

**Title:**

Using service-learning activities to explain the risks posed by toxic cyanobacteria

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**Abstract (300 words maximum): :**

Service-learning is an educational method that integrates community services and training, allowing students to use their knowledge to address real-world societal issues. The “Microbes go to school” program, created at UniNE, encourages students from the University to explain topics related to microbiology to children aged 6-12. We created an activity explaining the risk posed by the massive proliferation of toxic cyanobacteria that occurred in different cantons around Switzerland, causing the death of several dogs. These events have created public apprehension about their security near bathing places and misinformation, notably spread by the media. Therefore, the need to provide accurate information about the actual risks connected to cyanobacteria became urgent. Our activities were presented as a detective investigation in which elementary children had to discover which microorganism had killed a dog among four possible suspects (virus, bacterium, cyanobacteria, and green algae). The activity included theory, a field excursion, and a visit of the laboratories at the University. Along the duration of the activity, the children had to collect clues to identify the microorganism responsible for the dogs' death. Some of the clues were provided during theoretical lessons, while others had to be inferred from their observations in the field or during the laboratory session. These activities were beneficial for both groups of participants. During the activity, children acquired understanding in microbiology, and especially about cyanobacteria. They actively communicated their knowledge by collectively creating a poster summarizing the activities. This helped the trainers to evaluate the knowledge acquired by the children. For the trainers, the activities enabled them to acquire knowledge and experience in lay communication and in how to develop effective tools to present societal issues in a practical and engaging way.