

Innovations in technology-enhanced collaborative inquiry learning

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Erasmus + Schedule May 2021 – Reflection workshop #2 (LTT)
“May the Digital Pedagogy be with you” e-meeting
May 28, 2021

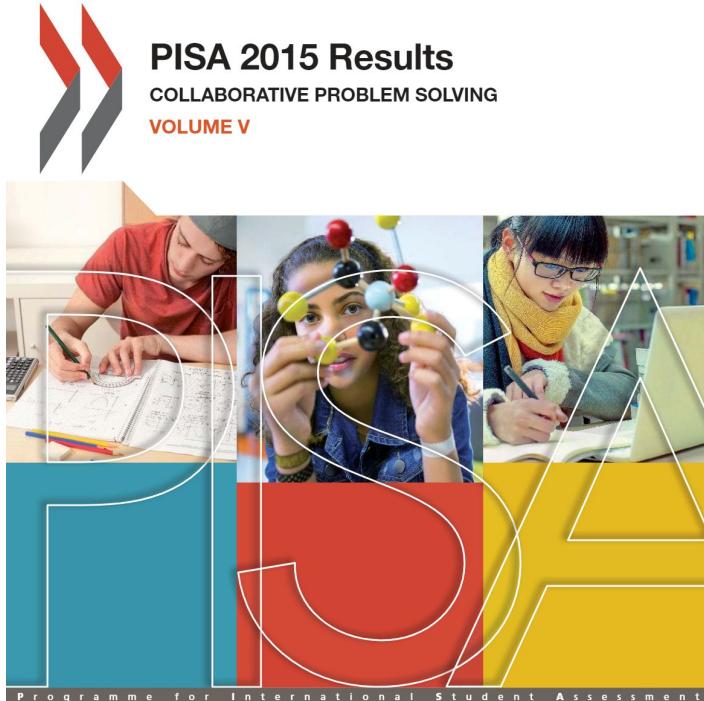
Introduction

Collaborative problem solving is a critical and necessary skill used in education and in the workplace.

Collaboration and communication skills are central to a number of 21st-century skills curricula and assessment reports.



PISA 2015 Assessment of Collaboration



PISA is a worldwide study by the OECD intended to evaluate educational systems.

It uses standardized tests to assess 15-year-old student performance on math, science, and reading.

In 2015, the innovative domain of Collaborative Problem Solving was also included in PISA.

Defining Collaborative Problem Solving

Defining Collaborative Problem Solving

From the PISA 2015 Collaborative Problem Solving Framework

Collaborative problem solving competency is the capacity of an individual to effectively engage in a process whereby two or more agents attempt to solve a problem by sharing the understanding and effort required to come to a solution and pooling their knowledge, skills and efforts to reach that solution.

OECD (2017), PISA 2015 Collaborative problem-solving framework,

<https://www.oecd.org/pisa/pisaproducts/Draft%20PISA%202015%20Collaborative%20Problem%20Solving%20Framework%20.pdf>

Matrix of Collaborative Problem Solving skills from PISA 2015

	(1) Establishing and maintaining shared understanding	(2) Taking appropriate action to solve the problem	(3) Establishing and maintaining team organization
(A) Exploring and Understanding	(A1) Discovering perspectives and abilities of team members	(A2) Discovering the type of collaborative interaction to solve the problem, along with goals	(A3) Understanding roles to solve problem
(B) Representing and Formulating	(B1) Building a shared representation and negotiating the meaning of the problem (common ground)	(B2) Identifying and describing tasks to be completed	(B3) Describe roles and team organization (communication protocol, rules of engagement)
(C) Planning and Executing	(C1) Communicating with team members about the actions to be/being performed	(C2) Enacting plans	(C3) Following rules of engagement, (e.g. prompting other team members to perform their tasks.)
(D) Monitoring and Reflecting	(D1) Monitoring and repairing the shared understanding	(D2) Monitoring results of actions and evaluating success in solving the problem	(D3) Monitoring, providing feedback and adapting the team organization and roles

OECD (2017), PISA 2015 Collaborative problem-solving framework,

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Collaborative activity

Open the link lingid.ee/tartu2021

Review of task

<https://www.golabz.eu/lab/seesaw-lab>

golabz.eu/lab/seesaw-lab

GO-LAB Labs Apps Spaces Authoring Support Premium About News

Collaborative Seesaw Lab

Type Virtual Lab
Lab Owner Leo Siiman
Age Range 7-8, 9-10, 11-12, 13-14, 15-16
Subject Domains Physics, Forces And Motion, Centre Of Mass, Gravitational Force And Gravity, Newton's Laws
Languages Arabic, Basque, Dutch, English, Estonian, Finnish, French, Greek, Hindi, Hungarian, Portuguese, Romanian, Russian, Spanish, Ukrainian, Vietnamese, Traditional Chinese
Booking Required No
Registration Required No

more ...

Description
Students working at a distance in two different ILSS share a seesaw, but can only interact with one side of the seesaw. They are able to place objects of different masses onto four different positions on their side of the seesaw. They can pass objects back and forth between each other.

Teaching Tips:

- The Collaborative Seesaw Lab is primarily aimed at promoting collaborative problem-solving skills. Example tasks using this lab could include asking students to answer the following questions:

Preview
Create Space

Recommendations

- Balancing Act
- Wave On A String
- Gravity Force Labs
- Resistance In A Wire
- Faraday's Law
- Archimedes' Principle
- Molecules And Light
- Balloons And Static Electricity
- Gravity Drop Lab
- Ohm's Law

Used in these Spaces

- Kuidas Möjutavad Valgustugevus Ja Temperatuur Fotosünteesi? - Versioon B
- Kuidas Möjutavad Valgustugevus Ja

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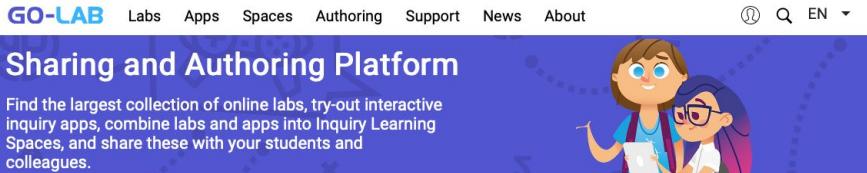
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Go-Lab (golabz.eu)

The largest collection of online labs, try-out interactive inquiry apps, combine labs and apps into Inquiry Learning Spaces, and share these with your students and colleagues.

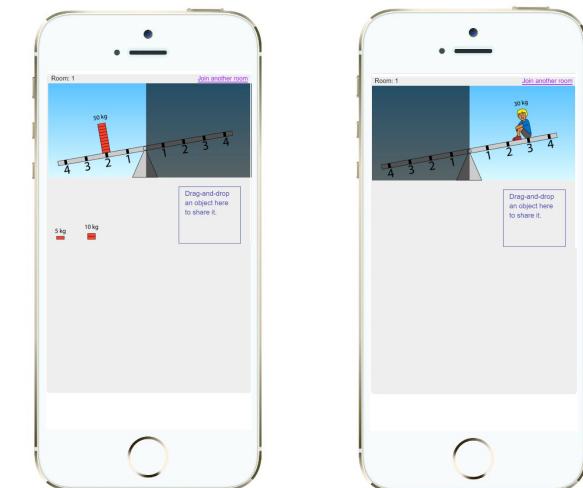
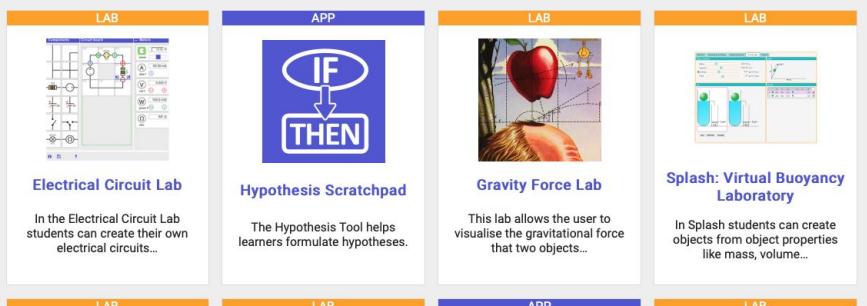
The Go-Lab Ecosystem (or the Go-Lab Sharing and Authoring Platform) targets teachers from primary and secondary schools and aims to help them enrich their teaching practices with innovative teaching approaches and supportive technical tools.

GO-LAB Labs Apps Spaces Authoring Support News About



Sharing and Authoring Platform

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Thank you for your attention!

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