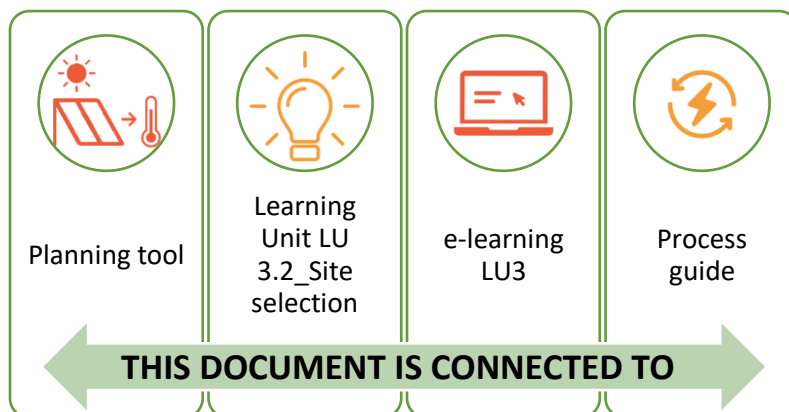




Our Solar Town

Role play 3.1

Site selection



akazyon⁰
WETTOOLS • UMWELT • FÖRDERUNGEN



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Role play 3.1 – Introduction

Site selection

TARGET GROUP: Students aged 10-13.

PLACE: school, e.g. classroom

THEORETICAL FRAMEWORK:

The teacher presents a scenario to the students. Its subject treats the solar thermal energy and the ways in which we can use it. The roles are briefly defined and described. The students choose the role they will impersonate. The teacher does not play any role but works as an animator in order to create the appropriate atmosphere so that students feel free to express themselves.

The focus is on student awareness of a real situation and its complexity, through a pleasant learning process. The teacher does not focus his/her attention on the theatrical abilities but on students' arguments.

OBJECTIVE:

Through the role play, students will understand the interdependence and conflict of the involved roles and attempt to come to a decision that will highlight the usefulness of solar thermal energy and its applications.

PROCEDURE:

- Teacher's preparation (*connection with the output*)
- Recording the needs
- Theoretical and practical preparation of the students (*connection with the output*)
- Definition and description of roles – students choose their roles
- Game implementation (Role rotation and integration of experiences)
- Conclusion - Evaluation

DURATION:

The procedure, depending on the time that can be allocated according to the curriculum, can last from two to twelve learning sessions. When there are plenty of hours available, they can be distributed throughout the school year. Below there is an indicative timetable for project implementation:

ROLE PLAY 3.1: INTRODUCTION





Steps	Duration
Teacher's preparation (connection with the output)	2h
Recording the needs	1 h
Theoretical and practical preparation of the students (connection with the output)	6h
Definition and description of roles – students choose their roles	1h
Game implementation (Role rotation and integration of experiences)	1h
Conclusion - Evaluation	1h

ROLE PLAY 3.1: INTRODUCTION





Role play 3.1 – Steps for implementation

STEP 1: Teacher`s preparation (connection with outputs)

The teacher`s preparation before entering the classroom to run the role play includes the following:

- Thoughts, ideas, object of solar thermal energy companies.
- Information on the legal framework of these companies.
- Information on issues of economic activity.
- Personal research on the above issues and gathering of information on the industry.
- Informing the class about the intent to implement a Role play.
- Setting a timetable.
- Examining the likelihood of a joint co-operation of several classes within the school unit.

STEP 2: Recording the needs.

The teacher records the needs for the implementation of the RP, which are generally the following:

- What infrastructure will be needed (laboratories, offices, computer room, ...).
- When these facilities will be used.
- Required consumables and stationery.
- Expenditure budget.
- Communication with a real business.
- Check of the laboratory and the computers to be used.
- Communication and discussion with the stakeholders involved in the construction of such a plant (Public Swimming Pool, Municipality, ...).

STEP 3: Theoretical and practical student preparation (connection with outputs)

- Organization of a classroom meeting.
- Presentation of the idea and a possible scenario to the students.
- Presentation of solar thermal energy and its applications. (output)
- Assignment of research - presentation of results of group research.
e.g. A) Investigation of solar thermal energy applications on the web.
B) Running of simulation programs for the application of thermal energy.
- Visit to a real business and discussion with a representative or a business representative's visit to the school.
- Basic business organization and operation issues.





STEP 4: Definition and description of roles – Ss choose their roles

The teacher presents the different roles and the students decide which one interests each of them the most. The teacher is the one who will make the final decisions. Finally, the students create the role cards with the teacher's help.

STEP 5: Game implementation

Before the debate, the teacher asks each group of students to assemble in parted places, where they will be able to think about the situation, analyze it and plan their future behavior. In other words, each group of students is asked to decide what their attitude will be when the debate time comes.

Students now impersonate their roles. They speak in the first person - analyses and comments are not allowed at this stage. The "theatrical performance" will be completed when the issue under discussion is resolved. The teacher at this stage acts as a coordinator. He/she does not control the debate or judge what is said. This creates ideas to proceed the discussion. He/she intervenes, when necessary, to bring back the discussion to the subject or to give floor to a student who is discouraged to speak. Besides, one of the objectives of this activity involves making students feel responsible for their decisions and the consequences, as well.

By the end of the role-play activity, the teacher must be certain that the assembly has come to a solution that satisfies all participants, all "players". Therefore, everyone should be asked whether they feel that the problem has been adequately discussed or if they should continue the role play until a solution is found. Determining the right time for the end of the activity involves certain difficulty. Experience has shown that such an activity always takes longer than initial planning. Ultimately though, it turns out that it is better to have a quality ten-minute game than half an hour of moderate exercise.

STEP 6: Conclusion – Integration of experiences - Evaluation

During the final stage, the participants comment in an open discussion on their experience.





Role play 3.1 – Implementation of the Role Play

Site selection

Selecting the most suitable school to install a water heating system based on location criteria

ROLE PLAY 3.1: IMPLEMENTATION

SCENARIO:

The city council meets to select a school to install a solar water heating system. There are three candidate schools. In the meeting, several stakeholders are taking part, the city council, school managers, representatives of the parents' associations, representatives of the installation company, representatives of an ecological organisation.

The company presents software, based on which they make suggestions on the most suitable location to install the system. Each school presents its needs and argues for them. Taking all the views into account, the city council is asked to decide in which school the installation will take place.

ROLES:

1. City council
2. School representatives
3. Parents' representatives
4. Installation company
5. Ecological organization representative

PHASES:

1. Preparation by each group
2. Presentation of the needs of each school
3. Presentation of software results by the company
4. Presentation by the ecological organisation representative of problems arising from the installation of solar panels e.g. trees that shade the panels must be cut.
5. Discussion (all)
6. Decision of the city council

GROUP FEATURES:

Neutral

1. Mayor - City council: Both courteous and ambitious. They are interested in not displeasing anyone and having good relationships with everybody. They let all the arguments of each side be heard and they will decide more easily at the end, as each school has different needs.





2. Installation company: Its representatives are realists, ambitious, with the aim of gaining and promoting themselves. They hold a neutral attitude because they are not interested in which school the installation is going to take place. They know, after discussing with the local authorities, that the school with the largest needs for hot water will be selected. The benefit for the company is secured and they must argue for the benefits, since the installation costs are great

For and against

3. School representatives and parents' representatives: Troubled, each school and each parents' club is in favour of installing the system in their own school and against its installation to another school.

Arguments

They argue mainly about the purity of solar thermal energy and the zero cost of producing thermal energy. They downgrade the significant installation costs by pointing out that depreciation will take place in a short time.

4. Ecological organization representative: Young, dynamic, with environmental education, activist. From an early age, he has learned to love the natural environment of his homeland and he is passionate about its protection. He works in an international environmental organisation.

He is excited about the installation but also worried, as the school with the most possibilities to win, because it has a swimming pool, is shadowed by many big trees, which must be cut. He will be hard to be convinced and consent to their cut.





Role play 3.1 – Role play cards

ROLE PLAY 3.1: ROLE PLAY CARDS

Card 1: Mayor - City Council

You are courteous and ambitious. You are interested in not displeasing anyone and having good relationships with everybody. What is more, you seek your personal exposure and promotion of your work. In fact, you treat the inhabitants only as their potential voters.

In addition, your aim is not to spoil your relationship and cooperation with the school managers, representatives of the parents' associations, representatives of the installation company, representatives of an ecological organization so you keep a neutral attitude.

You let all the arguments of each side be heard and they will decide more easily at the end, as each school has different needs.



Card 2: School representatives

You are assigned the task to represent the school at the meeting. You are three groups of school representatives. The composition of each group includes the headmaster or the deputy headmaster and teachers' members of the teachers' association.

Each of you argue in favor of installing the solar system at your school by listing data related to the school capacity, building facilities, environmental sensitivity the school has demonstrated in the past etc.





ROLE PLAY 3.1: ROLE PLAY CARDS

Card 3: Parents' representatives

You are three groups of parents' representatives. Troubled, each parents' club are in favor of installing the system in your own school and against its installation to another school.

Each team knows the school's energy needs and how difficult it is to fund with the current situation.

Each group lists the needs to be covered such as hot water for the gym, pool water heating, showers, central heating etc. You try to convince that your school needs it the most.



Card 4: Installation company

You are the representatives of installation company, realists, ambitious, with the aim of gaining and promoting yourselves. You hold a neutral attitude because you are not interested in which school the installation is going to take place. You are the representatives of a company with extensive experience in installing solar water heating systems. You have the proper software that can accurately calculate in which school the heating system needs to be installed in order to have the maximum efficiency.

Since the cost of installation is high, you need to convince the stakeholders in which place the solar system needs to be installed, so that your company achieves the greatest economic benefit. You have decided in which school you want to install but do not say clearly. When the time comes with very convincing arguments, you will support what is most beneficial to you.





ROLE PLAY 3.1: ROLE PLAY CARDS

Card 5: Ecological organization representative

You are a young, dynamic, with environmental education, activist. From an early age, you have learned to love the natural environment of your homeland and you are passionate about its protection. You work in an international environmental organization.

You are excited about the installation but also worried, as the school with the most possibilities to win, because it has a swimming pool, is shadowed by many big trees, which must be cut. You will be hard to be convinced and consent to their cut.

- Your main argument is that these trees need 30 to 40 years to grow again.
- Their shade keeps the whole school cool, which will stay exposed to the sun after they are cut.
- Beneath these children find cool, playing and eating their breakfast.
- The beauty of green will be lost and replaced by cold and unpleasing panels





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