

# The effect of Active Learning on Students' Motivation and Self Regulation



Sanjay Bissessur  
University of Amsterdam

## Introduction

Deslauriers et al. (2019) argue that, while active learning improves learning outcomes, it may also reduce student motivation, engagement, and ability to self-regulate. They suggest this negative effect of active learning can be alleviated if instructors adopt facilitation strategies. In this experiment, I employ Active Learning based on Socio-Cognitive Theory to test this conjecture.

## Material & Methods

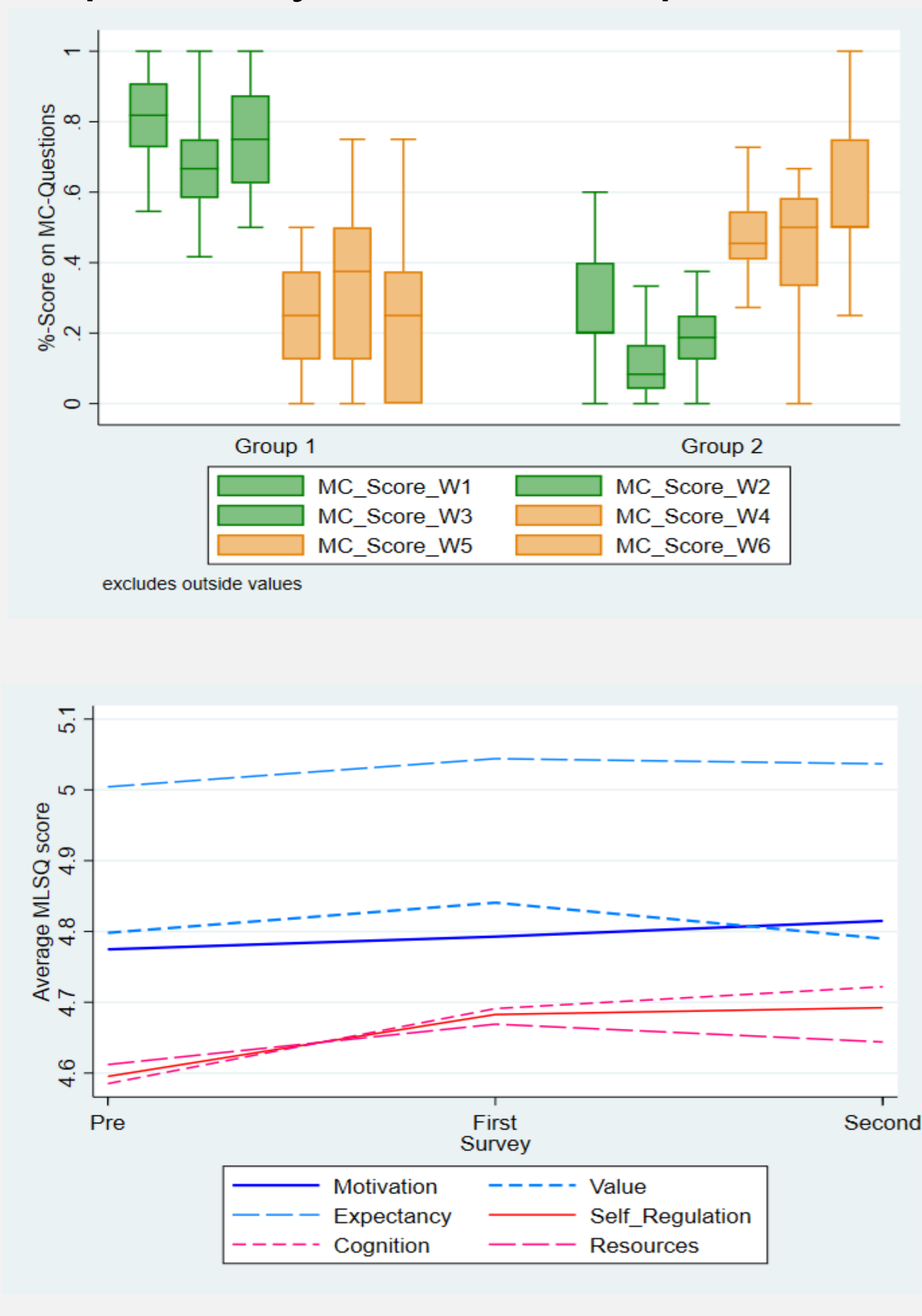
For a MSc course in Financial Accounting Research, students receive two *Active Learning* interventions on Multiple Choice Questions

### ● Intervention 1: Low- AL

Students are required to make preparatory Multiple Choice questions in the LMS Canvas

### ● Intervention 2: High- AL

Students are required to make in-class live Multiple Choice questions in student response system Wooclap



## Results

Active learnings affects scores on the MC questions

### ● Intervention

Students score higher if the same question is asked in the LMS than when it is asked live

### ● Motivation & Self Regulation

No effect of the Active Learning intervention on Motivation and Sef Regulation

Table 14: The effect of Active Learning on Motivation and Self Regulation				
	(1) Motivation	(2) Motivation	(3) Self Regulation	(4) Self Regulation
Main effects:				
<i>ActLearn<sub>ALL</sub></i>	0.0737 (1.27)		0.0393 (0.83)	
<i>ActLearn<sub>LOW</sub></i>		0.0789 (1.27)		0.0744 (1.45)
<i>ActLearn<sub>HIGH</sub></i>		0.0682 (1.03)		0.00193 (0.04)
Controls:				
<i>Parttime<sub>i</sub></i>	-0.0362 (-0.20)	-0.0369 (-0.21)	-0.120 (-0.61)	-0.125 (-0.64)
<i>Age<sub>i</sub></i>	-0.00887 (-0.44)	-0.00885 (-0.44)	0.00179 (0.08)	0.00198 (0.09)
<i>Gender<sub>i</sub></i>	0.0289 (0.18)	0.0288 (0.18)	0.209 (1.18)	0.209 (1.18)
<i>EduBackground<sub>i</sub></i>	-0.0929 (-0.55)	-0.0926 (-0.55)	-0.0139 (-0.09)	-0.0120 (-0.08)
<i>HomeCity<sub>i</sub></i>	0.244 (1.63)	0.244 (1.63)	0.254 (1.62)	0.254 (1.62)
Constant	4.917*** (9.17)	4.916*** (9.17)	4.438*** (6.94)	4.435*** (6.93)
<i>sigma<sub>u1</sub></i>				
Constant	0.545*** (12.11)	0.545*** (12.12)	0.563*** (12.43)	0.563*** (12.42)
<i>sigma<sub>e</sub></i>				
Constant	0.340*** (13.03)	0.340*** (13.06)	0.288*** (11.34)	0.286*** (11.64)
Observations	191	191	191	191

This table reports estimates for a Random Effects regression model estimated using Maximum Likelihood Estimation (MLE) of Active Learning on Self Regulation and Motivation. T-statistics based on standard errors clustered by individual student. \*\*\*, \*\*, and \* correspond to 1 percent, 5 percent, and 10 percent significance levels, respectively (two-tailed).

## Summary

Results show that Active Learnings can have positive learning outcomes on Multiple Choice questions. However, the implementation of Active Learning does not affect students' Motivation or Self-Regulation

## Conclusion

Deslauriers et al. (2019) show that Active Learning improves learning outcomes in STEM studies, but also highlight potential negative effects of Active Learning on students' motivation and self-regulation. In our setting in a social-study, (1) we also find positive effects of Active Learning on learning outcomes, but (2), do not find a negative effect on students' Motivation and Self Regulation. Our results indicate that Active Learning can be beneficial in a social-study class, without negative side effects on Motivation and Self-Regulation.