INTRODUCTION

Horticultural science is offered only by a limited number of universities in Germany, hence the number of students is manageable. In order to limit the expected costs for e-learning content to a reasonable amount in relation to the number of students, it is necessary to pool the expertise and resources of all facilities.

This motivated the institution of a cooperative B. Sc. module at University of Applied Sciences Osnabrück, University of Applied Sciences Weihenstephan-Triesdorf and Leibniz Universität Hannover as a part of the WeGa–Horticulture Research Network. This pilot module, called WeGa-Student, focuses on the topic Product quality of fruits and vegetables.

The module follows a blended learning approach, consisting of:

– online lessons in the learning management system Moodle
– weekend workshop
– expert presentations (teleteaching via videoconference system)

OBJECTIVES

1. Evaluation of the concept in the first project year
2. Analysis of the personal learning style preferences of the participating students in the first project year

MATERIALS AND METHODS

From October 2011 to January 2012 students met online via a videoconference system for teleteaching as well as in the learning management system Moodle. In Moodle, students were able to take online lessons on different aspects of product quality and had to complete a short online test for each lesson. Additionally, they met and worked together at a weekend workshop offline.

For evaluation and research purposes, the students were asked to answer a concept evaluation questionnaire and the Index of Learning Styles Questionnaire [1] in order to determine their learning style preferences.

The project will be observed over a course of three years. The first observation year of the WeGa-Student B.Sc. module started with 36 students (Fig. 1):

– 10 students from University of Applied Sciences Osnabrück
– 12 students from University of Applied Sciences Weihenstephan-Triesdorf
– 14 students from Leibniz Universität Hannover

RESULTS

1. Evaluation of the concept in the first project year

The evaluation of the concept questionnaire showed that students reacted predominantly positive to the new concept of learning (see Fig. 2) and especially liked the opportunity to work online whenever or wherever they wanted. However, there was some criticism about the amount, nature, and layout of the learning material.

2. Analysis of the personal learning style preferences of the participating students in the first project year

The evaluation of the learning styles showed clearly, that most students that participated in WeGa-Student preferred the learning styles Active, Sensing and Visual [2]. In addition, there were more students of the Global learning style than of the opposite dimension Sequential [see Fig. 3].

The statistical tests showed no differences for the learning style distribution either for the genders of the students or for the institutions the students visited.

Data also suggested that students with a certain preference for a special learning style achieved better results under certain exam conditions than others (data not shown), but this has to be secured by repetition and an increased number of cases in the next semesters.

CONCLUSIONS

During the first year of the project, the non-adaptive online lessons mostly corresponded to the learning styles Reflective, Sensing, Verbal and Sequential. Students with opposite learning style preferences were possibly left behind. A supply of learning style adaptive online lessons in the second year of the project may benefit students with different learning style preferences to work with the provided learning materials and could be useful to improve their exam results.

References