

English summary

The well-documented lack of interest in natural sciences among young people is a heavily debated topic. This lack of interest has large consequences for meeting the demands of the future work force, which according to predictions will lead to an increased need for candidates who have a solid background in natural sciences. It also affects the political debate on many important issues, such as climate change and environmental pollution, which require a population that are able to reflect on such issues.

Students' interest in the natural sciences is high in the first years of school but declines during the later years of their studies. A positive correlation between a student's level of interest in natural science and their application for STEM (Science, Technologies, Engineering, Mathematic) educational programs has been documented. A potential lack of students choosing STEM subjects, and a substantial number of students not completing STEM educational programs are predicted to result in a major lack of engineers and natural scientists in the coming decades. The goal of this PhD thesis is to develop new and non-traditional teaching methods and examine whether these can generate more interest in marine biology and the natural sciences.

Live-stream video from a sunken ferry was used in teaching programs about marine biology and artificial reefs developed for Danish students in secondary and high schools (age 14-20 years). The students' level of interest in natural science and marine biology was evaluated using electronic questionnaires before and after a developed teaching program. A group of high school students completed the same questionnaires again one year after the teaching program to investigate the long-term impact on their interest.

The results of this thesis show that it was possible to make the students significantly more interested in natural sciences in general, and in marine biology in particular, after introducing a teaching program about marine biology that includes live-stream video from a sunken ferry. However, one year later, the increased level of interest dropped back to the level prior to offering the teaching program, suggesting the need for long-term teaching programs to maintain and/or develop interest.