



## **Mediating in Physics**

A sample lesson plan for learners' transition from primary to secondary education -To be used in the language classroom and/or in other subjects

Subject: Physics and second foreign language (German or French)Level: Transition from primary to secondary education: first year of secondary education (age 11/12)Duration: Five lessons

## Short description:

In this lesson plan proposal students use previously acquired knowledge in Physics (5<sup>th</sup> and 6<sup>th</sup> grade of primary education) and the second foreign language (German or French) in order to enrich their knowledge in German or French as well as in Physics. In Greek schools the second foreign language is taught in parallel classes and students choose one of them, Therefore, all the foreign language lessons described here are relevant to both French and German courses. The students have learnt their second foreign language since the age of 10 and have learnt their first foreign language (English) since the age of 6.

The lesson plan proposal includes two texts describing two experiments related to water, one in <u>German</u> and one in <u>French</u>. The main objectives are reading comprehension, vocabulary acquisition and mediation. The proposal builds on plurilingual education: students acquire vocabulary in German or French whereby the vocabulary they already know in Greek or English can be the basis of useful learning by discovery and memory strategies. In addition, they practise their reading and mediation skills whereby their knowledge of physics, the pictures which accompany the texts and their knowledge in other languages (Greek and English) support their reading comprehension. Such comprehension need not be detailed and total, and this is why not every single word is explained (e.g., all the kinds of flowers in the German text). Finally, students in this unit become aware of the various linguistic systems as well as of their own learning. The aforementioned experiments will be carried out with the physics teacher later on after students have worked with both texts (German and French) and the guidelines for the experiments have been mediated in Greek.

© 2023. This work is licensed under an Attribution-NonCommercial-NoDerivatives Creative Commons <u>CC BY-NC-ND 4.0. License</u>. Daryai-Hansen Petra (*et al.*) (2023), *CLIL in languages other than English – Successful transitions across educational stages*, Council of Europe (European Centre for Modern Languages), Graz, available at <u>www.ecml.at/CLILLOTEtransitions</u>.



## Main learning objectives for language learning:

Increase language awareness (comparisons of languages/switch between languages/compare languages), vocabulary, reading comprehension **Main learning objectives for content learning:** 

Students learning French will mediate the instructions (a written text) of a physics experiment on water to their fellow students, learners of German, (and vice versa). The concepts in both experiments (in German and in French) are known to all students in Greek, since they are part of the school curriculum ( $5^{th}$  and  $6^{th}$  grades of primary education).

Main learning objectives for plurilingual and intercultural education:

FREPA, C.1.3 "Competence in mediation" (see

https://carap.ecml.at/Descriptors of resources/Tableau descomp%C3%A9 tences/tabid/3635/language/en-GB/Default.aspx)

|   | Learning objectives for language<br>learning, for content learning, and for<br>plurilingual education   | Icons | Activities   | Tools/resources    |
|---|---|-------|--|--------------------|
| Before<br>lesson 1<br>– last<br>year of<br>primary<br>education | Learning objectives for language<br>learning:<br>Introduction of specific terms in German or<br>French for this topic Learning objectives for plurilingual<br>education:<br>International words / plurilingual strategies |       | Teacher introduces the<br>following terms (in German<br>and in French):<br>Terms in German (examples):<br>Blumen, Pflanzen, Wasser,<br>Glas, blau, rot.<br>The meaning of these words<br>can be deduced by the<br>students based on their<br>knowledge of English, for<br>example, "blue" in English –<br>"blau" in German. In this way<br>the students employ<br>plurilingual strategies.<br>Terms in French (examples):<br>eau, glace, monde, croix,<br>solidification, evaporation. | <u>Memory game</u> |



|   | Learning objectives for language<br>learning, for content learning, and for<br>plurilingual education             | Icons       | Activities   | Tools/resources          |
|---|---|-------------|--|--------------------------|
|   |   |             | The meaning of these words<br>can be deduced by the<br>students based on the<br>knowledge of English, for<br>example, "solidification" in<br>English – "solidification" in<br>French. In this way the<br>students employ plurilingual<br>strategies (internationalisms). |                          |
|   |   |             | In order to practise, students<br>play (in pairs) <u>a memory</u><br><u>game</u> with cards in which<br>they need to pair the Greek<br>and the German/French<br>words (example in German).   |                          |
| Before<br>lesson 1<br>– first<br>year of<br>secondary | <b>Learning objectives for content learning:</b><br>Revision of content (physics/water)                           | <b>*</b> 23 | Power point presentation (in Greek) revising the content of the $5^{\text{th}}$ and the $6^{\text{th}}$ grades physics.  | Power point presentation |
| education   | <b>Learning objectives for plurilingual<br/>education:</b><br>Revision of known vocabulary in German<br>or French |             | Vocabulary in German –<br><u>Power point presentation</u> for<br>the revision of previous<br>year's vocabulary and<br>introduction of new<br>vocabulary (example for<br>German):   |                          |



|  | Learning objectives for language<br>learning, for content learning, and for<br>plurilingual education   | Icons    | Activities  | Tools/resources    |  |
|--|---|----------|---|--------------------|--|
|  |   |          | Experiment/Versuch, Tinte,<br>Stiel, Blüte und verbs from<br>the instructions of the first<br>experiment (e.g.,<br>beobachten).   |                    |  |
|  |   |          | Vocabulary in French –<br>revision of previous year's<br>vocabulary and introduction<br>of new vocabulary:<br>experimentation, état,<br>condensation, buée,<br>bouillante and verbs from the<br>experiment (e.g., observe). |                    |  |
| Pupils have two weeks to prepare (in groups) their presentations |   |          |   |                    |  |
| Lesson 1   | From German to Greek<br>Learning objectives for language<br>learning:<br>Language Descriptors for Reading in<br>German, Pre-A1/A1: Understand factual<br>information and explanations | <b>*</b> | Learners of German present<br>the experiment in Greek<br>(power point presentation<br>with pictures and German<br>text)<br>Learners of French take part<br>in a kahoot at the end   | <u>German</u> text |  |
|  | Learning objectives for plurilingual education:   |          |   |                    |  |



|          | Learning objectives for language<br>learning, for content learning, and for<br>plurilingual education   | Icons | Activities   | Tools/resources    |
|----------|---|-------|--|--------------------|
|          | Mediation objective-Pre-A1, from German<br>to Greek: Can list (in Language B) names,<br>numbers, prices and very simple<br>information from texts (written Language<br>A) that are of immediate interest, that are<br>written in very simple language and contain<br>illustrations.   |       |  |                    |
| Lesson 2 | From French to Greek<br>Learning objectives for language<br>learning:<br>Language Descriptors for Reading in<br>French, Pre-A1/A1: Understand factual<br>information and explanations   |       | Learners of French present<br>the experiment in Greek<br>(power point presentation<br>with pictures and French text)<br>Learners of German take part<br>in a kahoot. | <u>French</u> text |
|          | Learning objectives for plurilingual<br>education:<br>Mediation objective-Pre-A1, from French<br>to Greek: Can list (in Language B) names,<br>numbers, prices and very simple<br>information from texts (written Language<br>A) that are of immediate interest, that are<br>written in very simple language and contain<br>illustrations. |       |  |                    |



|          | Learning objectives for language<br>learning, for content learning, and for<br>plurilingual education                                       | Icons    | Activities   | Tools/resources      |
|----------|---|----------|--|----------------------|
| Lesson 3 | <b>Learning objectives for language<br/>learning and plurilingual education:</b><br>Increasing language awareness and<br>learning awareness | Q<br>(2) | Reflection<br>Compare languages<br>Discuss process of mediation<br>Fill-out <u>questionnaire</u> on what<br>and how they have learned. | <u>Questionnaire</u> |

## Final products that could be added to the students' portfolio (dossier):

- 1) Power point presentation with pictures and German or French text,
- 2) Questionnaire on the students' CLIL experience

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