



EPOS Project:

**Innovative Education towards the Needs of the
Organic Sector**

2014-1-PL01-KA203-003392

**O10&O11 Intellectual Outputs – Summary Report
on the Analysis of needs for improvements: Students
Internships Feedback from Students (O10) & Stakeholders (O11)**

September 2014 – November 2016

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General background of the EPOS Problem Solving Projects

The course is based on collaboration among seven European Universities: Warsaw University of Life Sciences, University of Kassel, University of Helsinki, Tuscia University, Technical University of Madrid, Estonian University of Life Sciences, and University of South Bohemia in Ceske Budejovice. It is part of “Innovative Education towards the Needs of the Organic Sector” (EPOS) – project, which has the aim to develop, test and implement innovative educational materials and methods addressing the needs of the labour market in organic sector and beyond.

Content

The course will be organised around work on real life cases that support development of the organic sector. During the course, students carry out a problem-solving project in co-operation with stakeholders operating in the field of organic food production chain. The stakeholders will define a development challenge connected to their activities, and the students, working as a small group, will attempt to find a solution or solutions. During the project, students learn from the experts in such fields as organic food production, processing, retail, administration or research. More detailed description of the course tasks will be delivered to the enrolled students.

Aims

The course will allow successful students to:

- apply theoretical knowledge to practical problems in a real life context
- carry out a small-scale project
- practice skills in oral and written presentations, and communicate in and with a group of experts
- strengthen team-working skills, ability to adapt to new situations, analytical and problem solving skills.

Work modes and teaching methods

The project is carried out in mini-groups of three members. The course can take at most four such groups in each participating country. The course consists of orientation meeting, and

mid-course meetings either face-to-face or in Moodle, group work and visits to the chosen stakeholder organization. The course leaders will choose the cases and assist in forming the groups around the cases. Project work involves interviews with stakeholders and also with other experts, and use of scientific literature, research and other source material. The groups present their findings as a report or other form of presentation.

Participants

Within EPOS project, every partner was responsible to select the students to the Students Internships. Below there is an information from every country about the number of the participating students and the topics as well as synthetic information about every partner student group.

Estonia

In Estonia **9 students** participated in the problem solving projects, details have been presented in the below table.

No	Students	Enterprises
1.	Alice Aav, aavalice@gmail.com	Valete Ecocenter store
2.	Lisan Tuuling, lisan.tuuling@gmail.com	Valete Ecocenter store
3.	Eva-Loona Ebber, evaloonae@gmail.com	Valete Ecocenter store
4.	Maario Eeriksoo, maario.eeriksoo@student.emu.ee	Conventional Karinu farm
5.	Freeta Mõtsla, freeta.motsla@student.emu.ee	Conventional Karinu farm
6.	Annika Jõemaa, annika.joemaa@student.emu.ee	Conventional Karinu farm
7.	Ingrid Tamla, (tamlaingrid@gmail.com)	Organic farm Tammistu Agro
8.	Kristine Volens (kristine.volens@gmail.com)	Organic farm Tammistu Agro
9.	Greete Kahu (greete.kahu@gmail.com)	Organic farm Tammistu Agro

Spain

In Madrid Polytechnics there was a group formed by **7 students**: 4 French, 1 German and 2 Spanish. The focus of their study was to analyse the real operation of organic enterprises. The projects were conducted in 3 enterprises.

No	Enterprises	Topic (problem)
1.	Ecosecha (Local Producers)	Possible improvements or strategies to increase sales
2.	Tresbolillo (Local Producers)	Understand the real business work
3.	Economato Macabeo (Distributors / Shops)	What is their way of working The origin of their business Know their expectations (short and long term)

Finland

The students were free to choose which group they would join. Most participants were students of agroecology, but some other disciplines were represented as well. One of the topics was about agroecology, but two others were about practical issues of increasing sales, marketing and consumer behavior. In that sense the task was quite challenging for the students, but at the same time also very rewarding. In the fourth group there was only one member, because the student had his own product that he has been developing in real life. His case could be seen more as an example of entrepreneurship in the early stages of product development. There were **7 students** taking part in this project. The stakeholders and the topics are listed below.

Students	Enterprises	Topic (problem)
4 students	Retail (a grocery store selling local and organic food)	How to communicate the difference between conventional and organic products
2 students	Primary production (a agroecological symbiosis farm)	How to use the residues of bioenergy production process as fertilizer
4 students (3 were exchange students)	Expertise (Finnish Organic Research Institute)	How to export more organic berries to China
1 student www.keruu.fi	Expertise (Ruralia Institute)	How to increase forest certifications (for organic non-timber forest products)

Czech Republic

There were **12 students** taking part and 4 different problem solving projects conducted in Czech Republic.

Students	Enterprises	Topic (problem)
Ing. Jaroslav Bernas, Ing. Zuzana Jelínková (Robin Hyšpler, Ivana Pavlová)	School canteen Cvrčovice (Cooking specialized school Cvrčovice) School canteen Veseli nad Luznici (ZS Veseli 1) School canteen Ceske Budejovice (ZS Dukelska)	Implementation of sustainable menu into public catering
Ing. Marek Kopecký (Martin Kepl, Lukáš Jůza)	Bemagro, a.s. Malonty Organic farm Zvíkov u Českých Budějovic	Marketing strategies for organic milk sale in the Czech Republic new processing capacities
Ing. Martina Stoličková (Bc. Markéta Kryptová, Barbora Hrdličková)	iProdukcni, s.r.o. Dubné	Development of new cereal products from Triticum spelta L. in cooperation with students
Ing. Ondřej Vlášek (Ludmila Žáčková, Hana Slepíčková)	Organic farm Zvíkov u Českých Budějovic	Official SDO variety testing in organic farming in cooperation with University of South Bohemia

Italy

There were 3 different problem solving projects conducted in Italy and **9 students** took part in this project. Details are listed below in a table.

Students	Enterprises	Contact details
Domanicangeli Flavia Martellini Corinna Fiorini Elisabetta	Valentini	Valentini Alberto +39 335 75 71 420
Mozzicarelli Flavia Pascarella Lorenzo Ciotto Giorgia	Ascenzi	Ascenzi Nicoletta +39 339 47 87 575
Ing. Martina Stoličková (Bc. Markéta Kryptová, Barbora Hrdličková)	iProdukcni, s.r.o. Dubné	Development of new cereal products from Triticum spelta L. in cooperation with students
Ing. Ondřej Vlášek (Ludmila Žáčková, Hana Slepíčková)	Organic farm Zvíkov u Českých Budějovic	Official SDO variety testing in organic farming in cooperation with University of South Bohemia

Germany

In Germany there were 3 solving problem projects and totally **19 students** took part in them.

No	Students	Topic (problem)
1.	Elisa Mendoza, Andrea Armas, Verónica Alegría	Food safety in Ecuadorian fish industry
2.	Jessica Amprako, Jim Peters Shobayo, Iuliia Sambur and Merrisa Novianti	“Orange Innovation” Product Development of an Orange Juice Based Drink
3.	Sven Hermann, Carsten Hummer, Barbara Kretz, Philipp Ledesma, Katharina Matuli, Katharina MOier, Laura MOier, Janina ReuB, Alexandra Rupprecht, Esther ROhe, Tamara Wiesel, Niklas Ziegenhorn	Conversion a farm into organic

Poland

In Poland the interest of students was very big. Preliminary there were 25 interested students; finally we have selected **21 students** who took part in the problem solving projects. In a table below all projects are listed.

Group nr / students	Enterprises	Topic (problem)
1. Ewelina Mrzygłód, Karolina Zacharewicz, Renata Banach	Poloniak Ryszard Tyl	Project of Bio Bistro offering the organic products: Vegan and vegetarian dishes, no sugar dishes, no gluten dishes
2. Monika Wroniszewska, Agnieszka Czerniszewska	Żywność Ekologiczna Bio Food sp. z o.o. Tadeusz Szynekiewicz	Elaboration of the recipe and the product: Juice containing a lot of iron and vit. C
3. Aleksandra Ciechanowska, Mariusz Żuk, Paulina Grochała	Żywność Ekologiczna Bio Food sp. z o.o. Tadeusz Szynekiewicz	Elaboration of the recipe and the product: Cheap smoothie with pumpkin, carrots and apples
4. Aneta Książek, Justyna Suchta, Małgorzata Wojtas	Żywność Ekologiczna Bio Food sp. z o.o. Tadeusz Szynekiewicz	Elaboration of the recipe and the product : Fruit puree for kids – portion of 150 ml

5. Marianna Sułek, Ewa Siwiak, Paweł Latuszkiewicz	Ekoraj Edyta Kwiatek	Information material for the website about the organic products
6. Andrzej Gorszkow, Tomasz Struciński, Aleksandra Wasielewska	TAST Jan Tabiński	Elaboration of the recipe and the product: Chickpea rolls
7. Katarzyna Kozak, Dominika Dąbrowska	Poloniak Ryszard Tyl	Elaboration of the recipe and the product: Smoothie with kale and spinach
8. Kamil Żmuda, Ewelina Seliga	TAST Jan Tabiński (kale chips); Poloniak Ryszard Tyl (lemonade)	Elaboration of the recipe and the product: Kale chips Probiotic lemonade with whey proteins

To summarize – the interest of the students in different countries was diverse. In all partner countries together 26 stakeholders and 84 students took part in the problem solving projects. The highest interest could be observed in Poland, Germany and Czech Republic, next in Estonia and Italy, and relatively the lowest – in Finland and Spain.

In Germany and Finland such innovative programs are functioning already for the long time. In other partner countries similar approach is partly included (Italy, Spain).

For Estonia, Poland and Czech Republic such innovative education is not implemented yet. The educational system in these countries is still old fashioned due to the long political and historical circumstances.

These results indicate clearly that the innovations are necessary especially in such countries as Poland, Estonia and Czech Republic.

Feedback from the students & teachers

The Coordinator has asked the partners to send the remarks of the students as a feedback after the students internships (Problem Solving Projects).

Generally all partners have reported that students were very interested to participate in the internships. During the internships the students were very active and satisfied in all countries, including Italy, Spain, Czech Republic and Germany.

In some countries as Poland and Estonia they were very enthusiastic. In the case of WULS, there were more students accepted than it was planned: together 21 persons (planned max. 18).

Polish students reported that they liked very much the internships because they were able to propose their own ideas and to check how to put these ideas into practice.

They were very self-sustainable in their activities. The important fact was that one of the students has appeared to be a real leader who was able to co-manage the work of the big group (17 persons). The rest (4 persons) were the members of the student Scientific Circle of Nutritionists.

At the end the leader was so much interested in the organic production sector that he decided to step into the Association Forum of Organic Agriculture named M. Górny, conducted at WULS by a Coordinator of the EPOS project, prof. Rembiałkowska.

The result of the students work was very good in all cases. In some cases the producers are really planning to introduce the products into the regular production line (smoothie from pumpkin, carrot and apple).

The general comment of the students and responsible teachers in Poland is that such teaching activity is very interesting but very demanding – time consuming and difficult. The number of hours for such subject should be more than 30 – 45 or 60.

In Estonia also the internships were evaluated by students very well. Prof. Anne Luik has reported: ‘The best result is that Karinu conventional farm plans now to convert into organic. Students learned a lot. From November they were in deep contacts with enterprises and got a real picture from practice.’

In Finland the teachers made a self-evaluation after the course, in order to improve the weak points observed during the course:

- Making the 'moments of learning' generic skills more visible
- Course duration should be doubled
- Project solving process needs time
- More time for guiding the students
- More face-to-face –meetings with the students (Eeva and Ritva were in Mikkeli, students in Helsinki); physical distance = a problem
- Course instructions should be as simple as possible
- The final seminar could have been more workshop-like
- Network of commenting teachers/experts
- The workload was more evenly distributed
- Enables: more diversity into the comments
- Requires: the course must be properly introduced to the commentators
- Did the students understand what was expected from them? Were they familiar with eg. a concept of stakeholder?

In Italy the students gave an interesting feedback, but about the status of organic companies in Italy. Namely, the students have recognized the main ongoing problems in the organic farms:

- One of the main ongoing problems of organic farms in the samples is that they have lower production intensity than conventional farms
- The lower value of land assets per hectare of agricultural land is generally correlated with more extensive farming methods
- High pricing of products due to certifications and cultivation methods
- Organic farms record higher labour costs, determined by the greater labour intensity required by production techniques, and for passive rents
- Lack of awareness among farmers
- The trend in consumer prices of fresh milk wiping out the benefit and, according to the visited farms, causing a worrying inverse trend for producers of organic milk
- In the distribution stage mainly the market value of vegetables and fruits increases most.
- The students have also recognized the successful marketing tools

- Strong concentration to produce products, which are producing in limited number, although their high demand
- Send the product to specialized shops, which still have a limited share of the market, but attract growing interest on the part of the consumer
- To raise organic foods awareness (safe food, high quality and improved nutrition, improved soil quality, product traceability, clean environment) in schools.

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 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 general conclusion from this part of EPOS project is that internships conducted as problem solving projects are very valuable for the students and should be introduced as a regular part of teaching program in every University. In some Universities (Germany, Finland) they are already conducted for many years, even in 2-3 different study tracks. In other Universities (Estonia, Spain) they are introduced right now into the regular teaching program after a good experience in EPOS project. In the rest countries (Poland, Czech Republic, Italy) there is a concrete plan to introduce the problem solving internships into the regular teaching program in the next academic year.

Feedback from the stakeholders

We have asked the partners for the stakeholders' feedback about the 'problem solving' internships. All partners have indicated that stakeholders were very satisfied with the idea of such internships. Some specific comments of the particular partners can be found below.

Spain

Observations of producers about solving problems with the participation of new graduates in organic sector:

- Help to promote the consumption of organic products
- Introduce their views, new ideas and suggestions
- Young generations appreciate this tool to transfer knowledge about organic agriculture to society (teaching the consumers)
- Marketing and sales. Processing products
- Natural resource management models
- Focus on developing information and consumer demand
- Analyze the work of farmers.

Italy

No special comments. Good cooperation between the students and stakeholders.

Estonia

Feedback of stakeholders in the Estonian problem solving projects:

- How to make organic marketing more profitable in Valete OÜ EcoCenter store?
- Entrepreneur - new experience in communication with students in common analysis, reasonable recommendations for further development of store.
- How to increase the yields of Organic farm Tammistu Agro?
- Entrepreneur – new experience in communication with students in common analysis, good technological suggestions for soil and yields improvements.
- How to convert conventional Karinu farm to organic?
- Entrepreneur – interesting communication with students, good material for planning real organic conversion.

Czech Republic

No special comments. Good cooperation of the students with the companies.

Poland

The stakeholders were very satisfied with the problem solving projects. They were also very interested. There was a big event in March 2016 – a common workshop for the teachers, producers and students (see the PPT presentations placed on the project website in the ‘O10-O11 section’).

The stakeholders took part in the sensory evaluation of the products and listened to the PPT presentations of the students reporting their work. It was really successful.

The comments of the stakeholders:

- The students are really innovative and ready to work hard in their projects
- The companies can use the results of the students’ work
- Such cooperation is fruitful for all parts
- We would like to cooperate longer with some students – possibility of employment
- The innovative products are tasty and we will try to implement some of them into our production.

Finland

No special comments. Good experience.

Germany

The stakeholders had quite clear conclusions in relation to the problem solving teaching:

- To include more practice-based issues into the curriculum of organic agriculture,
- To integrate soft skills as training part into the curriculum in order to improve time management, team work capacity, project management,
- To prepare students more for the needs and demands of the labor market, in specific personal skills, behavior, attitude of young professionals.

Conclusions based on the stakeholders feedback

To summarize – it is clear the stakeholders have a very positive opinion about the ‘problem solving’ internships. They appreciate the importance of the soft skills developed by the students during such kind of learning. Such skills are basic for the future employment of the students after they complete the studies.

These conclusions are in line with those made after the feedback from the students and teachers. It is a strong need for the implementation of the innovative internships into the study track related to organic food and farming.