The Integration of Technology and Pedagogy in Challenging Higher Education Spaces

Barbara Moser-Mercer, Innocent Ntumba Tshilombo, Ellen Jackowski
THE CHANGE WE WANT TO SEE
Inclusive & equitable quality HE for sustainable development

THE PROBLEMS WE ENCOUNTER
Fragility, conflict, low resource, language & culture

THE SOLUTIONS WE IMPLEMENT
Transformative pedagogy, adaptive technology, 21st century skills

THE OUTCOMES WE WITNESS
Indigenous knowledge, design solutions, empowered learners, life & livelihood skills

BUILDING BACK BETTER FOR SUSTAINABLE COMMUNITIES
THE IMPACT WE SEEK
THE PROBLEMS WE ENCOUNTER
THE SOLUTIONS WE IMPLEMENT
THE OUTCOMES WE WITNESS
BUILDING BACK BETTER FOR SUSTAINABLE COMMUNITIES
PROGRAM DESIGN ELEMENTS

- Theory of Change
- Refugee Management
- Digital & Collaborative Learning Ecosystem
BUILDING HIGHER EDUCATION SPACES IN KAKUMA, DADAAB & AZRAQ CAMP

www.unige.ch/inzone

UNIVERSITÉ DE GENEVE

Moser-Mercer/InZone 2018
Learning space design

PEDAGOGY

SPACE

TECHNOLOGY
Learning: It's ALL About the Connections

- Neural Connections
- Human and Social Connections
- Connecting with Oneself
- Connecting of Concepts
- Connecting with the Internet
- Connecting Past, Present, & Future
- Connecting of Objects to One Another - Making
- Connecting of Human Networks (PLNs)

Jackie Gerstein: User-Generated Education
Connecting in InZone@UniGE Learning Hubs

Moser-Mercer/InZone 2018
Connecting in social spaces
Local learning spaces of global relevance

- Powerful ideas
- Expert design
- Collaborative implementation

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CONNECTED LEARNING CONSTRUCTS

INTEREST POWERED

PEER SUPPORTED

OPENLY NETWORKED

PRODUCTION CENTERED

ACADEMICALLY ORIENTED

SHAREd PURPOSE
INTEREST POWERED
Encouraging Deeper Learning
Academically oriented

Recap
- Introductions help build relationships
- Engage students with open questions
- Maintain interest with mixed media
- Deepen learning with conversation
PRODUCTION CENTERED
Dear [Redacted]

I would like to know how people have access to clean potable water in Kakuma and if you think there is equal access to safe water and sanitation for everyone in the camp. Also do you know how the water from the rivers around Kakuma are used by the people? Do people use the water to cook; wash their clothes etc? Are there any other activities conducted in the rivers or around these areas (for instance children playing, fishing etc)?

I am sorry for all these questions. Please take your time to answer.

2:01 PM

Yesterday I read this very interesting piece on a possible portable Cholera detection system and I would like to share it with you and Mutono since I have already shared it with the rest of the team.

2:02 PM

Fighting Cholera With a Smartphone

The rapid detection system will soon be tested in Haiti

spectrum.ieee.org

Here it is https://spectrum.ieee.org/the-human-os/biomedical/diagnostics/fighting-cholera-with-a-smartphone

2:03 PM
Openly networked
Initiating a Discussion with a Question

Be ready for the weekly question! :)

32. A young woman has been experiencing unusually heavy menstrual bleeding for several years. She follows a strict vegan diet (no animal foods). She is at risk for what disorder, and why?

33. A patient has thalassemia, a genetic disorder characterized by abnormal synthesis of globin proteins and excessive destruction of erythrocytes. This patient is jaundiced and is found to have an excessive level of bilirubin in his blood. Explain the connection.

34. One of the more common adverse effects of cancer chemotherapy is the destruction of leukocytes. Before his next scheduled chemotherapy treatment, a patient

Please try to answer the question 33. I'm looking forward to hearing from all of you. I'll be regularly on the what's app chat ready to comment on your answers

Creating all of you my dear tutors and also all my classmates

Let me try to answer this question although the question is bit difficult. First, Thalassemia is an inherited condition typically occurring in individuals from the middle east, African and South Asia, in which maturation of RBCs does not proceed normally.

Erythrocytes contains heme proteins called as hemoglobin which function to transport of oxygen to various tissues. Erythrocytes are formed elements: stem cells ~ myeloid stem cells ~ pro erythroblast ~ Erythrocytes

Pierre Ritz
Great ged, thanks for engaging! Does anyone would like to extend on gedli answer? We are definitely going on the right path but we still need parts of the answer

Mohamud Abdi
I can see the question is just open-ended question, i mean is not so specific to a certain point but according to my level of understanding if a patient with thalassemia is know to be abnormal synthesis of globin proteins and excessive destruction of erythrocytes is because bilirubin is increased in the blood and this may be used to help determine the cause of jaundice and help diagnose conditions such as liver disease, anemia, and blockage of the bile ducts.
Higher Education and humanitarian assistance

Transforming temporary and immediately-oriented traditional responses and behaviours to sustainable and scalable solutions with long term impact.

Empowering displaced people to become active actors in the society

Innocent N. Tshilombo
GETTING STARTED IN A REMOTE AREA

Assistance-based humanitarian response design

No access to local employment market

Poor Infrastructure

Remote location

Harsh weather conditions

Poor connectivity

Difficult living conditions

Inadequate learning facilities

Local Government policy

Innocent N. Tshilombo
INFRASTRUCTURE

Tested digital solutions to provide reliable access to quality learning

Learners driven solutions to address local challenges

<table>
<thead>
<tr>
<th>Gadgets</th>
<th>Pro</th>
<th>Con</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desktop</td>
<td>Robust</td>
<td>Static, power intensive, not rechargeable</td>
<td>Good for learning space with sufficient power supply</td>
</tr>
<tr>
<td>Laptop</td>
<td>Mobility, rechargeable</td>
<td>Fragile</td>
<td>Good for working students</td>
</tr>
<tr>
<td>Pi-top</td>
<td>Power efficiency</td>
<td>Static, not rechargeable, low capacity</td>
<td>Good for learning space with insufficient power supply</td>
</tr>
<tr>
<td>Tablet</td>
<td>Mobility, rechargeable</td>
<td>Fragile, easily lost</td>
<td>Good for mothers</td>
</tr>
<tr>
<td>Smartphone</td>
<td>Personal, rechargeable</td>
<td>Limited capacity</td>
<td>Easily accessibility</td>
</tr>
</tbody>
</table>

Policy

Data Usage

Modem

Learner-centered supporting system to enhance the learning experience
Displaced learners managing higher education

Displaced learners supporting local initiatives that address local problems

Displaced learners positioned to equally stand in the society

Global impact
4-20 (2007-2012)

- Virtual learning, on-line tutoring
- No on-site facilitation
- No on-site management
- InZone learning platform

20-45 (2013-2016)

- Blended learning
- On-line tutors (1 per course)
- On-site facilitators (1-2 per course)
- On-site manager (1)
- Different platforms and dedicated digital tools

45-160 (2016-2018)

- InZone Digital Learning Eco-System
- On-line tutors (2-6 per course)
- On-site facilitators (2-6 per course)
- On-site managers (3-9 per site)
- Different platforms, dedicated digital tools (X2Go & WhatsApp)

Incremental scaling without loss of quality
Key Take-aways

**RESEARCH**
- Technology-enhanced skill acquisition in fragile contexts
- Research ethics
- Community-centered research

**TECHNOLOGY ASSESSMENT**
- Connectivity options
- On-line/off-line learning
- Apps & devices for indigenous knowledge production

**HIGHER EDUCATION IN FRAGILE CONTEXTS**
- HE’s civic engagement supports SDGs
- Refugee management – social start-ups
- University partnerships
- Enabling partnerships
TEAM

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**UNIGE-AMM**
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Princeton-Geneva partnership fund

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Connected Learning in Crisis Consortium

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