WEBINAR ORGANIZED BY STEM ALLIANCE AND SCIENTIX

THE HYBRID CLASSROOM: JUST FOR EMERGENCY OR FOR A NEW LEARNING APPROACH?

25.05.2022
AGENDA

- Welcome - STEM Alliance (Ivana Kovac, STEM Alliance coordinator)
- Intro - Lenovo (Mauro Bosano - 20”)
  - What: definition of hybrid classroom
  - Why: just for the pandemic?
  - How: enabling hybrid learning in classrooms
  - For what: use cases enabled by the technology
- A view from a secondary school teacher (Tullia Urschitz - 15”)
- A view from a university IT AV specialist (Bjarne Nørgaard - 10”)
- Closure - Lenovo (Mauro Bosano - 5”)
- Q&A (10”)

WHAT

LET’S DEFINE HYBRID LEARNING
In the past 2 years …

today…
Results of a recent survey on 20 major universities
by Reach3 for Lenovo

- Difficult to obtain funding for the technology needed to serve students in hybrid environments

- Hybrid classroom difficulties include:
  - Poor audio quality
  - Ambient classroom noise prohibits remote students from hearing lecturer
  - Connectivity issues
  - Professors not addressing remote students
  - Professors needing a blackboard space to write
WHY

DO WE REALLY NEED HYBRID LEARNING?
From time to time, districts will have to face critical situations where adopting the "hybrid learning" becomes necessary to limit absenteeism while still providing equal learning opportunities.

For example:

- Critical weather conditions
- Ground transportation strikes
- Support for disabilities
- Lack of teachers

Districts ready for hybrid learning will be able to deal with these situations without any impact on education.
Lenovo PROVIDES SOLUTIONS TO INSPIRE AND EMPOWER A resilient FUTURE OF LEARNING

Anticipate ➔ Prepare ➔ React ➔ Adapt
HYBRID ENABLES FLEXIBILITY AND A NEW LEARNING APPROACH

Learning trend is actually towards “blended learning” and “flipped classroom”.

Nevertheless, hybrid learning brings in new innovative elements:

- **Collaborative learning**: better integration among classmates
- **Personalized learning**: support individualized instruction
- **Preparation for work**: while working has become “hybrid” and will stay so, hybrid learning methodology itself is a learning experience
HOW TO ENABLE HYBRID LEARNING IN A CLASSROOM?
The Easiest Way: BYOD ("Bring Your Own Device")

- Video conferencing camera
  - Large FoV and AI features

- Video conferencing audio bar
  - Wide microphone pickup and noise cancellation

Affordable
Flexible

Teacher's device

Docking Station
The enhanced way: a classroom dedicated kit

Ease of use
Management
Dedicated Features
Security

Connected to the same meeting as the dedicated kit
An example of hybrid classroom setup:
What the teacher sees

Content on Pen Display (second monitor)

Students from home
An example of hybrid classroom setup:

What the class sees
An example of hybrid classroom setup:

What students from home see
FOR WHAT

NEW OPPORTUNITIES FOR LEARNING
Hybrid Classroom use cases: Concurrent Classroom

Goal: facilitate engagement, monitoring and support of “remote” students at the same level as for students in classroom.

A seamless learning experience for those at school and at home.
Hybrid Classroom use cases: Master Teacher Model

One educator, multiple classrooms.

With Hybrid Classroom, one teacher can seamlessly provide high-quality, interactive and engaging lessons at one time to multiple classrooms, even geographically dispersed.
Hybrid Classroom use cases: Guest Speaker

Bring the world into your classroom.

Connect with experts from across the globe to provide students with insights and knowledge about any topic under the sun.
Create “live” connections among schools to facilitate collaboration and integration between students on projects in the learning programs.
HYBRID CLASSROOMS IN ACTIONS
A REAL CASE EXPERIENCE WITH HYBRID CLASSROOMS IN K-12

Tullia Urschitz
STEM teacher at Liceo Steam International (Bologna and Rovereto)
Italian Scientix Ambassador
Educational mentor within IMPACT EdTech Project
Hybrid learning during pandemic
What challenges for an effective learning environment?  
**In class, remote, blended**

- Engage students
- Inclusion
- Different learning styles
- Valuable learning experiences
- From ideas to big projects (empower creativity)
- Sustainability
- Assessment
Hybrid Classroom: Managing technological solutions

Some subjects and contents require pen inputs or double display.
Hybrid Classroom: Managing contents

Teachers and students better interact with all the participants and concentrate on contents when the technology helps:
- one screen for contents
- one screen to see online participants
- one surface to write and interact with contents
Hybrid Classroom: active approaches

BIOMOLECULES

All molecules of life (BIOMOLECULES) are grouped in 4 main families:

1. CARBOHYDRATES
2. LIPIDS
3. PROTEINS
4. NUCLEIC ACIDS

<Molecules are made up of atoms bonded together in single units>
They are (often) large or super large molecules

For each family of biomolecule we’ll study:

1. what kind of atoms there are
2. the name of the main molecules (and subgroups) of this family
3. the general shape of the molecules
4. the main biological properties
5. how we can make a simple test to spot the presence of each biomolecule
Hybrid Classroom: active approaches


DNA: deoxyribonucleic acid

Successive linkage of deoxyribonucleoside monophosphates forms a linear polymer called DNA. Its most stable form consists on two chains or strands associated by means of hydrogen bonds between nitrogenous bases, forming a double helix.

(move it to better appreciate the helical shape)

- show hydrogen bonds

Joining the phosphorus atoms with a fictitious green line, representing the backbone, allows to better observe the helical shape:

You may orientate the molecule to watch it along its axis.

As for proteins, we can also use a simplified “cartoon” rendering (A G T C).
Hybrid Classroom: active approaches

A REAL CASE EXPERIENCE WITH HYBRID LEARNING IN HIGHER EDUCATION

AARHUS UNIVERSITY

Bjarne Nørgaard
AudioVideo Coordinator
Aarhus Universitet - Natural/Technical Science
VISIT LENOVO PAGES ON HYBRID CLASSROOMS

For schools:

For higher education:

- Case studies
- Solution insights
  - Microsoft Teams, Google Meet and Zoom
- Webinar recordings
- Brochures
- Video clips
Q&A
Thank you!