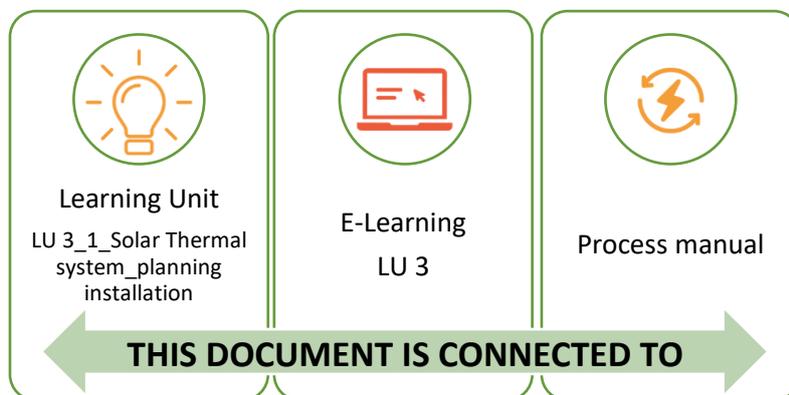




Our Solar Town

Role play 3.1

Installation_pros and cons



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Role play 3.1 - Introduction

Installation_pros and cons

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





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 – 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

Installation_pros and cons

Installation of a solar thermal system in a public swimming pool

ROLE PLAY 3.1: IMPLEMENTATION

SCENARIO:

A solar thermal company wants to install a solar water heating system in a public pool which currently runs on natural gas. In the municipal assembly concerning this issue, company representatives present their plan. In the meeting, several stakeholders are taking part, the city council, representatives of the citizens, representatives of the swimming pool and the gas provider who supplies the swimming pool, representative of solar thermal company. After the presentation of the project, there is a debate among all the involved parties, where each side presents their arguments to support their point of view.

ROLES:

1. City council
2. Citizens
3. Swimming pool representative
4. Gas provider
5. Solar thermal company representative

PHASES:

1. Preparation by each group
2. Presentation (all)
3. Debate (all)
4. Decision

GROUP FEATURES:

Neutral

1. Mayor - City council: Both courteous and ambitious. They are interested in not displeasing the residents and having good relations with them.

Arguments

They want to ensure the operation of the pool so that all citizens have access to it for sports and recreation.

On the one hand, they are for the change of energy use, because in the long run the municipality will be relieved of the cost of heating the water. There will also be positive comments about the municipality by environmental organizations.

On the other hand, the gas supply company will be dissatisfied.





Comments: They seek their personal exposure and promotion of their work. In fact, they are not so interested in the environment and they treat the inhabitants only as their potential voters. However, in order not to spoil their relationship and cooperation with the gas company, they hold a neutral attitude and announce that they cannot make a decision if they do not take into account the opinion of all the stakeholders, especially the citizens.

For

2. Citizens: Employed people, parents etc. Excited.

Arguments

Prospect of zero cost in the future, as in the past there have been financing problems with the risk of closing the pool, an area that is a sporting and leisure oasis in the difficult daily routine of younger and older.

A cleaner environment, as Solar energy is a source of clean energy.

3. Swimming pool representative: Rationalist, realist but also diplomat. The voice of logic as he knows the operating problems from within.

Arguments

The upgrading of the facility, for the operation of which he is responsible, will highlight and promote his work. In the future, there will be fewer financing problems as operating costs will decrease.

4. Solar thermal company representatives: Smart, reasonable, ambitious and decisive people who are interested in profit and their personal advancement in the company.

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.

Against

5. Representative of the gas supply company: Troubled by the neutral attitude of the mayor and the city council. He is in danger of losing a big client of his company, resulting in his negative evaluation.

Arguments

His main argument is the large cost of installing the water heating system from solar thermal energy. Another one is that the already existing system that heats water using natural gas has not yet been depreciated.





Role play 3.1 – Role play cards



ROLE PLAY 3.1: ROLE PLAY CARDS

Card 1: City Council

One of you is the Mayor and the others are members of the city council. You both are courteous and ambitious. You are interested in not displeasing the residents and having good relations with them.

You seek your personal exposure and promotion of your work. In fact, you are not so interested in the environment and you treat the inhabitants only as your potential voters. However, in order not to spoil your relationship and cooperation with the gas company, you hold a neutral attitude and announce that you cannot make a decision if you do not take into account the opinion of all the stakeholders, especially the citizens.

Your main arguments are:

- You want to ensure the operation of the pool so that all citizens have access to it for sports and recreation.
- There will be positive comments about the Municipality by environmental organizations.
- From the change of energy use, in the long run the Municipality will be relieved of the cost of heating the water, but a large installation cost is required.
- Gas is an economical and relatively clean source of energy.
- Saved money will be channeled to citizens. Yes, but when? When the installation cost will have been depreciated after a long time.





Card 2: Citizens

You are working citizens and parents at the same time and the pool is for you and your family a sporting and leisure oasis in the difficult daily routine. You're excited about the prospect of zero cost in the future, as in the past there have been financing problems with the risk of closing the pool.

Your main arguments are:

- A cleaner environment, as solar energy is a source of clean energy.
- Zero cost, less municipal fees in the future.
-

Comment: You are deeply concerned about the efficiency of the new system during the winter months.



Card 3: Swimming pool representative

You are responsible for the proper operation of the municipal swimming pool. You are rationalist, realist but also diplomat.

The voice of logic as you know the operating problems from within. The upgrading of the facility, for the operation of which he is responsible, will highlight and promote his work.

Your main arguments are:

- In the future, there will be fewer financing problems as operating costs will decrease.
- You strive to explain all the technical specifications required and guaranteed the smooth operation of the pool.





ROLE PLAY 3.1: ROLE PLAY CARDS

Card 4: Solar thermal company representatives

You are the representative of a famous solar thermal company.

You are a smart, reasonable, ambitious and decisive person who are interested in profit and your personal advancement in the company.

Your aim is to convince the municipal assembly to install the solar water heating system in the public pool. You tell them about the benefits of the solar energy. You argue mainly about the purity of solar thermal energy and the zero cost of producing thermal energy. Moreover, your basic argument is that this solar thermal system has very small ecological footprint. You try to downgrade the significant installation costs by pointing out that depreciation will take place in a short time.



Card 5: Representative of the gas supply company

You are the representative of a famous gas supply company. Your aim is to renew the contract with the municipal council in order to thermal the swimming pool. You are troubled by the neutral attitude of the Mayor and the City Council. You are in danger of losing a big client of your company, resulting in your negative evaluation.

Your mainly argument is the large cost of installing the water heating system with solar thermal energy. Moreover, you tell them that the already existing system which heats water using natural gas has not yet been depreciated. Another argument is that the natural gas emits less carbon dioxide from all other fossil fuel so they don't need to change it.





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