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Open Education and Open Science in contexts of crises

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Extended summary: Open Education and Open Educational Resources (OER) have been used widely in normal and also crisis situations. What is proposed here in this paper is to plan an effective, well-prepared course through the suggested model in different languages to sustain children and youth education in Crisis situations. Education is a human right and should be protected in conflict zones and natural crises from being violated. It is very difficult to keep Children motivated for education while they are in danger or insecure, or maybe their schools have been damaged or they have been displaced.

The humanitarian response organizations consider education as the main factor to protect children and empower them. Formal education will not be able to sustain and offer quality education for several reasons, so a new form of education should be developed and offered in order to meet the needs of children. Their needs are highly vital to be considered according to culture, social, political, and conflict context, since each crisis has its own requirements, and each community has its own culture.

Resistance to learning will be a key issue to consider when planning to implement this model. Parents' and teachers' involvement is vital, but after setting up an urgent capacity-building program and providing them with professional guidelines and designed toolkits.

The Open Education & Science Crisis (OES-Crisis) model as described consists of five different components, each component will be divided into several learning objects and each object will be designed online as an OER. Each learning object will be opened for all under a Creative Commons license, and it will be presented in several learning forms such as textual, audio, and visual to meet different learners' styles. The learners will have the access to print the textual learning material, reuse and share, to give the chance for children from low income and disadvantaged areas to use it. Teachers and parents will be able to use, adapt, and share OERs. Finally, this model should be designed for implementation through collaborative work on a governmental level globally, followed by an assessment and evaluation process, to test its applicability and validity for international users.

Openness, in many ways: Education, Science, Competence Frameworks

Openness is a merging term with multiple uses and meanings, reflecting the flexibility and comprehensive values.

Open Education is defined as education without boundaries, many definitions from different researchers have been discussed. All definitions have mentioned at least 2 to 3 common terminologies such as free, freedom, accessibility, use and re-use, sharing, education for all, justice, and equity. Oliver (2015) shed light on Open Education as an opportunity for freedom in education through flexibility, but in many cases, it is not used as it should be, while Farrow (2017) argues the possibilities of Open Education to strengthen critical pedagogies and empower critical changes in education through creative solutions. From the writers' point of view, Open Education

is free of charge, with no previous requirements to use and re-use, and could be accessed from any place, any time, and from anyone. So instead of going to schools and universities to learn, they come to you.
The movement involves, in addition to Open Education, Open Science, which represents a new approach to the scientific process based on cooperative work and new ways of diffusing knowledge by using digital technologies and new collaborative tools. And also, Open Competence Frameworks, which bridges academic environments and labour markets, in many ways. The basic competences are cross-topic; the generic competences are useful to perform better as a worker and to integrate better in any professional community; the strategic competences are linked to a broader vision into a certain field; and the specific competences provide the student with clustered knowledge in a certain area of that very field.

The OES-Crisis: a competence model in Open Education and Open Science

The researchers think of Open Education and Open Educational Resources as an opportunity to sustain education and recover the loss during crises by the following competence model, named as Open Education & Science Crisis (OES-Crisis), which is based on five components in the form of skill-sets: 1) literacy skills, 2) digital literacy skills, 3) safety and security skills, 4) hope and resilience skills, and 5) life skills.

Component number 1: Literacy skills

This component will focus not only on reading, writing, and numeracy skills but it will focus on an advanced definition of literacy that involves communication language related to the type of conflict and crisis situations.

Component number 2: Digital literacy skills

Digital literacy skills nowadays are more needed than before, especially with the rapid growth of children and youth's access to the internet. Children and youth are digital citizens but unfortunately, many of them lack the knowledge, skills, and attitudes needed to be good digital citizens.

Component number 3: Safety and security skills

In times of crisis, children are in danger and in need of protection. They need to learn how to save their lives and secure their basic life needs. Their wellbeing is essential not only in normal situations but also in emergency situations. Physical and mental health stand at the same levels of importance, while digital safety is also vital in the era of technology.

Component number 4: Hope and resilience skills

In times of emergency and crisis usually, children lose hope and get frustrated, scared, and unsure about their future. They are unable to think, they have big worries, and unable to express themselves. The crisis usually negatively affects their emotional wellbeing, so it is important to educate them on how to rebuild their hopes and confidence and give them strategies to cope and re-imagine their future. Save the children consider psychological support as a good solution and a priority and an essential need for children.

Component number 5: Life skills

Different terminologies have been used to describe these skills such as soft skills, 21st century skills, and others. In emergency situations, these skills are much needed to achieve the above 4 components of the model and they will help children and youth to be able to develop their learning and reach their potential in social-emotional development and at the same time be able to continue their lives despite all the difficult circumstances around them.

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