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# **ORGANISATIONAL LEARNING STRATEGIES OF INTRODUCTORY STATISTICS COURSES IN AN ONLINE MPH: SLOW AND STEADY WINS THE RACE**

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## **PURPOSE**

The first year of the Master of Public Health (MPH) program at the University of Bordeaux (France) has been organized in Open and Distance Learning (ODL) since 2007. The courses are aimed exclusively at French-speaking professionals working in the health field or in the social and solidarity economy sector, whether in the private or public sector. In 15 years, almost 300 people have been trained, about half of whom come from Africa and about half from French-speaking countries in Europe, overseas, and French-speaking countries abroad. The program aims to meet a growing demand in public health from active professionals whose mobility and/or time for training is limited. The basics of statistical reasoning, methods, and computing are introduced.

In addition to direct interactions throughout the year, each semester an anonymous satisfaction survey is sent to students. Analyzed together with the results of course assessments, the survey constitutes a valuable source for the evolution of practices. This feedback has led to an individualized organization of training according to each student's personal background, professional or family workload, and projects. We are able to organize the training over one or two years and to validate the university diplomas beforehand (i.e., institution-specific degrees equivalent to certain Master's courses). This is the case for the university diplomas "Statistical Methods in Health" and "Methods and Practices in Epidemiology," which allow the validation of part of the statistics courses of the Master's degree. We aimed to analyze the success or failure of the training by organizational profiles.

## **METHODOLOGY**

We considered all the people enrolled in the first year of the MPH program at the University of Bordeaux over the period from 2007 to 2021. The data considered are: gender, age, nationality, country of residence, and year(s) of enrolment. We consider three organizational profiles: with prior validation of university diplomas in statistics and epidemiology and without prior validation in one or two years. We calculated the dropout rate from the number of students who failed to graduate.

## **RESULTS**

Between 2007 and 2021, 294 students enrolled (53% women). The number of students per year ranged from 16 to 41. The average age of the students at the beginning of the training was 37 years (ranging from 23 to 57 years). Of the students, 55% were African and 40% French. Concerning the organizational profiles, 25% of the students obtained the university diplomas in statistics and epidemiology before entering the program, 62% of the students planned their training over one year, and 13% over two years. The yearly dropout rate ranges from 3% to 31% (average 13%). The dropout rate among students with prior validation of the university diplomas was 7%. Among the others, this figure doubles for those who planned their training over two years (14%) and increases to 25% for students who planned over one year.

## **IMPLICATIONS FOR THEORY AND PRACTICE**

Introductory statistics courses require good skills in scientific reasoning, mathematical calculation, computer manipulation, etc. These courses can be particularly stressful and sources of failure for continuing education students in the MPH who had long since left university and have started again in ODL. Multiple factors (not accounted in this study) can have an impact on dropout; yet orienting vulnerable candidates (those with weak scientific backgrounds or substantial professional workloads) to the prior validation of statistics courses seems to be a good strategy to prevent failure.

## **ORIGINALITY AND VALUE**

The 15-year study period provides some robustness for the observed results.