

Certification of practical skills engages students and promotes learning

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ABSTRACT: Practical lab- and field skills are usually verified indirectly, through lab or field reports delivered in writing after the practical activity.

Motivated by improving constructive alignment between described learning outcomes related to practical skills and assessment, we developed and tested certification protocols for a set of field and lab activities.

The protocols included a general introduction, and a combined learning activity and assessment session planned as a skill ladder consisting of 1) practicing skills to reach confidence in own abilities, 2) demonstrate your skills to someone certified at this level, 3) becoming certified and 4) participate in certifying others.

The certification process worked like a chain reaction, initiated by an instructor certifying the first students. The exercise was approved when the student was certified at x number of steps. The students received a physical certificate stating achieved skill level.

This method was first tested and evaluated in lab courses focusing on microscopy skills¹. Overall, certification increased motivation and engagement and students were positive towards a continuation and further implementation of the method but pointed to the need of more time to practice between being introduced to the method and the certification. Based on these experiences, similar procedures were developed for two different field courses, evaluating skills related to performing snow profiles and vegetation analyses as well as a set of abiotic measurements commonly used in ecology.

In the field, students felt ambiguous about whether more time to practice improved their learning. Yet the students' perception of their ability to use the methods increased, from first introduction to final certification with a practice period that stretched over several days. The certification method was also a useful tool to prepare and align teachers to a given method.

We will discuss key elements facilitating successful use of certification as both a learning and assessment method of practical skills.

KEYWORDS: assessment, certification, engagement, practical skills

REFERENCES

Eidesen, P.B., A. Bjune & S. Lang (2022) Learning through assessment exchange the lab report with certification of microscopy skills. Poster. UNIS Learning Forum.