

PROJECT WORK IN THE 21st CENTURY SCHOOL

Education in the 21st century has little to do with the traditional education that we experimented when we were young. The world and society have undergone major changes at all levels, and education can not be left out. Schools are not the only childhood learning centers, moreover, they are not even the first source of information and training. Our students are bombarded by information that they aren't even look for, in a much more attractive format and outside the classrooms. In view of this fact, the school must provide an answer and the necessary tools to deal with this avalanche of information in a critical and structured way.

There are very few absolute know-how, current science loses a large part of its certainty. Therefore, education does not have to provide knowledge as an accomplished truth, but rather it has to help build our own point of view, a real truth from other partial truths.

We have to learn to live together with the relativity of the theories, the multiple interpretations of information and, from there, build our own personal opinion. Some authors talk about a liquid reality, where knowledge is constantly moving, and where to obtain information is relatively easy and fast. The pace of technological and scientific changes does not allow us to predict what we need, in terms of knowledge, in a relative period of time. New professional profiles appear and open up extensive and diverse professional mobility. The educational system can not handle all these needs that we do not even know what they are. What we have to do is train future citizens to become more flexible, effective and autonomous learners, providing them with learning skills, not just knowledge and facts.

If we look back, we can see that our educational system has been based on transferring to students what we know and how to do things from master classes. The exams are evaluated whereby the students answer or not the correct one. This method is no longer useful. We do not know what jobs will exist in a few years and we do not know what young people will have to solve. In today's world, everything changes and we have to train our minds to know how to react to what we do not know. Students with a slate should be left. You can not learn by listening to a teacher, but by doing real projects. Going out on the

street, detecting problems, designing solutions to try out. Real cases accelerate the learning process much more than hypothetical based class exercises.

WHAT IS PROJECT WORK?

LISTEN-FORGET SEE-REMEMBER DO-LEARN

Project work is not just about working without books. We can work without books and repeat the mistakes and dynamics of the traditional school. Working in projects implies a new vision of education, where students become the main agents of their learning process, based on their interests and taking advantage of their motivations. We will give great importance to the students being able to transmit what they know and what they learn, paying attention to the way they have to deal with the information. We will pay special attention to the procedures they use to find and acquire new knowledge.

This teaching strategy is an authentic instruction model in which students plan, implement and evaluate projects that apply to real life situations beyond the classroom (Blank, 1997; Dickinson, et al., 1998; Harwell, 1997). Interdisciplinary long-term, student-focused activities are carried out, instead of short and isolated lessons (Challenge 2000 Multimedia Project, 1999). Project-based instructional strategies are rooted in the constructivist approach that evolved from the work of psychologists and educators such as Lev Vygotsky, Jerome Bruner, Jean Piaget and John Dewey.

Constructivism looks at learning as the result of mental constructions; That is, children learn to build new ideas or concepts, based on their current and previous knowledge (Karlin & Vianni, 2001).

In general, we could say that a project already has these characteristics:

- They must be focused on the students.
- They must start from their own knowledge and experience.
- They must allow the active participation of all the students.
- A beginning, a development and an end must be well defined.
- The content must be significant for students.
- They have to deal with problems of real life situations.
- First-hand investigations must be carried out.

- They have to work different types of activities and groupings.
- They must incorporate new technologies.
- They must work on the objectives and contents of the students' curriculum.
- They must produce tangible products that can be exposed and explained.
- They have to carry out activities close to the real social and professional world.
- They must be able to evaluate their own work and that of their colleagues.
- They must foster the debate and the analysis of their actions.

Some of the most noticeable benefits of project learning is the motivation of students to learn, because it allows them to select subjects that interest them and that are relevant to their lives (Katz & Chard, 1989). It is increasingly common for teachers to work with children who have a wide range of skills, which come from diverse cultural and ethnic strata. The projects offer the possibility of introducing in the classroom a wide range of learning opportunities. It can motivate students from different socio-cultural backgrounds, as children can choose subjects that are related to their own experiences, as well as allowing them to use learning styles related to their culture or their personal style of learning (Katz & Chard, 1989).

The projects help to:

- Prepare students for future jobs.
- Increase motivation.
- Make the connection between learning in school and reality.
- Offer opportunities for cooperation to build knowledge.
- Increase social and communication skills.
- Increase the problem-solving skills.
- Allow students to do as well as see the connections between different disciplines.
- Offer opportunities to make contributions to the school or the community.
- Question self-esteem.

- Make possible a practical way in the real world, to learn how to use new technologies.

The projects have had a special impact on four main axis:

- Learn to make decisions: to propose, to argue, to debate, to choose, to agree, ...
- Deal with the information: search, analyze, treat it, assimilate it, judge it, ...
- Transmit the information: communicate it, make it understandable, elaborate it, present it, ...

- Evaluate the learning: know the starting point, what we want to know, how will we evaluate it, ...

A possible script for the development of a project could be:

1. Choice of the topic to work on. By the students and the teacher. Whenever possible we must try to reach a consensus, voting should be avoided, where there are always winners. The ability to reach a consensus is a fundamental tool in this methodology.
2. Clarification of what we know and what we want to learn. Establish with students three, four or five questions or questions that they want to know.
3. Preparation of a script by the teacher based on the previous points.
4. Temporalization of work, clearly establishing how long we will each section.
5. Research and work of information.
6. Creation of final products by students.
7. Exhibitions or presentations of these products.
8. Review or compilation of what we have worked on and learned.
9. Evaluation of the project. We have answered the questions raised, we have acquired new knowledge, ...

THE PROJECTS STEP BY STEP

1. Choosing the subject.

This first step is essential. The group must choose a consensual topic, avoiding voting, so that there are no winners or losers, and all of them will do the project. The keyword is consensus.

The first thing we do is tell students to think, individually, what they would like to study or what topic they would like to know more about. We will make a list of subjects on the board. They all say the topic of their liking or choice. Once the listing is completed we all put in order to reduce it. There are topics that are repeated, that are related or can be put together, ...

Once the list is reduced, 4, 5 or 6 topics can be combined, group the students according to the subjects they like the most. As groups they will have to prepare the justification of the subject. That is, they should try to convince, the rest of their colleagues, that their subject is the most appropriate to work on. When they have discussed, in turns, each group presents its arguments to the rest of the group. The other groups may ask questions and object, which they must refute and defend.

The goal is that the topic of the class project must be agreed by all the students.

2 . What do we want to know?

Now that we have the topic of the project, we want each student to tell us what he wants to know about the chosen subject. (questions, concepts, doubts, experiments, tests, exits, ...). We will list them all and as before, we will have to reduce it by joining or rejecting questions, depending on whether they can work on them or not.

The idea is to stay with a minimum of three and a maximum and five questions or concepts to work on. Depending on the number of issues the project will last for a longer or shorter period of time. We think that very long projects can get the students tired, or not, it will always depend on their interest and our ability to stimulate them. It is very important to clearly define what we will work on during the project because if not it could be endless.

3 . What do we know and making hypotheses.

We will always build from the knowledge of the students and therefore we will ask them what they know. We want to gather everything they know and that will give us a starting point to work from. It may happen that nobody knows anything about the topic, and in this case we will have to search for starting point.

It is very common for them to know something, even if it is not true, of the subject and this will help us to formulate different hypotheses about the issues and ideas that we have come up. This is a very important step, as the hypothesis formulation is a fundamental point from a scientific point of view. Each student can formulate their own hypothesis or we can do it in small groups, debating and agreeing. We can ask the question or formulate the hypotheses of the different questions at the same time.

4 . We search for information.

This step usually takes longer, so it is necessary to have a timing as accurate as possible to control the length of the project. It is very important for students to do the research. This process is as important as the results. We can reach the information in many ways, and the richness of the project will also be linked to many tasks: research using ICT, visits and field trips, interviews, film or documentary viewing, library research, readings and understanding what has been read, surveys and forms, ...

Not all the information is valid and clear. To make it clear we must explain to the students how to find the information and help them throughout the process. It's not about copying information, but reading, listening, observing and, above all, understanding it. No information is valid if it is not understood.

STEPS TO DESIGN A PROJECT

From our point of view, the starting point to plan any educational project, should be to know how our students must carry out the tasks. We share to a large extent the idea expressed by Fernando Trujillo in his article, Around the TIC: how to design an integrated task, in which part of the assessment criteria when designing their tasks. I think it's essential to begin planning, have very a very clear idea of what we want them to do, what will we evaluate, and that students have it as clear as us.

From this starting point we will find a topic, a question, a title, which encompasses the contents that we are going to work on and with to achieve our final goal. It is evident that we will always start from the previous knowledge of our students, as well as their own reality and close social environment, when scheduling the activities or sessions that we will carry out. Not forgetting to take into account the resources we have, the time we will use and the help we can get. Another key point is the evaluation. We must keep in mind how it will be carried out, what instruments will we use and when it will be done?

To summarize the process we would end up with the following:

1. What do we want to achieve?
2. What am I going to work on ?
3. What do my students already know? Where do we start from?
4. What resources do we have?
5. How do we do it?
6. How do we evaluate the project and the process?