



Application Of Blended Learning In The Quality Certified Training For Farmers In Organic Agriculture

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Abstract

A new project had been launched last year called CerOrganic is a Multilateral Project financed by the European Commission that aims to develop and test a quality assurance procedure for the vocational education/training of agricultural advisors/trainers in Organic Agriculture, based on the European Quality Assurance Reference Framework (EQARF). It is a pilot project of 24-month duration, which started in January 2010.

The most important objectives of the project: Determine required qualifications for teaching organic agriculture, and study EQARF requirements to incorporate them into CerOrganic Training of Trainers Program (CerOrganic ToT)

Design CerOrganic ToT as an exemplary program providing quality-certified training, then pilot, evaluate and revise CerOrganic ToT using a blended learning approach combining theory and farm practice with online training resources (web portal: <http://www.cerorganic.eu>)

Evaluate and valorise the CerOrganic quality certification procedure (through trials conducted by CerOrganic ToT trainers in their home countries, and develop template quality assurance process.

CerOrganic project expects to increase the number of internationally qualified organic agriculture trainers and provide quality trainings and training certification systems that will ease farmers' transition to organic agriculture.

In the CerOrganic Training of Trainers Summer School academic lectures (presentations) and practical sessions (hands-on e-learning material, field visits) on principles, methods and practices in Organic Agriculture will be discussed. In this article we particularly focus on the results of introduction of the applied education methods during the course implementation.

1. Introduction

CerOrganic project is a shortcut of the Leonardo da Vinci Project – Development of innovation under the title of CerOrganic – Quality- Certified Training of Farmers on Organic Agriculture (project number 504387-LLP-1-2009-1-GR-LEONARDO-LMP)

Currently there are a large number of initiatives to develop VET programmes in OA, however, the standard of training varies very widely among EU member states, and no programme leads to a recognised, transferable, international qualification for the people who would like to get trained and qualified in that field. At the same time, unemployment levels among young agriculture graduates are high. The CerOrganic Training of Trainers (ToT) course will apply a blended-learning approach with particular emphasis on the use of Information and Communications Technologies (ICT). The development of the CerOrganic ToT according to the specifications of the custom-built QA (Quality Assurance) procedure will ensure that all aspects of the ToT (ranging from the academic content and teaching methods, to student support, the learning experience, and social inclusivity) will have been rigorously tested.



2. The development of CerOrganic ToT as blended learning course.

The CerOrganic ToT course will provide a state of the art training that will contribute to the re-invention of agricultural extension and certification in OA in general. [4] To determine the required qualifications for OA Trainers/Advisors, by conducting surveys of stakeholders in the five project user countries, and through literature and web research to investigate the thematic areas in which currently-available OA trainings are deficient. Most importantly, the research addressed the key competences that an effective OA advisor should gain through training, and translated these competences into specific topics for the CerOrganic Training.

The CerOrganic ToT course will utilize a blended-learning approach combining traditional classroom-based lessons and practical sessions, with self-study e-learning, for all selected modules [1]. The distance learning components of the course will be supported by the multilingual CerOrganic Web Portal which will provide a platform for contact with tutors and other students, and access to coursework information and digital training objects (DTOs).

Conclusions of project survey of OA trainings: show that trainings in Europe are offered by both the public and private sector but especially in Southern Europe these tend to be centrally run and are often inadequate.

- familiarity with agriculture either as a result of tertiary education or everyday occupation (farmer) was proposed as a prerequisite for trainees [8]. It was also suggested that higher the level of education that the trainees have (e.g. specialization in OA from a University or Technical School), the greater the added value that will eventually reach and benefit the organic farmers and the service as a whole.
- the technical (agriculture-related) topics offered are overall adequate in all CerOrganic partner countries [7]. Nevertheless, the key issue is the ability to understand each agro ecosystem ("site-specific") as a whole and facilitate decision making. It is apparent that the complexity of OA theory and philosophy precludes the delivery of a precast recommendation ("blanket information") as often has often been then case in traditional types of transmitter (advisor) - receiver (farmer) relationships.

Regarding educational delivery methods, a number of respondents stressed the need to promote participation by all stakeholders (including OA farmers) and the application of technological advances and the use of: - a blended learning curriculum,

- on-site training,
- practical demonstrations and excursions,
- best-practice learning scenarios,
- interviews and case studies.

Desired outcome competences for trainers / advisors include:

- decision-making ability regarding a number of complex technical issues (and in particular regarding crop protection and soil management).
- Successful communication towards education building with OA farmers utilizing e-technology. The acquirement of these competences could be evaluated by practical presentation exercises or through other means (e.g. assignments).

The template seminar curriculum described was designed to address the trainer requirements identified during the project development. A blended-learning approach has been proposed, with five main educational components (modules):

1. C531. Blended & e-learning design,
2. C532. ICT technologies for OA content adaptation,
3. C533. Farmer communication & consultation approaches,
4. C534. OA topics, issues & problems – decision making,
5. C535. Quality Assurance in Learning

All modules have been designed to complement one another and synergistically enhance the capabilities and profile of the extension worker in OA.

The structure of CerOrganic ToT blended learning course



The CerOrganic training will consist of three phases: A 2-week (preparatory) period, consisting of a pre-class interaction with tutors, will assist participants to reaching a basic level of knowledge in multiple OA, pedagogical and ICT issues through e-learning (<http://cerorganic.moleportal.eu/>). This will be followed by a 1- week face-to-face learning period representing the only concrete in terms of training time and location, and consisting of lectures and practical sessions. Finally a 2-week supported self-study period consisting of assignments and evaluation in which competences will be proven through actual consultation of farmers on existing OA problems. The educational delivery methods to be use will be: lectures and trainee presentations, group and participatory discussions with farmers, on-site “hands-on” PC training, practical demonstrations and field excursions, best-practice and case study learning scenarios. The trainees’ achievement of the expected learning outcomes will be assessed using assignments and presentations and successful trainees will be awarded, for the 5-week training period requiring a workload of approximately 100 hrs, 4 European Credit Transfer System units (ECTS).

Didactic arrangement and sequence of learning module in the blended learning of the CerOrganic ToT course

A learning module is divided into three sections introduction, main part and evaluation all underpinned by the resources needed to deliver and maintain the course. Each section is structurally designed to impact on the other and sets the learning structure and design appropriate for the course and the individual methodology of the course designer.

Introduction	Information for orientation
Main Part	Tutorial
Evaluation	Assessment and Feedback/revision

Figure 1: Sequence Learning Module

Introduction: information for orientation

It is foreseen that the learner is provided with orientating information about each course at the beginning of each module. The course developer will describe the required prior knowledge for the course and the time-frame for processing the unit, there will also be the opportunity to add information about the presenter of the module. The concept map visualizes the contextual content of the study module. The Advance Organizer focuses on the key components of the course design and delivery.

Tutorial

The design of the tutorial is the responsibility of the presenter and depends on their expertise as well as the overall parameters of the entire course.

Evaluation: Summary and resources

In the evaluation the most important positions of the module are evaluated and assessed and the students are given further opportunities to research additional sources and/or divergent approaches. In addition, the literature, links, materials and sources used may be listed as an extra resource for the students.

Content design

System-and problem-oriented texts

In drawing up the content attention should be paid on how to prepare the knowledge. The content can be presented from a series of readings to stimulate inquiry to a collection of completed findings. The knowledge is presented by explaining cause-effect relationships and means-end relationships and



allows for interaction by participants to synthesise and process the knowledge. This system-oriented design is developed according to before-after relationships of events and processes, creating an overview of the field of knowledge. The sequence of the material may be deductive or inductive.

Table 1: Range of teaching practices to be used for each learning strategy [5]

Strategy	Description	Face to Face	Online
Expectations of the course – Communication/orientation	Students are provided with a clear description of the objectives of the course and their expected achievements	Detailed explanation of learning outcomes (with tasks) supported by slides (ppt) and pdf copies.	Document clearly stating the objectives and assessment is posted online or a vodcast could do the same. Blog or social network to clarify issues.
Setting class cohesion	Establish a community of learners	Group/ round table discussion about the expectations of the course and how they match with the expectations of students and the teacher (or all involved in the course)	Continue with a social networking site, participants create a short profile of themselves and how that fits into the course objectives.
Challenging learning	Set up a sequence of learning that promotes critical thinking, synthesis and analysis amongst the learners. Use a series of problem solving, situative and collaborative learning.	Presenting stimulus material either as pre-reading or a topic for discussion. Participants are encouraged to present a view (or a particular view) /make a presentation. Articulation is encouraged. Different participants are asked to give feedback about the discussion sessions. Feedback is provided after each task.	Virtual groups can be established to provide a presentation about certain topic. Each participant should make a presentation and all the other participants should comment according to a pre-agreed rubric. There can also be a skype or flash meeting
Learning support	The participants receive assistance in understanding content or a task.	Times can be arranged where participants can contact tutor either personally or mutually.	Times can be arranged for virtual contact and accepted rules of communication are negotiated.
Metacognition and scaffolding	Enabling learners to reflect on their thinking and providing participants with tools and resources.	Use a portfolio (short or long) process to encourage students to synthesise and prioritise their thinking. Show the resources that available	Use an electronic portfolio (short or long) process to encourage students to synthesise and prioritise their thinking. Show the resources via a webpage that are available
Assessment	Evaluate participant learning	Authentic tasks that may comprise a range of tasks. These tasks could be investigated over a period of time. The tasks should relate to the genre of the material.	Same



3. The expected results of CerOrganic ToT

The CerOrganic LdV Project designed to develop a quality assurance procedure for the vocational education/training (VET) of advisors/trainers in Organic Agriculture (OA), based on European Quality Assurance Reference Framework (EQARF). The QA procedure had been developed and refined in parallel with an exemplary quality-certified training programme for OA trainers/advisors that will lead to a European qualification. The QA procedure will subsequently be made available for application to other VETs in OA. Through the development of these products, CerOrganic aims to increase the quality and attractiveness of European OA-related training systems, and stimulate agriculture extension service employment [4].

References

- [1] Garrison R. D., Kanuka H. Blended learning: Uncovering its transformative potential in higher education The Internet and Higher Education Volume 7, Issue 2, 2nd Quarter 2004, Pages 95-105
- [2] Radics L. et al. (2007): Leonardo da Vinci Pilot program: Development of central data bank on European level for the education of ecological farming advisers. Budapest: Corvinus University, 2007. 142 p. ISBN 978-963-9736-48-1.
- [3] Radics L. et al. (2010): Future of Education - Organic. Edunet Web Portal for Organic Agriculture and Agroecology, abstract, ISO FAR/MOAN Symposium, 23-25 March 2010, Sousse, Tunisia, Book of Abstracts p. 53.
- [4] Livieratos Y. 2011: Interim report of CerOrganic project
- [5] Smith D. (2011): Recommendations for the e-Learning practice in the CerOrganic ToT
- [6] Ehlers U., Helmstedt C., Smith D., Reinhardt R., Veith P. (2011): Tutor guidelines for creation of Study materials CerOrganic project
- [7] Radics L., Szalai Z., Gál I., Vörös I., Csambalik L. (2011): Role of novel methods in Organic Weed Management, 4th Workshop of the EWRS working group Weeds and Biodiversity, 28 February – 2 March 2011, Dijon, France
- [8] Radics L., Szalai Z., Gál I., Vörös I., Csambalik L. (2011): State-of-art methods in Mechanical Weed Management, 9th Workshop of the EWRS working group Physical and Cultural Weed Control, 28 – 30 March 2011, Samsun, Turkey