

**TITLE:** "ADOPT A MICROORGANISM" METHODOLOGY AND ITS IMPACT ON HIGH SCHOOL STUDENTS' LEARNING ABOUT MICROBIOLOGY

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**ABSTRACT:**

The #Adopt project was created in 2013 at the Institute of Biomedical Sciences at the University of São Paulo with the goal of making Microbiology learning more attractive to students by blending traditional theoretical classes with the virtual environment of the social media Facebook®. In the years 2019 and 2020, the project branch "Adopt a Microorganism", designed for high school, was applied to second-year students of the integrated technical course in Business Administration, at the Federal Institute of São Paulo, Sorocaba campus (IFSP-Sorocaba). Students were distributed into five groups, which adopted a different group of microorganisms: archaea, bacteria, viruses, fungi, or protozoa. In the course of #Adopt, all groups answered 6 challenges posted by the class teacher in private Facebook® groups and, after each challenge, the topic was further discussed with the group mediators (undergraduate and graduate students who have already participated in the project as students). To evaluate the students' evolution during their participation in #Adopt, three questionnaires were applied: Q1, before the beginning of the project to address previous conceptions; Q2, during #Adopt; and Q3, five months after its conclusion to verify concept retention. In 2020, due to the COVID-19 pandemic, the #Adopt project had to be adapted, since classes at IFSP-Sorocaba had been suspended and students chose to continue with this activity exclusively remotely. In order to compare the progress of the 2019 and 2020 students during their participation in #Adote, the answers obtained in the Q1, Q2, and Q3 questionnaires were categorized, and the Shannon Diversity Index was calculated and compared to check the evolution of the

richness of the students' discourse on Microbiology. The results showed that there was an overall increase in the richness of the students' discourse in both years. Importantly, there was an increase in the diversity of topics cited by students and a decrease in conceptual errors. This allowed us to conclude that the #Adopt project, in its two application modalities - blended and remote - positively impacts student learning, and that this methodology proved to be very appropriate to be applied in emergency remote learning, as we have experienced since the beginning of 2020.

**Keywords:** Blended Learning; Emergency Remote Learning; Microbiology Teaching; Richness of Speech; Social Media;

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