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The SENSE Project C2 training Czech Republic October 2019

Introduction

The SENSE Project second training course was delivered from the 10th to 12th October 2019 in Zlín in the Czech Republic by Trexima.

The course was attended by 22 international delegates and 8 delegates from a range of organisations in the Zlín region including 4 from Zlínský kraj.

Evaluation took place in the form of pre-training and post training questionnaires analysed by SES 13-19Ltd, who are project leads on evaluation. Each delegate was asked to complete a pre-training evaluation well in advance of the training so their needs could be addressed by the trainers. Virtually all delegates completed questionnaires.

The pre-training questionnaire completed by delegates analysed their expertise and requirements.

The detailed post-training questionnaire aimed at judging the impact of the training for individuals.

Background - The SENSE Project requirement

TREXIMA, spol. s r. o. were tasked with delivering a 3 day training course on how to create a partnership and cooperation between companies and VET schools in order to enable work-based learning for students or to involve employers in the process of curricula shaping. The training should present also other types of cooperation among VET schools, companies and other stakeholders in the region

The overall aim of The Sense Project training is that staff from partner countries will visit 3 hosting countries and learn from the practice there. This will be through observation, discussion and other methods. All training programmes will be interactive and enable participants to learn what works well in other countries and gain the background knowledge and experience. These will be 3-day courses lasting for 18 hours, which will be certificated by the delivering institution. The institutions will investigate ways to formally accredit the training. The training programmes will be delivered by leaders in the field at SES 13-19 Ltd, Trexima and University of Cyprus and informed by best practice. Reports on these training activities will be written by participants and used as a base for methodologies created in this project. Common seminars of all participants with attendance of leading professionals in the hosting country will be organized during the programme of each training activity.



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The seminars will enable sharing information and experience, discussions and explore the topic in more depth.

One of the aims of the evaluation throughout the project is to include action research in the methodology in order to make any necessary changes for future practice and activity. This will be addressed through the findings from the meeting.

There are three short-term joint staff training activities planned in the project – in the UK where the project focuses on hiring and management of STEM Supporters, in The Czech Republic where it focuses on cooperation with companies and in Cyprus where it focuses on new methods of engagement young people in STEM. Partners will promote the training among suitable VET institutions like schools, companies providing work-based learning, authorities in education. Applicants will apply to their own institution for participation. They will mainly come from institutions who are participating in delivering VET or governing VET system - we expect to invite teachers of STEM subjects, school leaders, career counsellors, companies' representatives where appropriate. As the training will be in English, the applicant will have to prove sufficient language skills. They will also be asked if there is any particular support they require before the training commences.

All participants will meet with local project coordinators before the training activity. They will be given a briefing and preparatory tasks to carry out. Each delegate must prepare for the training. After the training the delegates will create a short evaluation report.

The deliverers of the training are highly experienced in the delivery of such activities. Venues will be risk assessed as will all activities and transportation. All delegates will complete a pre training questionnaire in relation to specific requirements and diet. The training will be delivered in a positive and engaging manner to give all participants a voice.

The training organisation will provide pre and post training materials.

The Czech Training Pre-Training Questionnaires

All delegates were asked to complete a pre-training questionnaire for the trainers to gauge the level of expertise of delegates, to endeavour to address specific requirements and to provide a course which delegates would find pertinent and something that they could learn from and replicate.

Delegates were asked to respond to a range of questions, which are listed below with their responses.



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How would you rate your current understanding of the training topic?

- 1-Novice- 0 delegates
- 2- 11delegates
- 3- 12 delegates
- 4- 6 delegates
- 5- Expert- 2 delegates
- No response 2 delegate

Summary

Quite a few delegates felt they had a small level of expertise on the topic. Very few felt they were experts, but there were a few who felt strongly competent.

What were your key objectives?

- An insight into STEM educational practices in an international setting.
- Looking at how we can create and consolidate improved and more effective relations with industry and other key stakeholders.
- Find out particularly the good practice of Trexima with schools.
- To investigate how to increase the engagement of female students in STEM careers.
- To learn about innovative approaches to promoting STEM careers in schools.
- How I can implement best practice in the UK.
- To learn more about the process used in partner countries and schools to best develop curricula shaping in education.
- Possibly collaborate with partners on a better way of developing curricula.
- Observe and learn from best practice.
- I would like to establish if by working with companies, would there be the possibility of shaping our courses to prepare our learners directly for work rather than having to continue in education.
- Understand aspects of VET training, and explore opportunities of integrating advanced ICT technologies in the programs (e.g. simulations)
- I wish to see other models of teaching in schools and to learn something new by sharing experience.
- Learning about different methods on how to enable work-based learning for students and how to involve employers in long-term collaborations with VET schools.
- Understanding different approaches of VET schools.
- I want to bring new ideas to my classroom;
- I wish to improve the teaching methods in schools based on what is taught in other partner countries.
- New information

- How it works in other countries
- How to support such cooperation.
- Find out what are the biggest current problems in this area in the Czech Republic and keys to solve them.
- Share experience with foreign partners.
- To get feedback from other participants (other countries) regarding their practices and policies.
- I expect to gain information and knowledge on how the cooperation between a VET school and an employer can be established.
- Expanding knowledge in the field of education.
- Cooperation with enterprises in shaping the curriculum.
- To know the European Methods about work-school links.
- Exchange of good ideas about the relationship and cooperation between enterprises and schools and Vet centres. To have a look at the relationship between VET institutions and the labour market.
- Improve volunteer skills for delivering STEM opportunities.
- Become familiar with other training methods.

Summary

A large number of delegates had very realistic expectations, which fitted in well with the project requirements. The shape of the course met these expectations.

Some expressed the desire to build on expertise, develop their curriculum and improve their teaching. Many were keen to learn about partner experiences.

What information and know how are you going to share with other participants?

- 20+ years experience of teaching and learning in the sciences (Physics and Maths) in the UK and internationally and within a school and university environment.
- We have a lot of expertise in STEM, networking and social media.
- Examples of projects and schemes used across the West Midlands.
- Over 4 years experience in the sector.
- Personal experiences of industry liaison with schools.
- I intend to share our practices at GTI with partners.
- Training methodologies and programs in secondary and tertiary education.
- I would like to share my experience in bringing together companies and schools in the context of an EU H2020 project (SciChallenge) we have been participating during the past few years.
- ICT training and experience from previous projects.
- My experience as a teacher working in a school.



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- Knowledge in delivering STEM lessons in classroom.
- Tips on how to communicate with pupils/students to have a good and effective relationship.
- Knowledge about dual learning system in Romania.
- My own experience from similar Erasmus+ projects I have cooperated in
- Previous activities and projects undertaken by Trexima.
- Information about pupil and student oriented research.
- Regional Chamber of Commerce in Zlín provides many activities to enlarge the attraction of technical education and to support cooperation between school and company. We can share experiences.
- I am ready to contribute with information and good practice examples of cooperation between a VET school and a company from a view of schools' governing body
- Good experience in the practice of schools in the Zlín Region.
- Exchange of study material and good practices about the topic relationship between enterprises and educational /training institution.
- My volunteering experience.
- My experience of delivering STEM activities.
- Our school experience.

Summary

Delegates had a very broad range of experience, which they brought to the training. This ranged from teaching in schools to university to small businesses and regional organizations. One delegate had significant volunteer experience and others had significant experience organizing volunteers to deliver STEM activities.

What preparation have you undertaken for the training within your institution?

- Research and development of science and health curriculums within a university environment.
- Liaised with the hosts and other partners to ensure that the project proceeds well and meets expectation.
- Briefed delegates on training. Regularly kept partners briefed on interesting developments.
- Presentation to colleagues and discussion with management about Erasmus+ Partnerships.
- I have sought to understand the work of the project and the expected outcomes of the project. I have been fully briefed by the Project Co-coordinator in the UK.
- Met with fellow participants and discussed the project in outline
- I have discussed with University officials about how UCY approaches this topic and whether UCY has been involved in the past in bringing together companies and VET schools in partnerships.
- Discussion with my colleagues (teachers as well) about VET schools and cooperation with local companies.



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- Discussion with the representatives of CPIP to have a greater understanding about the SENSE project and its objectives.
- Short analysis following discussions with teachers from local VET schools: needs analysis and practice limits.
- I collected and refreshed information on company-school cooperation here in the Zlín Region including the nationwide event School in Company - Company in School
- We have implemented findings within the first training; we used examples of good practice and evaluated positive changes.
- Discussions with CPIP.
- UTC is working with a Romanian University on education/business links.

Summary

Many delegates and organizations undertook significant research. Partners generally seem to have prepared delegates well and expectations were very realistic.

Do you have any specific questions you would like the training provider to cover?

- How are curriculums designed to ensure that there is an integrated, interdisciplinary approach to learning STEM subjects?
- How do you build links with universities?
- What is the best practice in the Zlín region that the host has experience of? How has this been measured?
- How do you engage business in real life educational project and have you any examples that could be replicated in the UK especially where female engagement has been successful?
- The role of careers guidance in local schools and how this compares to the UK model?
- How does education respond to the needs of business in the digital revolution?
- How to create meaningful and sustainable cooperation with industry in developing curricula?
- Is it possible to change company mind-set that learners can be a help to them rather than a hindrance?
- I would like to see real examples of good practice, both for the theoretical parts of Vocational Training (e.g. Overall Program Organization, Lesson Plans/Learning Objectives, and Learner Assessment) as well as for the practical part (i.e. specific references to hands-on in-school and work based learning).
- What is the benefit for a company to participate in this?
- I would like to share ideas on how through cooperation between VET school and company we can support and motivate girls to choose career in STEM fields and how companies can help schools to identify talents in STEM areas.
- To know the education systems of the countries participating.



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Summary

A very wide spread of questions which were thoughtful, perceptive and challenging. The involvement of young women was a recurring theme. One or two of course were beyond the scope of the hosts. For example, they could not be expected to know too much about university provision.

Do you have any specific area of expertise you can offer to colleagues during this training?

- Teaching and learning in Physics in particular and the challenges around appropriate and engaging assessment.
- STEM subject delivery from a local and national perspective.
- STEM Project management.
- Careers guidance expertise.
- Worked in Education and Industry and have contacts and some level of cooperation and involvement with industry,
- Knowledge of applied learning approach at GTI.
- The H2020 project SciChallenge.

- Sharing my experience as a teacher;
- Sharing my knowledge in delivering STEM lessons/activities.
- Experience in organizing local events for schools and students (for delivering STEM activities etc).
- "Employment Data Platform of Zlínský Region "a project I was involved in.
- Related surveys.
- I have a qualification as a teacher and experience from working with pupils in the lower secondary classes as well so I had a chance to get to know this target group closely.
- Project management, Erasmus+ rules. Know-how from my previous projects aimed at quality in education, inclusive education, careers counselling and preventions of drop-outs, identification and support for able, gifted and talented children, STEM education.
- Regional education and its management system.
- The headteacher's perspective regarding STEM.
- Research in the field of work based learning.
- Volunteering experience.
- My Philosophy and Communication Science graduate expertise.
- Organising Internships.
- A video on our school.

Summary

Delegates possessed a very wide level of expertise. This of course is a tremendous benefit for the project. Volunteering and STEM experience was particularly pertinent.

What do you expect to do as a result of attending this training?

- Develop a deeper understanding of STEM curricula from an international setting; compare and contrast approaches and implement appropriate changes to my own and others' practices.
- To develop my own teaching and knowledge base, to work with our new business incubator and help support improved links with business.
- To use some of the Czech and partners best practice in the West Midlands of England.
- Identify any new or innovative projects or approaches to STEM delivery and again share these with colleagues locally, regionally and nationally where possible.
- Have new approaches to working with employers.
- Enhance what we do in my own work setting.
- Better awareness of the theme and some concrete knowledge I can or school can apply to this area.
- I would like to develop programmes that will give direct employment of some description to our learners.
- Sharing my digital design and art skillsets.
- Upon return to Cyprus I will contact government and VET school officials to explore opportunities utilizing the seminar work.
- I expect to have the knowledge and ability to inform UCY staff on the outcomes of this training and on what I have learned, as it can enhance our University's role in establishing partnerships between companies and VET schools.
- Share the knowledge acquired with UCY staff and contact local companies in order to explore opportunities utilizing the training work.
- To support students from schools to achieve a balance between theory and practice;
- To help students understand the benefits of learning mathematics and STEM approaches;
- To cooperate with more local companies for having more opportunities for practice.
- Tips and strategies (based on different approaches at the local/national level in each partner country) on how to better involve students and VET schools in the practice process.
- I would like to share information with my colleagues; we can use this to improve of our activities.
- Sharing of experiences and information about the topic from other countries.
- Mostly to understand better the practice in other countries of the SENSE partnership, through sharing a discussion.



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- Enrich my own expertise in this field. Recommend appropriate measures within the Czech Republic.
- I expect that my manager and two school headteachers, who participate in the training with me, will start building up a system of STEM Supporters here in Zlínský kraj. I will provide them with my knowledge, support and help.
- Further development of findings and experience from STEM.
- Professional development.
- To share what I will learn during this training with the network of local schools and companies
- New experiences to tell my students.
- Learn from other teachers.
- Increase the level of involvement of pupils/students at local level.
- Convince more companies to get involved and to provide internships for students' practice.
- To cooperate with more VET schools bringing new ideas for development.

Summary

Delegates expressed fantastic aspirations for change. They all had plans for dissemination including with students and using what they experienced and learned where the opportunity arose.

The Training

The training involved a one day didactic type input at the Hotel Garni Conference room followed the second day by a visit to a furniture school and an employer. The final day focussed on a visit and workshop at Tomas Bata University in a relevant department.

The objectives of the training were clearly defined.

Strongly Agree 14 – Agree 7 - Neutral - Disagree - Strongly Disagree

The resources including PowerPoint presentations, web links, observations and guest speakers were helpful.

Strongly Agree 10 - Agree 8 – Neutral 2 – Disagree 1 - Strongly Disagree

The content was organized and easy to follow.

Strongly Agree 13- Agree 6- Neutral 2 - Disagree - Strongly Disagree

Overall the training was highly effective.

Strongly Agree 11 – Agree 8 – Neutral 1 – Disagree 1 - Strongly Disagree

This training experience will be useful in my contribution to the implementation of STEM Supporters in my institution.

Strongly Agree 10 – Agree 8 - Neutral 3- Disagree - Strongly Disagree

My expectations were fulfilled.

Strongly Agree 13 – Agree 6 - Neutral 1– Disagree1 - Strongly Disagree

What did you like most about the training?

Networking with partners.
Information on the Czech system.
Visits to Ton, furniture school and university. All excellent.
The collaboration by employers with VET schools.
The visits.
The quiz and discussions on day one.
The school and company visits.
The speakers in the school, factory and Trexima. All well prepared.
Congratulations on the organisation.
Collaboration.
Sharing ideas.
Witnessing successful education business links in operation.
The visit to Ton.
Group dynamics.
The visits.
The overview on co-operation between schools and companies.
Information on models and quality of VET in Europe.
The first day of training.
Information presented in a logical and effective way.
Visits to schools/industry and partners.
To see how links worked with schools was fantastic.
Real world examples.
Best practice in action.
Industry visit and networking.
The visits, the VET schools and employer visit.
Broadening my mind through talking to international colleagues.

**How would you rate your current understanding of the training topic?
(1 novice - 5 expert)**

1-0 – 2-0 – 3-4 – 4-10 – 5-7



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Which good practice examples presented at the training are you going to implement and how?

- TON HR talk-excellent for my teaching.
- Plan a new project based on what I have seen.
- Show Romanian schools how important it is to have links with a factory.
- The importance of strategies to education/business links.
- Improve industry and school integration.
- Improve employer engagement through greater links.
- Improve practices with regards to creating partnerships with industry.
- I will share what I learnt at my school.
- Give more attention in school to the needs of the world of work.
- How to match a company and a vocational area.
- Better target companies and VET in Cyprus so that students can spend more time in companies training.
- Make an exhibition with student products on school's day.
- The TON company approach to supporting education and securing qualified staff.
- Cooperation between schools and companies for delivering training.
- Curriculum development and apprenticeship training.
- Foster relationships and cooperation with industry.
- Map business needs.
- Further employer curriculum links.

Did any of the partner ideas during the training challenge you to do things differently?

- To make sure our offer to students has a real world element.
- I would like to implement a more practical element to the curriculum I teach.
- Nothing in particular.
- No.
- Try to convince companies to offer practical sessions to students.
- The use of data to support outcomes and secure future funding.
- Use PowerPoint less. Have more activities in learning
- Involve students more.
- Proactive approach to the design of programmes through industry collaboration.
- Yes.
- Different ways to approach employers.
- Employers facilitating students work experience more which links to the school curriculum.
- Not very different. I found interesting ideas to apply in my class.



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- The UK example of accrediting companies who provide positive training experiences to students which then increase the number of students who opt for STEM careers. Therefore, the idea of accreditation or labelling the company that provides training for students.
- The videos shown during the training made me think about new tools of VET and STEM promotion in the Zlín Region.

What other topics did you learn about that might help you to do your job better?

- The work needs a lot of organisation and students need to understand it.
- The need to collaborate widely.
- New tools and strategies to use.
- Work based learning forms.
- Learning activities discussed between delegates.
- Skill shortages.
- Establishing employer links.
- Increased knowledge about the furniture industry.
- STEM.
- My knowledge was not enhanced at all.
- Apprenticeships.
- Collaboration with partners.
- Motivating education and training professionals.
- How to link VET and Industry.
- The challenges and opportunities in other partner countries.
- General approach to STEM.
- EU and national good practice relating to VET.
- Close relationship between school and business-exemplary practice.

What next steps are you going to undertake as a result of the training?

- Feedback to university and networks in the UK
- I will think about an attractive way of promotion of VET and STEM learning in my locality.
- Discussion of EU and National practices.
- Dissemination.
- Transfer models of cooperation.
- Involve more companies at a local level.
- Contact local employers to engage with my school.
- Implement Employer Engagement initiatives.



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- Redevelop our curriculum for 2020 and look at how we incorporate employability skills into an academic curriculum.
- Follow up with organisations in Cyprus. Inform them of the projects.
- Disseminate to a careers group I lead heightening their awareness.
- Visit companies and VET schools to improve practice.
- Speak with company leaders to try and address their skills needs.
- Disseminate with colleagues.
- Implementation of school/ company links and endeavours to introduce some quality standards.
- Get involved in more STEM activities and convince more companies to work with schools.
- Brief colleagues and share experience with STEM providers in the wider business community.
- I will involve more students in STEM activities and introduce a lot more practical activities to develop student skills.

Summary

The training used a limited number of approaches in its delivery. The first day was largely a series of PowerPoint presentations through one presenter with a limited discussion in groups enabling feedback. There was also a quiz. Undoubtedly the PowerPoint's had been well researched and a very significant effort had been put into their construction. They were very detailed. The second and third days were more interactive with visits to an employer (TON), a school (High School of Furniture and Business in Bystřice pod Hostýnem) and a University (Centre of Polymer Systems Tomas Bata University Zlín). All had been well chosen and were exemplars of good practice with inspiring presentations by a range of speakers and all included very insightful and informative tours of facilities and work practice.

The interactive elements of the days were undoubtedly the elements of the training that received the best feedback and produced the most learning.

Delegates fed back glowingly in terms of day two. This brought the training to life.

They kept on referring back to this in their feedback when asked about good practice and things they would do differently.

Summary of delegate feedback

- The feedback from delegates shows a significant movement from their level of expertise before the training.



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- 17 delegates report a very high level of expertise after the training. Only 8 delegates beforehand reported this level of expertise. This is very noteworthy.
- There was praise for the training overall and some feedback on the training approaches used on day one of the course. Some delegates felt the training relied too heavily on theory and the use of PowerPoint presentation and there was no variation in approach. Consequentially the learning and networking suffered. It was suggested external speakers including guests and employers could have helped address this. All recognised the efforts and research put into the content of the presentation and the quality of this.
- There was close collaboration between colleagues. This could have been facilitated better to increase learning.
- The theme that came out most strongly was the links between TON and the furniture school.
- All delegates enjoyed the experience overall and obtained learning points.
- One delegate wrote. "Thank you so much for everything. Excellent organisation of the second staff training event."

Recommendations

- The methodologies of the C1 training, which was highly praised by delegates, should be replicated in the C3 training event in Cyprus. Group work, interactive activities, discussion groups, strong emphasis on equality and an atmosphere that treats all delegates equally and gives them the safety to participate fully. The organisers should steer away from too many didactic presentations. Teaching methodologies need to be varied and inclusive. The training should have a balance of theory and practical with the emphasis on the latter. This view was evident in participants' feedback from the C2 training.
- Training should mirror where possible what the project is trying to achieve, addressing imbalances and inspiring STEM involvement by all using trained volunteers.

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