EXPLORING ACHIEVEMENT GOALS AND ONLINE FORMATIVE ASSESSMENT EFFECT ON STUDENTS' PERFORMANCE IN A BLENDED-LEARNING COURSE IN HIGHER EDUCATION

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CONTEXT

- Blended-learning is becoming the norm in higher education (Dziuban, Graham, Moskal, Norberg, & Sicilia, 2018).
- The interest in formative assessment is in line with the work that reveals the testing effect, i.e., the superiority of taking a test on material, compared to re-studying the materiel (Roediger III, Agarwal, McDaniel, & McDermott, 2011).
- To some extent, research shows correlations between achievement goals and students' performance (Lüftenegger et al., 2016).

RESEARCH QUESTION

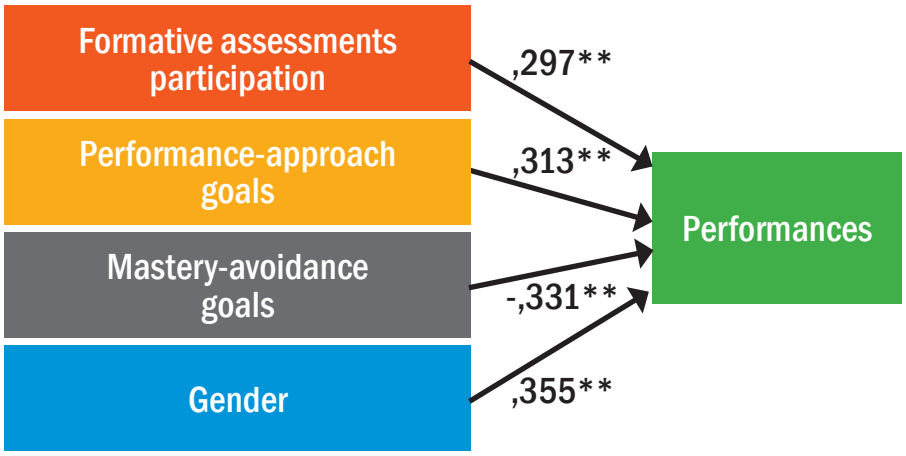
In a blended-learning course,

1. Does participation in formative online assessment enhance students' performance?
2. Do achievement goals have an effect on students' performance?

METHODOLOGY

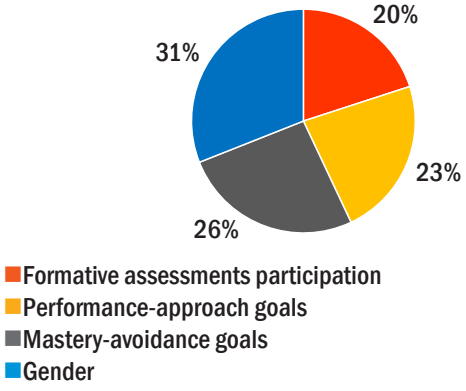
- Prospective & correlational study
- **46 computer science students**
- **Blended learning course**: mathematics applied to computer graphics
- Data from **23 formative assessments** spread over one semester
- Perfomance measured **in pretest and post-test**
- **Achievement goals** measured before the course

RESULTS



VARIANCE EXPLAINED BY EACH VARIABLE

adjusted R^2=48.6%



CONCLUSIONS

- The more students participated in formative assessment throughout the semester, the higher their performance
  ➔ **Influence of the testing effect or student engagement ?**
- Positive effect from performance-approach goals : students who want to do better than others are likely to do better than others.
- Negative effect from mastery-avoidance goals : students afraid of failure will more probably fail.
- Girls perform better than boys and combat the stereotype threat related to mathematics and ICTs.
  ➔ **Influence from the specific context of blended-learning ?**

Dziuban, C., Graham, C. R., Moskal, P. D., Norberg, A., & Sicilia, N. (2018). Blended learning : The new normal and emerging technologies. *International Journal of Educational Technology in Higher Education*, 15(1), 3. doi: 10.1186/s41239-017-0087-5
Lüftenegger, M., Klug, J., Harrer, K., Langer, M., Spiel, C., & Schober, B. (2016). Students' Achievement Goals, Learning-Related Emotions and Academic Achievement. *Frontiers in Psychology*, 7. doi: 10.3389/fpsyg.2016.00603
Roediger III, H. L., Agarwal, P. K., McDaniel, M. A., & McDermott, K. B. (2011). Test-enhanced learning in the classroom : Long-term improvements from quizzing. *Journal of Experimental Psychology: Applied*, 17(4), 382-395. doi: 10.1037/a0026252