Enlightening Interdisciplinarity in STEM for Teaching

Co-funded by the Erasmus+ Programme of the European Union
Grant Agreement n°2019-1-IT02-KA203-063184

README file

Data Set Title: ***IDENTITIES. Transcripts from two study groups on the role of complexity and uncertainty in learning about climate change in an interdisciplinary contexts***

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Publication Year: **2024**

Project Info: **Integrate Disciplines to Elaborate Novel Teaching approaches to InTerdisciplinarity and Innovate pre-service teacher Education for STEM challenges** (**IDENTITIES**)**,** funded by European Union, **EU ERASMUS+ KA2 Programme**. Grant Agreement num. **2019-1-IT02-KA203-063184**; **https://identitiesproject.eu**

Data set Contents

The data set consists of:

- 1 tabular textual file in .xlsx format
  "IDENTITIES_O2_Dataset_Anonymous.xlsx"
- 1 README file in .pdf format
  "**IDENTITIES_O2_Dataset_README.pdf**"

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Data set Documentation

Extended Abstract

The data presented have been collected in the framework of the "IDENTITIES" project. IDENTITIES is the acronym for "Integrate Disciplines to Elaborate Novel Teaching approaches to InTerdisciplinarity and Innovate pre-service teacher Education for STEM challenges". The project is a three-year ERASMUS + project, that started in September 2019 and finished in December 2022. It involved five universities (Barcelona, Bologna, Crete, Montpellier, Parma). In the project, a framework for interdisciplinarity was designed to innovate pre-service teacher (PST) education. This framework implements an explicit positioning on the meaning of interdisciplinarity into a set of strategic principles aimed at designing "boundary zones" where people with different disciplinary backgrounds are stimulated to dialogue and share their knowledge.

The dataset contains transcripts from two sessions of the second summer school held within the project in Barcelona. The summer school was held at the University of Barcelona from June 27th to July 1st 2022 and saw the participation of 28 PreService Teachers (PSTs) from the five universities who participated in the IDENTITIES project. In particular, nine PSTs were part of the University of Barcelona, five of the University of Bologna, five of the University of Crete, five of the University of Parma and four of the University of Montpellier.

All the PSTs who participated in the Summer School were Master Students enrolled in a course for PSTs from Physics, Mathematics or Computer Science curricula.

The Summer School proposed two different types of topics: advanced STEM topics ("O2" topics) and interdisciplinary curricular topics ("O3" topics). Participants took part in one module for each type of topic (2 modules in total) and devoted about one day and a half to each module. The activities focused on the modules were alternated with plenary moments useful to both present PSTs with the overall structure and goals of the summer school and the frameworks used throughout the modules. Also, the last day of the school was dedicated to group presentations made by the PSTs regarding their perception of the school. The modules offered to the PSTs were the following: "Climate Change" and "Modelling COVID" for the Advanced STEM topics, and "Cryptography" and "Linguistic and Epistemologic aspects of Interdisciplinarity" for the Interdisciplinary curricular topics.

The data presented are anonymous transcriptions of students' discussions while conducting the activities presented in the "Climate Change" module. The data has been recorded, transcribed, and then transformed into an .xlsx file for readability.

In the tabular textual .xlsx file document, the first column describes who's talking through the use of acronyms (P for Physics PSTs, M for Maths, CS for Computer Science, NS for Natural Science, and B for Biotechnology) and numbers to distinguish between PSTs. Since during the lesson PSTs divided into groups and worked simultaneously, we reported the discussions one after the other (Group 1, Group 2, group 3). The moments in which the professors shared information with everybody are marked by Plenary. Six researchers and professors participated in the module (Prof1 to Prof6). Sheets 1 and 2 of the .xlsx document describe part 3 of the Module, while sheet 3 describes part 4 of the Module.