

“The antibiotics in livestock” debate

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© PARRISE project (grant no. grant agreement 612438) 2014-2017, lead contributions by the Department of Communication and Internet Studies, Cyprus University of Technology] [Kyza, E. A., Georgiou, Y., Hadjichambis, A., & Agesilaou, A., 2017]. CC-NC-SA 4.0 license grant.



Overview of the activity

As part of this experiential activity the science teachers take on the role of students for investigating the controversial topic of antibiotics in meat, using an online learning environment designed by the Cyprus PARRISE team. The “Antibiotics in livestock” learning environment, encompasses all aspects of the SSIBL framework (inquiry, socio-scientific issues, and active citizenship) leading to Responsible Research and Innovation [RRI]).

During the activity, the science teachers, working in groups, are assigned one of the stakeholder roles involved in this controversy (Concerned scientists, Farmers, Medical industry, Government agencies, Public interest organizations which oppose antibiotics). They are given access to an online environment which has information for each of the stakeholders. Each group is asked to review this information and then develop an argument to answer the driving question (“Should antibiotics in livestock be banned?”) adopting the position of the stakeholder’s role they have been assigned to. Arguments can be captured in google docs, to facilitate group work and sharing. By the end of this activity teachers reconvene as a plenary and each group participates in a public debate around the topic (Figure 1, PARRISE Cyprus 2015-16).



Figure 1: Teachers reconvene as a plenary and participate in a public debate about the controversy

The main goal of the activity is to promote science teachers' understanding about the nature of controversial socio-scientific issues and provide a proposal on how to integrate such an activity in their science teaching practices.

Following the activity in which teachers are the learners, teachers are asked to reflect on the activity and analyse its potential to promote the dimensions of the SSIBL pedagogy.

Objectives

By the end of this activity the science teachers should be able to:

- O1 Understand the nature of contemporary socio-scientific controversies through their participation in the “antibiotics in livestock” debate;
- O2 Analyze a socio-scientific issue to identify (a)main stakeholders, and (b) controversial points of view;
- O3 Recognize the pedagogical value of socio-scientific controversies;
- O4 Reflect on how they would use the “antibiotics in livestock” learning environment with their students;
- O5 Analyse existing science modules according to each of the components of the SSIBL framework.

Duration

The activity in which teachers assume the role of learners lasts for approximately 1,5 hours. Additional time will be required when teachers analyse the learning module and its potential to promote the dimensions of the SSIBL framework.

The “Antibiotics in livestock” learning environment

This activity is based on the “Antibiotics in livestock” online learning environment (Figure 2). The online learning environment is in Greek and can be retrieved at:

<https://sites.google.com/site/meatsafetydebate/>

According to its structure the learning environment is divided in five main webpages:

- Webpage 1: Outlining the problem
- Webpage 2: The problem in Cyprus
- Webpage 3: The socio-scientific controversy
- Webpage 4: The problem as covered by the Cyprus Media
- Webpage 5: Resources

Figure 2: Screenshot from the “Antibiotics in livestock” learning environment

Structure of the activity

The activity is structured in two parts:

Part A – Role assignment: 60’

Part B – Public debate: 30’

Instructions for the participating teachers

What follow, are the main instructions for the teachers participating in the activity, per activity part.

Part A: Role assignment

1. Visit the following website [in Greek]:
<https://sites.google.com/site/meatsafetydebate/>
2. Study the information included in the website carefully, to learn more about the controversial socio-scientific topic "Whether antibiotics in livestock should be banned?"
3. Discuss the role of the stakeholder that has been assigned to your group (Concerned scientists, Farmers, Medical industry, Government agencies, Public interest organizations which oppose antibiotics)
4. Then, read carefully the sources that respond to your role, for adopting the position and the main arguments of the stakeholder that has been assigned to you.
5. After you develop your arguments, select a representative from your group who will present your positions and arguments in the public debate that will follow.

Part B: Public debate

1. Representatives of the groups are invited to the stage. Each representative presents his or her group's position in 2-3 minutes. Presentation time will be strictly adhered to.
2. A public debate between the representatives follows. In this debate, all members in each group can contribute to the discussion. They are free to also change their point of view, if they are persuaded by the arguments presented by the other stakeholder groups.

More information

For more information about the activity you can watch the YouTube video "TPD course at CUT: The antibiotics in livestock debate (Cyprus)" (<https://www.youtube.com/watch?v=kuGOJ7mXEFM>).

The video presents an excerpt from the culminating presentation of the experiential activity "The antibiotics in livestock debate", which took place during the first round of the PARRISE Teacher Professional Development (TPD) program in Cyprus during 2015-16.

