IO 1 – Analysis Report

Methodology

Objective

The training needs analysis (TNA) will be conducted as the first step of the ELIC project. Analysing the training needs of target groups is a vital prerequisite for any effective training programme. Simply throwing a training at individuals may miss priority needs or even cover areas which are not essential, or are not possible to use by the teachers because of particular study plans in different partner countries.

The TNA enables the consortium to channel resources into the areas that are common in project partner regions when it comes to teaching natural sciences and its interdisciplinary connections.

The TNA will contribute to the development of skills of natural sciences teachers and school managers and further to the interest and motivation of pupils in natural sciences and to study technical study programmes in the future. Therefore, pupils are identified as the secondary target group of the ELIC project.

Strategy

The strategy of the TNA is based on 3 major steps:

1. **Desk research report (A1) until 10th of December 2017**

   a. All scientific partners with the support of the school partners will conduct desk research. Efforts will be shared as partners of each partner country are going to co-jointly work on the desk research to bundle resources. The desk research focuses on deriving specific literature on innovative teaching methods for natural sciences within the respective regions/countries and also on competences in teaching plans. It is not focused only directly on the educational and training possibilities for the teacher, but also on the regional competences that should be taught and needs to be followed. This is reasoned by the fact that teachers can use the new knowledge from the training in their lectures. Additionally, the training has to fit to the teaching plans and be based on the competences that they can provide.
   b. One desk research report has to be compiled by each partner country
   c. Input: The template can be found on Google Drive: Content/IO1/Templates/IO1_A1 Desk Research Template and includes a detailed description
   d. Outputs:
      i. Desk Research Report for each partner country
      ii. Desk Research Report at European Level

The final desk report on European level will analyse categories A and B of all country reports. Further results from category C in the country reports are compared and synergies in competences will be derived. Consequently, these similarities enable the consortium to establish a main focus for further IOs.

2. Focus Group Interviews (A2) until 20th of February 2018

a. Interviews are conducted to identify examples of interdisciplinarity between methods/subjects of natural sciences (HOW do they teach?)
b. The used approach has the aim to identify similarities by comparing competences at European Level (Category C in Desk Research).
c. Please use also the "Definition of Engineering Literacy" document, which was created during the kick-off meeting to make sure interviewers and interviewees have the same understanding of it.
d. Input: The respective templates, guidelines and attendance lists for focus group interviews can be found on Google Drive
e. Output: Analysis of focus group reports done on a regional level.

3. Needs and Gap Analysis (A3) until 6th of March 2018

a. The needs and gap analysis consists of all individual reports (desk research + focus group report). It is essential to analyse the information gathered in the desk research and the focus groups to identify existing gaps between current teaching and learning standards and innovative methodologies for natural sciences teachers. In this final phase it is essential to identify the most important issues that have an impact on the following procedures of the project.
b. Based on the Desk Research and Focus Group Interviews each partner will prepare a needs and gap report to identify already known engineering approaches at secondary schools and what is requested by industry. Additionally, it will be identified which engineering approaches can be strengthen by the planned MOOC for the secondary school teachers and pupils. What do we have in the pool and what is missing in the pool, what we propose to create and add to MOOC.
   c. Input:
      i. Analysis report of focus group reports on the regional level.
      ii. Desk Research Report of each partner country
      iii. Respective templates and guidelines can be found on Google Drive
   d. Outputs:
      i. Need and Gap Analysis – Regional Level
      ii. Need and Gap Analysis – European Level (TUO will compile a report of findings, which is the basis for the development of the skill card)

Long-term Strategy

This analysis will help to identify and share the pool of examples needed to teach connection between methods/subjects.