"The role of the educator in virtuality: Do Androids Dream of Electric Sheep?"

Beatriz García

IVOA Edu IG, August 31st, 2020

Objectives of this meeting

- Identify problems with remote teaching
- Search possible solutions and hopefully find a set of best practices to recommend to the IVOA members to use in their education andoutreach efforts in the upcoming months.
- Sharing experiences, successes and mistakes during remote teaching, from the educational and software environments

Do you have any advice for using or not using a specific tool in a given situation: let us know!

Effective online education

Online education (teaching/learning) has been studied for decades.

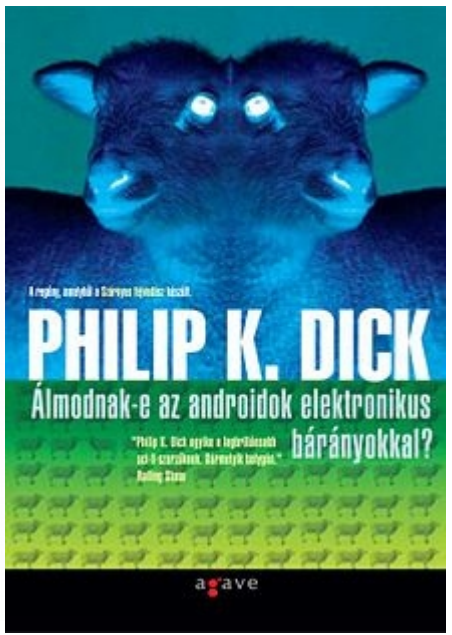
Research studies, theories, models, standards and evaluation criteria focus on the quality of online learning, online teaching and online course design.

What we know from the research is that effective online learning is the result of a design and careful instructional planning, using a systematic model for design and development.

This careful design process could be absent in this emergency period.

Why Dick and the electric sheep?

Because in Dick's science fictions (which he understood as "a fictionalist philosopher: it is not art but truth") machines break all the time and epidemic forecasts do not prevent.



This novel deals with topics such as

- the imprecise boundary between the artificial and the natural.
- the decline of life and society, and
- addresses various ethical problems about androids.

Also shows a special aesthetics and decribes a destroyed, abandoned world, where technology is omnipresent

Antencedents

Distance learning is a complex balance between content and interaction with activities that you cannot present on a computer screen.

Just using the “TICs tools” do not by themselves improve the educational process.

In an online environment, we must know how to find, select and use the relevant information

We need a curriculum redesign, integrate innovative methodologies, also in traditional teachera and students roles, review sources of knowledge, critically review current assessment systems based on project development.

Independent learning is a skill that requires being learned.

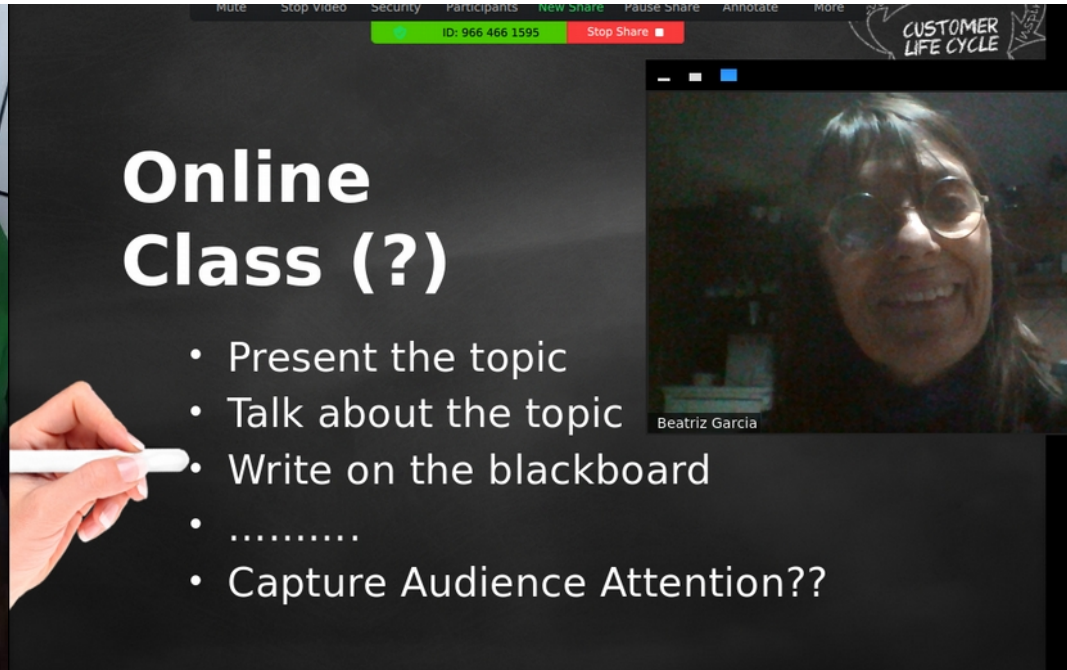
Challenges

Because we are in the middle of the crisis, there was several aspects that we processed quickly:

- Transform Education in the Classroom (Led by teacher) to an online education.
- Advance in parallel, converting our courses, training and coordinate with experts.
- Involve and train teachers who work remotely.
- Support managers and management teams in schools, universities and powers to manage crisis and remote environments (previous experience?).
- Optimize budgets to convert courses, considering the threat of global recession.

Well-planned online learning experiences are significantly different from online courses in response to a crisis or disaster.

The Universities working to maintain instruction during the COVID-19 Pandemic understood these differences when evaluating this “distance learning from emergency”, an alternative term to establish a contrast with what many of us know as high quality online education.



Theoretical frame work

Multimedia Learning Theory (Richard Mayer)

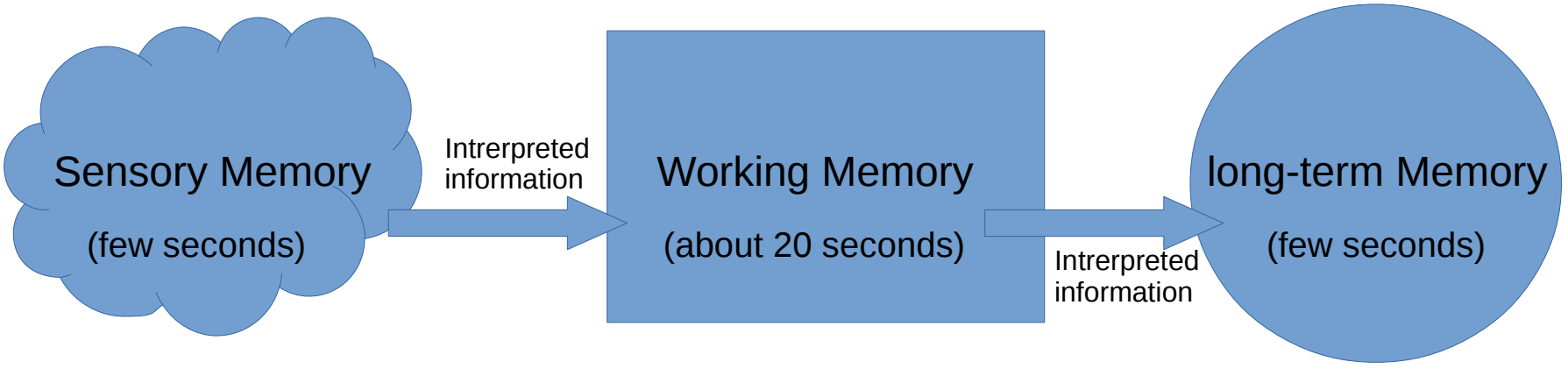
An effective video should reduce the cognitive load of the student, that is, the amount of information that the brain processes.

Cognitive load theory

It is a psychological theory of instruction and learning that describes the human cognitive functioning and architecture, composed of:
sensory memory, working memory and long-term memory.

Using multimedia learning theory

Is the process in which our brains process images and sounds. We receive images and sound in the sensory memory. The interpreted information is transferred from the sensory memory to the working memory



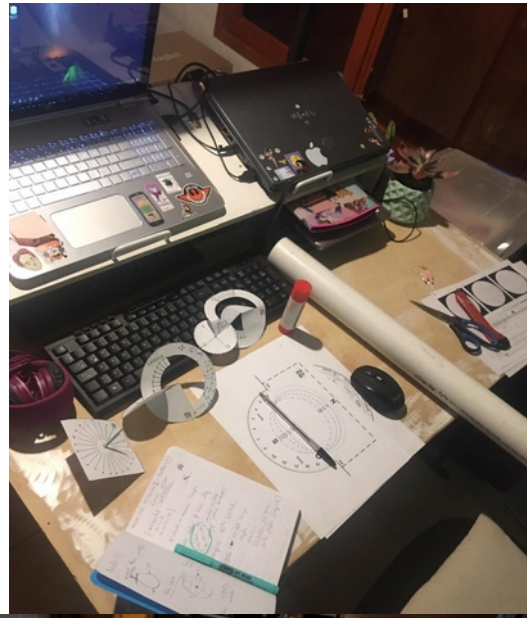
After enough repetition, to review the video or to apply the new skill acquired, the Information is stored in long-term memory.

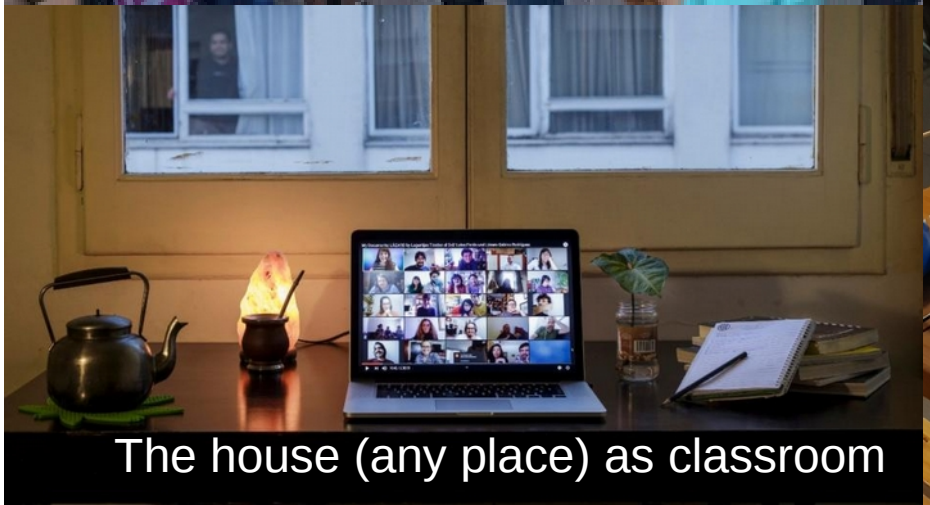
Course organization and navigation

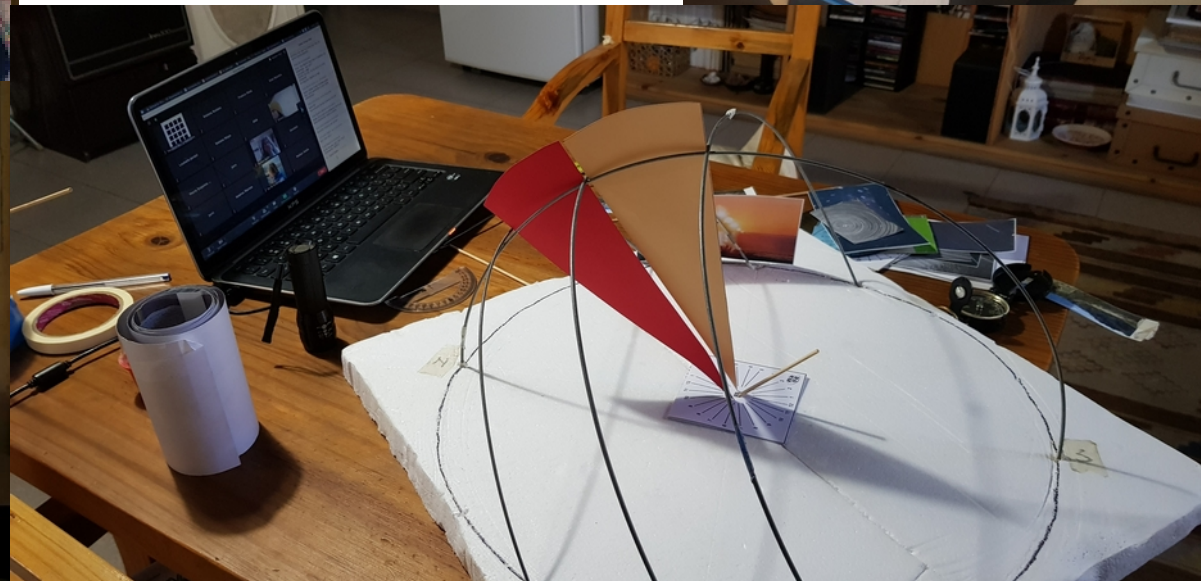
- Conveys optimism that students will succeed
- Answer questions (forum or email)
- Create an updated list of frequently asked questions
- Post a quick video: clear up misconceptions, etc.

- Grades and returns student work in a timely manner
- Talk to students in online discussions.
- Schedule student activities
- Post update videos or lectures
- Apply frequent formative assessments

Is your class an attractive and pleasant place?

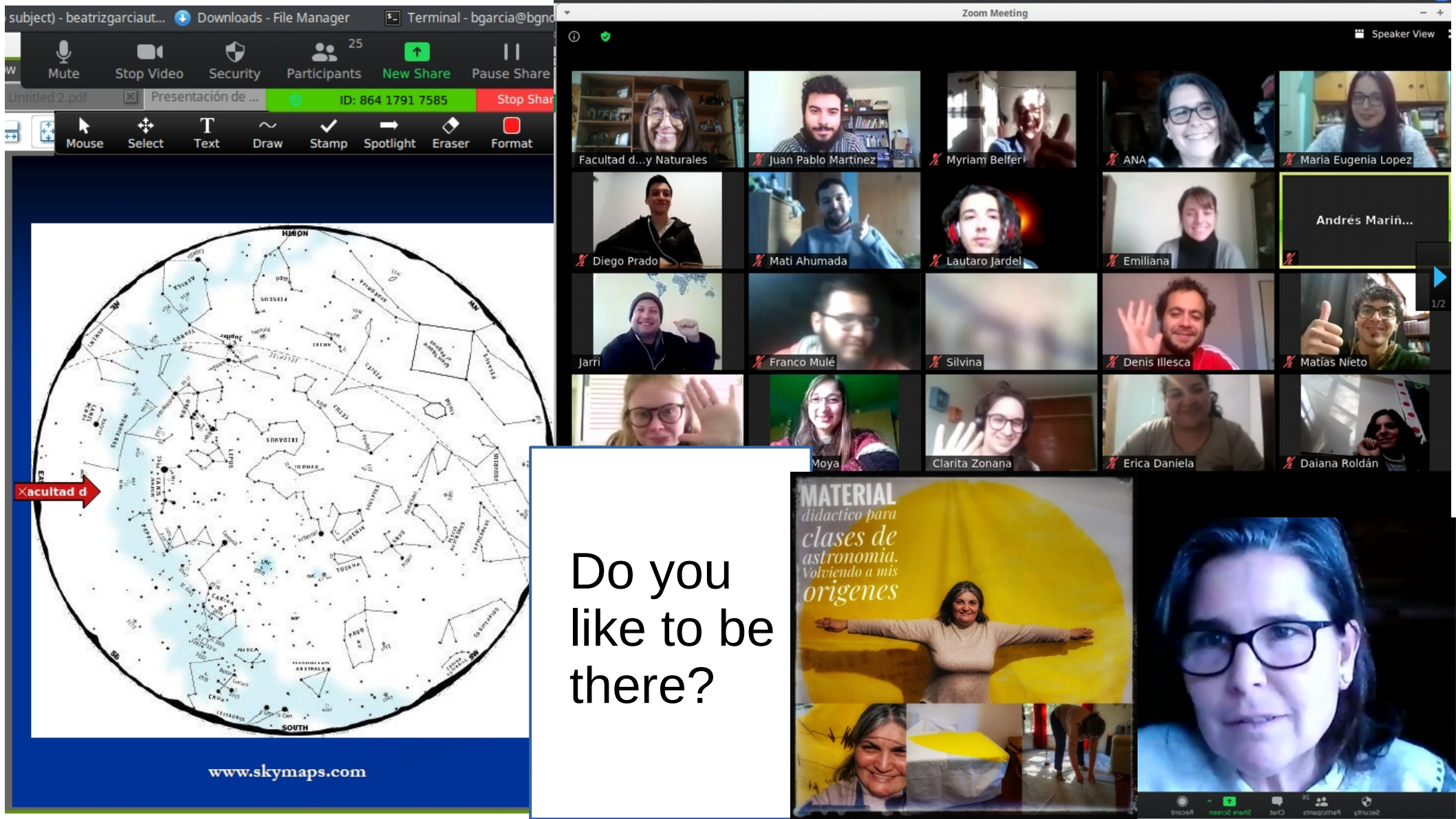






The teacher/professor online

Do you enjoy going to your class online?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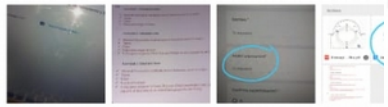
Facultad d...y Naturales
Juan Pablo Martinez
Myriam Belfer
ANA
Maria Eugenia Lopez
Diego Prado
Mati Ahumada
Lautaro Jardel
Emiliana
Andrés Mariñ...
Jarri
Franco Mulé
Silvina
Denis Illesca
Matías Nieto
Moya
Clarita Zonana
Erica Daniela
Daiana Roldán
1/2
Do you like to be there?
MATERIAL
didactico para
clases de
astronomia.
Volviendo a mis
origenes

Descripción

https://zoom.us/j/91345773924?pwd=ZS9OUlNiTVdGY24rNTNIYUI4OXpjdz09
ID de reunión: 913 4577 3924
Código de acceso: TAA-2020

Archivos, enlaces y docs



Silenciar notificaciones

Personalizar notificaciones

Visibilidad de archivos multimed

Ajustes del grupo

Cifrado

moodle.fcen.uncu.edu.ar/moodle/course/view.php?id=11

Español - Internacional (es) Beatriz Garcia

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Este curso tiene por objetivos abordar los temas de la astronomía desde la … el uso de la disciplna en distintos espacios de la enseñanza media, como intrducci…

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Foro de DUDAS y CONSULTAS

En este foro es posible postear dudas y consultas sobre el curso o los trabajos especiales a presentar para su aprobación

Se ha alcanzado la fecha límite para publicar en este foro, por lo que ya no puede publicar en él.

Añadir un nuevo tema de discusión

Tema	Comenzado por	Último mensaje
Reloj y Brújula solar	Pablo Matías Nieto 21 jul 2020	Beatriz Garcia 2 ago 2020
Geometría del universo	Franco Javier Mulé... 9 jul 2020	Juan Pablo Martinez 21 jul 2020
Cómo citar las conferencias y talleres de NASE	Maria Belen Piai 14 jul 2020	Beatriz Garcia 19 jul 2020
Rotacion del Sol (informe)	Lautaro Francisco ... 11 jul 2020	Beatriz Garcia 12 jul 2020
Determinación de la rotación solar	Emiliana de Rosas	Beatriz Garcia

Trabajo Final

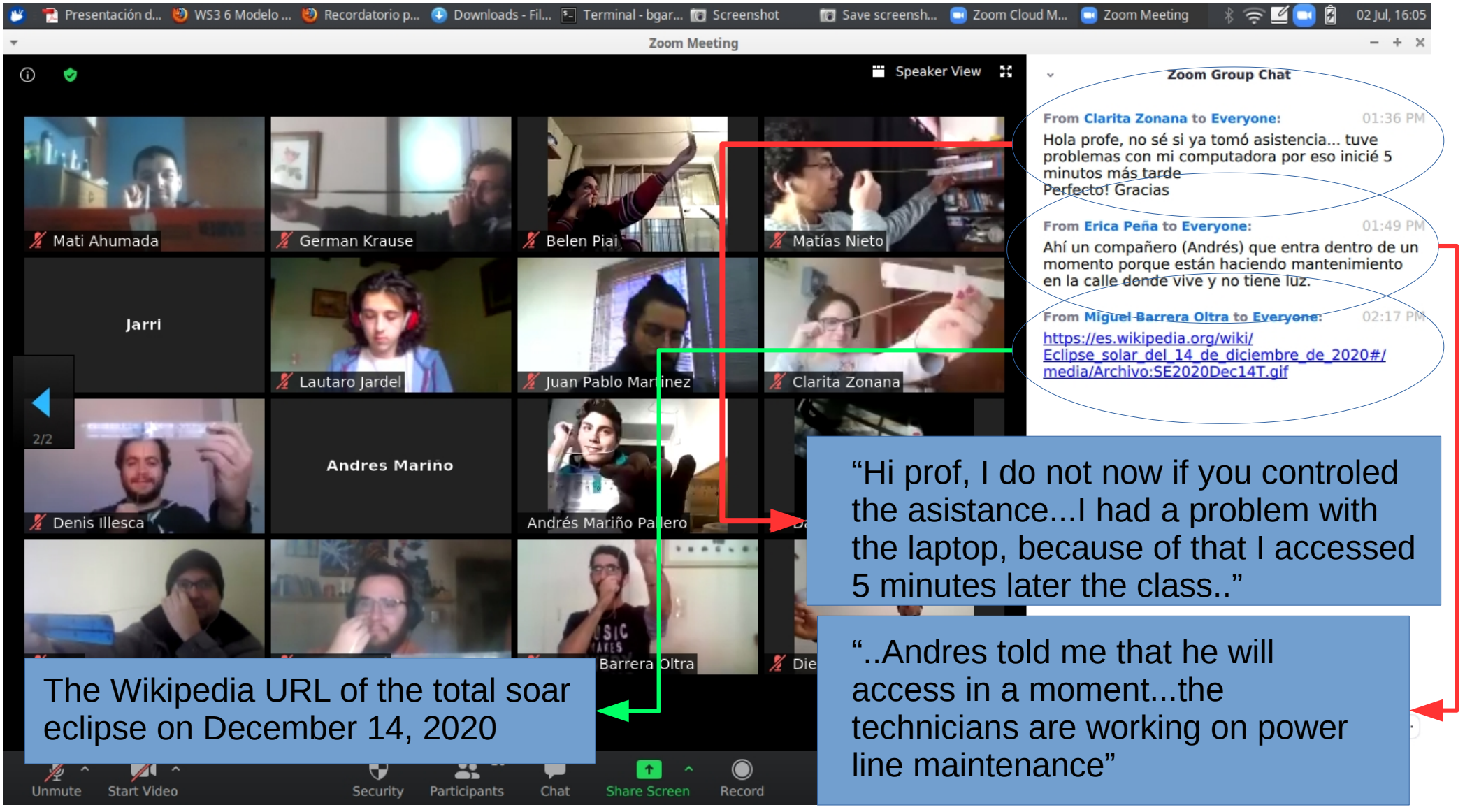
El Trabajo final de este espacio consiste en … en el que se apliquen temas tratados en el … durante la capacitación, pero de manera in…

También es posible plantear una actividad … específicos de materias de la escuela.

Trabajo Final
Debido 13 de agosto de 2020
17 de 21 Enviados

Entrega de TP3 Corregido
Debido 5 de agosto de 2020
15 de 21 Enviados

Do you like to communicate with your students online?

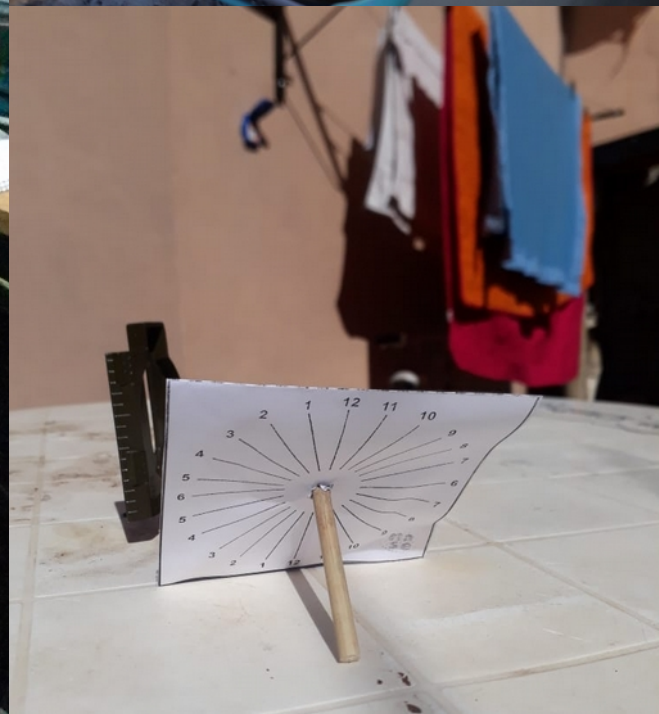

Zoom Meeting
Speaker View
Mati Ahumada
German Krause
Belen Piai
Matías Nieto
Jarri
Lautaro Jardel
Juan Pablo Martinez
Clarita Zonana
2/2
Andres Mariño
Denis Illesca
Andrés Mariño Pallero
Barrera Oltra
Unmute
Start Video
Security
Participants
Chat
Share Screen
Record
Zoom Group Chat
From Clarita Zonana to Everyone: 01:36 PM
Hola profe, no sé si ya tomó asistencia... tuve problemas con mi computadora por eso inicié 5 minutos más tarde
Perfecto! Gracias
From Erica Peña to Everyone: 01:49 PM
Ahí un compañero (Andrés) que entra dentro de un momento porque están haciendo mantenimiento en la calle donde vive y no tiene luz.
From Miguel Barrera Oltra to Everyone: 02:17 PM
https://es.wikipedia.org/wiki/Eclipse_solar_del_14_de_diciembre_de_2020#/media/Archivo:SE2020Dec14T.gif
"Hi prof, I do not now if you controled the asistance...I had a problem with the laptop, because of that I accessed 5 minutes later the class.."
"..Andres told me that he will access in a moment...the technicians are working on power line maintenance"
The Wikipedia URL of the total soar eclipse on December 14, 2020

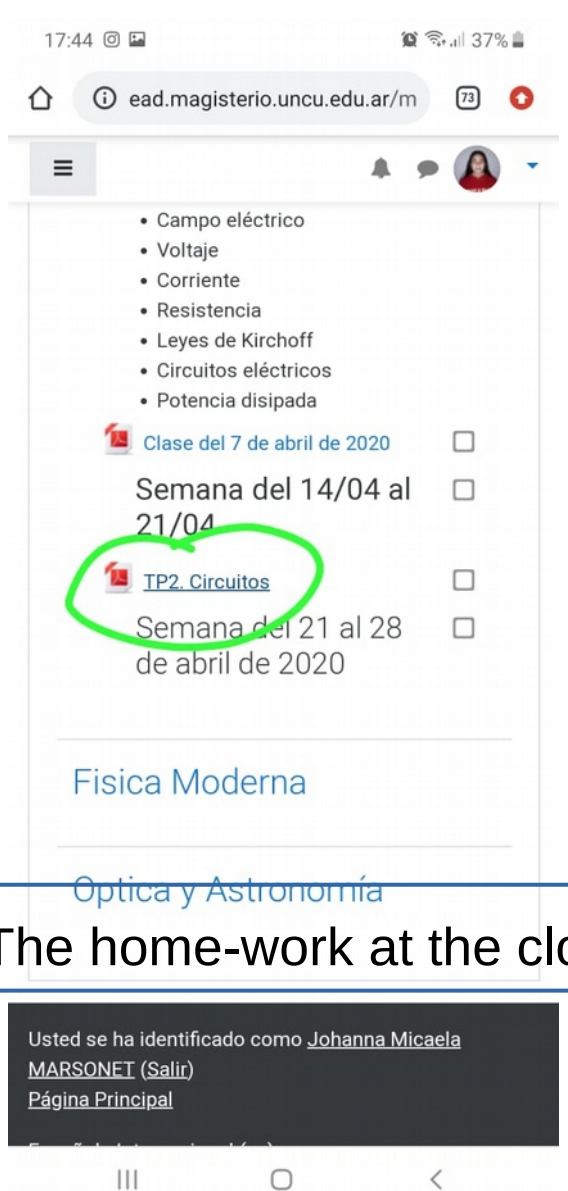
Feedback with students

We also learn: urgently prepare surveys for students

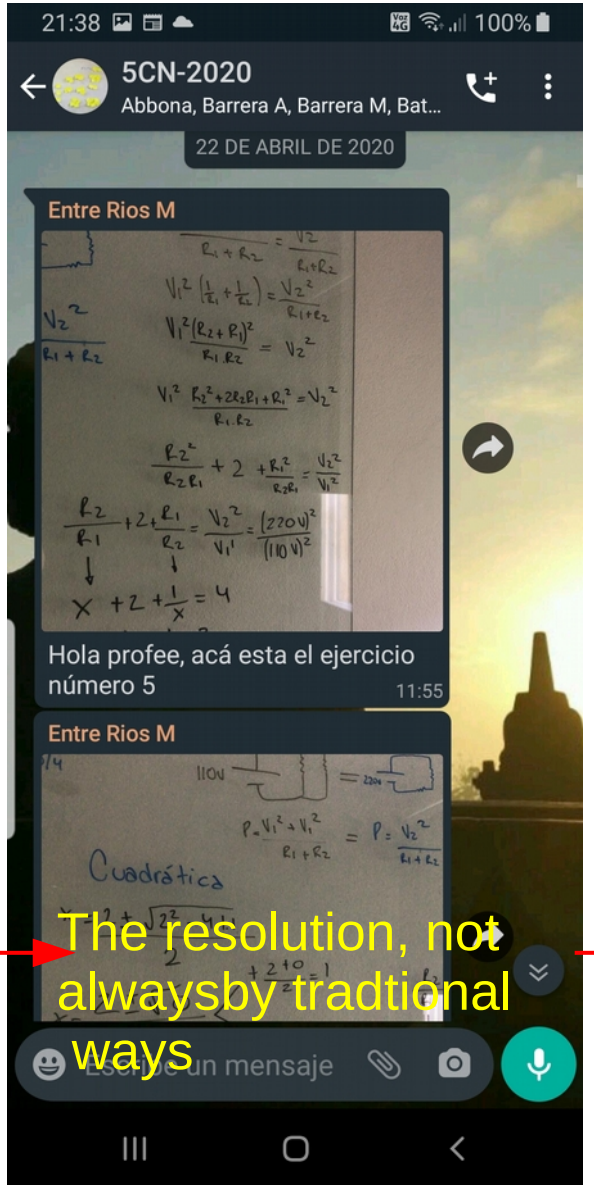
- Ask how they feel
- Recognize that we understand the situation of students
- Be honest: to work remotely, we must learn together.
- Ask what ideas they have to contribute to good teaching and effective learning
- Tell them that this period of crisis is going to last.

Be proactive, don't expect students to complain about things they don't do

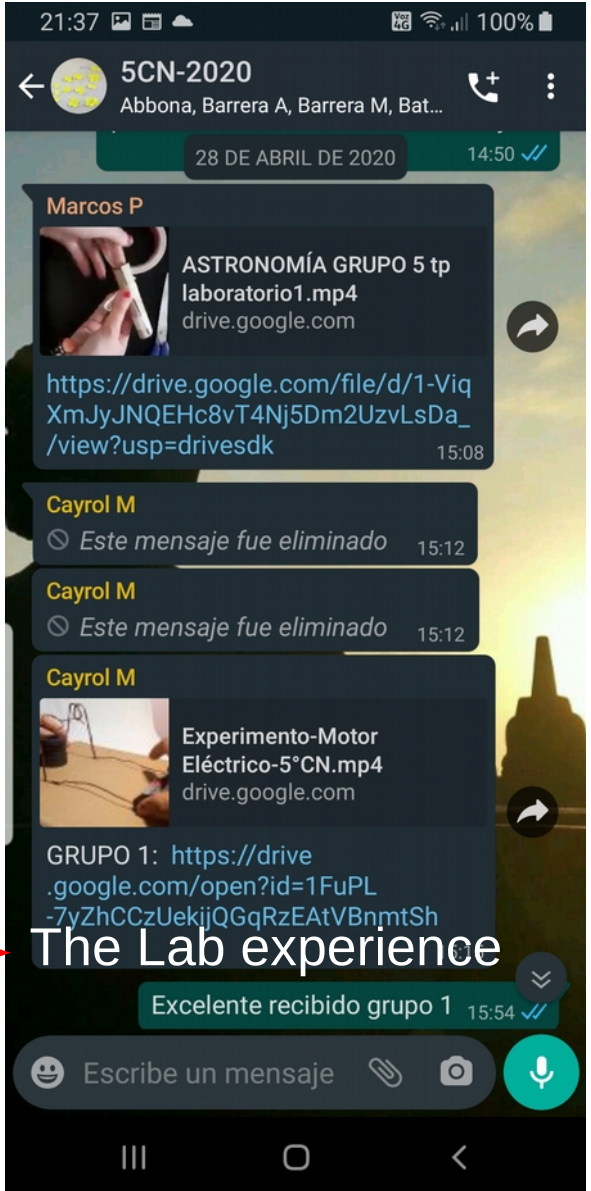




The home-work at the cloud

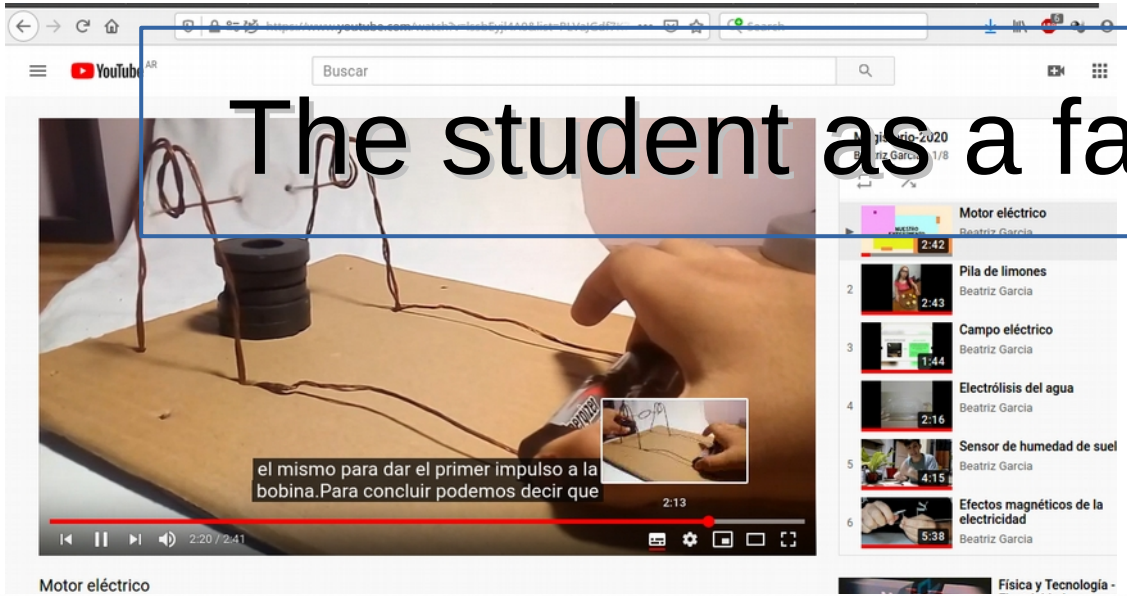


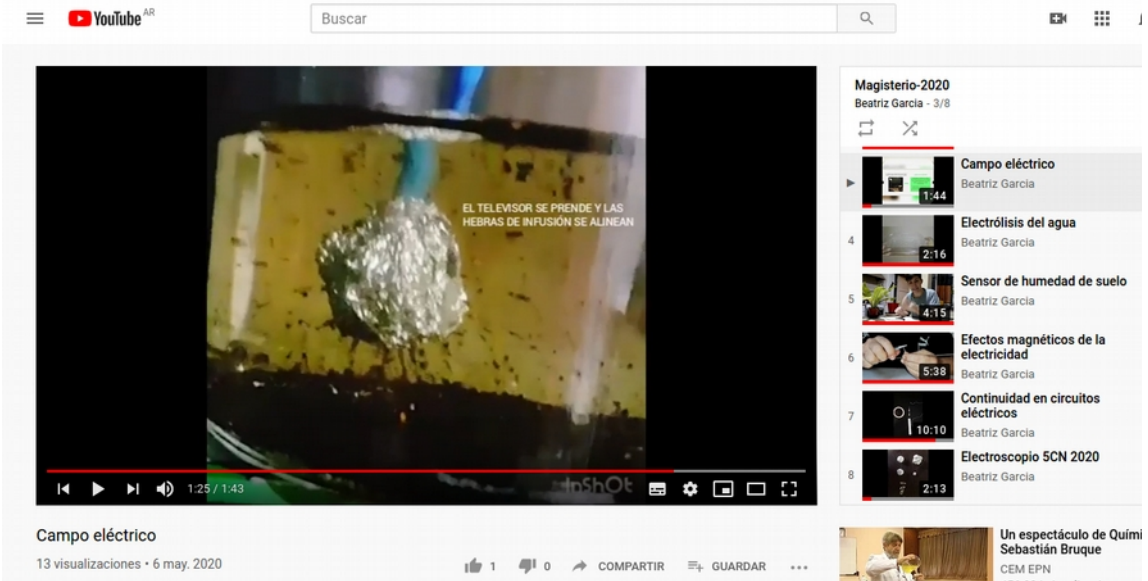
The resolution, not alwaysby tradtional ways



The Lab experience

The student as a factor of changes





- Replace exams with assignment and projects.
- Upload material that complements and solves difficulties in asynchronous classes.
- Recording classes by videoconference, if they have not been able attend online.
- Consider more frequently the opinion of the student body.

38% 1:57 p.m.
docs.google.com/forms/

EM- 5CN- Evaluación FyA - Electricidad

Este formulario ya no recibe respuestas.
El tiempo para la resolución ha concluido.

beatrizgarciautn@gmail.com.

Google no creó ni aprobó este contenido. Denunciar abuso - Condiciones del Servicio - Política de Privacidad

Google Formularios

- Descriptive guides for online exams, duration and form of realization

Tu Respuesta: 6 Ohm

2. Indique, para el crcuuito de la Figura, el valor del Voltaje total. Correcta +2 / 2 Punto(s)

Tu Respuesta: 6 V

3. Estime la corriente que circula por una lampara de 60 W, conectada a 110 V Correcta +2 / 2 Punto(s)

Tu Respuesta: 0.55 A

4. Imagine el circuito de la figura, cual seria la potencia total del mismo. Correcta +2 / 2 Punto(s)

Tu Respuesta: 1360 W

5. Imagine que usa una plancha en su casa (voltaje normal de una vivienda) cuya potencia es de 1200 W, a lo largo de 30 minutos. Cuáles sería la resistencia (Ohm) que la plancha ofrece a la corriente y la energía (J) cosumida por la Plancha? (^ significa elevado a...) Incorrecta 0 / 2 Punto(s)

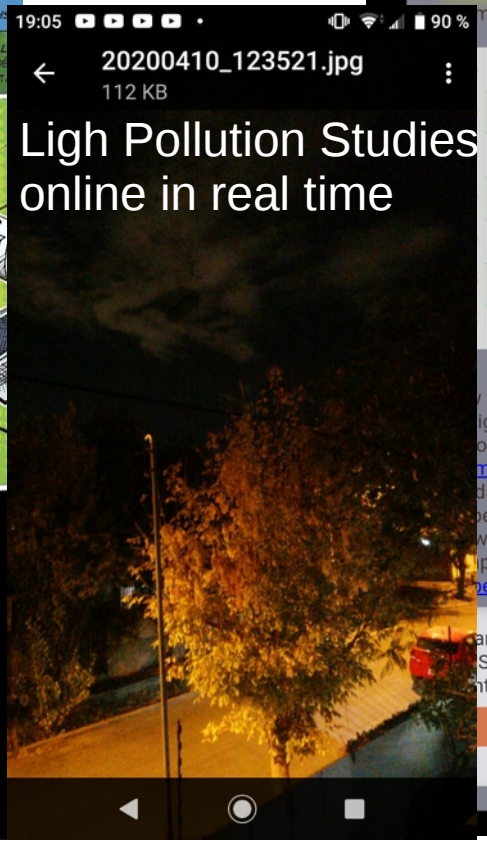
Tu Respuesta: 40.3 Ohms - 2.2 x 10^6 J

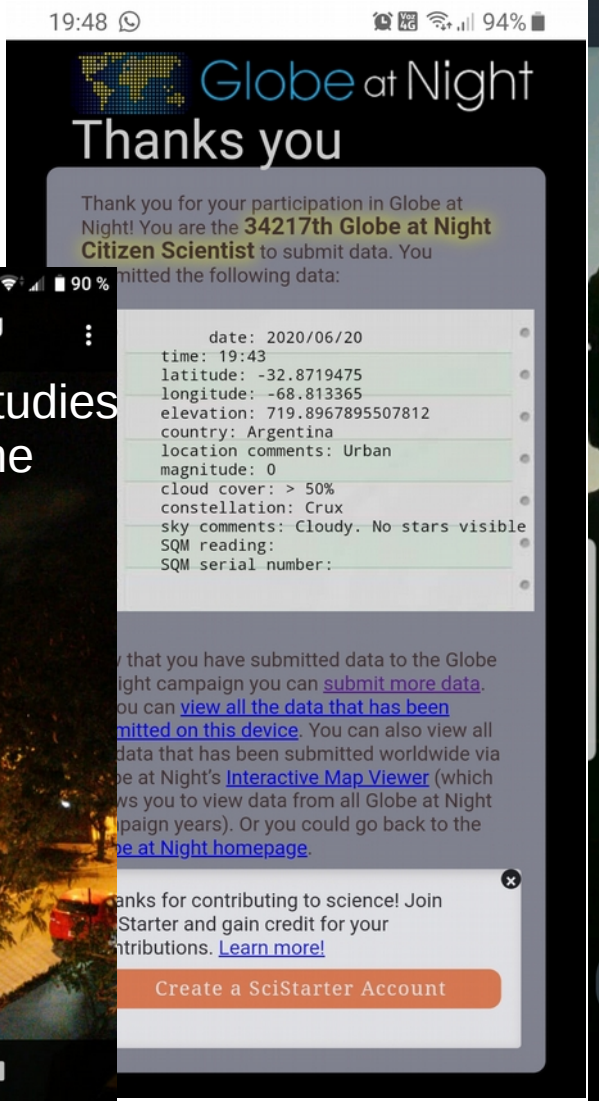
Respuesta Correcta: .40,3 - 2.2 x 10^6

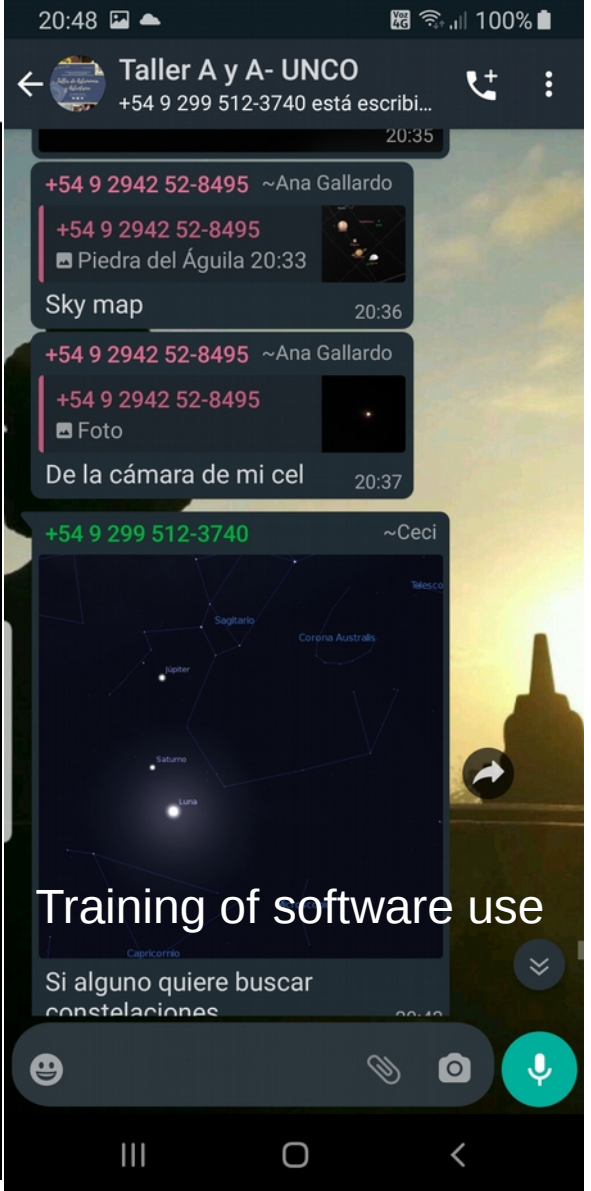
- The virtuality is not a dark box with standar resources to buy or acept with close eyes

- It permits also developing personal strategies and complements the f2f style, and was used in te past and will be used in a better way beyon the pandemic for more people

It is not a dark box, but can be a Pandora box!







Result of the Virtual Clases

The challenge is to test the effectivess of each resource that we use

The permanet evaluation is more important than ever, to correct mistakes and errors

Phases of innovation in education

Transition from traditional education at classrooms to a more flexible formula that includes face-to-face teaching, teaching online and the combination of both, involves 3 phases:

- Short term: immediate solutions (there we are now …)
- Medium term: for the next few months
- Long-term: Strategic solutions

What to do in the medium term?

- Connect the online strategy with the mission of the institution
- Change the educational model
- Apply an Instructional design model
- Teacher training workshops
- Standard online course design templates

Define institutional policies for students on expectations, accessibility problems for blind or deaf students, support for students students who do not have high-speed Internet, assessment strategy in line / campus.

In the long term: (five years?)

- Digital learning strategy, what proportion which courses should be fully online, face-to-face or mixed (mix online and f2f).

- Rethinking face-to-face teaching in a mixed formula and maybe reduce face-to-face teaching by as much as 20-30%

- Create a digital technology center (non existing in all schools)

- Develop teacher training

Do not forget that we must prepare to evolve as teachers for a future online pedagogy.

Finally in this epoc, with a new stuatus in wich humanity seems to leave the stage, in the teaching-learning process the most importat thing is, precicelly,

a touch of humanity

Thank you very much!