# UNIVERSITÄT WURZBURG

## Non-directive reflective prompts in remote settings: effects on performance, motivation, strategy and resource use in higher education



Moiken Jessen, Klaus Lingel, Tobias Richter, Roland Stein

#### **INTRODUCTION**

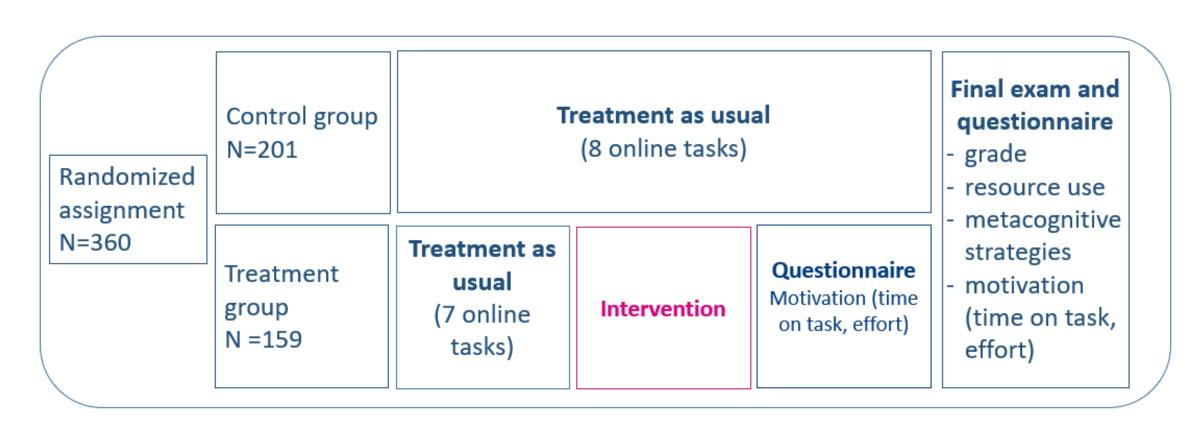
- Covid 19-Crisis -> increase in number of remote courses in psychology at universities
- Assumption: students adjust to the new setting without difficulty
- BUT: studies show students fail to activate prior metacognitive knowledge on self-regulation strategies (production and utilization deficit) in remote settings.
- -> Students need support in their learning process in remote settings
- -> laboratory studies show that prior production and utilization deficit can be overcome with help of a reflective prompt

Can an intervention, easy to administer and targeting students' reflection on their learning process, support students in the activation of their strategies of self-regulated learning in remote learning settings?

#### **METHOD**

#### Study design

360 teacher students, one psychology class, one exam



#### Intervention

Students answered 3 questions regarding their exam preparation:

- Which of the available resources will I use?
- Why do I intend to use them?
- **How** do I intend to use them?

We assume that answering the above questions prompts a reflection process.

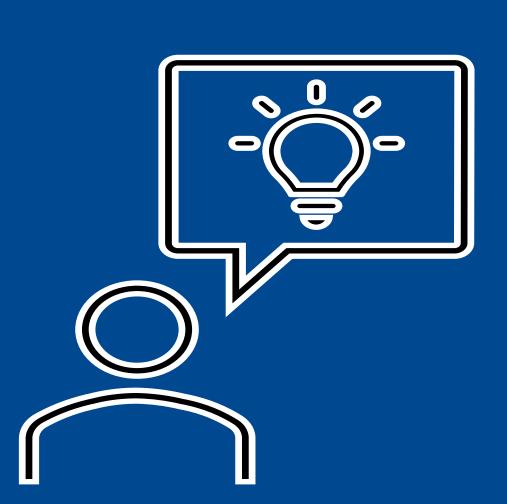
### **MAIN RESULTS**

- 1. a. intervention leads to an increased use of strategies of selfregulated learning in treatment group
- b. No effect on motivation and resource use (analysis 1)
- 2. overall, use of strategies of self-regulated learning influences learning outcome (grade) in a positive way (analysis 2)
- 3. Most important predictor of learning, beyond time on task, effort, and treatment: Use of strategies of self-regulated learning (analysis 3)

#### **DISCUSSION**

Future interventions should stress the application of strategies of selfregulated learning. They are the best predictor of learning outcome. The challenge is how to keep interventions simple for both students and educators.

A simple intervention activates students' reflection on their learning process and helps them study better in remote learning settings.



https://tinyurl.com/yjjzmj6t

moiken.jessen@uni-wuerzburg.de

## **ANALYSES**

## 1. Comparison of means

	<u>Control</u>		<u>Treatment</u>					CI	<u>95%</u>	Cohen's
	M	SD	M	SD	t	df	p	LL	UL	d
Resource Use	7.47	2.45	7.64	2.39	-0.61	296.80	0.55	-0.70	0.37	-0.07
Strategy Use	28.97	5.25	30.30	5.55	-2.15	284.21	0.03	-2.54	-0.11	-0.25
Effort	5.63	1.96	5.72	2.01	-0.37	278.34	0.71	-0.54	0.37	-0.04
Time spent	22.08	19.24	25.22	24.06	-1.22	239.10	0.22	-8.22	1.93	<b>-</b> 0.15
Grade	2.54	0.91	2.54	0.92	-0.06	337.93	0.96	-0.20	0.19	-0.01

#### 2. Regression analysis

					atratage
					strategy
5 -					
4-					Constant
•	• • •	•••			
Note	• • • •	• • • •	•	Groups  Control	
N 3-			•	Treatment	PC
	• • • • •	• • • • • • • • • • • • • • • • • • • •			Observation
2-					$\mathbb{R}^2$
1-	•				Adjusted R
10	20	30	40		Residual St
		strategy			F Statistic

		Note
	strategy	$-0.043^{***}$ $(0.009)$
Groups	Constant	3.780*** (0.280)
<ul><li>Control</li><li>Treatment</li></ul>	Observations $\mathbb{R}^2$	315 0.064
	Adjusted R <sup>2</sup> Residual Std. Error	0.061 $0.894 (df = 313)$
	F Statistic	$21.377^{***} (df = 1; 313)$

Dependent variable:

#### 3. Regression analysis

	Note
strategy	-0.031**
	(0.014)
Treatment	0.108
	(0.590)
effort	-0.016
	(0.033)
timespent	-0.002
	(0.003)
strategy:Treatment	-0.001
	(0.020)
Constant	(0.020) $3.551***$
	(0.387)
Observations	292
$\mathbb{R}^2$	0.056

CoTeach

#### GEFÖRDERT VOM



gemeinsamen "Qualitätsoffensive Lehrerbildung" von Bund und Ländern aus Mitteln des Bundes ministeriums für Bildung und Forschung gefördert