

# Using e-status for assist learning in a Probability and Statistics subject

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## Abstract

In the subject Probability and Statistics for Engineering careers at National University of La Matanza, Argentina, a high number of dropouts and disapprovals are observed. Taking this into account, the professors of this subject started some years ago to use an automatic self-correcting web platform called e-status. This platform has the free software R as a calculation engine and allows parameterizing problems so that students can solve it several times, with variations. The students have an active repository of problems to practice the contents proposed by their teachers, obtaining immediate correction of their results. Although the results obtained in previous publications of this research group show a clear incidence of the practice in e-status on the approval of the subject, it was observed the need to accompany the numerical exercises with others of conceptual or theoretical type to favor reflection and metacognition of the contents. Students require more guidance for learning in e-learning spaces that favor the questioning of their conceptual assumptions and their way of appropriating the contents. To take these aspects into account, we worked on the contents of the platform and offered students a course in metacognitive strategies. The monitoring carried out from 2016 to 2018 shows a statistically significant academic improvement in favor of those who use the platform. Additionally, the increase in the use of the platform is an indicator of the value given by students and teachers to it, with a positive effect on the approval of the subject and consequently on the decrease in dropouts.

## Keywords

e-learning, web-based tools, educational-technology applications

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## Biographies

**Pérez, Silvia Noemí** is an Associate Professor in Engineering and Technological Research Department, National University of La Matanza and she coordinates Applied Statistics subject for Industrial Engineering. She earned a Master's degree in Biometrics from University of Buenos Aires. Her main lines of research focus on technology-enhanced learning, particularly using educational platforms, and statistics applied to the analysis of health and education data.

**Giuliano, Monica** has a Master's degree in Psicoinformatics Education and is specialized in Applied Statistics. She is a researcher professor in the Engineering Department of National University of Hurlingham and National University of La Matanza. She is a Professor in Probability Course of Engineering. Also, Prof. Giuliano has category II in the Incentive Program belonging to the Ministry of Science and Technology of Argentina and she is Director of research projects related to Statistics and Education, with multiple publications in the field of education and statistics. She has participated in research projects collaboratives involving various universities.