VIRTUAL LEARNING ENVIRONMENTS FOR COOPERATIVE LEARNING IN TEACHING STATISTICS

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INTRODUCTION
Cooperative work is needed when we teach statistics based on projects. This allows students to develop some skills such as: exchanging opinions, negotiating different points of view, confronting opposite views, etc. All of them constitute knowledge, skills and attitudes which are thought to be important for social and working environment success. Using a VLE to fulfil a cooperative work allows students to solve synchronicity problems and gives the teacher the possibility of assessing different aspects of the work done on a more objective way.

METHODOLOGY
VLE has been used to create a cooperative working environment. At the Vigo University a virtual course was created using the CLAROLINE platform: http://www.tema.uvigo.es. Every group of students chooses a Project out of a given list of possibilities. The group work is carried out virtually by using Group Tool, where four facilities are included: Documents tool (asynchronous), Forum tool (asynchronous), Chat tool (synchronous) and Wiki tool (asynchronous). The Forum and Chat tools allow students inside the group both to exchange opinions and to make decisions. The Documents tool allows the student to store the necessary material to do the work. The Project is documented in html format, so that it is visible to the whole group of students via Wiki (asynchronous). The Wiki edition allows the teacher to get a historical record for each student.

RESULTS
Every group member uses the Group tool to get the work done using an asynchronous way. There is no need to work at the same time or in the same place. The important stages in the cooperative work are stored at the virtual environment so that the teacher can assess each student’s work objectively (every member in a group). Each Project may be published in html format by the students into the group. Every group member can edit the work and the rest of the students can see it.

CONCLUSIONS
Working cooperatively through a VLE overcomes the problem of synchronicity. It allows a flexible and customized assessment to every member in the group taking into account his/her contribution to the whole work of the group. Feedback of the different stages in the cooperative work is obtained and may be used for its improvement. Every Project is shared by the rest of the groups in html format through Wiki. However students’ and teachers’ roles are different at a VLE and we must take into account this new scenario in order to adapt the cooperative work to a VLE.