EPOS Project:

Innovative Education towards the Needs of the Organic Sector

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Summary report on the analysis of needs for improvements of educational activities testes in EPOS project

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Introduction

In order to fulfil the intellectual output O12 the special questionnaires have been prepared and conducted with the students and teachers. The aim was to obtain the feedback on the quality of the e-learning course, intensive course and problem solving projects.

The opinions have been collected and analysed. Below we present the summary of the critical points which have appeared in the questionnaires.

Feedback on the e-learning & Intensive Study Programme from the students

– Too big group of students
– Possibilities to build the networks potentially helping in the future career not sufficient
– Not enough time and possibilities to talk to senior researchers
– The quality of some lectures was not sufficient
– The balance between lecturers and group work was not balanced
– Several lectures were strongly recommended - environmental integration of agriculture, marketing and economics, weed management, food quality, organic food and human health
– Several lectures were not recommended – nutrient supply and cycling in organic horticulture (too difficult) history of the organic farming (to many names); C storage in organic farming, slow food and fair trade (too long)
– Some topics were missing, mainly – food processing an hygienic conditions, yields in organic farming, certification process, GMOs, logistics and distribution of organic products
– More time for discussions is needed.
– There were some critical points about the organizational aspects of the summer course:
– Timetable was not satisfying for the students (breaks, starting and finishing time)
– The leisure activities – not enough acc. To the students
– The lecture halls and facilities in Warsaw
– The catering in Warsaw not good enough

– The concrete critical points were:

– More free time would be recommended

– Too intensive schedule and too often changed – very tiring

– Not satisfactory food in the Landscape Park - should be more organic

– Students' English language skills should be checked before the course

– Make lectures more interactive, more time for questions and discussion.

– The online course not complete addressed the knowledge level of the students

– The organization of the online module was not good enough

– The summer school and online module haven't complemented each other in the sufficient level.

Feedback on the e-learning & Intensive Study Programme from the teachers

Generally teachers were very satisfied with the summer course. They have underlined that the course as a whole was a very good experience for them. However they indicated some negatives which have been analysed and clustered according to three aspects.

Organizational aspects

– The size of the group was too big

– The programme was too full (too intensive) & should be less packed

– Give more space for serious group work

– Events were frequently delayed – this is not a good message to students (& affects the general discipline)

– Several events were cancelled (e.g. lab work)

– Language skills must be checked before the acceptance of participation

– The lecture halls and facilities both in Warsaw and in the countryside was not fully satisfying; blinds on the windows needed when the sun is so intensive; we should monitor such technical problems & solve them during the course.

- The timetable of the summer course was not fully proper
- The information before and during the summer course was s not fully sufficient
- It would be valuable, for the project overall and individual partners, to work on such major teaching events together and have written materials (objectives of each assignment, instructions, evaluation criteria, approaches) - useful also for later use by the partners.

Teaching methods

- E-learning tools are very powerful, in most cases they are only used marginally due to limited time for becoming experts of the tools.
- There were three small group assignments (all in the first week). It might be worth developing one group project (assignment) that lasts through the whole course and requires students to link all the course topics into one holistic product. It can, of course, consist on several parts and stages (sub-deliverables presented and reviewed by all). It will build up continuation through the whole course and will help the students to see how all the course topics fit together (into Organic Chain) (as was mentioned in the students' feedback).
- Speaking of innovation, for some topics, changing from a lecture-form of delivery to a more engaging one might work well. Such are those that are based (almost) entirely on facts (e.g. alternative food movements).
- One can split the topic into blocks (e.g. separate movements), instruct student groups to learn about one of the blocks using the slides, literature, online sources) and then teach other groups about this block. The teacher-expert is needed, of course, for correcting mistakes in understandings and guiding.
- We could ask every teacher to plan 5-10 min of the lecture time specifically for questions, either in a free manner in the end of the lecture or as a more structured activity.

Evaluation methods (exam)

- Evaluation strategy lacked timely preparation - this part of the course should be worked out together and well in advance and put down in writing: what are the objectives of the course, how to evaluate best each of these, what is the expected level of performance etc.

− Just as an example, if we have such a multidisciplinary course with many topics to learn and diverse group of student specialties, then it might be reasonable to offer an option to answer to a certain % of the exam questions of own choice (and all questions for an extra point) – this is commonly practiced in Finland.

− The exam was not designed well (too late, too many questions, digital version not tested, no instructions in advance)

− Clear deadlines, instructions, technical aspects, and shared responsibilities need to be put down in writing.

− Peer proof-reading of all questions (if even one of us cannot understand a question or answer, then we cannot expect students to do so).

− Worth thinking of other evaluation tools except the multiple-choice exam.

Feedback on the Problem Solving Projects from the teachers

Some conclusions based on student feedback and teacher self-evaluation; after the course the teachers have been discussing, based on their experience and self-evaluation, about the improvements of the course.

1. Making the 'moments of learning' generic skills more 'visible': more attention will be paid to emphasizing the learning outcomes in different situations the students come across during the process and also when reflecting on the process and outcomes. For example, if the students meet some difficulties while working with the stakeholders, there should be analysis of the situation, and reflection on how similar situations would be generally dealt with in a project.

2. More support for the students' working process: preliminary topics will be made known to the students already before the beginning of the course, in order to activate the thoughts and mental processes. Also, more support is needed for formulating the problem to be solved, eg. More discussions and dialogue between teachers and students. More examples could be used to show how to formulate a problem to be solved.

3. Enough time to accomplish the project work: the length of the course should be stretched to 16-20 weeks: a lesson learnt for the teachers: formulating the problem and the process of solving it is a lengthy process.

4. More contact teaching / between teachers and students, but also more regular meetings for the students' groups: during our course there were face-to-face meetings only twice, during the starting and ending seminars. That, although accompanied by e-tutoring, is not enough to support the learning process as much as required. Also, face-to-face meetings increase the discussions and support the instructing and guiding the students. Pre-scheduled weekly meetings for the groups are also needed in order to create order and pace for the students.

5. Clear instructions: the course instruction / assignment must be simple and compact.

6. Workshop-like final seminar: instead of / in addition to presentations, time for fine-tuning and finalizing the project works is required. The teachers would be available to help and comment. Also, using more activating and participatory teaching methods in general in the final seminar.

7. How much responsibility and autonomy is expected from the students: student's individual capacity to independent work is different. Some are used to more guidance and do as the teachers say, others take initiative and show more self-confidence and readiness to accomplish the task. The teaching means balancing between flexibility and trust on one hand, and more instructing and guidance on the other. The emphasis should, however, be on the former: the course is about learning how to work with others, but not having an authority telling what to do or which way to go. That is why also those who wait for instructions should be encouraged to take initiative.

8. The network of experts as commentators is a good solution: with the network of expert commentators the workload was more evenly distributed, there was more diversity in the comments. It also requires that the course must be properly introduced to the commentators.

The conclusions from the survey with stakeholders

1.   The study indicates a clear willingness to employ graduates in organic food and farming, but there is a diversity in terms of the level of studies where they should come from.

2.   The most attractive for the employers is vocational education, next BSc and MSc studies, and the least – doctorate studies.

3.   From the employers point of view the most desirable knowledge among graduates of organic food and farming is plant production, food quality and plant protection, and the least desirable is arithmetic, biotechnology and finance management.

4.   The presented study has revealed that the companies are looking for the new employees mostly via recommendation from the professional acquaintances and colleagues, and to less extend through the announces in press.

5.   According to own results the most attractive for the employers are practical expertise, team working skills and problem solving skills. The least attractive are skills for working in a lab, as expert for specific computer software and as expert in financial issues.

6.   The stakeholders are not satisfied with the current level of knowledge of the graduates, and point out that traditional teaching methods may not be the most adequate ones. Teaching methods should adapt to the needs of employers and innovative tools are necessary.

7.   The own results indicate clearly that innovations in teaching / learning process are necessary within organic food and farming education. The stakeholders think that the most important is learning by cooperation with enterprises/other representatives of the organic sector, next learning by defining and solving problems, and to lower extend - learning by team working on specific projects, However, even the last method is appreciated by more than 60 % of respondents.

The proposal of changes in the programmes of the E-learning, Intensive Program and Students Internships (Problem Solving Projects)

On the base of all above mentioned remarks and survey study conclusions some changes are proposed to the programs of the E-learning, Intensive Course and Students Internships (problem solving projects).

E-learning

E-learning is a relatively new teaching method, and for sure an innovative one. It enables to gain knowledge without any travelling, so in a cheap and comfortable way. It is especially important in the international programs as for example our EPOS project.

Generally the opinions about e-learning were very positive, there were only some small remarks. The most important was that the online course not complete addressed the knowledge level of the students and that the summer school and online module haven't complemented each other sufficiently. In order to improve the topics of e-learning should be more introductory preparing the students to the intensive program. The lectures offered during the e-learning should be adapted to the lower level of knowledge of the students, so shorter and easier comparing to the intensive program.

Intensive Study Programme

1. A variety of teaching methods should be used: regular lectures, lectures combined with discussion, thematic workshops, field work, and group presentations. The lectures will be combined with discussions every time – 5-10 minutes at every lecture will be offered to students for asking questions and discussing. The number of regular lectures will be diminished and the number of workshops will be increased. The construction of the workshop can be for example as follows: a teacher can split the topic into blocks, instruct student groups to learn about one of the blocks using the slides, literature, online sources) and then teach other groups about this block. The teacher-expert is needed, of course, for correcting mistakes in understandings and guiding

2.   Team work will be increased during the intensive program in order to prepare students towards the employers' demands within organic sector

3.   The program will be less compact and more free time will be offered to students for own work

4.   The teachers will offer some time during the intensive course to discuss any topics with the students, for example 2 evenings during the intensive program, 2 hours every time

5.   The program will be more precise in terms of time schedule

6.   The program of the intensive summer course has been changed according to the remarks and it is attached.

Students Internships (Problem Solving Projects)

The students Internships are a very good example of the innovative teaching which is desired by the potential employers. The stakeholders support such innovative learning methods as learning by cooperation with enterprises/other representatives of the organic sector, next learning by defining and solving problems, and finally - learning by team working.

All these kinds of learning are present in the Students Internships.

According to the remarks of some teachers (mainly Finnish ones) some more precise informations will be introduced to a description of this module:

Cooperation between students and teachers

In order to facilitate the problem solving course, the strict cooperation between the students and teachers will be created.

1.   The course will last 16 weeks.

2.   The regular meetings of the students with the leading teacher will take place every week.

3. A guide for the students will be prepared by teachers before the course with the description of the course, recommendations and additional literature.

4. The phases of the projects will be as following:

− Selection of the students – if too many students are interested to join the project, a teacher selects best prepared and most ambitious students
− Selection of the companies – a teacher is using all possible contacts from the previous projects
− Matching the students and companies together – several meetings enable to create subgroups of the students in every project – mostly 2 and 3 persons in every subgroup
− The students start to prepare their projects – of course a teacher is always ready to give an advice and to help.