



ENGAGED LEARNING WITH COMMUNICATION SKILLS IN ENGINEERING

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Innovación, investigación educativa y TIC en la educación

<https://www.youtube.com/watch?v=nr1A9xoUyrw>

Justification/Background



Erasmus+ (CaST) 2019-1-
UK01-KA203-061463
<https://www.cast-euproject.eu/>

INNOVATIVE EDUCATION (PIE 19-006)

*Dinamización de la docencia a través de las
competencias de idiomas*

**This project is inserted into the
frame of educational innovation
involving communication skills.**

**The project includes an
interdisciplinary approach
where language specialists and
content specialists collaborate
through project based learning**



Objectives

DUAL OBJECTIVE

- I. Incorporate communication strategies
- II. search for answers to real-world problems the project based learning



We have argued for an inclusion of communication skills in English in the Health Engineering degree. We have also supported the idea that Project based learning is an ideal format to foster engaged learning in the classroom. In this way, the university becomes not only more relevant within the local community, but also creates a problem solving mindset in students.

Method: Action Research

- Focus on **COMMUNICATION**
- **FEEDBACK SESSIONS**
- Body Language
- Visual support
- Key structural elements
- Clues to better Word choice and pronunciation



Figure 1.1 The diagram illustrates the six steps in the action research cycle.

Discuss
Negotiate
Persuade

Results: **Scaffolded feedback and active drafting**

- A pitch has well-marked structural features, specific themes and figures of speech, and it is manifestly persuasive in intention (Díez-Prados,2019; García-Gómez,2018).

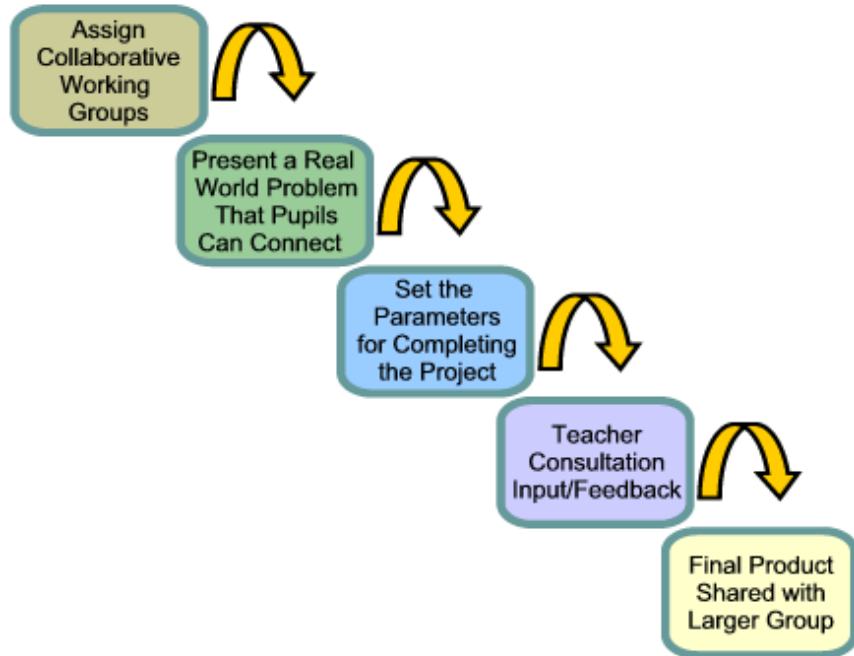
- **ENGAGE**
- **INFORM**
- **ADD VALUE**

Longitudinal Sample

• FOCUS TWO

- Integrate Data Bases to solve problems related to the Health Care Industry
 - Patients, doctors, researchers...

Project-based Teaching Strategy



Solve real-world problems

Results: Scaffolded feedback and active drafting

Table 2. Project Based learning Initiatives for Biomedical Engineering

Design a database model for clinical data

Provide users with Web views of the data (using XML/XSL)

Design a database to publish data following FAIR principles (Findability, Accessibility, Interoperability, Reuse) and link this public database with other public databases (Uniprot, GeneBank, OMIM, ...)

Design ontologies to bring context into the data

Design queries to integrate data (Federated SPARQL Queries)



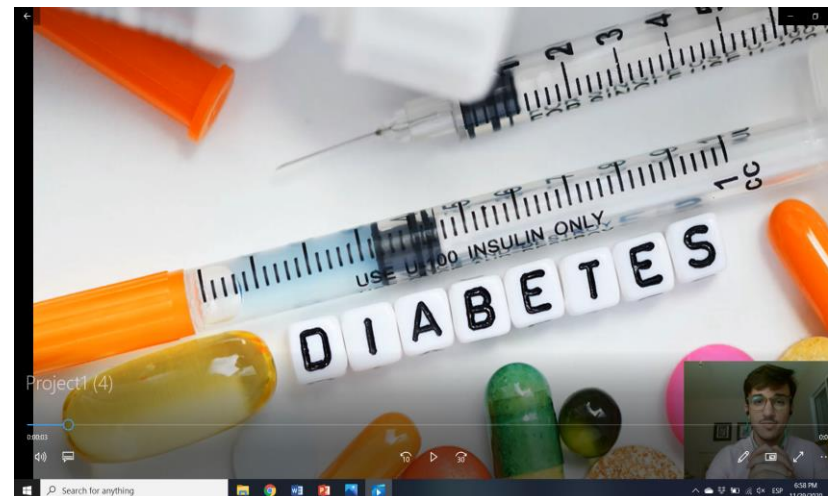
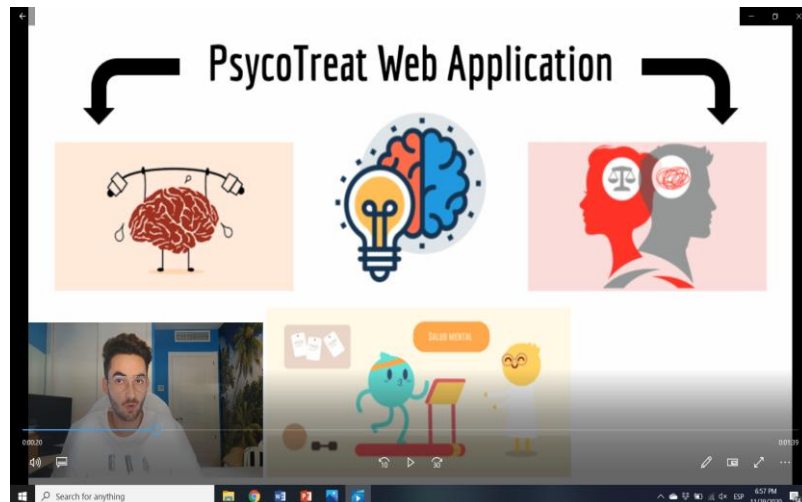
Longitudinal Sample



The issue

- Patient - doctor communication is essential.
- When treating children, we encounter a series of problems.
- Scoliosis: a common disease among children and teenagers.

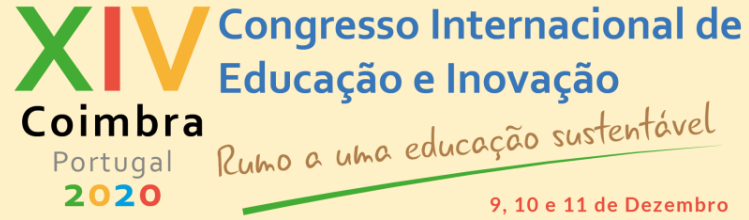
Our proposal: A platform to make a difference



Conclusions: Communication strategies in the classroom

- In recent years there has been a decided shift to an integrated curricular approach known as STEM (science, technology, engineering and mathematics).
- While the sciences teach us how to build things, it's the Humanities that teach us what to build and why to build them.
- The Humanities enable us to discuss, negotiate, and persuade.





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Tecnología y Sociedad**
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