



UNIVERSITY OF TARTU
FACULTY OF SCIENCE AND TECHNOLOGY

UNIVERSITY OF TARTU SCIENCE EDUCATION CENTRE

[Mii Rannikmäe](#)
[Jack Holbrook](#)

Arne Rannikmäe

Katrin Vaino
Klaara Kask

Project EuSTD-web
Final Meeting @ Castelo Branco | Portugal
23rd -24rd September 2009

national project web site

Put here the link (and optionally an image) of your **national project web site**

<http://www.eustd.ut.ee/osalejad.html>

e-modules implemented [level II]

- e-module name: The Nature of Science and Science Education
- e-module authors: Jack Holbrook, Miia Rannikmäe
- web address of the server where it's hosted: <http://cc-crie.dte.ua.pt/moodle1/course/enrol.php?id=237>
- e-module language: English

- **e-module name: The Nature of Science**
- **e-module authors: Arne Rannikmäe, Jack Holbrook**
- **web address of the server where it's hosted: <https://moodle.e-ope.ee/course/category.php?id=127>**
- **e-module language: Estonian**

- ***Module 4 - The Nature of Science and Science Education***
- **Learning Objectives:**
 - Understand the nature of science
 - Appreciate differences between scientific theories and laws
 - Appreciate differences between science and science education (or the goals of teaching of science in schools);
 - Determine the purpose of science education and hence targets teacher should have in mind
- **Keywords: nature of science, positivism., relativism, scientific method, theory, science education**

- ***Module 4 – Kaasaegse teaduse olemus ja selle esitamine loodusteaduslikus hariduses***
- **Õppe eesmärgid (Learning Objectives)**
 - **Mõista kaasaegse teaduse olemust**
 - **Tunda loodusteadusliku uurimise spetsiifikat võrreldes sotsiaalteadustega**
 - **Osata rakendada teaduslikku uurimismeetodit erinevates valdkondades**
 - **Tunda pseudoteaduse kriteeriume**
- **Võtmesõnad: teaduse olemus, teaduslik meetod, pseudoteadus**

pilots implemented

Fill in the following data for each **pilot you have implemented**
(alone or in cooperation with another partner)

- **pilot name: Nature of Science course**
- **start date: 24.04.2008**
- **end date: 18.06.2008**
- **number of e-tutors involved: 2**
- **e-tutors name's: Arne Rannikmäe, Miia Rannikmäe**
- **number of teachers enrolled: 10**
- **teachers name's list: [list](#)**
- **if implemented in cooperation with another partner please identify:**

pilots implemented

Fill in the following data for each **pilot you have implemented**
(alone or in cooperation with another partner)

- **pilot name: Nature of Science course**
- **start date: 15.03.2009**
- **end date: 03.05.2009**
- **number of e-tutors involved: 2**
- **e-tutors name's: Arne Rannikmäe, Miia Rannikmäe**
- **number of teachers enrolled: 10**
- **teachers name's list: [list](#)**
- **if implemented in cooperation with another partner please identify:**

e-portfolio examples from the pilots

- e-portfolio author: **Malle Solnson, Arne Rannikmäe**
- pilot where it was produced
- web address where it's published/mentioned in the national project web site:
- is it already published/mentioned in the main project web site (<http://cms.ua.pt/eustd-web/>)?:

pilot's evaluation questionnaires

Fill in the following data for each **pilot's evaluation questionnaire** you have used

- **questionnaires given online or paper-based: evaluation questionnaires are paper-based and outcomes are presented in research paper, submitted to Journal of Baltic Science Education August 2009**
- **web address where it's published/mentioned in the national project web site:**
- **is it already published/mentioned in the main project web site (<http://cms.ua.pt/eustd-web/>) or on any other server at Aveiro?:**

- **name: Coference Presentation, 19th Symposium of Chemical education and Science Education. “Promoting Successful Science Education- the Worth of Science Education research. “**
- **presenter: Miia Rannikmae (invited speaker) Science Teachers` understanding of the nature of science and nature of science education- implications for teaching.**
- **date: June, 2008**
- **location where it took place: Dortmund, Germany**
- **web address where the slides used are published/mentioned in the national project web site:**
- **Are those slides already published/mentioned in the main project web site (<http://cms.ua.pt/eustd-web/>) ?:**

- **name: Summerschool: Nature of science and its implication to teaching. Estonian Science Teacher`s Summerschool , June 2007 Taagepera**
- **presenter: Arne Rannikmae**
- **date: June, 2007**
- **location where it took place: Taagepera, Estonia**
- **web address where the slides used are published/mentioned in the national project web site:**
- **Are those slides already published/mentioned in the main project web site (<http://cms.ua.pt/eustd-web/>) ?:**

- **name: Estonian Science Teacher's Conference: Networking and curriculum development in science education**
- **presenter: Arne Rannikmae**
- **date: September, 2009**
- **location where it took place: Taagepera, Estonia**
- **web address where the slides used are published/mentioned in the national project web site:**
- **Are those slides already published/mentioned in the main project web site (<http://cms.ua.pt/eustd-web/>) ?:**

- **name: ESERA Conference**
- **presenter: K.Kask, M.Rannikmae, J.Holbrook, poter presentation**
- **date: September, 2009**
- **location where it took place: Istanbul, Turkey**
- **web address where the slides used are published/mentioned in the national project web site:**
- **Are those slides already published/mentioned in the main project web site (<http://cms.ua.pt/eustd-web/>) ?:**

e-modules implemented [level III]

Fill in the following data for each **level III e-module** you have implemented

- **e-module name:**
- **e-module authors:**
- **web address of the server where it's hosted:**
- **e-module language:**

Book

Fill in the following data for each **team member from your institution involved** in the writing of the book

- Team member name: **Jack Holbrook, Miia Rannikmäe, Katrin Vaino, Arne Rannikmäe**
- Involved in the writing of (part, section or chapter):
- **Scientific Literacy, Miia Rannikmäe, Jack Holbrook**
- **Intrinsic Motivation, Katrin Vaino**
- **Educational System in Estonia Klaara Kask**
- **Writing task concluded?:**
- **If not please estimate a date for that conclusion and mention what still needs to be done:**