Summer school participation in relation to academic performance, motivation and academic self-esteem

European First Year Experience
Cork, Ireland, 18th June 2019
Carlijn Knuiman, MSc.
Inholland, University of Applied Sciences
“Students felt more confident after participating in the summercourse, they started the study program with the feeling: ‘I can do this’.

“Students also participate to boost their confidence.”

“Students often think “I can’t do calculus” or they say “My mother can’t do calculus so neither can I”. They have no confidence which will create a selffulfilling prophecy. With a different mindset they have more chance of succeeding.”

“The program was effective in the social and academic integration of students. Students were very enthusiastic.”

Math summer school

Characteristics

- First year students Aeronautical Engineering
- Five days, end of summer holiday
- Voluntary participation, costs € 150,-
- Math assignments
Research Question

• What are the effects of participation in the summer school program on math skills?

• Do participants experience more motivation and academic self-esteem after participation?

• Do dropout rates differ between participating and non-participating students?

• Do participants differ from non-participating students in motivation or academic self-esteem?
Method

- Test-retest
  - Math test & questionnaire, motivation, academic self-esteem, assessment of own skills, evaluation

- Participants and Control group

- 2 years: 2016 & 2017
Participating vs. non-participating students

Differences
• Previous education
• Assessment of own math skills
• Academic self-esteem

No differences
• Gender
• Assessment of own language-, planning and study skills
• Motivation
Pre- vs. post participation

**Increased after participation:**

- Assessment of own math, planning and study skills
- Autonomous motivation

- Generally no differences in controlled motivation and academic self-esteem
No significant differences

<table>
<thead>
<tr>
<th>Dropout</th>
<th>Participants</th>
<th>Control group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>52%</td>
<td>43%</td>
</tr>
<tr>
<td>No</td>
<td>48%</td>
<td>57%</td>
</tr>
</tbody>
</table>

Participants (n = 54)
Control group (n = 133)
Conclusion

After participation, participants:

• Experience better math, planning and study skills
• Perform better on a math test
• Have more autonomous motivation
  • Not more controlled motivation or academic self-esteem

In comparison to control group

• Less academic self-esteem
• No differences in motivation
• No differences in dropout