Using Elected Elements in Large-Scale Information Systems Lectures

WI 2017

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Elected Elements in IS Lectures

Introduction
Theoretical Background

Self-determination Theory (Deci & Ryan 1985)

- Competence
- Autonomy
- Relatedness

Intrinsic Motivation
Related Work

*Approaches to Foster Perceived Competence in Large-Scale Lectures*

- Quiz
- Peer Assessment
Related Work

Approaches to Foster Relatedness in Large-Scale Lectures

Discussions

Group Work
Related Work

Approaches to Foster Autonomy in Large-Scale Lectures

Duncan (2005), Lundeberg et al. (2011): „Clicker Case studies“

No focus on autonomy!
Idea

Compromise between Free Choice and Predetermined Lecture

Predetermined  Elected Elements  Free Choice
Idea

Voting in Lectures with Predefined Choices

1\textsuperscript{st} lecture

2\textsuperscript{nd} lecture

\ldots

n\textsuperscript{th} lecture

final lecture

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### Examples of Elected Elements

<table>
<thead>
<tr>
<th>Lecture Content</th>
<th>Choice A</th>
<th>Choice B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Modeling</td>
<td>BPMN</td>
<td>Activity Diagram</td>
</tr>
<tr>
<td>Digitization</td>
<td>Crisis Response</td>
<td>Online Firestorms</td>
</tr>
<tr>
<td>Cyber Security</td>
<td>Technological Measures</td>
<td>Organizational Measures</td>
</tr>
</tbody>
</table>
Research Question

What are the impacts of providing elected elements in large-scale information system lectures on students’ intrinsic motivation and learning outcomes?
Method

Empirical Study

1. Preliminary study (winter term 2015/2016) to evaluate the questionnaire
2. Quasi-experimental field study (winter term 2016/2017) to address the research question
Preliminary Study

Setup and Demographics

- Questionnaire at the end of semester adapting items from the „Intrinsic Motivation Inventory (IMI)“ (Ryan 1982)
- N = 58 valid questionnaires
- 14 females, 44 males
- Age was 20.2 years on average (SD=2.7)
## Preliminary Study

*Questionnaire Structure and Reliability*

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Number of Items</th>
<th>Cronbach’s α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest/Enjoyment</td>
<td>3</td>
<td>0.79</td>
</tr>
<tr>
<td>Perceived Influence</td>
<td>3</td>
<td>0.82</td>
</tr>
<tr>
<td>Value/Usefulness</td>
<td>3</td>
<td>0.83</td>
</tr>
<tr>
<td>Desirability</td>
<td>3</td>
<td>0.83</td>
</tr>
</tbody>
</table>
Preliminary Study

Results - Distributions

**Interest/Enjoyment**

- 1: 1
- 1.33: 0
- 1.67: 0
- 2: 2
- 2.33: 1
- 2.67: 3
- 3: 4
- 3.33: 5
- 3.67: 10
- 4: 18
- 4.33: 8
- 4.67: 4
- 5: 3

**Perceived Influence**

- 1: 0
- 1.33: 0
- 1.67: 0
- 2: 3
- 2.33: 1
- 2.67: 4
- 3: 8
- 3.33: 4
- 3.67: 10
- 4: 11
- 4.33: 10
- 4.67: 2
- 5: 4

**Value/Usefulness**

- 1: 1
- 1.33: 0
- 1.67: 0
- 2: 2
- 2.33: 3
- 2.67: 4
- 3: 8
- 3.33: 7
- 3.67: 4
- 4: 4
- 4.33: 2
- 4.67: 3

**Desirability**

- 1: 0
- 1.33: 0
- 1.67: 0
- 2: 1
- 2.33: 1
- 2.67: 2
- 3: 3
- 3.33: 5
- 3.67: 6
- 4: 5
- 4.33: 12
- 4.67: 8
- 5: 15

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## Preliminary Study

### Results - Bivariate Correlations

<table>
<thead>
<tr>
<th>Interest/Enjoyment</th>
<th>Perceived Influence</th>
<th>Value/Usefulness</th>
<th>Desirability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest/Enjoyment</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Influence</td>
<td>0.55**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Value/Usefulness</td>
<td>0.58**</td>
<td>0.49**</td>
<td>1</td>
</tr>
<tr>
<td>Desirability</td>
<td>0.78**</td>
<td>0.60**</td>
<td>0.62**</td>
</tr>
</tbody>
</table>

**p < 0.01
By being able to vote for elected elements, one is able to influence the content of the lectures -> increased interest.”

The interest in the course increases when elected topics are covered.

I really liked deciding for the topics that I was most interested in.
Current Research: Quasi-Experimental Study

<table>
<thead>
<tr>
<th>BISE</th>
<th>Oct 2016</th>
<th>Dec 2016</th>
<th>Feb 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>Treatment</td>
<td>Midtest</td>
<td>Posttest</td>
</tr>
<tr>
<td>BEng</td>
<td></td>
<td></td>
<td>Exam</td>
</tr>
</tbody>
</table>

• SELLMO
• Confidence
• Expectations

• SELLMO
• Confidence
• Expectations
• IMI
• Satisfaction

• SELLMO
• Confidence
• Expectations
• IMI
• Satisfaction

• Learning Outcomes

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Thank you!

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