



# Monitoring public opinion on Nanotechnology in Europe

*European Platform on Nano Outreach and Dialogue (NODE)  
(Grant Agreement NMP.2011.3-4-290575)*

## ***D2.2. – Moodle environment***

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## 1. Executive summary

One of the educational goals of the NanOpinion project is to develop three mini courses about nanotechnology aimed at 9–11 grade students. In order to meet this goal and allow the teachers to make a good use of the e-learning process, a Moodle platform was built. The Moodle platform is designed to assist students as well as teachers in the learning/teaching process. The Moodle site for mini courses for the NanOpinion project was recently launched for students, teachers and the lay public. The website address is:

<http://nanopinion-edu.eu/>

## 2. Technical information

The website is built using the Moodle platform, which is a Course Management System (CMS), also known as a Learning Management System (LMS) or a Virtual Learning Environment (VLE). It is a free web application that educators can use to create effective online learning sites. The NanOpinion project uses version [2.4.3](#).

The template used to show the content of the mini courses is '[Menutopic](#)'. The theme—Arialist\_nanopinion—was developed specially for this project at ORT's R&D centre in Israel. These templates and themes allow the users to see the content and navigation and to use the special features of the Moodle platform, such as quizzes. The system is optimised for W3C international standards compliant for web browsers.

The system features that were most frequently used were: designed paragraph, page resources, book, forum (discussion group) and quiz.

In order to allow the lay public have access to the mini courses, a special programming was developed as part of the Moodle system. This feature allows anyone to use the LMS, including the quizzes and other features of the Moodle which were a unique feature prepared especially for this project.

The language of the Moodle system is English, but parts of the content will also be available in various project languages.

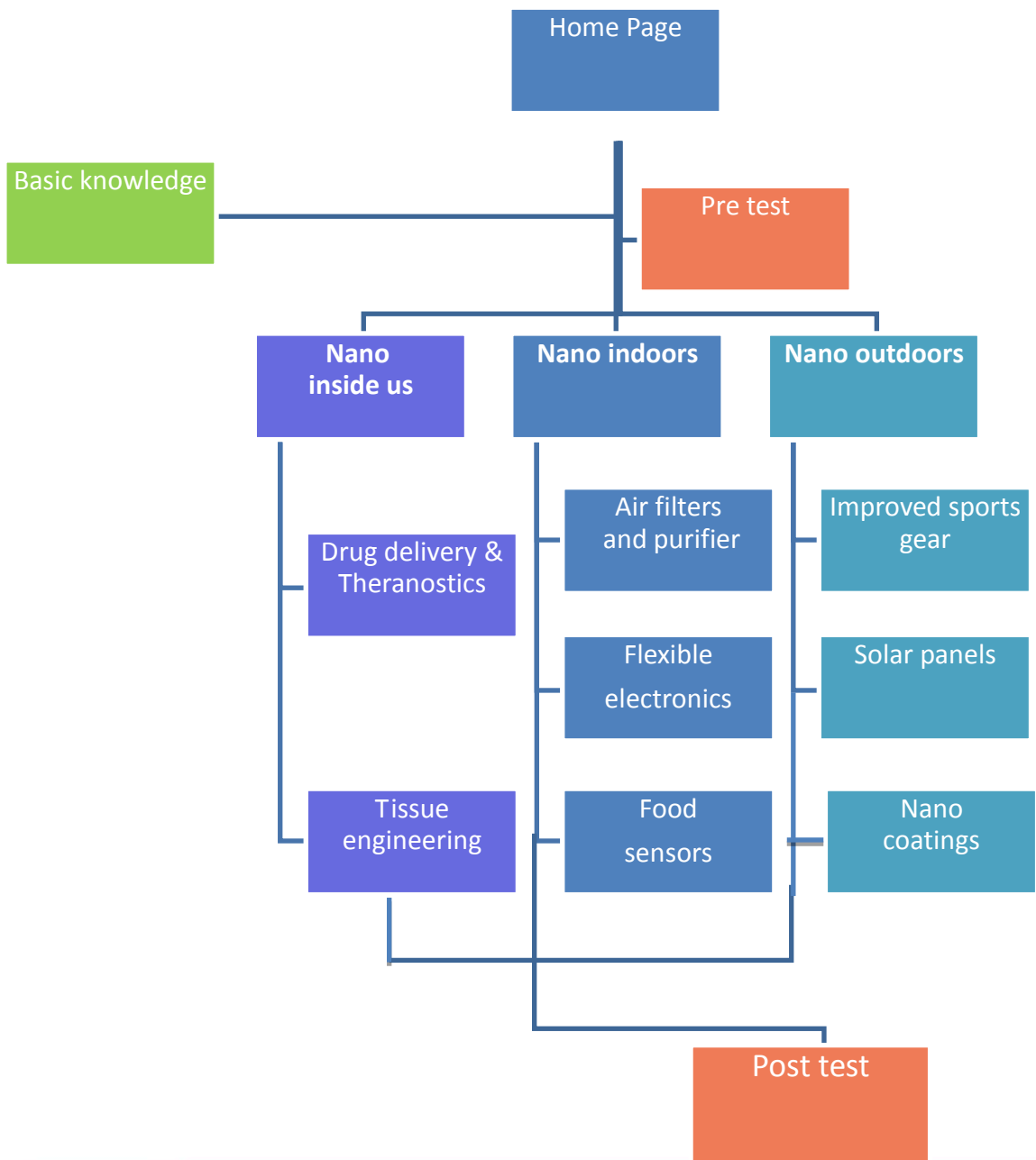


### 3. Structure of the Moodle Mini courses

The LMS structure represents the learning process that is expected from the students. Before starting the courses, each student will go through a pre-test of basic knowledge. After that, each student will be able to learn according to teacher instructions. At the end of the learning process (at every module) the student will go through a post-test in order to measure the change in knowledge.

A bonus section of basic knowledge will be available for those who wish to learn the fundamental principles of nanotechnology.

The LMS structure is:



## 4. Features of The Moodle mini courses

### 4.1. Front/Home page

The Front page of the NanOpinion Moodle site includes a few areas of information:

The screenshot shows the NanOpinion Moodle home page with several callout boxes pointing to specific features:

- Link back to the project portal:** Points to the 'Back to NANOPINION' link in the top left corner.
- Language bar:** Points to the 'English (en)' dropdown menu in the top right corner.
- Direct entrance to the mini courses + basic knowledge:** Points to the four course categories: 'Basic concepts', 'Nano indoors', 'Nano outdoors', and 'Nano inside us', each with a list of topics.
- About the project – back to the project portal:** Points to the 'Who are we?' section, which provides information about the project's launch and partners.
- Live updates from the project social media platforms:** Points to the 'Tweets' and 'NanoChannels - Talking Nano' sections, which display recent social media updates.
- Video about NT:** Points to a video player showing a woman speaking, with the caption 'Oter on Vimeo.'

Figure 1: Home Page



The front page includes:

- Logo prompt and language option
- Direct entrance to the four main categories of this course:

### **Basic knowledge**

#### **Nano indoors**

- Air filters and purifiers
- Flexible electronics
- Food sensors

#### **Nano outdoors**

- Improved sports gear
- Solar panels
- nano coatings

#### **Nano inside us**

- Drug delivery & Theranostics
  - Tissue engineering
- 
- Links back to the project portal and information about the project and the partners.
  - Updates from the project social media channels: FaceBook, Twitter.
  - A video about nanotechnology that may include samples produced as part of the NANOYOU project “what is nano?” and videos to be produced as part of NanOpinion.
  - Disclaimer



## 4.2. Inners pages

The basic structure is organised around the main and central areas where the content is shown. These learning areas include all kinds of resources and activities, such as videos, interactive questions, animations and text.

On the side of the page, different blocks offering extra features or information according to the role of the user in the learning/teaching process are shown.

The screenshot shows a Moodle course page for 'Air filters and purifiers'. At the top, there is a navigation bar with links for 'Basic concepts', 'Nano indoors', 'Nano outdoors', and 'Nano inside us'. The main content area features a video player with a play button and a title 'NanOp\_Problem by Ort Israel on GoAnimate'. Below the video, there is a forum post with a 'Post test' button. On the right side, there are several side blocks: 'Personal Information' (Change password, Change user details, Personal grades report), 'Teacher's information' (Participants, Teacher Grades report, Teacher's guide), and 'Online users' (Nili Bloch). Callout boxes point to these elements: 'Navigation bar' points to the top navigation menu, 'Course content: texts, videos, animation, interactive question, quizzes etc.' points to the video player, and 'Side blocks' points to the right-hand sidebar.

Figure 2: Inner Page





The inner pages of the mini courses include a template of features aimed to help the users learn/teach efficiently; therefore, small differences are included in the features each type of user can see when entering the mini-course.

For example, each participant can see a block of personal information and an option to change his/her password or details. Only users that are defined as teachers can see the Teacher's information. This block allows teachers to see their students' progress and grades and/or access the teacher's guide.

All users can see the block which includes the user IDs of other online users so that when they have entered the mini courses they will know who is working at the same time. This feature is a way to encourage users to cooperate while learning or using the LMS.



Figure 3: Side Blocks

The course content is shown in different ways. Special attention is given to the use of features like animation, videos and interactive activities so any user can enjoy the course from various device. By using state-of-the-art technologies, users have the ability of accessing learning courses from mobile devices as well.

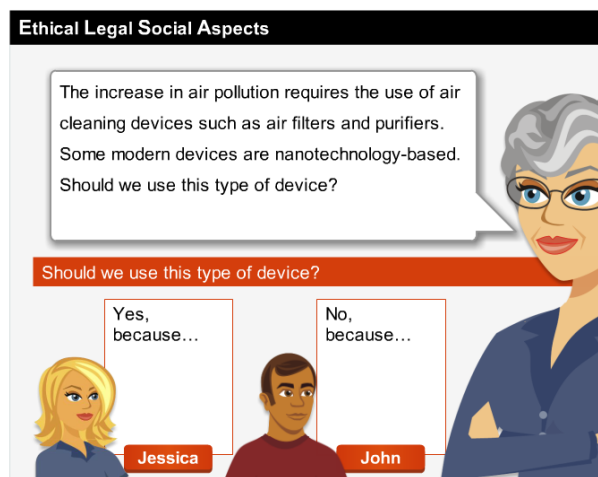


Figure 4: Interactive preparation for the ELSA debate

### 4.3. Navigation

The basic navigation in the mini courses is very simple and allows user to move from unit to unit from the home page as well as from the inner pages.

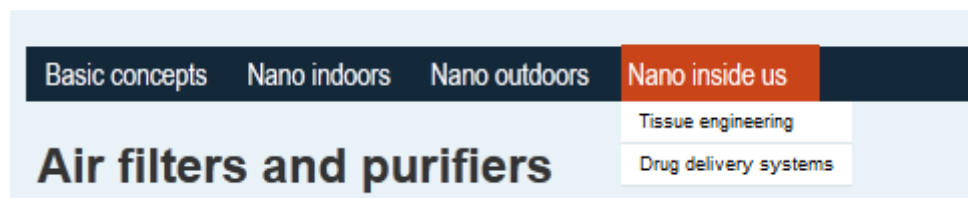


Figure 5: Navigation bar in the inner page

In order to use the Moodle as an LMS system, each user must have a unique username and password, which is the reason for the special login page.

Figure 6: Log-In page

According to the courses structure, each first-time user must take the pre-test. For this reason, an alert message is shown to the users each time they enter the inner pages of the system.

Restricted (completely hidden, no message): 'Not available until the activity **Pre test** is marked complete.'

Figure 7: Pre-test alert

In order to give the lay public full access to the mini courses, a special feature was designed and programmed by the ORT R&D centre. This special guest feature allows anyone to enter the courses as a guest. With this special feature, the guest can see all the content including quizzes; however, the data gathered on this guest is erased after a period of time.

