THE NOBEL PRIZE

Workbook for hubs

NOBEL PRIZE TEACHER SUMMIT 2021

An online programme with a mix of short lectures, panels, and discussions

NOBEL PRIZE TEACHER SUMMIT 2021

In The Flood of Facts

Teaching strategies to navigate towards knowledge between scientific facts, personal values and conspiracy theories.

A complex world requires sharp navigational skills. Fast newsflashes, complex disputes, disinformation and polarized values can make the flood of facts difficult to assess. The 2021 Nobel Prize Teacher Summit is all about how we teach these skills.

This workbook is a tool for you to use along with the recorded version of the summit.
It is devided into chapters to facilitate discussions after each talk and, suggests themes for these discussions.

The slides from the speakers can be found at https://nobelprizemuseum.se/en/online-teacher-summit-in-the-flood-of-facts/

We hope you enjoy it!

VIDAR HELGESEN
Executive Director of the Nobel Foundation

Norway's former State Secretary in the Ministry of Foreign Affairs, Minister of European Affairs and Minister of Climate and the Environment.

Introduction

Welcome to the Nobel Prize Teacher Summit 2021!
An introductory speech by Vidar Helgesen. The world needs scientific breakthroughs to solve the major challenges that humanity faces, for example the climate issue and most recently the coronavirus. We need a critical approach, with debate and decisions based on knowledge, at a time when falsehoods spread like wildfire. We also need to strengthen free expression, which is being suppressed by more and more governments. The world needs peaceful dialogue and interaction when facing global challenges, and quality education is key to achieve this.

Annika Hedås Falk, Education Director at the Nobel Prize Museum introduces us to the programme together with Museum Educators Pontus Thunblad and Anna Ålander.

DAN LARHAMMAR

Professor in Molecular cell Biology

Dan Larhammar does research on hormones and the nervous system including appetite regulation, colour vision and the mechanisms of learning and long-term memory, all with an evolutionary perspective. Has a strong interest in science communication and debunking pseudoscience such as alternative medicine and creationism.

Debunking pseudoscience

Short lecture, 15 minutes

Listen to Dan Larhammar, Professor in Molecular cell Biology discuss how different types of pseudoscience share some features, for instance conspiratorial thinking. Practicing detection of this, may stimulate critical thinking. This leads to better consumer protection against pseudosciences like astrology, parapsychology, climate change denial and alternative medicine, including vaccine hesitancy.

Questions to discuss:

1. Professor Larhammar talks about how common it is for human beings to believe in totally unreasonable things. Why do you think people do that?
2. Which strategies advised by Professor Larhammar have you taught to your students?
    - Check sources
    - Bullshit detection
    - Inoculation - seeds of doubt
    - Is information missing?
    - Is information left distorted?
3. Which part of professor Larhammar's lecture did you find the most interesting?

Notes:

ÅSA WIKFORSS
Professor of Philosophy

Åsa Wikforss is a Professor of Theoretical Philosophy at Stockholm University. Since 2019 she leads a large interdisciplinary research program om knowledge resistance. She is the author of Alternative facts (2017) and most recently of Why Democracy (2021), where she discusses the essential role that knowledge plays in democracy. She is a member of the Royal Academy of Science and the Swedish Academy.

Resisting the facts

Short lecture, 15 minutes

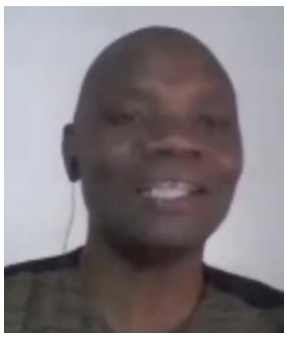
We meet Åsa Wikforss, Professor of Philosophy, member of the Royal Academy of Science and the Swedish Academy.

People are said to resist the facts, for instance about the climate, about vaccines and about society. But what does it mean to resist the facts? What drives the resistance and what can be done to counteract it?

Questions to discuss:

1. Professor Wikforss is talking about both societal factors and individual factors for counteracting knowledge resistance. How can teachers contribute?
2. Argument quality, correction, respect and self-affirmation are strategies to enhance students to be more rational. What strategies do you use?
3. Which part of professor Wikforss' lecture did you find the most interesting?

Notes:



TRUST MUTEKWA
Teacher in Harare, Zimbabwe

MAI DOAN
Teacher in Thai Nguyen, Vietnam

PHILIPPE LONGCHAMPS
Teacher in Lund, Sweden

DOETILETIA SIMS
Teacher in Huntsville, USA

Panel: How do you teach what to trust?

Teachers in the studio and online give their insights, 10 minutes

Questions to discuss:

1. What's your take on the questions asked to the panel of teachers?
2. How do you respond when students believe in conspiracy theories?
3. How do you protect the students from being embarrassed or alienated if they have a belief that is contradictory to what you teach?

Notes:

ANNIKA RABO
Professor Emeritus in Social Anthropology

Annika Rabo has conducted ethnographic fieldwork in the Middle East and Sweden since the late 1970s focusing on state-citizen relations through working on topics such as, migration, family law and education.

Curiosity killed the cat... but satisfaction brought it back

Short lecture, 8 minutes

In this lecture, Annika Rabo, Professor Emeritus in Social Anthropology will focus on solutions to navigate in the flood of facts. The first part of this proverb underlines the danger of questioning established facts. But the second part points to the importance of challenging pupils on their own local terms.

Questions to discuss:

1. Rabo claims we should be more curious as adults, teachers, educators and as researchers. How do you maintain your curiosity and how do you show it to your students?
2. The world is complex and we need to teach our students sharp navigational skills. How do you teach that to your students?
3. Which part of professor Rabo's lecture did you find the most interesting?

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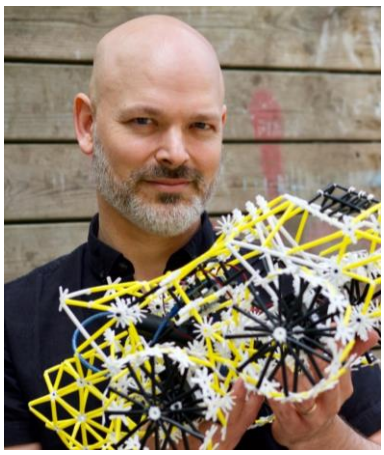


PHILIPPE LONGCHAMPS
Teacher at Bilingual Montessori School of Lund

Philippe Longchamps, Teacher of the Year in Sweden 2020 and Finalist for the Global Teacher Prize 2021 is a Canadian educator from Québec who moved to Sweden in 2002. He is the co-author of two upcoming publications Creativity Thinktank and Transformative Education. He is working tirelessly to stress the importance of empowering teachers and the youth of the world with adequate fact-checking and critical thinking skills.

Let us teach to empower a generation to seek authenticity!

Short lecture, 8 minutes

Philippe Longchamps, Teacher of the Year in Sweden 2020 and Finalist for the Global Teacher Prize 2021. Teachers urgently need to get the resources necessary to administer healthy doses of scepticism to their students to combat the virus of disinformation that is spreading all around the globe.

Questions to discuss:

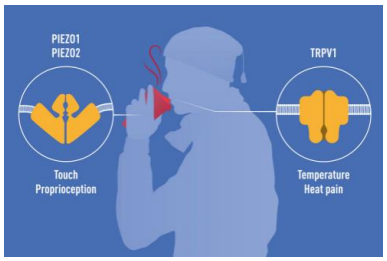
1. In Longchamps presentation about teaching – what was the most inspiring to you?

Notes:

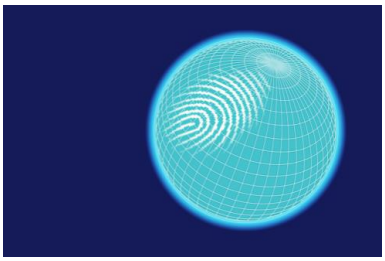
The 2021 Nobel Prizes

Presentation, 5 minutes

Teacher and Museum Educator Anna Ålander gives us a summary of the Nobel Prizes announced so far. Ålander will also give an introduction to the Nobel Prize lessons, our free online lesson material for your classroom.



Medicine Prize

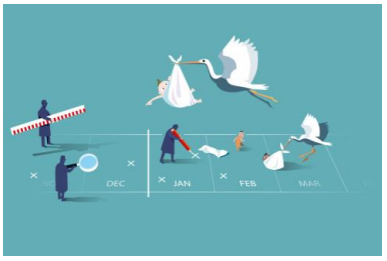


Physics Prize

Chemistry Prize

Literature Prize

Peace Prize



Prize in economic sciences

READY-TO-USE LESSON MATERIAL

Nobel Prize Lessons are reliable and so easy to use, that a teacher can look through the manual, watch the slides, print the texts for students and then start the class.

The Nobel Prize lessons can be found at: nobelprize.org/lessons

Notes:

ANDREAS ÖNNERFORS
Professor in Intellectual History and expert on conspiracy theories

Andreas Önnerfors has extensively researched the link between radicalization into violent extremism and conspiracy theories as well as their artistic expressions. He has written a report on conspiracy theories and COVID-19 for the Swedish civil contingency agency MSB and is involved in various projects countering the negative influence of conspiracy culture in society and education.

The white rabbit – countering conspiracy theories

Short lecture, 15 minutes

We listen to Andreas Önnerfors, Professor in Intellectual History and expert on conspiracy theories. Önnerfors will talk about how conspiracy theories are meaning-making narratives, offering explanations of what is true and false but also what is good and evil. In developing counterstrategies, we need to navigate between approaches related to areas like source criticism, psychological and existential values.

Questions to discuss:

1. Which of the twelve elements of conspiracy theories, according to professor Önnerfors, have you seen students express?

PATTERNS
- everything fits together

THE PLAN
- everything happens intentionally

THE PLOT
- a group of people have planned everything together

EVIL INTENTIONS
- someone wants to harm us

SECRECY
- someone wants to hide something from us

PROOF
- there are facts thad prove the conspiracy

DUALISM
- everything is black or white

SCAPEGOATS
- it's someone else's fault

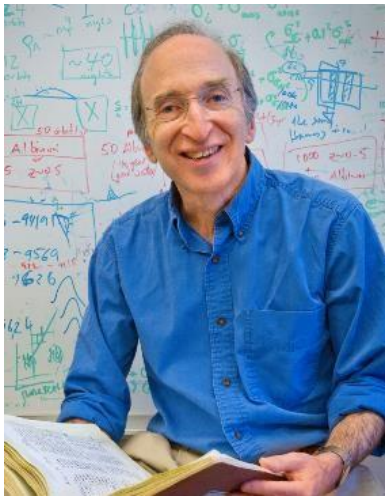
DEMONISATION
- the guilty are evil

THE COLLAPSE OF THE SYSTEM
- society is heading towards its ultimate end

THE TRUTH-§SAYERS
- the good side has seen through the conspiracy

THE OCTOPUS, THE DAGGER AND THE PUPPET MASTER
- the imagery of conspiracy theories

Notes:



SAUL PERLMUTTER
Professor of Physics at UCLA and was awarded the 2011 Nobel Prize in Physics "for the discovery of the accelerating expansion of the Universe through observations of distant supernovae."

Saul Perlmutter received his PhD from the University of California, Berkeley in 1986. He conducted his Nobel Prize-awarded research at Lawrence Berkeley National Laboratory. Saul Perlmutter is a co-founder of the Supernova Cosmology Project.

Scientific-style critical thinking

Lecture, 20 minutes

Saul Perlmutter is Professor of Physics at UCLA and was awarded the 2011 Nobel Prize in Physics “for the discovery of the accelerating expansion of the Universe through observations of distant supernovae."

Being able to distinguish facts from values is crucial in a democratic society. What can we learn from the scientific method when we develop strategies to tell facts from values? How can we teach critical thinking in a better way?

Questions to discuss:

1. Professor Perlmutter states that science is advancing quickly, creating new topics that have the potential to change our lives. But that can also be a challenge. In what way, do you think?
2. How do you teach critical thinking to your students?
3. Would you be interested in learning more about scientific-style critical thinking?

Notes:

Panel: Concluding remarks and Q&A

Nobel Prize laureate Saul Perlmutter the other speakers answer questions and make concluding remarks.

Valuable insights from today

Hope to see you next time!

THE NOBEL PRIZE

For the greatest benefit to humankind

NOBEL PRIZE MUSEUM