CONNECT

Inclusive open schooling with engaging and future-oriented science

BEST PRACTICES

Description for the website:

Title: Visual thinkiing and Illustrated mind maps as a way to visualize profile of vulnerable community

This good practice reports an open schooling initiative about (<u>CONNECT PUCPR</u>), which was developed by <u>Professor Rafael Camargo with the NGO: ODPH – Organizacão para o Desenvolvimento do Potencial Humano</u>) during 03 / 03 / 2022 to 28 / 06/ 2022. The activities included a professional in science (Art Education Cientist/Researcher). It was supported by PUCPR – Pontifical Catholic University of Parana. This practice was presented previously here: https://www.odph.org.br.

Care: Students were engaged with the posibility of drawing and art use to visualize real-life problems and discuss the best places to play around and to know their local environment. Students who participated in the activities were 20 students, with age of 10 up to 14 years old, all of them been part of local public schools during the morning, and the other part (half time/contra-turno escolar) studying at this NGO.

Know: Students used knowledge about visual thinking exercises, perspective, character development and model sheet, 3D and volumetry aspects, coloring, discussion, colaboration to develop a coletive mural of art and storytelling, exploring an historical local problem of the poluited river.

Do: At the end, students prepared Illustrated Mind Maps to register point of personal interest and created two Art Mural to express and share their ideas. One of the wall, to register "the vision" and dreams and the other one, to visualize data/actions and places in the city and community. We believe that science and scientific problems should be integrated, visualized, with easy compreension for vulnerable persons, living in complex scenarios of the world. They completed the activities in groups and supported by 3 professors and an employee of the cleaning department.

Findings related to Open Schooling approach: The activity not fitted before in the curriculum, It was so relevant, integrating university students and professors and vulnerable communities, focused to visualize a problem and share a vision of future. Open schooling might be helpful for other teachers because can provide a colaborative, not expensive and cocreative process to facilitate how to explain complex content

for vulnerable communities, visualize data, draw project, register a system of ideas and sensibilizate persons to become changemakers.

Students' Outcomes: Students were involved with art and Paulo Freire cultural cycle, discussion to discover local themes, enjoyment, and after 3 weeks I observed which they were more self confidents with the process, with me as "researcher" and our common purpose . As an example, a student mentioned " very hard moments that they lived with families and local crimes. Also the difficult to play or even be close of the river, because its always dirty, poluited, not smell good and they can not find a very good place to play near the school/NGO. I believe that this gathering of feellings and opinions, specially from childrens living in vulnerable scenarios, are opportunities to listen real problems and integrate the university in the society, so the outcome is deeper than just the method or even this lived experience. For the students, constant exchange that can amplify their vision of the world and also possibilities to change difficulties.

Please select the most relevant photo about your initiative (which will be public, and will be published with open license to represent the practice.

ABOUT THE CONNECT institution who supported the school	
ORGANISATION	PUCPR
COUNTRY	Brazil
Partner' name (contact)	Professora Doutora Patricia Torres
Period of implementation	Initial date: 03/ 03/ 2022 Completion date: 28/ 06/ 2022
ABOUT THE TEACHER(S) INTERVIEWEES	
SCHOOL	ODPH – Organização para o Desenvolvimento do Potencial Humano
TEACHERS Names (for best practices certificates)	PUCPR – Rafael Augusto Camargo. ODPH – Kauanna Batista, Karen, Ketlin e Evelin
GENDER	----
DISCIPLINE	Visual Thinking and Art Education

(Science, Physic, Chemistry, Biology, …)	
How many lessons were used in open schooling?	12 lessons
Title of the open schooling resource used	Visual Thinking and Illustrated Mind Maps
Type of science-actions (structured or open scenario)	Data Viz, Art Education, river exploration and Health lessons.
Curriculum topics	Visual Thinking, Art Education, Environment
ABOUT THE TEACHERS' STUDENTS	
Grade	5 - 8
Average age	10 /14
Total of students' participants	20
Total of students' who completed science actions	20
SCIENTISTS INVOLVED:	
Name	Rafael Augusto Camargo, Peter, Mary, Giovanna and Andre Turbay.
Field	Art, Design, Architecture and Odontology

QUESTIONNAIRE

01. How did you (teachers) use open schooling resources? Could you please describe what did you do in your lessons?

Activities of Students with scientists:

We had used only open resources, specially understanding "drawing" as a powerful tool as an interface of discussion. Always beginning with a circle morning discussion (Círculos de Cultura de Paulo Freire), listening opinions and the background of all of the students involved, creating questions to look around and feel inquietation, local problems and social situations. After we have decided this thems, as a Professor, I looked for scientists – corelated with this thems - to collaborate and create some interactions, workshops and some way to contribute with the kids/NGO.
The characthers were materialized using papertoys, posters, mind maps and visual thinking.

The result it was created on a huge mural with the "vision to be reached", as a focus for the group and a wall where all the cocreative process was materialized.

Activities of Students with families:

Unfortunatly we did not have this interaction. The profile of this group is a very poor region (slum), where the kids are sons of Recycled Material Workers, that in Brazil are a very marginal, invisible group for the state and government and exactly NGO's like this one are responsible for this kind od education. Because this, open schooling contributes with the possibility of resource use, without royalties rules and private costs.

02. How did your students used CONNECT resources? Do you have (or could describe) any samples of best science actions (for our website / reward)?

Any example of what students prepared?

I did this position/role as a facilitator, integrating Connect principles, but respecting other process used for the last 10 years in the institution/NGO.

Slide? Poster? Video clip? (Add some images if it is possible)

Included here before, but with a drive with more options, if necessary.

03. How well did science-action resources meet your needs?

Needs for example related to school curriculum:

Through the Scientists/Professors and their approach with the group, not an specific material, walking in the village, observing real problems and describing moments and lived situations.

Students' engagement:

When the lesson was projected to be interactive, the result for sure it was much better and productive. This also happen when visiting and walking inside the community. A sense of protection and study, introduced for their community.

Students' interest and confidence in science:

The most interest part of the process, during this 4 months, applying connect method with this community, it was understand that practices associated with real and local problems, are naturally an opportunity of engagement and connection with the students. The "theory walking", the science guiding the objectives of observation, gave the sensibility, the incubation necessary and the perspective of resolution, that sometimes just the simulacro of classroom it doesn't work.

04. How easy or difficult were science-action resources to use?

Please add any specific issues related to materials, procedures, interactions or curriculum:

Creativity it appears often inside limitation, complex scenarios and multidisciplinary process. Its not corelated with materials, but with inspiration, intuition and changemakers.

05. What were the benefits of open schooling for your students?

Describe the students' outcomes in their science-actions related to:

KNOWLEDGE	Knowledge through the scientists: Biology, health, architecture, urbam planning.
SKILLS	Drawing, listening, attention, cocreation.
ATTITUDE	The opportunity to confront fear of drawing, explain decisions and respect with different styles of expression and learning.

06. What were the challenges of using science-actions for your students?

Select the main challenges faced by students with and example:

☐ Difficult…

☐ Long…

☒ Boring…

☐ Other (Please, specify): …

07. Which activities worked well with the curriculum?

What helped kids to meet the learning objectives:

The art mural/painel, produced with cocreation, after exploration and discussion of local problems and points.

08. Which activities did not work well with the curriculum?

Anything that could be done differently or avoided:

The integration with families, cause the mothers leave their kids in the NGO, and go to street to catch/get materials to recycle. Most of them, leave the kids there, just because they know kids are receiveing meal during the day.

Submission:
1. Save this file with a new name: YEAR MONTH DAY COUNTRY SCHOOL NAME (e.g. 20220326UKSirJohnschool. docx
2. Please send this form to the CONNECT Panel: evaluation@connect-science.net and (the coordinator of the country)