PRVA TEHNICKA SKOLA KRAGUJEVAC

PROJECT BASED LEARNING

TEACHER`S HANDBOOK

Kragujevac, 2019

PROJECT BASED LEARNING AS A PART OF CONTEMPORARY TEACHING OF PRVA TEHNICKA SKOLA

Co-funded by the
Erasmus+ Programme
of the European Union

Handbook authors:

Vladimir Cabric, professor of Serbian language and literature

Renata Misulic, graduated mechanical engineer

Sladjana Obrenovic, professor of English language and literature

Maja Pavlovic, professor of history

Vesna Savic, graduated architecture engineer

Vesna Mihailovic, graduated electrical engineering engineer

Ana Todorovic, graduated technology engineer

Introduction

Teacher handbook is created after our stay in Italian school ISS CARDARELLI within ERASMUS+ project „PROJECT BASED LEARNING AS A PART OF CONTEMPORARY TEACHING OF PRVA TEHNICKA SKOLA".

Since we had exchanged experience with the colleagues in Italy we made and implemented several projects from different areas with the students of Prva tehnicka skola.

Hereby we are presenting our experiences hoping that we shall help you in planning and applying of PBL.

WHAT IS PBL?

A form of educational/upbringing work developing inter-subjects competences by using digital technologies

ОБЛИК ОБРАЗОВНО-ВАСПИТНОГ РАДА КОЈИМ СЕ РАЗВИЈАЈУ ОПШТЕ И МЕЂУПРЕДМЕТНЕ КОМПЕТЕНЦИЈЕ УЗ УПОТРЕБУ ИНФОРМАЦИОНО-КОМУНИКАЦИОНИХ ТЕХНОЛОГИЈА

GENERAL AND INTER-SUBJECTS COMPETENCES

1. Life-long competence

2. Communication

3. Work with data and information

4. Digital competence

5. Problem solving

6. Cooperation

7. Responsible participation in democratic society

8. Responsible relation towards health

9. Responsible relation towards environment

10. Esthetic competence

11. Enterprise and orientation towards enterprise

PBL RESULTS

Student is capable of

- Finding information on his/her own
- Trying/making effort to solve the problem
- Working in a group, cooperating
- Having critical relation towards his/her own and other`s work
- Making decisions
- Giving arguments
- Working and learning in various ways
- Planning activities
- Selecting information sources
- Making products visible and presenting them to others for studying and information
- Using digital technologies for gathering information and studying
- Seeing the dangers in digital environment
- Recognizing negative impacts on health due to misuse of digital devices

PBS APPLICATION

- PBL is based on J. Dewey and W. Kilpatrick teaching where PBL is called Project method used before Great War in the school of Columbia University.

- Their goal was to join school learning with everyday life knowledge through solving problems.

- They completely dismissed the system of school subjects and verbal transmitting of ready-made knowledge, rather the process was implemented through engaging the students in smaller groups or individually at solving problems adjusted to their age.

PROJECTS STAGES

1. INTRODUCTION TO PROJECT/THEME, GOAL AND PLANNING

2. PROJECT IMPLEMNTATION

3. PROJECT PRESENTATION/PROMOTION

4. PROJECT ESTIMATION AND REFLECTION

INTRODUCTION TO PROJECT

- This stage is crucial for a project task.

- At the beginning of PBL application we use semi-structured project type where a teacher has a bigger role in defining the theme and goal of the project, as well as in the methodology of the project implementation.

- In the next phases when student acquire some experience, they are getting bigger and bigger role in this stage.

- The project theme should bi interesting to the students, important for everyday life and related to the results and contents of the school subjects. Whenever it is possible the current events should be exploited as additional motivation for a project implementation.

- Planning of appropriate and applicable activities has huge influence on the success and quality of the project implementation.

- All available resources should be used such as cooperation with a local community, experts for a certain field and as the most important the use of digital technologies

PROJECT IMPLEMENTATION

- ► **A. Research of a project theme**
- ► Pupils gather the information using books, other`s experiences, expert knowledge, internet and other available sources

- ► **Б. Product creation**
- ► Pupils are thinking of a project product and creating it /leaflet, performance, poster, digital presentation...

- ► **В. Planning of presentation**
- ► Pupils are choosing the way of presenting according to the product they have created

PROJECT PRESENTATION/ PROMOTION

Project can be presented/promoted
in several ways

- ▶ Performance
- ▶ Exhibition
- ▶ Show
- ▶ Local media
- ▶ Leaflet promotion in a library
- ▶ Publishing in printed or electronic media
- ▶ Space and timely information about a project promotion time are important factors that affect the way of a project presentation

GRADING IS SOMETHING YOU DO WITH THE STUDENTS
AND NOT SOMETHING YOU DO TO THE STUDENTS

ORMOND

PROJECT ESTIMATION AND REFLEXION

1. ESTIMATION OF STUDENTS`ACTIVITIES

2. ESTIMATION OF COOPERATION AND TEAM WORK

3. ESTIMATION OF ACCOMPLISMENTS

4. ESTIMATION OF PRODUCTS

5. ESTIMATION OF PRESENTATION AND PROMOTION

REFLEXION

It is a process where a teacher constantly examines his/her own approach to teaching, ponders about his/her actions, about the impact on pupils` knowledge, thinks about the quality of work, good sides and problems occurring and how to solve them.

MONITORING AND EVALUATION

- At creating a project the project goal and results should be defined. On the basis of the project goals and results the criteria for the monitoring and evaluation of the process and products of the PBL i.e. individual projects should be defined. The aim is to teach the students how to evaluate various parts of the project implementation, and that is why it is important to develop constantly their competences for the estimation of quality and give recommendations for work improvement.

- A product quality is not crucial in estimating the success of student`s work. It dos not have to be ideal but should be the subject of evaluation and decision how to improve work.

- A teacher should especially pay attention on the accomplishment of the defined goals and results of the project.

- Monitoring and evaluation in the PBL process are performed by students and a teacher. According to that, the methods for evaluation and monitoring are different.

ADVANTAGES OF PBL

The students are more active, more freely communicate among themselves
The connection pupil-pupil and pupil-teacher is better
By applying PBL students develop communication skills, learn to be tolerant and reduce the prejudices

Self-esteem and self-confidence becomes stronger

They are more motivated for work and learning (no classical knowledge checking)

Knowledge and skills acquired, are long lasting and applicable in everyday life

PBL DISADVANTAGES

Organization and monitoring of the project takes a lot
 of time
Some students need a lot of help
It can be expensive
Sources of knowledge are not always easily available

Difference between classical and project based learning

Classical teaching

- Limited with curriculum and focused on its implementation
- Units and lessons are clearly separated
- Acquired knowledge, skills and capabilities are poorly connected
- There is no correlation with other subjects /or it is inefficient
- Frontal method is the most frequent

PBL

- Is oriented toward student

- Develops partnership between student and teacher

- Open towards problems and tasks

- Correlation with other scientific fields

- Develops cooperation and team work

- Develops organizational and communication abilities of a pupil

PROJECT TYPES

DEPENDING ON THE NUMBER OF PARTICIPANTS WE HAVE

INDIVIDUAL PROJECTS, GROUP PROJECTS OR PROJECTS WHERE THE WHOLE CLASS OR WHOLE SCHOOL PARTICIPATE.

ACCORDING TO DURATION OF THE RESEARCH THE PROJECTS CAN BE ANNUAL, MONTHLY, WEEKLY…

ACCORDING TO THE WORK METHODS WE HAVE THEORETICAL, EXPERIMENTAL AND COMBINED PROJECTS

EFFICIENCY OF DIFFERENT METHODS

Method	Efficiency, %
Lecture	5
Reading	10
Audio-visual	20
Demonstration	30
Group work	50
Team work and projects	75
Teaching others and the application of the learned	90

EXAMPLES OF PBL