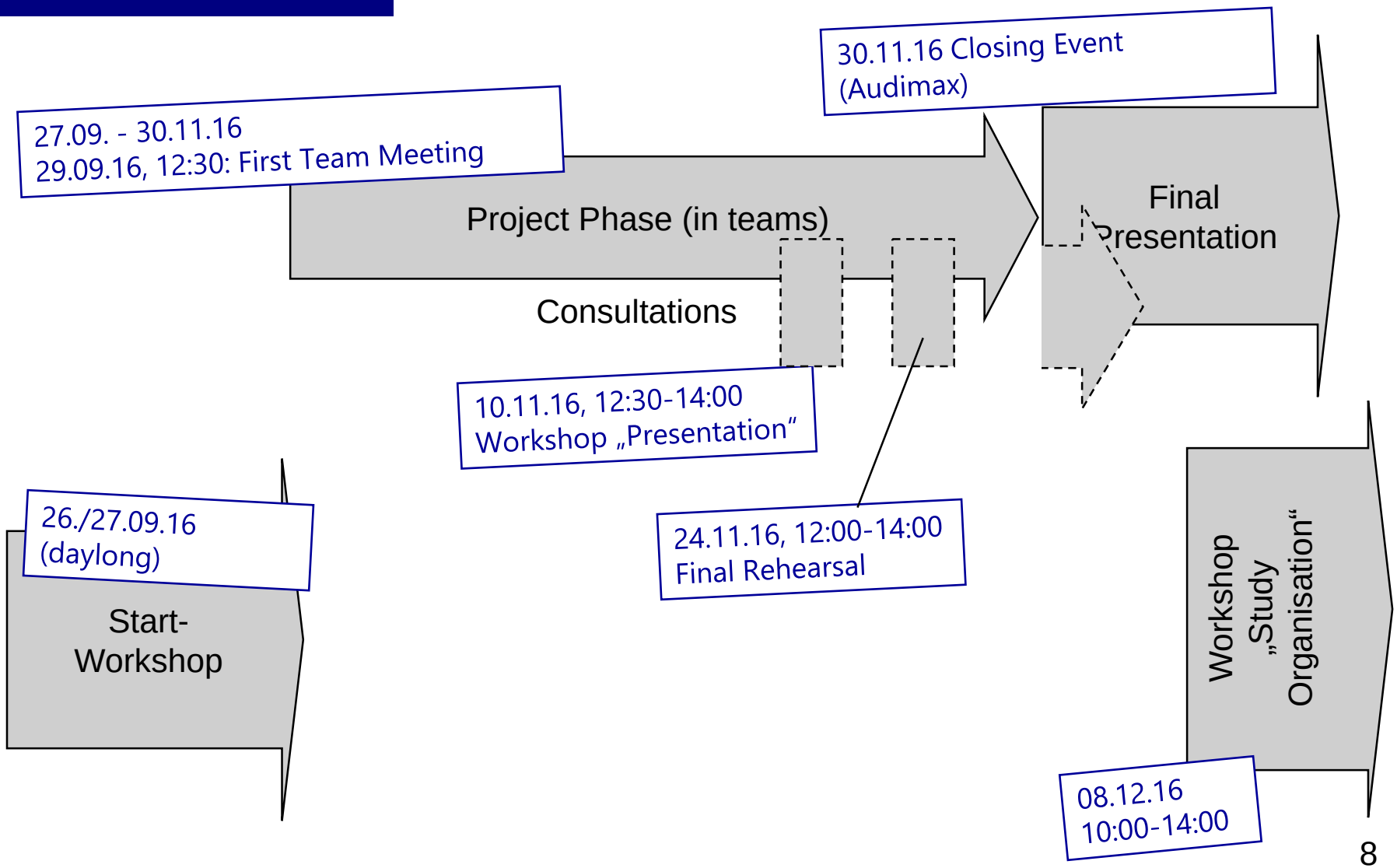
Sub-Objectives

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

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

Monday 26.09. /
Tuesday 27.09.16
6 Topics
4 Groups

- **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)

InfB/ACS

---

(8) Hyperspectral Imaging (Prof. Schrader)

(9) Gait Analysis (Prof. Loose)

(10) Patient Information (Prof. Beck)

MZI

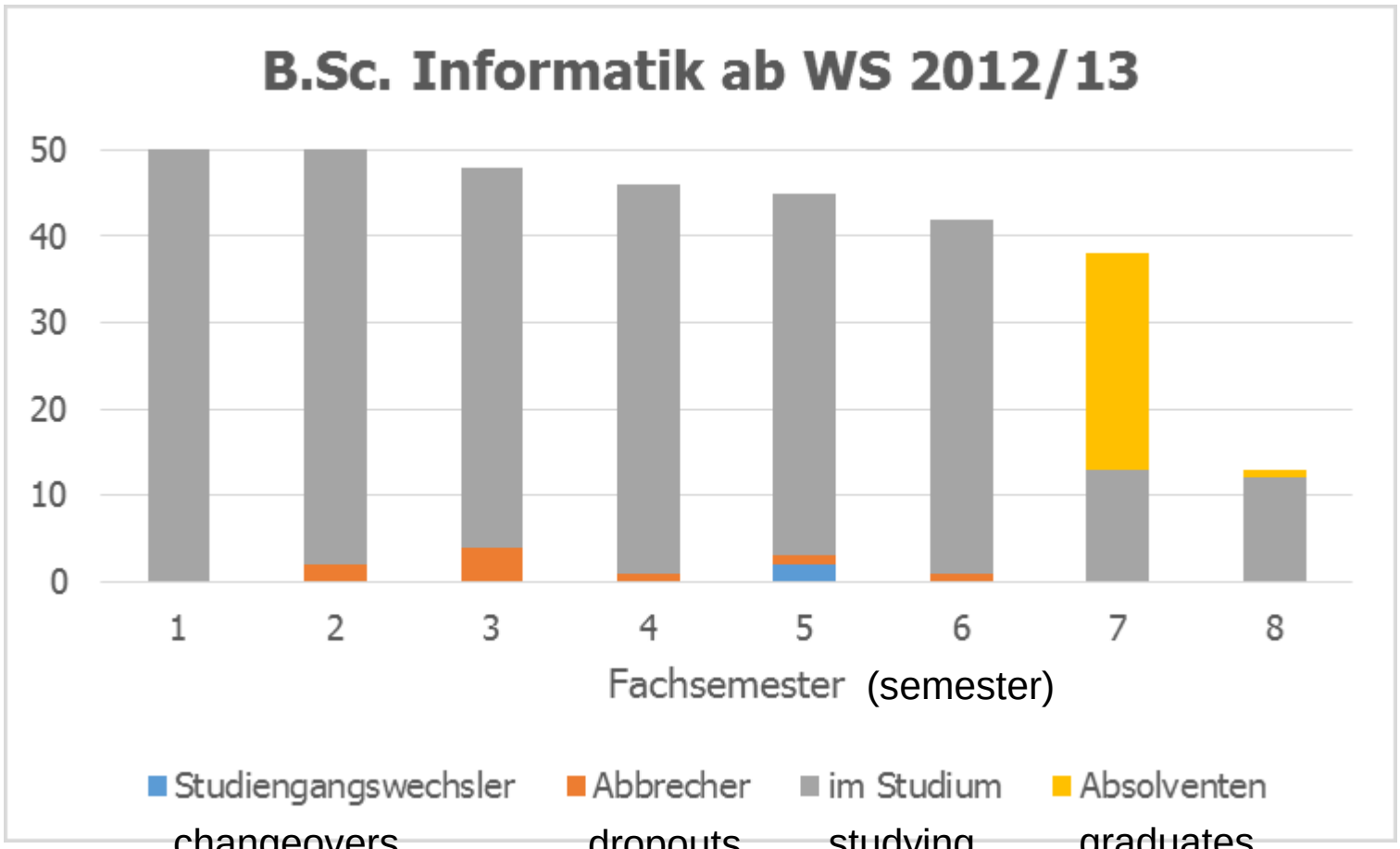
Impact

- **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!