



HCI International 2017

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Adaptive and cooperative model of knowledge management in MOOCs

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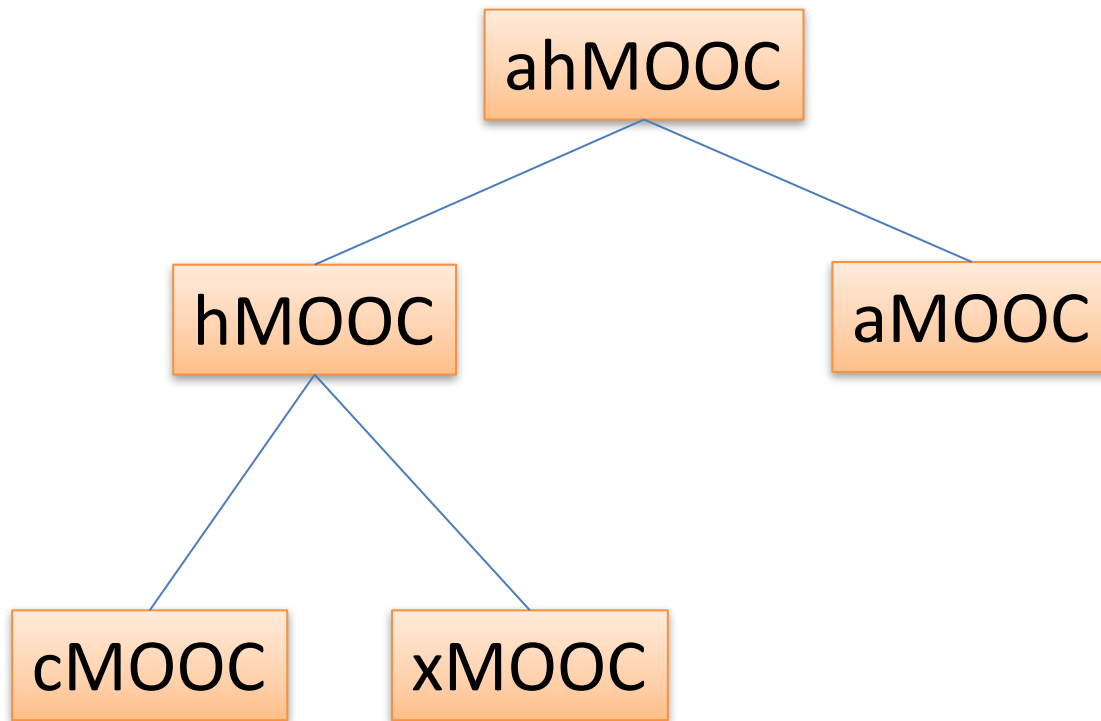


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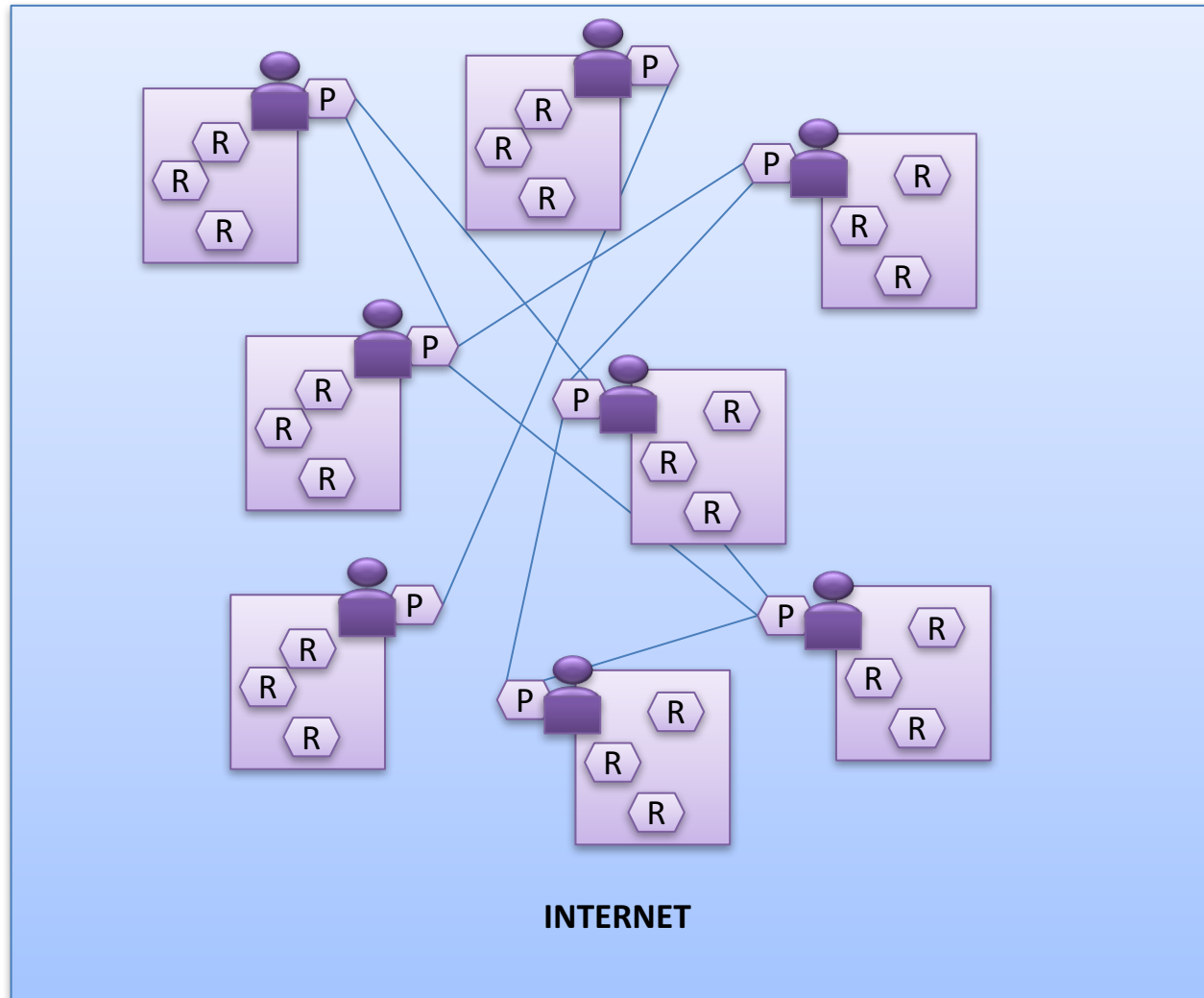


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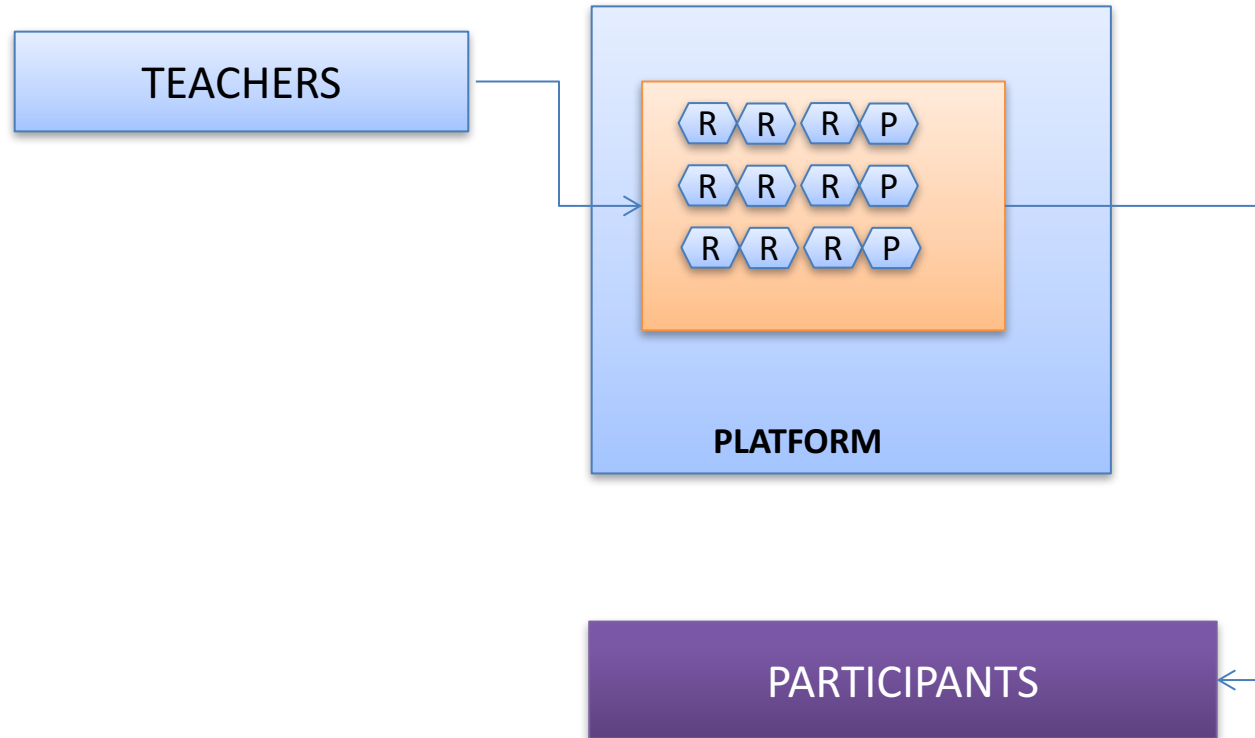
Massive Open Online Courses (MOOC) :
massive, heterogeneous, with low completion rate....

cMOOC (the beginning)



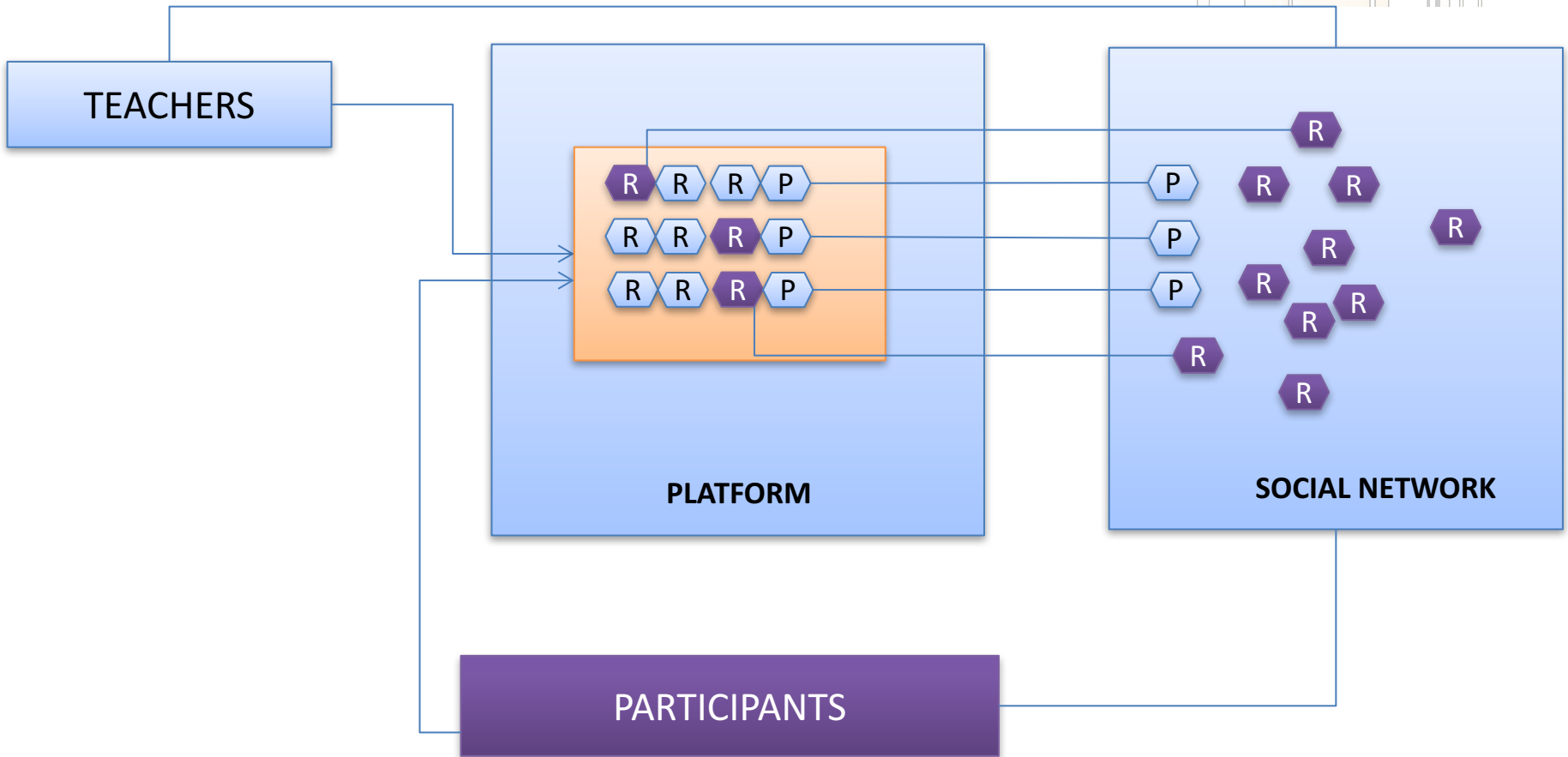
Cooperative MOOC-cMOOC, Downes & Siemens

xMOOC (the most popular)



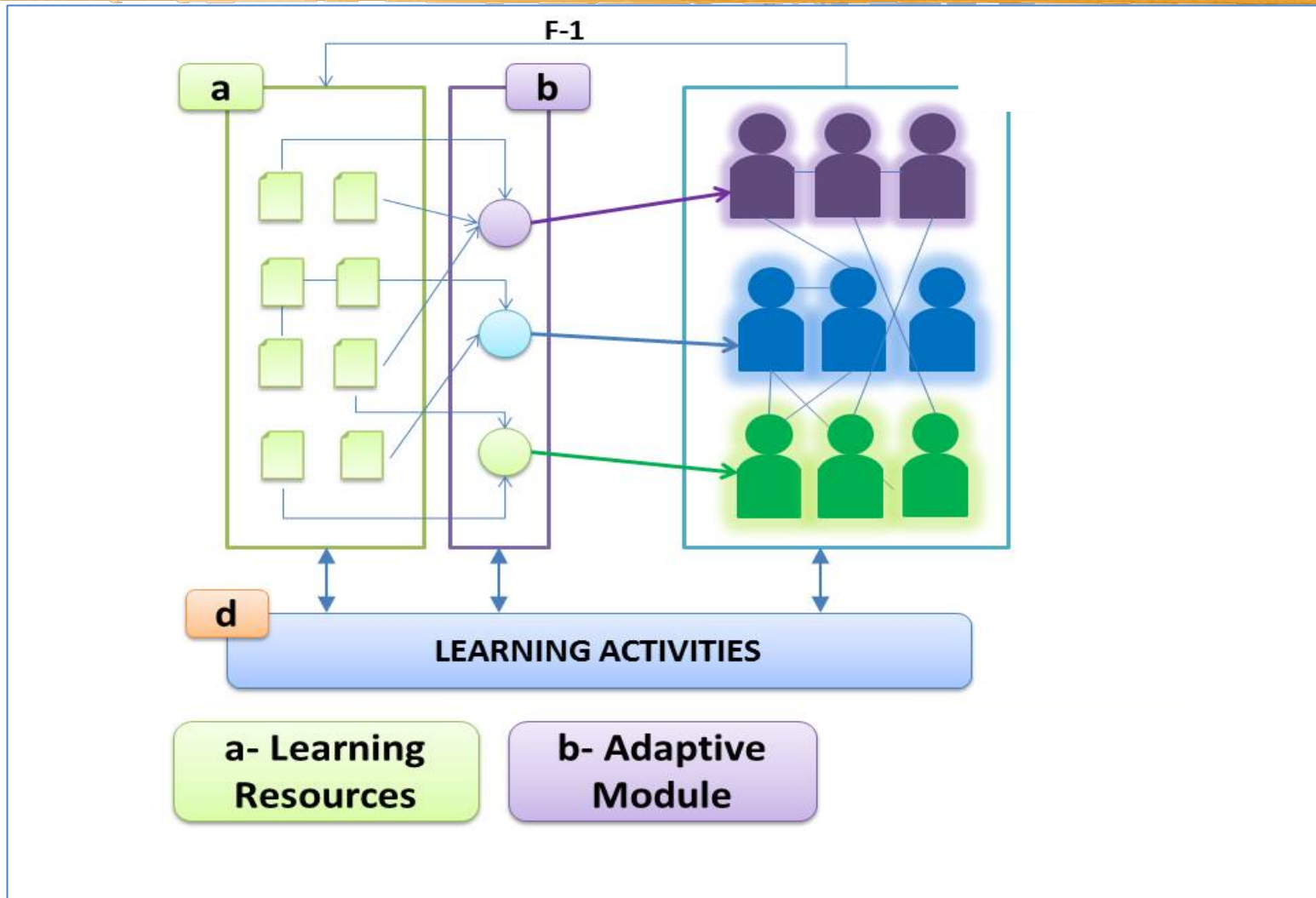
xMOOCs based on formal e-training

MOOC Evolution. hMOOC= cMOOC + xMOOC



Hybrid MOOC (hMOOC) allows integrating xMOOCs (formal e-training) and cMOOCs (based on informal and cooperative e-training).

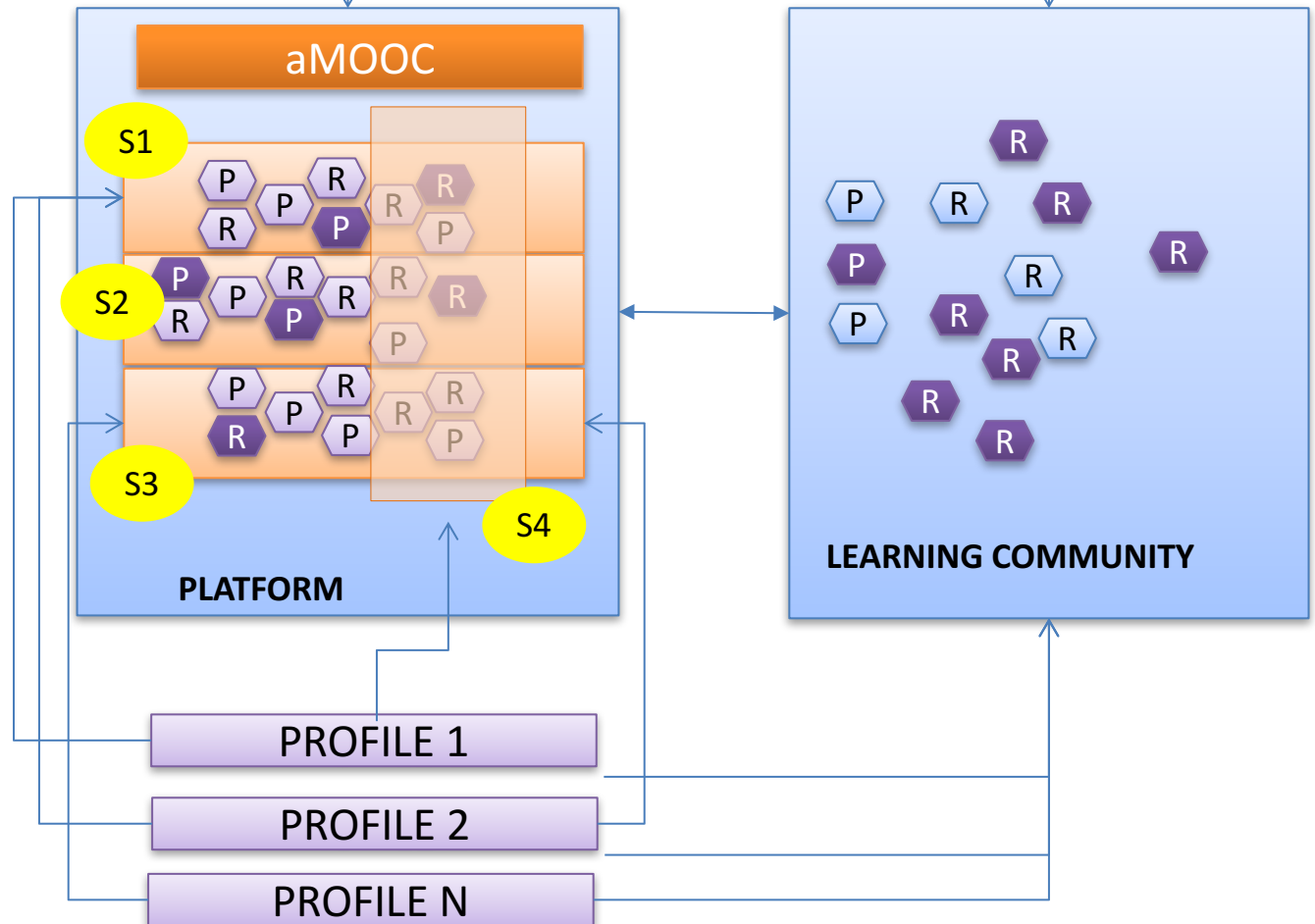
TESTED: MiriadaX platform throughout 7 MOOCs (20,000 participants).



Adaptive MOOC- aMOOC offers different learning strategies adapted to different learning objectives, profiles, learning styles, etc. of participants.

Proposed model: ahMOOC

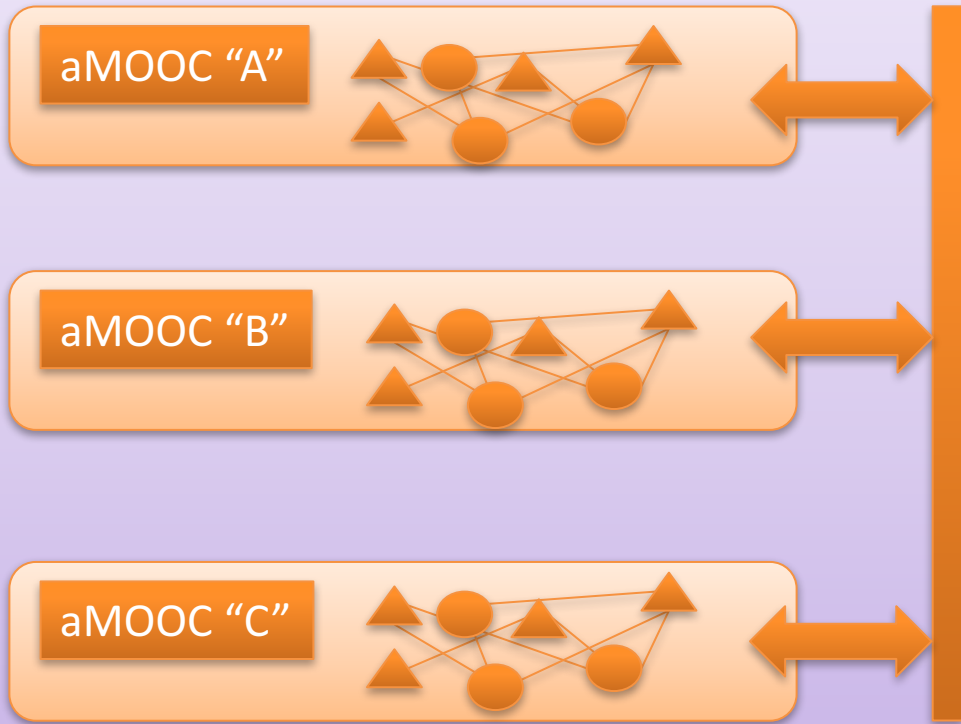
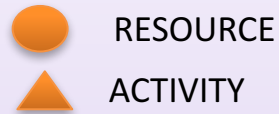
TEACHERS



Proposed model **ahMOOC** by combining two already validated models : hybrid-MOOC (hMOOC) and adaptive MOOC (aMOOC).

iMOOC

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aMOOC

"iMOOC" campus "Educational Innovation", last quarter of 2015 and the first of 2016.



4 aMOOCs interconnected throughout the virtual campus
iMOOC on “Educational Innovation”:

PFEI - Practical Fundamentals of Educational Innovation

FT - Flip Teaching

LC - Learning Communities

TWCD - TeamWork Competence Development



Number of participants, completed and surpassed in each aMOOC

aMOOC Role	Participants	Ending rate (%)	Evaluation activity
LC	203	27.09	Project making and community
TWCD	87	55.17	Forums of opinion and content sharing
FT	162	25.93	Video tuning and project making
PFEI	209	26.32	Project making
Global	661	30.26	

Q1: “In this course, I have learned things that I consider valuable”, which is representative of the **Learning dimension**.

ahMOOC\Likert	1	2	3	4
LC	1.75	1.75	31.58	64.71
TWCD	0	2.17	21.74	76.09
FT	0	0	25.58	74.42
PFEI	0	1.75	29.82	68.42

Q2: “The way of presenting the contents keeps my attention” that represents the **Enthusiasm dimension**.

ahMOOC\Likert	1	2	3	4
LC	5.26	24.56	35.09	35.09
TWCD	6.52	26.09	29.13	28.26
FT	4.65	18.6	32.56	44.19
PFEI	3.51	22.81	52.63	21.05

Q3: “The provided information by the participants in the forums has been useful to assimilate concepts” representative of the **Content dimension**

ahMOOC\Likert	1	2	3	4
LC	0	12.28	36.84	50.68
TWCD	0	10.87	30.43	58.7
FT	0	4.65	18.6	76.74
PFEI	0	10.53	43.86	45.61

Q4: “The generation of a course that fits the participant’s interests has been well designed”, for adaptivity.

ahMOOC\Likert	1	2	3	4
LC	0	8.77	24.56	66.67
TWCD	2.17	2.17	17.39	78.26
FT	0	2.33	25.58	72.09
PFEI	3.51	3.51	29.82	63.16

Q5: “Making the resources visible according to my learning pace has helped me”, which are related to **adaptivity**.

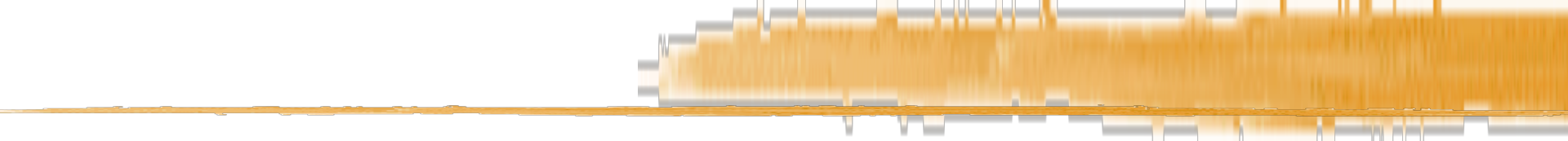
ahMOOC\Likert	1	2	3	4
LC	0	5.26	31.58	63.16
TWCD	0	2.17	39.13	58.7
FT	0	2.33	25.58	72.09
PFEI	0	7.02	26.32	66.67

Q6: “The proposed activities generate material that is useful after the course ends”, which is about the **usefulness** of the application of the proposed tasks.


ahMOOC\Likert	1	2	3	4
LC	0	8.77	29.82	61.4
TWCD	4.35	10.87	34.78	50
FT	4.65	0	25.58	69.77
PFEI	0	8.77	29.82	61.4

Conclusions

- 1- ahMOOCs continues having a **lower dropout rate** (such as hMOOC) **than xMOOCs**.
 - 2- ahMOOCs **enables heterogeneous participants to produce useful resources** (to apply in their work context and to improve the learning resources of the ahMOOCs itself).
 - 3- The **need of a knowledge management system** to classify and organize those resources has been justified.
 - 4- **Diversity** may be considered **as a positive value** for MOOCs.
 - 5- **Adaptivity in MOOCs** opens a new field of research in the technological and conceptual models.
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... MOOC can adapt the contents and navigation to the diversity of participants and participants can increase and improve the contents of the MOOC, through heterogeneous cooperation, to encourage massive learning.





Thank you very much





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