MOOCs in the reform of mathematics education in Costa Rica

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In 2010, appointed by the Ministry of Education of Costa Rica to write and implement a new Math Curriculum for all Primary and Secondary Education

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Why this presentation related to an experience in such a small developing country can be useful?

MOOCs are in a initial stage, paths to come are nor established or even clear. A wide and flexible perspective is necessary.

Here we will present an example in the use of this e-learning strategy for specific objectives.
Courses within a curricular reform

In May 2012, a major reform in the mathematics curriculum of all primary and secondary education was adopted in Costa Rica.
For its implementation, the most important activities are courses for in-service teachers: face-to-face, blended and virtual.
Virtual courses

Associated to the implementation of the new curriculum and teacher’s professional development

• This defines the nature of such courses

September-December 2014.

Seven courses will be developed.

5 more courses in 2015.
Cursos Virtuales (Online courses)

Reforma de Educación Matemática en Costa Rica
Cursos de capacitación en línea.

Bienvenidos a la plataforma de capacitación virtual.

http://cursos.reformamatematica.net
Geometry, Primary education

Este curso propone situaciones seleccionadas con fines didácticos en donde se busca desarrollar algunos contenidos sobre elementos básicos de la geometría mediante la metodología de resolución de problemas utilizando un enfoque orientado a la educación a distancia.

Numbers, Primary education

Este curso está dirigido a docentes de Primaria con el fin de analizar algunos tópicos en el área de Números y poder construir actividades didácticas y problemas. Tomando en cuenta el enfoque de los programas de estudio en Matemáticas, se presentan actividades, recomendaciones metodológicas y definiciones de algunas de sus nociones básicas.

Relations and algebra, Primary education

Este curso está dirigido a docentes de primaria. Pretende analizar algunos tópicos de Relaciones y álgebra mediante la construcción de actividades didácticas y situaciones problema bajo el enfoque de los nuevos programas de estudio de matemática.
Geometry, Secondary education

Numbers, Secondary education

Relations and algebra, Secondary education

Probability, Secondary education
Content and approach of courses

The content of these courses is not mathematics, not general pedagogy but specific pedagogy of mathematics oriented towards the classroom.
Why MOOCs?

Provide:

• An attractive dynamism through videos;
• A “more personal contact” with prestigious researchers who elaborated the new curriculum and conduct its implementation.
• Relatively easy elaboration of the courses: videos can be recorded in a very simple way

However, so far, **to elaborate these courses it’s taken us more effort than expected!**
Completion rate, quotas, and face-to-face activities

A greater completion rate is expected cause:
• Courses are oriented towards a very specific population
• In the middle of a curricular reform that must be implemented

A maximum number of participants in every course is established: because lack of resources
Some face-to-face activities: to provide some support
• Conducted by Ministry of Education officials.
Are MOOCs in Costa Rica a *mutation*?

• Not intended for higher education, but **for the preparation of in-service teachers.**

• **Open courses, but not so massive:** maximum quotas were established.

• **Virtual**, but the participants will have some face-to-face support
Dimensions where to expect possible lessons, in the following months

1. Participants’ involvement: attitudes, & social impact
2. Completion rates
3. Ways of assessment
4. Accreditation of courses
5. Course design: characteristics of videos (length, focus, ..), connection to the interactive activities, forums, time for elaboration and validation ...

Lessons may apply to all MOOCs but perhaps can also give us inputs on how to use MOOCs in a developing country
Thanks for your attention

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