



**Funded by
the European Union**

LERA
Lithuanian Educational
Research Association

**Inquiry-based learning (IBL) project's
implementation report from
Aizkraukle novada vidusskola teacher
Kristine Balta**

***Reverse vending machine - deposit return
system***



Aizkraukles novada vidusskola



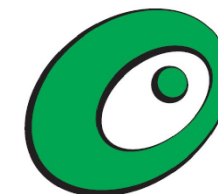
VILKAVIŠKIO RAJ. PILVIŠKIŲ
„SANTAKOS“
GIMNAZIJA



VILNIAUS VYTAUTO DIDŽIOJO
GIMNAZIJA



ŠALČININKŲ RAJ. EIŠIŠKIŲ
STANISLOVO RAPOLIONIO
GIMNAZIJA



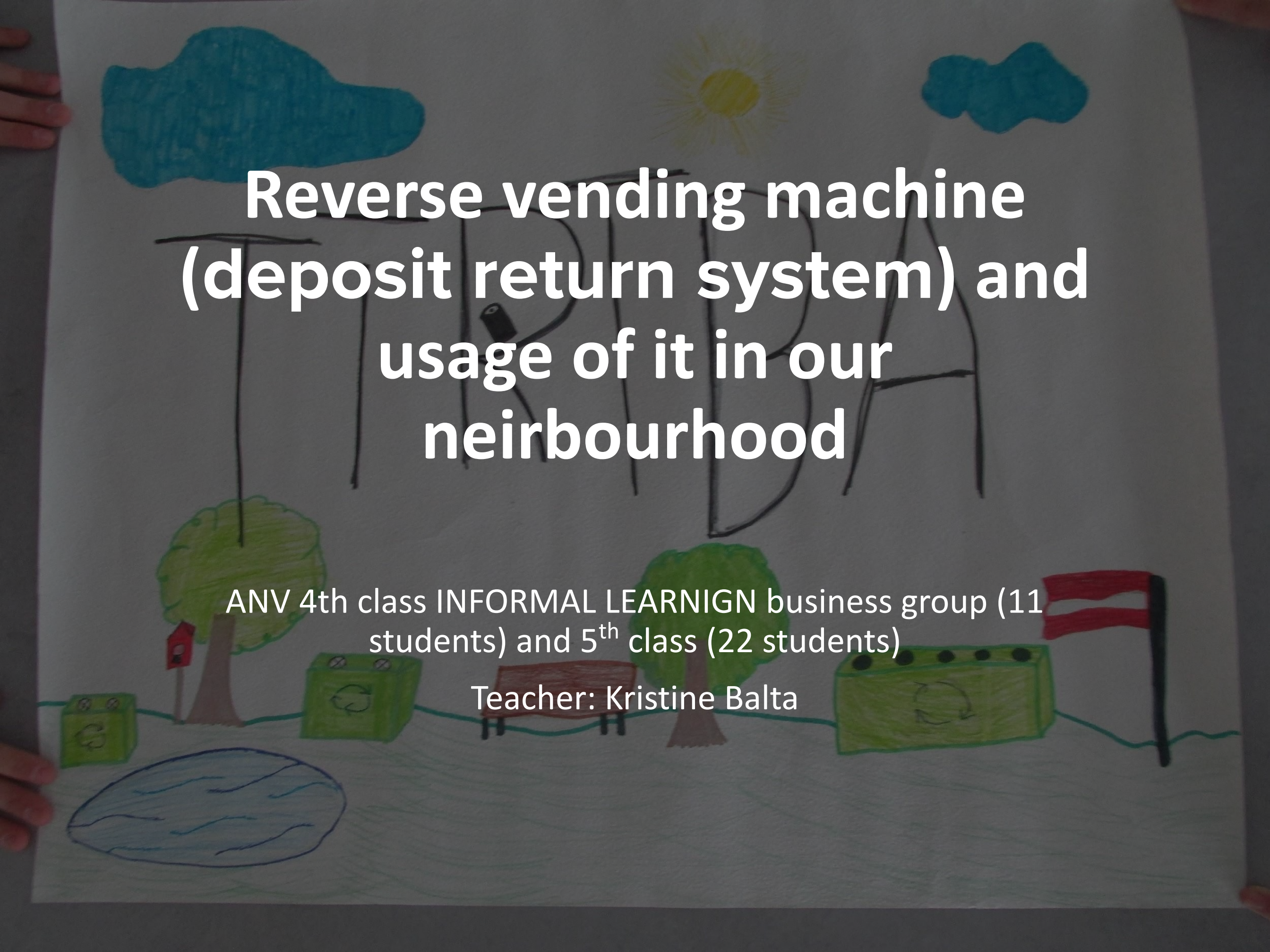
SOCIAL
LEADERSHIP
ASSOCIATION

Part I. IBL project metadata

1. IBL project theme **Reverse vending machine (deposit return system) and usage of it in our neighbourhood**
2. Teacher's Name Surname, School Kristine Balta, Aizkraukles novada vidusskola/
Aizkraukle region Secondary school
3. IBL integrated subjects (domain) Financial planning and Mathematics
4. IBL project's goal: 1) Make infographic or presentation based on personal research of Reverse Vending machine in Aizkraukle city 2) Do research of Reverse Vending machine in Aizkraukle city usage, benefits
5. Kind of inquiry method(s) – confirmation, structured, guided, and open inquiry, including Statistics, Art, Go-Lab, value based problem solving, Research
6. IBL project common duration 6 months
7. Form of education – formal and non-formal
8. Participated class(es), number of students 5th class 22 students, 4th class 11 students
9. What number of social risk, special needs, gifted students participated??
Gifted – 4, social risk 3

Part II. IBL project description/ EN

- IBL project implementation activities - Assessing the project plan, Execute the plan, Doing research, analyze project data, gather feedback and provide final reports. Presentation with video materials included in common online files.
- The tools & digital technologies applied for the IBL project – McOffice programs, including video maker.
- Arrange your activities description according to the IBL project phases, its time (or duration) :
 1. Orientation (2 weeks)
 2. Conceptualization, questions, hypotheses (4 weeks)
 3. Investigation, practical works, data collection (8 weeks)
 4. Data analysis (3 weeks)
 5. Project presentations, Reflection (2 weeks)
 6. Conclusion, presentation of the results, dissemination (1 week)

A hand-drawn illustration on a piece of paper depicting a park scene. At the top, there are two blue clouds, a yellow sun with rays, and a large, faint outline of a person. Below this, the title text is centered. The bottom half of the drawing shows a park with a blue pond in the foreground, a brown bench, two green trees, and three green reverse vending machines. One machine is on the left, one in the middle, and one on the right. A red and white flag is on a pole to the right of the machines. The background is a light blue sky.

Reverse vending machine (deposit return system) and usage of it in our neighbourhood

ANV 4th class INFORMAL LEARNING business group (11 students) and 5th class (22 students)

Teacher: Kristine Balta

depozīta zīmi
punktū.



Depozīts ir ļoti
forša lieta kurā
palīdz mūsu planētai!



4th class business group

- Project working time 8 weeks
- 11 students
- Goal: Make infographic or presentation based on personal research of Reverse Vending machine in Aizkraukle city

ABC Learning Design

First and second week March 2022 – Group A (4th class Business group)

1. Introduction of project



Discussion
🕒 : 5 min



What do we know about sorting waste?
What is our experience so far?

TICE: Individuals

Acquisition
🕒 : 5 min



Teacher shows small video about vending machines and how they work

TICE: Teacher

Acquisition
🕒 : 10 min

Discussion
🕒 10 min

Teacher tells project about
Teams have brain storm about own goals within project



TICE: Teams, Teacher

Investigation
🕒 15 min

Collaboration
🕒 15 min



Teams are making own tasks to reach own goals using info they can find, sharing ideas with other groups, making plans about research model

TICE: Teams

Discussion
🕒 : 20 min



Teams are discussing next steps and collaboration between teams

TICE: Teams

Total Classroom time:
80 mins

Acquisition
🕒 : ... min

Pratique
🕒 : ... min

Production
🕒 : ... min





ABC Learning Design

Third week of March – first week April 2022 – Group A (4th class Business group)

1. Investigation



Discussion
: 5 min



What can we learn from our experience? How can we teach others Vending machine about?
TICE: Teams

Investigation
: 30 min



Teams making research in public data and newspapers, sorting info for Infographic or etc
TICE: Teams

Acquisition
: 30 min

Discussion
: 10 min

Teacher going thru team with 3P (praise, ask, offer)
Teams are discussing own data of investigation
TICE: Teams, Teacher

Acquisition
: ... min

Acquisition
: 5 min

Pratique
: 30 min

Collaboration
: 5 min

Teams are making small projects how to teach others sorting bottles about.
TICE: Teams

Discussion
: 10 min

Production
: 20 min

Teams are discussing next steps and collaboration between teams
TICE: Teams

Total classroom time: 130 mins





ABC Learning Design

End of April 2022 – Group A (4th class Business group)

1. Introduction of project



Discussion
🕒 : 15 min



What can we learn from our experience?
What was helpful? What did we found? Did we reached the goal?
TICE: Teams

Investigation
🕒 30 min



Teams checking other presentations, giving their 3P
TICE: Teams

Acquisition
🕒 : 30 min

Discussion
🕒 10 min

Teacher going thru team Presentations with 3P
TICE: Teams, Teacher



Discussion
🕒 : 20 min

Teams are discussing Project time about – benefits and learning

TICE: Teams



Acquisition
🕒 :15... min



Teacher thanks everyone for participating

TICE: Teacher

Total classroom time:
120 mins

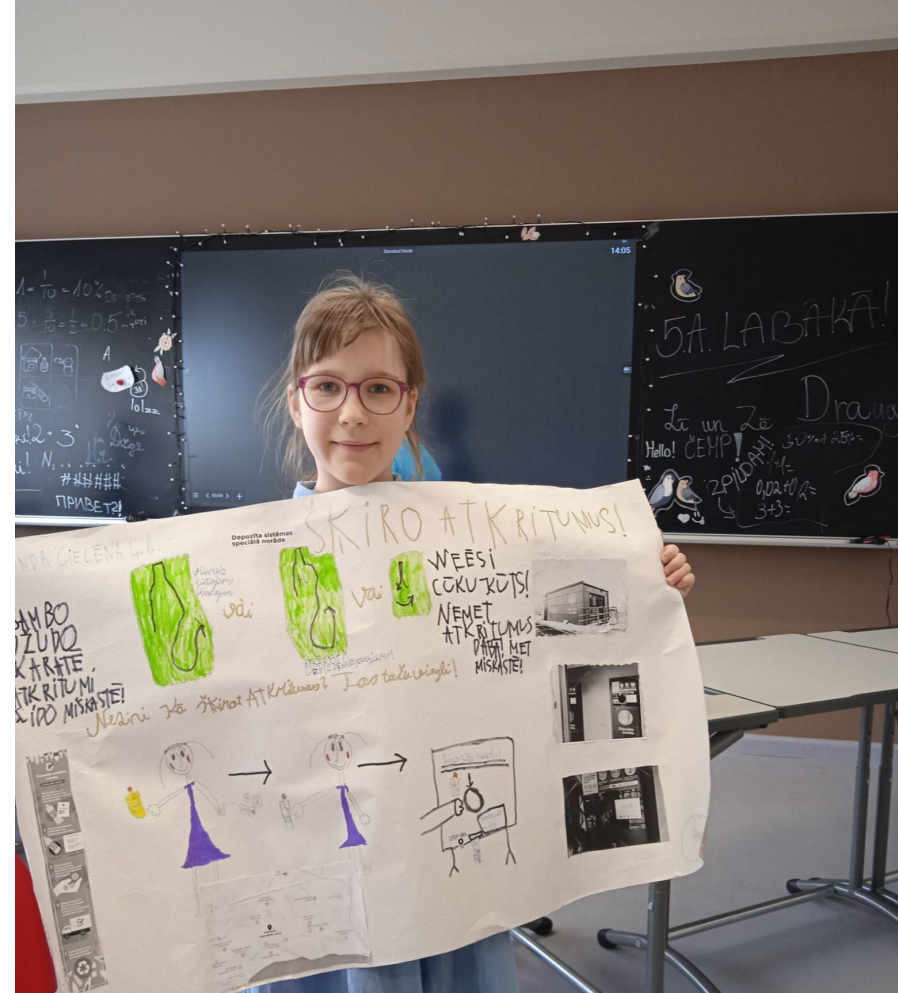
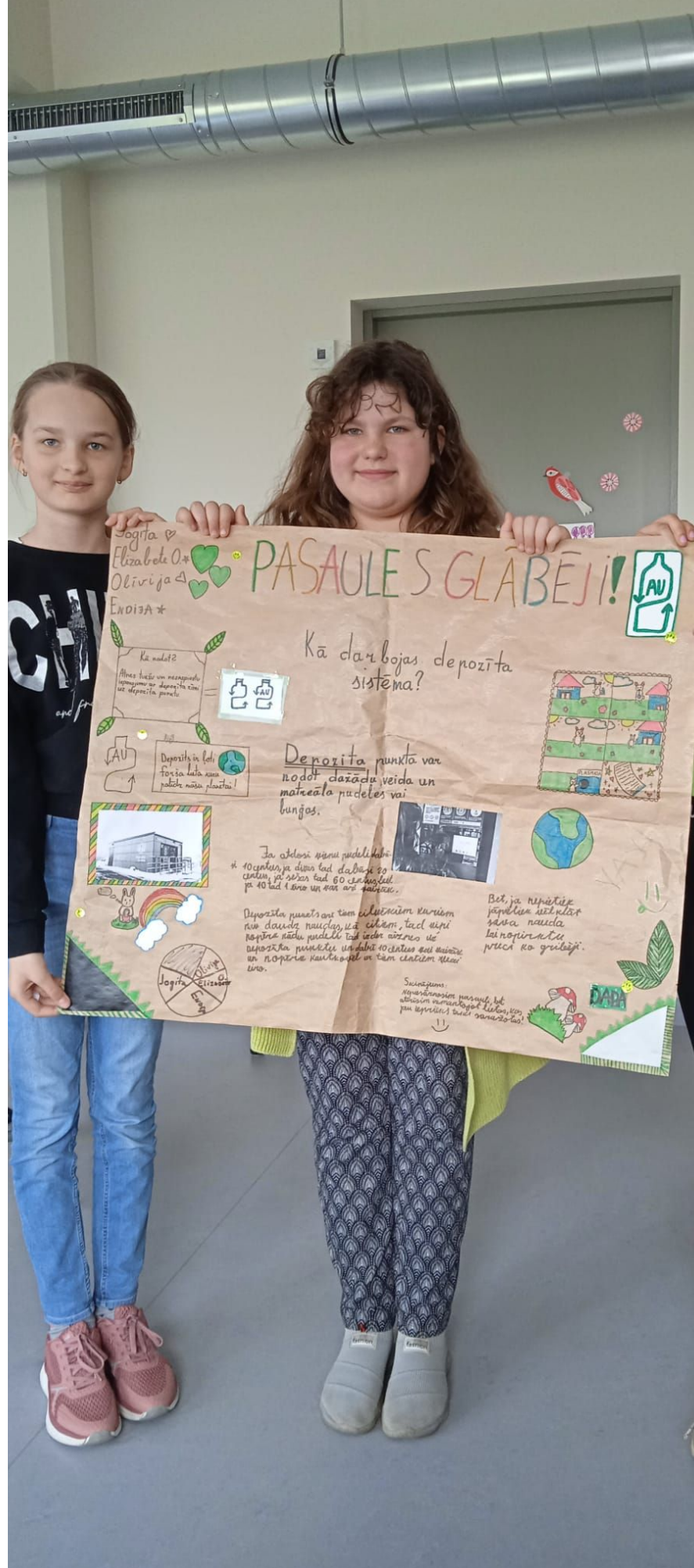
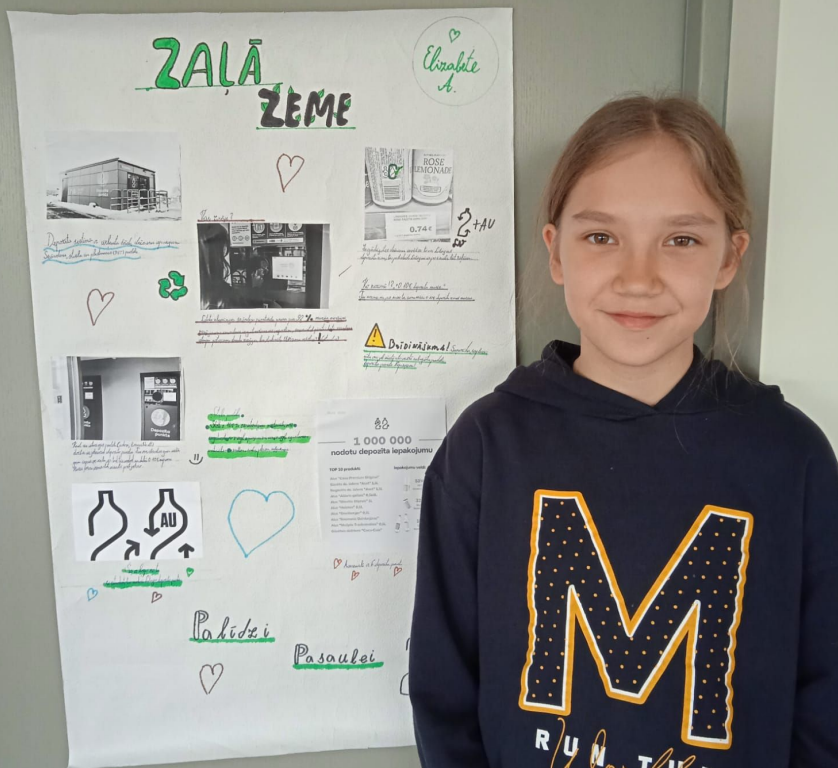
Pratique
🕒 :30 min

Collaboration
🕒 5 min

Acquisition
🕒 : 5 min

Production
🕒 : 30 ... min





PASAULES GLĀBĒJI!



Project part A finished.

Participated 11 students from INFORMAL learning class 4.

Project time – 2 months

Kā darbojas deponīta

Deponīta punkta var
nodot dažādu veida un
materiālu paketes vai
bungas.

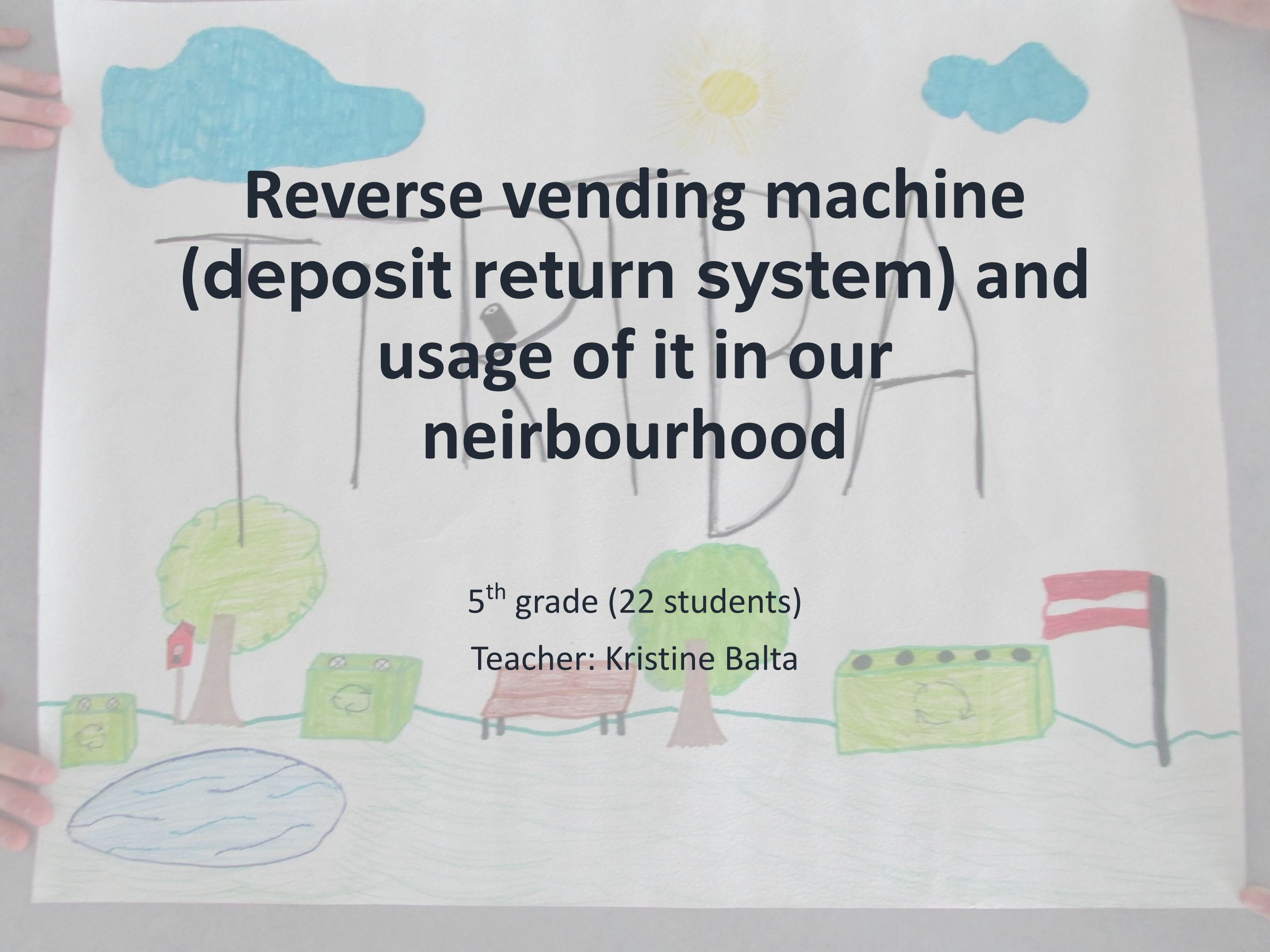
Ja atlieci otru paketi
4. kvartaļā un divi tad dabūsi 20
centus, ja otru tad 50 centus
ja 40 tad 1.00 un otru arī 1.00.

Deponīta punktos var atstāt arī
daudzus maucus, ar kuriem, kad esi
pabeidzis darbu, padēli uz ielu ievieš
atpakaļ. Maucis jāatstāj uz ielas
un nepieciešams arī tam atstāt
1.00.

Bet, ja nepieciešams
pārbaudīt atlieces
saskaņā ar
lietošanas
praksi ar grūti.



Saukums
apmierinātība



Reverse vending machine (deposit return system) and usage of it in our neighbourhood

5th grade (22 students)

Teacher: Kristine Balta

- **Project works active time**
8 weeks

- **5th grade**

- **22 students**

- **Goal: do research of**
Reverse Vending machine
in Aizkraukle city usage,
benefits



ABC Learning Design

First week April 2022 – Group B (5th grade)

1. Introduction of project



Discussion
🕒 : 5 min



What do we know about sorting waste?
What is our experience so far?

TICE: Teams

Acquisition
🕒 : 5 min



Teacher shows small video about vending machines and how they work

TICE: Teacher

Acquisition
🕒 : 10 min

Discussion

🕒 10 min

Teacher tells project about Teams have brain storm about own **goals** within project and **formulating research questions**



TICE: Teams, Teacher

Investigation
🕒 5 min

Collaboration
🕒 5 min

Teams are making own tasks to reach own goals using info they can find, sharing ideas with other groups

TICE: Teams



Discussion
🕒 : 10 min



Teams are discussing next steps and collaboration between teams

TICE: Teams

Total classroom time: 50 mins

Acquisition

🕒 : ... min

Pratique

🕒 : ... min

Production

🕒 : ... min



ABC Learning Design

Second week April 2022

1. Investigation and Pratique



Discussion
🕒 : 5 min



What can we learn from our experience? How can we teach others Vending machine about?
TICE: Teams

Investigation
🕒 30 min



Teams making research in public data and newspapers, sorting data and graphics
TICE: Teams



Acquisition
🕒 : 30 min

Discussion
🕒 10 min

Teacher going thru team with 3P (praise, ask, offer)
Teams are **discussing own data** of investigation



TICE: Teams, Teacher

Acquisition
🕒 : ... min

Acquisition
🕒 : 5 min

Pratique
🕒 :30 min

Collaboration
🕒 5 min

Teams are making small **plans** how to try **to use** RVM.
TICE: Teams



Discussion
🕒 : 10 min

Production
🕒 :20 min

Teams are discussing next steps and collaboration between teams
TICE: Teams



Total classroom time: 140 mins





ABC Learning Design

Third week week April 2022

1. Investigation



Discussion
🕒 : 15 min



What can we learn from our experience? What is usage of RVM in our neighborhood?
TICE: Teams

Investigation
🕒 30 min



Teams making questionnaire RVM about. Talking **estimates** and making data charts.



TICE: Teams

Acquisition
🕒 : 30 min

Discussion
🕒 10 min

Teacher going thru team with 3P (praise, ask, offer)
Teams are discussing own data of investigation



TICE: Teams, Teacher

Acquisition
🕒 : ... min

Acquisition
🕒 : 5 min

Pratique
🕒 :30 min

Collaboration
🕒 5 min

Teams are **doing questionnaire and analyzing data**
TICE: Teams



Discussion
🕒 : 10 min

Production
🕒 :20 min

Teams are discussing next steps and collaboration between teams



TICE: Teams

Total classroom time: 150 mins



In the continuation of the project, the students of the 5th class analyzed the obtained research data of RVM usage .



ABC Learning Design

May2022

1. Investigation



Discussion
🕒 : 15 min



What can we learn from our experience?
What is usage of RVM in our neighborhood?
TICE: Teams

Investigation
🕒 30 min



Teams presenting questionnaire RVM about. Showing data charts.

TICE: Teams



Acquisition
🕒 : 30 min

Discussion
🕒 10 min

Teacher going thru team with 3P (praise, ask, offer)
Teams are discussing results



TICE: Teams, Teacher

Acquisition
🕒 : ... min

Acquisition
🕒 : 5 min

Pratique
🕒 :30 min

Collaboration
🕒 5 min

Teams are **giving feedback related to project and research**
TICE: Teams



Evaluation
🕒 : 10 min

Production
🕒 :20 min

Teams are discussing ideas of using project data in future

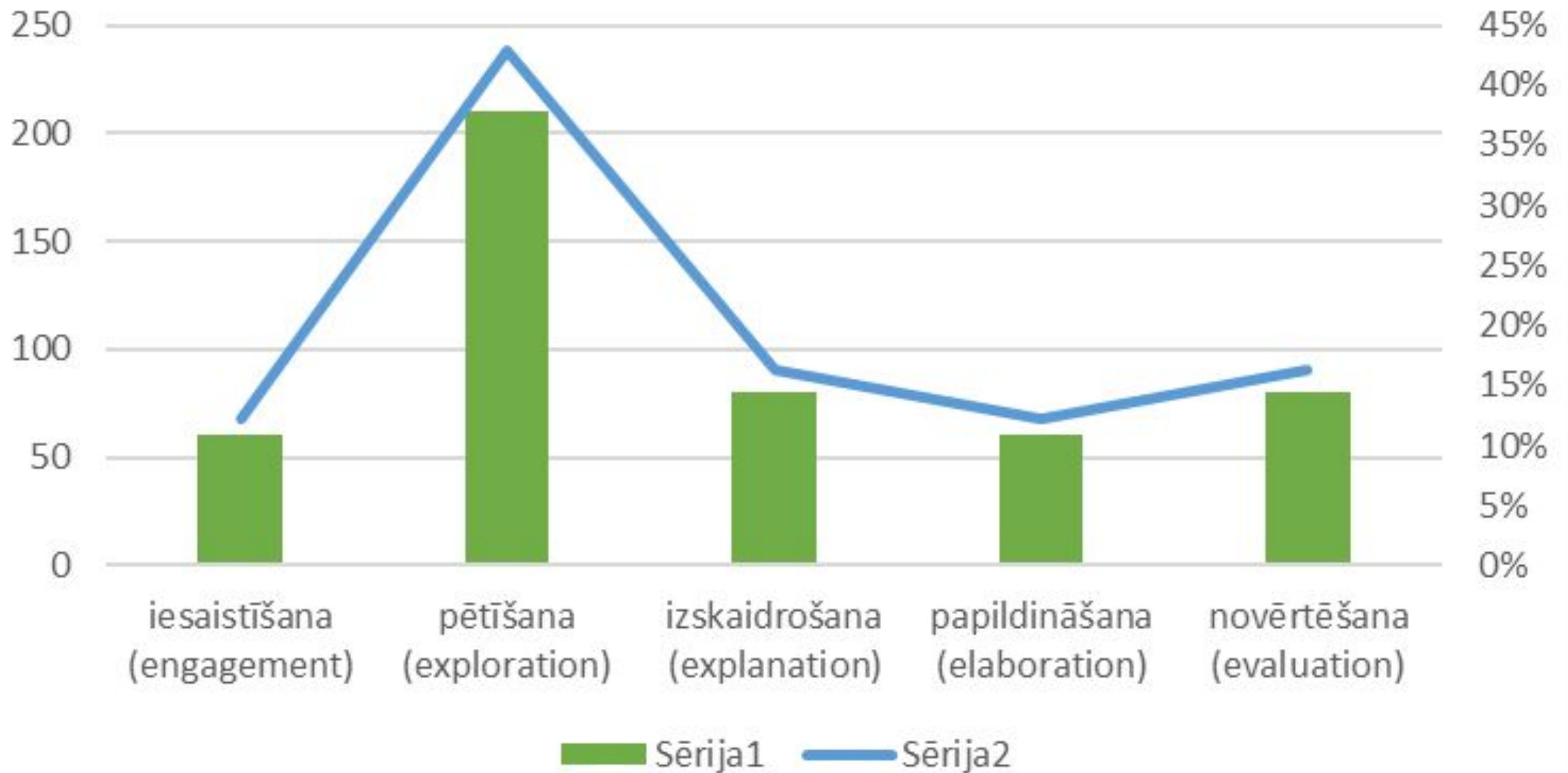
TICE: Teams



Total classroom time: 150 mins



Time spent on porject



Comments

Teachers

The students had demonstrated excellent progress

Students had developed researching skills

Students are best learners thru the practice

Project teached new skills to me as well

Students

- Project was great fun
- We felt as investigators or journalists :D
- We learned lots of new things
- It was so great to work together
- Project was interesnting
- I would like to take part in next year, too



4 posmu modelis // 5 posmu modelis

- noskaidro situāciju:
kas jau zināms, ko
vēlas uzzināt (focus),
- pēta (explore),
- reflektē (reflect),
- pielieto (apply).

- iesaistīšana
(engagement),
- pētīšana (exploration),
- izskaidrošana
(explanation),
- papildināšana
(elaboration),
- novērtēšana
(evaluation).