IncluSMe
Intercultural learning in Science and Mathematics initial teacher education

Module 9

RELEVANCE OF LANGUAGE IN SCIENCE EDUCATION

Worksheets

Co-funded by the Erasmus+ Programme of the European Union

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ICSE International Centre for STEM Education
Pädagogische Hochschule Freiburg
Université des Sciences de l'Education · University of Education
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I. Introduction into the topic "Relevance of Language in Science Education"

Activity 1.1: Why is the role of language important in science

Work in groups

15 mins

Read the two vignettes presented in the introduction and then in your groups discuss the following.

- Why is the role of language in science important?
- What are the main issues identified in the two vignaittes?
- What should a teacher teaching in a linguistically diverse class be doing during her preparation.

Afterwards the groups will present their answers followed by a plenary discussion.

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II. The role of language

Activity 2.1: The role of language in science

Work in groups

20 mins

Work in Groups:

Discuss the following scenario in your groups and idefy problems and possible solutions.

- ” You are a first year science teacher at a multicultural school. You have three students who do not speak the local language, and two students who can communicate orally but cannot read or write. On the first day you plan to teach sound and do group work and experiments.”
- Click here for content of the lesson that you will teach.

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III. Different forms of language

Activity 3.1: Activities to support students

Work in groups | **20 mins**

Work in Groups:

Read the short report by Evagorou (2018) presenting activities to support the different forms of language in science. Note 3 activities that you can use in your classroom to support students.

Afterwards we will briefly discuss your descriptions of the activities.
Evagorou, M. (2018). Short report of the relevance of language in science.

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IV. Different forms of language in science

Activity 4.1: Case Study

Work in groups

20 min

Work in Groups:

" You are a first year science teacher at a multicultural school. You have three students who do not speak the local language, and two students who can communicate orally but cannot read or write. On the first day you plan to teach kinematics and do group work and experiments."

Click here for content of the lesson that you will teach.

In your groups identify difficulties that speakers of the language might have with the topic you are teaching, and the difficulties of the 5 students who are not native speakers might have. Suggest ways support the students.

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V. Instructional Strategies

Activity 5.1: Examples of using the frameworks

Groupwork

30 min

Find a topic that also allows for discussions about similarities and differences (e.g. DNA) and explore it in the classroom, thinking about the issue of language as well.

You can see an example here:
https://ed.ted.com/lessons/the-immortal-cells-of-henrietta-lacks-robin-bulleri

https://www.hopkinsmedicine.org/henriettalacks/index.html

(Click link here for more information)

More specifically, in your groups think about the following questions:

- What are some language issues involved in these stories?
- In which ways could these stories help the students be more aware about their own culturally and linguistically diverse background?
- How could you use these stories as part of your science lesson?

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VI. Designing Teaching Strategies

Activity 6.1: Homework: Design a lesson plan

- Based on the scenario from Activity 2.1, and the framework from Activity 5.1, design a lesson plan to teach sound to this specific class:
- Include goals for the students from the linguistically diverse backgrounds
- Describe in detail activities to support students from linguistically diverse backgrounds.
- Explain why this activities are helpful.
- Describe the challenges you are facing as a teacher while designing the lesson.

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