Critical Reflection of an Experimental Didactic Design
for the Course "Information Systems 1"
for Business Administration Bachelor

Didactic Forum 2019

Prof. Dr. Vera G. Meister & Marcel Cikus, B. Sc.
Didactic Forum 2019
Critical reflection of an experimental didactic design in the course "Information Systems 1" for Business Administration Bachelor
Technische Hochschule Brandenburg · University of Applied Sciences

Agenda

➢ Requirements & Challenges
➢ Constructive Alignment
➢ Didactic Concept
➢ Setting for the Cases
➢ Course Structure
➢ Critical Reflection
• **Business information systems** (BIS) is becoming increasingly important in non-IT jobs – Part-time

• Starting from the challenges of digital transformation, this didactic concept is trying a **new constructive alignment** for the introductory module “BIS for Business Administration Bachelor”.

• The methodical implementation followed the principle of **Problem-based Learning**

• The reflection is based on **three different** views:
  - Students
  - Teachers
  - Methodology Expert
Requirements

• An independent study guide lists **48 professions** in nine Industries with corresponding job profiles

• They are all subject to digital transformation.

➢ Business Administrators become part-time computer scientists
Challenges

Overcome students passivity

What do you even talking about?

What exactly should we memorize now?
Constructive Alignment

- Exam situations
- Exam requirements
- Exam tasks

- Learning situations
- Learning requirements
- Learning tasks

- Professional and social situations
- Requirements
- Tasks

Processes of Teaching and Learning

Learning Outcomes
Didactic Requirements and Concepts

➢ **BIS_Req1**: Design competence at the interface between BA and IT

➢ **BIS_Req2**: Orientation in the potential design space

<table>
<thead>
<tr>
<th>Concept</th>
<th>BIS_Req1</th>
<th>BIS_Req2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Textbook-based introductory lecture in BIS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teaching of a programming language, e.g. Basic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office applications, especially Excel, Access</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Case study based introduction to ERP systems, e.g. SAP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lecture on IT trends and business IT alignment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project-based system analysis and technical modeling</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Problem-based Learning (PBL)

Didactic Concept of the Course

- Entry Test
- Problem-descriptions
- Final test

Core

Methodology

- PBL guide
- Tutoring videos
  - PBL Basics
  - Teamwork
  - 7-jump process
- Reflection sheets

Support

Organization

For problem solving
- Literature
- Lecture slides
- E-lectures
- Exercises
- Self-tests

- Scheduling
- Planning of rooms
- Tutoring
- Votings
- Hints

Critical reflection of an experimental didactic design in the course "Information Systems 1" for Business Administration Bachelor
Technische Hochschule Brandenburg · University of Applied Sciences
Narrative Setting for the Cases: BFV AG

Medium-sized rental company for construction vehicle

- Dynamically growing, located in south Germany
- About 300 employees, 60 of them in the headquarters
- 14 subsidiaries in Germany, 6 abroad
- Owner: Private-Equity-Company
- 2 executive board members:
  1) Sales and Finance
  2) Assets and Technology
- Management structure:
  - at headquarters: head of departments, group leaders
  - in the subsidiaries: store managers, group leaders
## Case Topics

<table>
<thead>
<tr>
<th>Shortcut</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIP</td>
<td>Agile IT project management</td>
</tr>
<tr>
<td>DFW</td>
<td>Digital forms and workflows</td>
</tr>
<tr>
<td>DFR</td>
<td>Digital professional rules</td>
</tr>
<tr>
<td>ERX</td>
<td>E-invoicing and XML formats</td>
</tr>
<tr>
<td>BDI</td>
<td>BigData and Internet of Things</td>
</tr>
<tr>
<td>MMI</td>
<td>Human and machine and intelligence</td>
</tr>
<tr>
<td>BCF</td>
<td>Blockchain and FinTech</td>
</tr>
</tbody>
</table>
Examination

- **Defence of problem solutions**
  The problem solutions and the documentation of the sources, the development process and the interim results (5 x 14 = 70 P.) are evaluated

- **Final test**
  Includes 30 questions on all seven problems (30 P.) – in Moodle.

- **Both parts of the exam** have to be passed independently, the grade is aggregated.
Critical reflection of an experimental didactic design in the course "Information Systems 1" for Business Administration Bachelor
Technische Hochschule Brandenburg · University of Applied Sciences

Team Roles

Each team 8 students

Discussion Lead

Record Keep

Media Documentary

Rotation of responsibility in each phase
Critical Reflection – Feedback by Students

- High learning effect
- Individual responsibility
- Defenses
- PBL methodology
- Strong student communication
- Practical relevance
- Problem solving ability

- Size of the teams
- Sound quality of the videos
- Unclear tasks
- Habituation
- Organizational effort
Self Reflection and Experts View

• **Difficulties** at the start of the course

• **Freedom and creativity** was unusual and **overwhelmed** the students

• After each defense, students **dealt directly with the new case** – the introduction was not always optimal

- Very popular - Big Data and Internet of Things
- Very unpopular - Digital Forms and Workflows

✓ Method expert and consultant gave a very **positive feedback**
✓ Successful **confirmation for the PBL** approach
Conclusion

- New didactic approach requires more resources in teaching capacity, spaces and equipment
- Students have to adapt to the unfamiliar situation
- Huge planning, coordination and support effort

✓ Big step away from "repeat the learned" to "independently developing creative solutions under uncertainty".

Feedback from a student:

"The topics of digitalization we had covered, are invaluable to our future professional practice. I had no idea and also fear of contact with this topic. By working independently on this, I now dare to deal and have fun with it."
Thank you for your attention.

Prof. Dr. Vera G. Meister & Marcel Cikus, B. Sc.
https://bmake.th-brandenburg.de
https://fbwtube.th-brandenburg.de