# **Video Talk 1: How to design project-based learning**

Hello and welcome to this topic on project based learning. My name is Anne Gilleran and I come from Dublin in Ireland. I currently work at European Schoolnet as a Pedagogical Manager. However I have worked all my life in education, as a teacher, guidance counselor, school principal, and teacher trainer.

Today I want to explore with you some of the ideas behind Project Based Learning (PBL for short); look at some of the various models of PBL and pinpoint some basic considerations which must be taken into account when planning a PBL activity with your students.

Project-based learning is an approach which uses methods such as inquiry-based learning and problem-based learning to develop students’ competences. Let me explain this a little more. Having decided to explore a topic or concentrate on an aspect of your curriculum you can decide to use either an Inquiry based approach or a Problem based approach, or indeed a mixture of the two.

Let’s examine the Inquiry-based learning method first. Inquiry is "a seeking or request for truth, information or knowledge". Inquiry-based learning starts with **questioning**, continues with **exploration and investigation** and ends with f**inding a solution, drawing a reasonable conclusion, making a substantive decision or applying new knowledge or skills.** It is often used to explore deep questions such as;Are all humans born free?Is democracy the ideal way to organise society?
Inquiry-based learning relies on **questioning** – you may say “but so does the traditional approach to learning.” The difference is, however, that in the traditional classroom it is the teacher who asks questions to which answers can easily be found and which usually do not go beyond the immediately available information. In an inquiry-driven classroom, it is not only the teacher who asks open-ended questions, but also students themselves. Students are encouraged to question arguments, information, ideas, opinions and viewpoints, to go deeper and generate new questions, which will lead them to new knowledge.

Let’s have a look at the type of questions that one should concentrate on. I quote here from the work of [**John Mergendoller**](http://www.p21.org/tools-and-resources/p21blog/1097-teaching-critical-thinking-skills-through-project-based-learning)of the Buck Institute for Education,. He says that in a PBL environment, the project should investigate what he describes as   "**non-Googleable Driving Questions".** In other words questions that cannot be easily answered by just looking up Google, Bing, Wikipedia etc. Just like in pre internet days, students would look up an encyclopedia and slavishly copy the information to provide their answers.His examples of **Googleable questions** are:
*"Who were the first settlers in our city?"
"What does it mean to be a healthy eater?"
"How are airplanes wings constructed?"*

Of course, to quote Mergendoller, he doesn't want to say "that these questions aren't worth knowing, because they are, and they can lead students to engage in a form of research. Such research, however, emphasizes uncovering information and explicating concepts, rather than thinking critically about information and concepts."
On the other hand, **non-Googleable questions** would be:
*"What was the most important cause of our city's growth?"
"How can we best convince teenagers to be healthy eaters?"
How can we design an airplane wing that is light and will support 25 pounds without breaking?*" Answers to these questions can't be found on Google without "digging" deeply.

The whole purpose of PBL is to encourage pupils to research and to find answers and solutions, to help them **develop higher-order thinking skills**: analyse the information they find, interpret it and compare their findings, synthesis the ideas, evaluate its strengths and weaknesses, peer and self-assess it, find solutions and create a new product.

**Let’s now take a look at the problem-based learning method, which** is more practical. Students are given a real life problem to investigate, which can be described as an authentic problem and have to come up with possible solutions. It may be widely applied to all kinds of real life problems. The solutions can then be discussed and tested to see which will work best in a given situation, for example. How to provide the best care for elderly people in their own homes, How to improve access to public buildings. Both of these approaches focus on developing problem-solving, critical thinking and information-processing skills. They also work best when students have to work in small teams or groups. The two methods are closely related to each other and often overlap.  It is also interesting to note that in this approach, there are not necessarily right or wrong answers. Each solution may have merits and demerits and the students have to analyse and judge. This can be a new departure for some teachers who have up to know maybe always dealt in factual knowledge.

I am sure you are familiar with this phrase ‘**Tell me and I forget, show me and I remember, involve me and I understand’.** **This is the basic tenet of PBL. It is of course more demanding on both student and teacher, but it is also more rewarding.**

Implementing the PBL approach in your teaching requires you to bear in mind a few practicalities before you start. Here are a few pointers you need to think about, which you can consider as a preliminary checklist:

* What is your project idea?
* What is the time frame proposed?
* Is the project idea manageable?
* Is it a project just between you and your class or will you collaborate with other teachers in your school or in other countries
* If it involves partners from other countries, what is the language proposed?
* What subjects could be integrated into this project?
* What technical tools, if any, will you use?
* How does your project fit with the school planning and calendar?

# Once you have fulfilled the basics you are ready to start. If you bear in mind the following 7 steps then you are well on your way…

Step 1. Involve your students from the very beginning. Start with a guided exploration of some topics you have in mind as a whole class; but also be prepared to change if better ideas are emerging from the class. It is important to establish certain ground rules regarding behavior with them in advance.

Step 2. Having defined the topic, in discussion with the class break it down into different tasks. Discuss which technologies to use and how they will be integrated

Step 3. Plan well, set goals, define outcomes. Above all be concrete, students need goals to work towards and responsibility of tasks in order to achieve them

Step 4. Proceed to put pupils into small groups with responsibilities for a particular task. Encourage pupils to ask personally relevant and socially significant questions regarding the topics chosen. Work to the strengths of each pupil.

Step 5. Create a tangible artifact that addresses the issue, answers questions, and makes learning visible and accountable.

Step 6. Arrive at a conclusion...take a stand...take action.

Step 7. Document, justify, and share conclusion with larger audience. (parents, school etc)

Build in presentation of the outcomes or artifact to different audiences as a key part of the project. Presentation of ideas to others consolidates the learning for the students.

When you actively engage the student in their learning activities and find these activities to be meaningful with a tangible outcome, their attitude to learning will undoubtedly change for the better. **Learning becomes fun**.

**4. Final Points**

I hear you ask well, just how do we assess the acquisition of all these competences developed within project-based learning? To learn more about this, you can listen to the videos in module 3 which look precisely at this important issue. My final point is this, PBL can be approached in two ways, either you work in your own classroom with your class and the work is kept in there, or you decide to work collaboratively with other teachers in your own school, own country or in other countries. When you take this broader approach, the rewards of collaboration can be of enormous benefit both to you and your students. The benefits of exchange and peer learning really does help you to consolidate your approach to changing teacher practice through discussion with other teachers. You are no longer alone. If you are interested in developing projects in a national, European or international context, checkout the project eTwinning. [www.etwinning.net](http://www.etwinning.net). Here you will find a professional community of over 260 thousand teachers interested in you and your ideas.

I wish you every enjoyment of this course, I am sure you will learn a lot, and also apply what you learn widely, and I look forward to maybe meeting you one day in our connected world.