IDENTITIES

Enlightening
Interdisciplinarity
in **STEM**
for Teaching

Interdisciplinarity at the service of society:
Interpreting the evolution of COVID-19

Online IDENTITIES Summer School 2021

IDENTITIES

Enlightening
Interdisciplinarity
in **STEM** for Teaching

Submodule 2
Role of **student experiencing interdisciplinarity**
Let **participants experience an adaptation of a teaching proposal** (in her own shoes) to make interdisciplinary emerge

Submodule 1
Role of **interdisciplinary explorer**
Make explicit with participants the **initial question(s) related to interdisciplinarity on the selected topic** and first look for answers

Submodule 3
Role of **interdisciplinary analyst**
Collective analyse the teaching experience that comes to be experienced
Epistemological analysis of interdisciplinarity
Linguistic analysis of interdisciplinarity

Submodule 4
Role of **interdisciplinary designers and teacher**
Immersion in **Secondary school practices** related to the activities developed previously

Adaptation of the submodules' structure of the Study and Research Paths for Teacher Education (Ruiz-Olarría, 2015; Barquero, Bosch & Romo, 2018)

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SESSION 2

Module on the evolution of the COVID

Interdisciplinarity at the service of Society

Submodule 2
Role of **student experiencing interdisciplinarity**
Let **participants experience an adaptation of a teaching proposal** (in her own shoes) to make interdisciplinary emerge, distributed into some particular "lines of inquiry" about the Covid evolution

SESSION 1

SESSION 3

Submodule 1
Role of **interdisciplinary explorer**
Make explicit with participants the **initial question(s) related to interdisciplinarity on the selected topic** and first look for answers
Science and interdisciplinarity
← → Society ← → Secondary school

Submodule 3
Role of **interdisciplinary analyst**
Collective analyse the teaching experience that comes to be experienced
Epistemological analysis of the displiciplinary (un)balances and of interdisciplinarity
Linguistic analysis of interdisciplinarity

Submodule 4
Role of **interdisciplinary designers and teacher**
Immersion in **Secondary school practices** related to the activities developed previously
→ Ecological analysis for interdisciplinarity

SESSION 3

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SESSION 2

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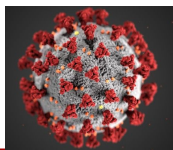→ Ecological analysis for interdisciplinarity
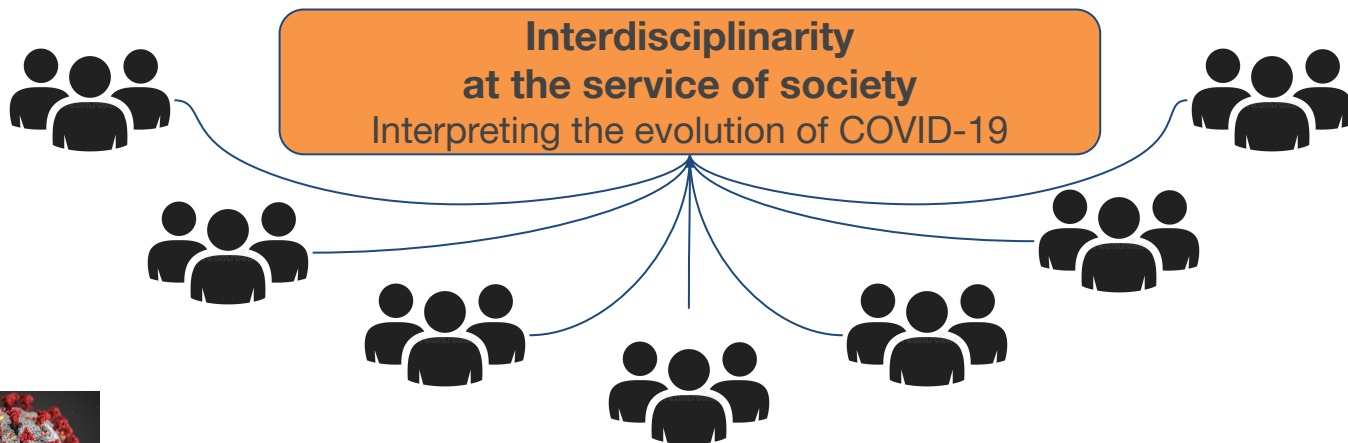
SESSION 3

**Interdisciplinarity
at the service of society
Interpreting the evolution of COVID-19**

Q0.1: How have the S-T-E-M disciplines interacted to investigate the evolution of COVID-19? What answers have been given and how have their advances spread to society?

Q0.2: What role does it play and how can we analyze interdisciplinarity when addressing complex issues related to the evolution of COVID-19?

Q0.3: How can this interdisciplinary practice transposed and diffused to secondary schools?

Collection of news

News 1 - More than 599,000 people have died from coronavirus in the U.S – (Actualized)

https://www.washingtonpost.com/graphics/2020/national/coronavirus-us-cases-deaths/

News 2 - Coronavirus: How maths is helping to answer crucial covid-19 questions – (13/02/2020)

https://www.newscientist.com/article/2233386-coronavirus-how-maths-is-helping-to-answer-crucial-covid-19-questions/#ixzz6xkf8kAxl

News 3 - How epidemics like covid-19 end (and how to end them faster) - (20/02/2020)

https://www.washingtonpost.com/graphics/2020/health/coronavirus-how-epidemics-spread-and-end/?tid=pm_graphics_pop_b

News 4 - Why outbreaks like coronavirus spread exponentially, and how to "flatten the curve" – (14/03/2020)

https://www.washingtonpost.com/graphics/2020/world/corona-simulator/

News 5 - Mathematics of life and death: How disease models shape national shutdowns and other pandemic policies – (25/03/2020)

https://www.sciencemag.org/news/2020/03/mathematics-life-and-death-how-disease-models-shape-national-shutdowns-and-other

News 6 - Mathematical models help predict the trajectory of the coronavirus outbreak. But can they be believed? – (3/05/2020)

https://www.seattletimes.com/seattle-news/health/mathematical-models-help-predict-the-trajectory-of-the-coronavirus-outbreak-but-can-they-be-believed/

News 7 - When it rains it pours: COVID-19 exacerbates poverty risks in the poorest countries – (4/05/2020)

https://unctad.org/news/when-it-rains-it-pours-covid-19-exacerbates-poverty-risks-poorest-countries

News 8 - Five ways to ensure that models serve society: a manifesto – (24/06/2020)

https://www.nature.com/articles/d41586-020-01812-9

Submodule 1. Role of **interdisciplinary 'explorer'**

▪ **Individual reading and analysis** of the news

LET'S DISTRIBUTE THE NEWS!

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Submodule 1. Role of **interdisciplinary 'explorer'**

- **Individual reading and analysis** of the news
- **Individual answers** to the **1st guide of interdisciplinary analysis** related to the news

Collection of news

News 1 - More than 599,000 people have died from coronavirus in the U.S. - [Actualized]
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1st guide for interdisciplinary analysis on the news

Based on the news that has been assigned to you, you are now guided to reflect on the following aspects. To answer the questions, complete the table in Miro with all the relevant aspects.

1. Which are the main **questions** that the research/academic/educational community has been studying regarding the evolution of COVID 19?

2. Which **STEM disciplines** can you detect that have contributed to this discussion? How have these **disciplines** interacted?

3. Which are the **answers** provided on the topic by the research/academic/educational community that the piece of news highlights (in case there are)?

4. Which **tools** and **disciplinary knowledge** (concepts and/or methods) have contributed to give answers/solve/address these questions?

5. Which **specific terminology** do you recognize in the text? Which terminology was already known by the non-expert public? Which terminology is new?

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Collection of news

Submodule 1. Role of **interdisciplinary 'explorer'**

- Based on the news you are responsible of and on the different aspects asked in the guide for the analysis, **complete the table in MIRO** with all the relevant aspects