



清華大學  
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# MOOCs: Applications, Prospects And Challenges

**Program Theme: Innovating Education & Entrepreneurship For Global Digital Economy**

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# MOOC

## MASSIVE



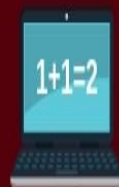
Thousands of students take course at same time.

## OPEN



Anyone can use these courses for free or low cost.

## ONLINE



Students can interact with other learners across the globe.

## COURSE



Uses the latest technology for effective learning.



LMS OF INDIA

<https://lmsfindia.com>



FOCUS ON  
SCALABILITY



FOCUS ON  
COMMUNITY  
AND CONNECTIONS

What is massive?

- 100?
- 1,000?
- 10,000?
- 100,000?

Open registration?

Local cohorts?

Self-paced?

Start/end dates?

College credits?

Badges?

Role of the instructor?

Learning community?

Scripted assessments and feedback?

Real-time interaction?

Affordable?

Free of charge?

Open content?

# M

MASSIVE

# O

OPEN

# O

ONLINE

# C

COURSE



# Top 5 MOOCs Providers Across The World

Investor

Donor

Professor

Alumni/fellow

Board member

Other

## VENTURE CAPITAL

## NONPROFIT WORLD

## MOOCs

## COMPANIES

## UNIVERSITIES

**Cathy N. Davidson**  
A professor at Duke, Davidson helped generate a 'Bill of Rights' for online students

**Digital Media and Learning Competition**  
This \$6-million (and counting) program offers grants for experiments in online badges and certification

**Bill & Melinda Gates Foundation**

**MacArthur Foundation**

**Humanities, Arts, Science, and Technology Advanced Collaboratory**  
A consortium that studies online learning

**National Science Foundation**

**Ithaka S+R**

**American Council on Education**

**Mozilla**  
The organization's Open Badges are intended to recognize skills learned in or out of the classroom, perhaps competing—someday—with standard college credit

**Harvard**

**MIT**

**Stanford**

**Anant Agarwal**

**L. Rafael Reif**

**University of Pennsylvania**

**CalTech**

**UT Austin**

**UC Berkeley**

**San Jose State**

**Google**  
In the fall of 2012, Google quietly released an open-source tool for MOOCs called Course-Builder, and has been in talks with edX and Stanford about digital learning platforms

**Pearson**  
Owner of the *Financial Times* and the Penguin Group, Pearson is a heavyweight in the education publishing and technology sector

**OpenStudy**  
Available to students in standard classes and MOOCs alike, this platform makes study groups into both a game and a social network

**Kleiner Perkins Caufield & Byers**

**New Enterprise Associates**

**Andreessen Horowitz**

**Peter Levine**

**Ann & John Doerr**

**Jonathan Grayer**  
Former chairman and CEO of Kaplan Inc.

**Philippe P. Laffont**

**STOCK**

**coursera**

**KHAN ACADEMY**

**UDACITY**

**edX**

**Sebastian Thrun is a professor**

**Andrew Ng and Daphne Koller tried to teach there**

**Andrew Ng is an alumna**






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## Different Offerings

	Max. Class Size	Brandable	Custom Analytics	Monetization	Mobile	Hosting
	300,000	✓	✓	✓	✓	Self-Hosted
	10,000	✓	✓	✓	✓	Self-Hosted or 3rd party
	Unlimited	✗	✓	✗	✓	Hosted
	Unlimited	✗	✗	✓	✓	Hosted
	Unlimited	✗	✗	✗	✓	Hosted

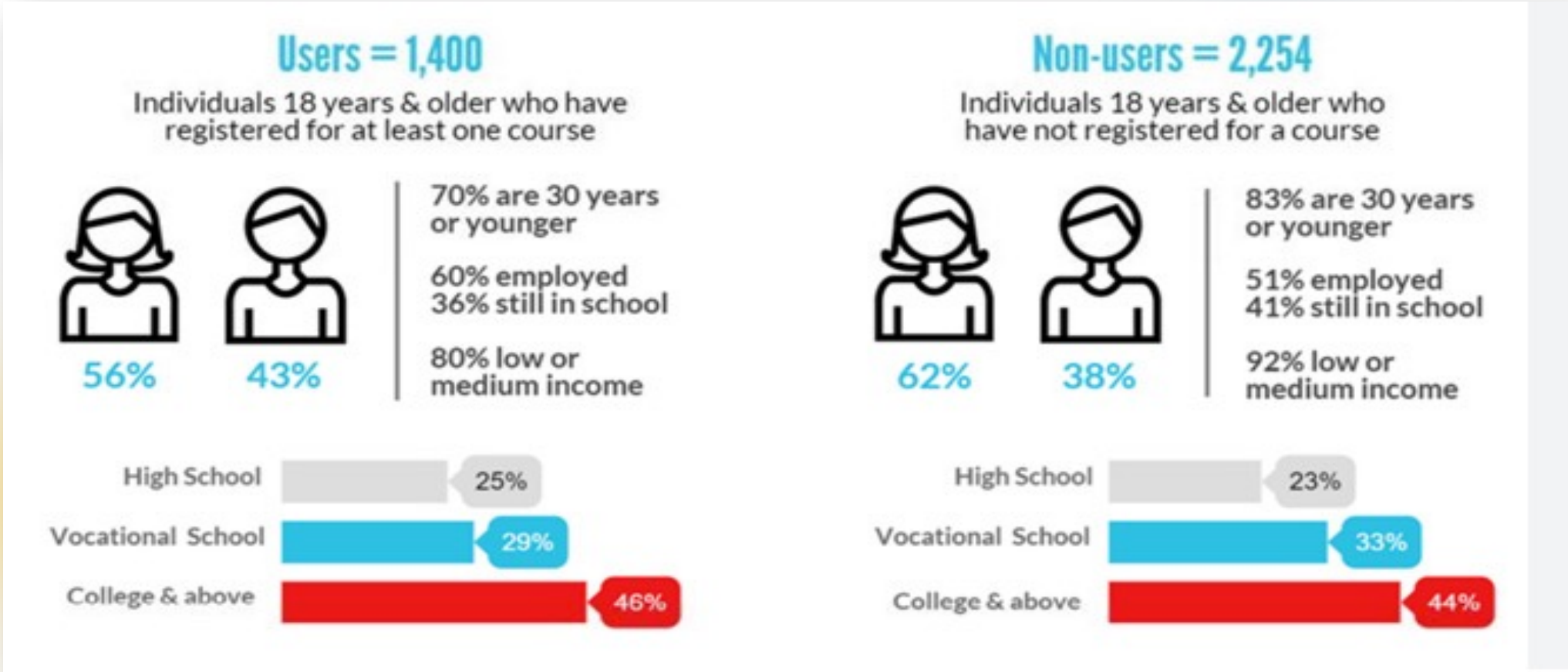


**Table 1. Comparison of typical MOOCs and online learning**

Characteristic	MOOCs		Online Learning	
	cMOOC	xMOOC	Courses	OERs
Audience size	No limit	No limit	Limited	No limit
Enrollment fees	None	None	Variable	Not applicable
Academic prerequisites	None	None	Variable	Not applicable
Cost of supplemental materials (i.e., readings)	Free	Free	Variable	Free
Instructor/facilitator	Yes	Yes	Yes	No
Timing	Synchronous	Synchronous	Synchronous	Asynchronous <sup>a</sup>
Certificate of completion	Variable	Some, often for a fee	Yes	Variable
Primary pedagogical model	Student centered, content creation	Instructor centered, content study	Interaction with instructor/subject matter expert	Self-directed learning
Individual instructor feedback	Infrequent	Infrequent	Yes	No
Evaluation	Computer/peers	Computer/peers	Instructor	Computer
Content free to modify or redistribute	Variable	Variable	No	Yes

<sup>a</sup> Also called “self-paced” or “on demand.”

# Motivation & Aim



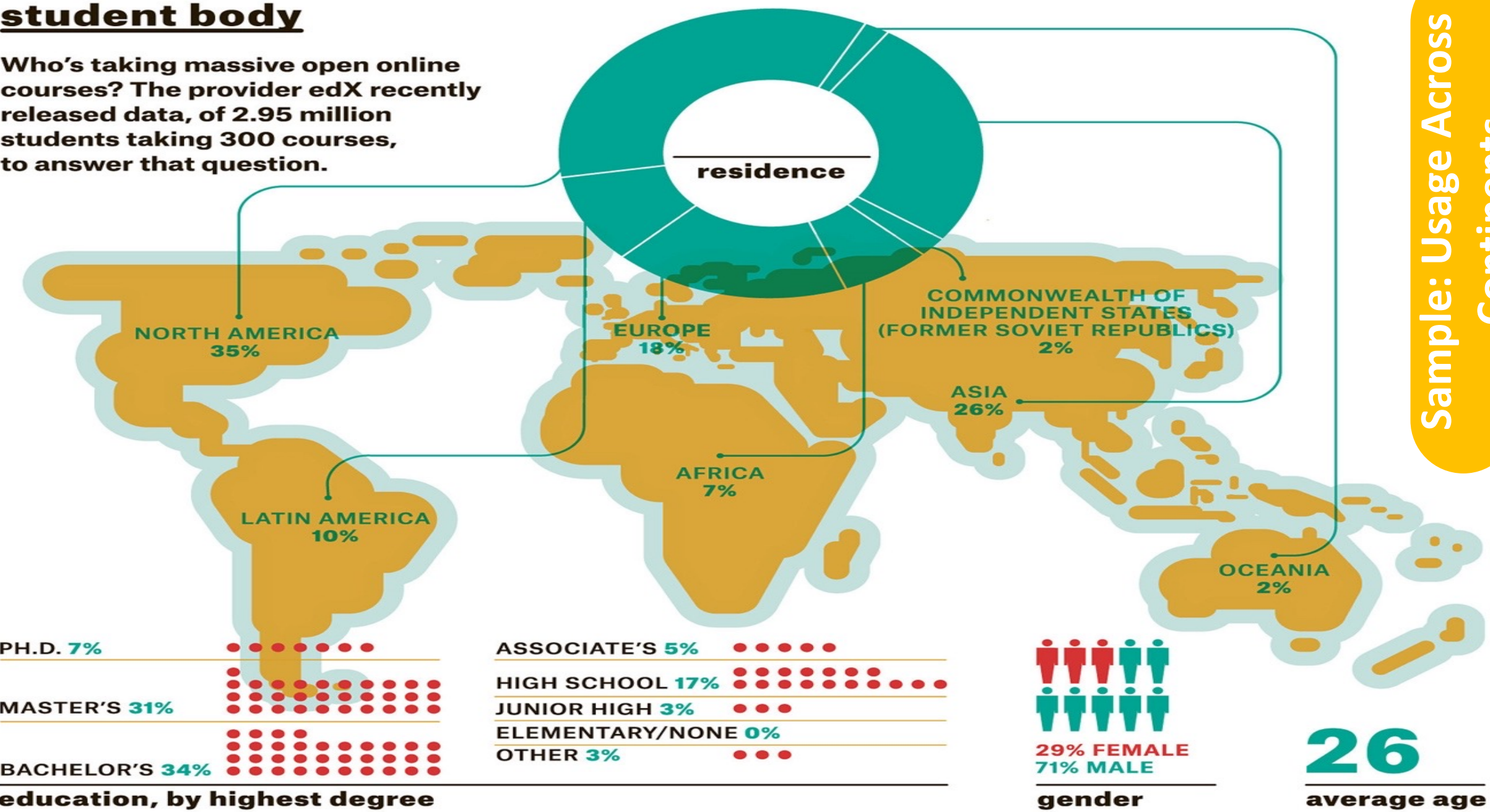
To date, the main MOOC providers in developed countries generally attract only well-educated learners, who often already have several degrees and are employed (Macleod, Haywood, Woodgate, & Alkhatnai, 2015). It has been noted that participants with limited (online) study experience tend to struggle to complete MOOCs

This report will demonstrate that the opportunities for learners in developing countries are real and achievable, but that MOOC delivery and organisation should be redesigned for that purpose.



# student body

Who's taking massive open online courses? The provider edX recently released data, of 2.95 million students taking 300 courses, to answer that question.



Sample: Usage Across Continents

## Opportunities

1. Increase the chances for education expansion
2. Offers chances for curriculum innovation and teaching reforms in universities
3. Cultivating student's active learning and learner-centered pedagogical practices
4. Realization of lifelong learning
5. Create the opportunities for course discovery across the countries
6. Understanding cultural diversity and worldwide perspective
7. The potential to reduce education costs
8. Equality in and democratisation of education

## Challenges

1. Need for teachers to acquire competence of digital instruction and technologies .
2. Limitations of the traditional evaluation system.
3. High rate of dropout compared with the high rate of enrollment.
4. Sustainable development and their intellectual property.
5. Internet access challenges, especially in African economies.
6. Language proficiency and cultural background that impact learning
7. Possible loss of native culture .







## Proposed Solutions



1. Combining MOOC methods and smaller online models might benefit developing economies in ways that each model separately cannot



2. Change the evaluations Strategy



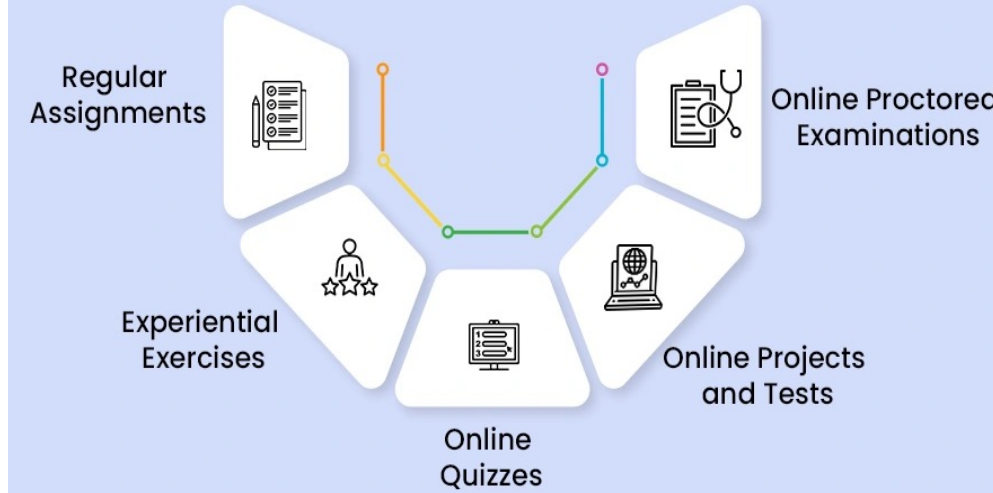
3. Instead of focusing on a single online course targeting thousands of learners, a massive replication of the same online course to smaller numbers of students, making the necessary accommodations for language, skills, and individualized feedback, may be more effective.



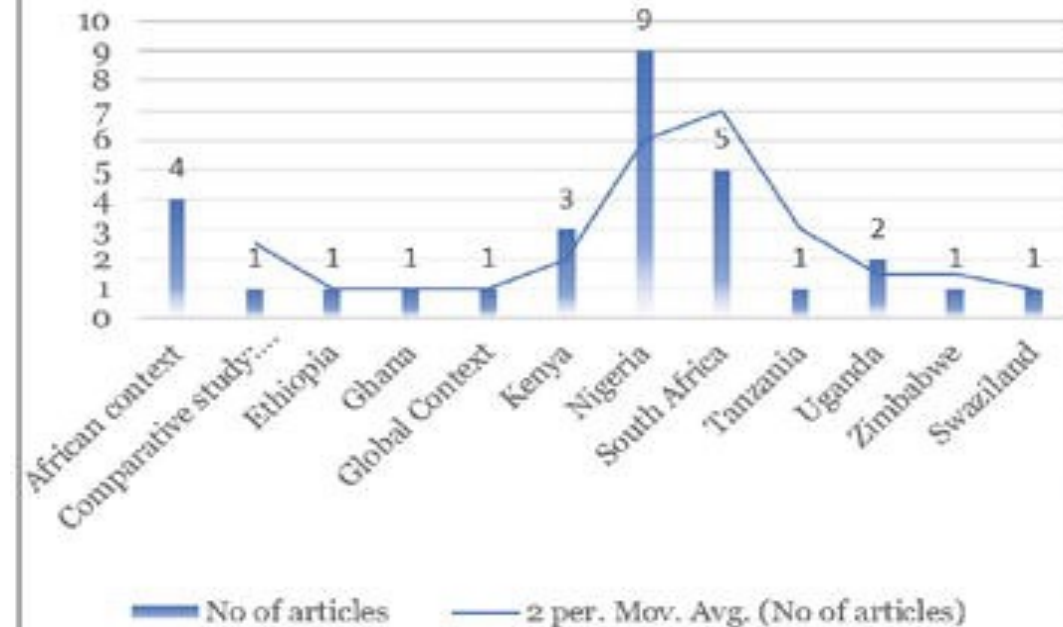
4. Accelerate research in developing nations:

It's important to evaluate the impact of MOOCs in developing nations to ensure that they are meeting the needs of learners and contributing to positive outcomes.

## How to Evaluate Learning in the Online Mode?



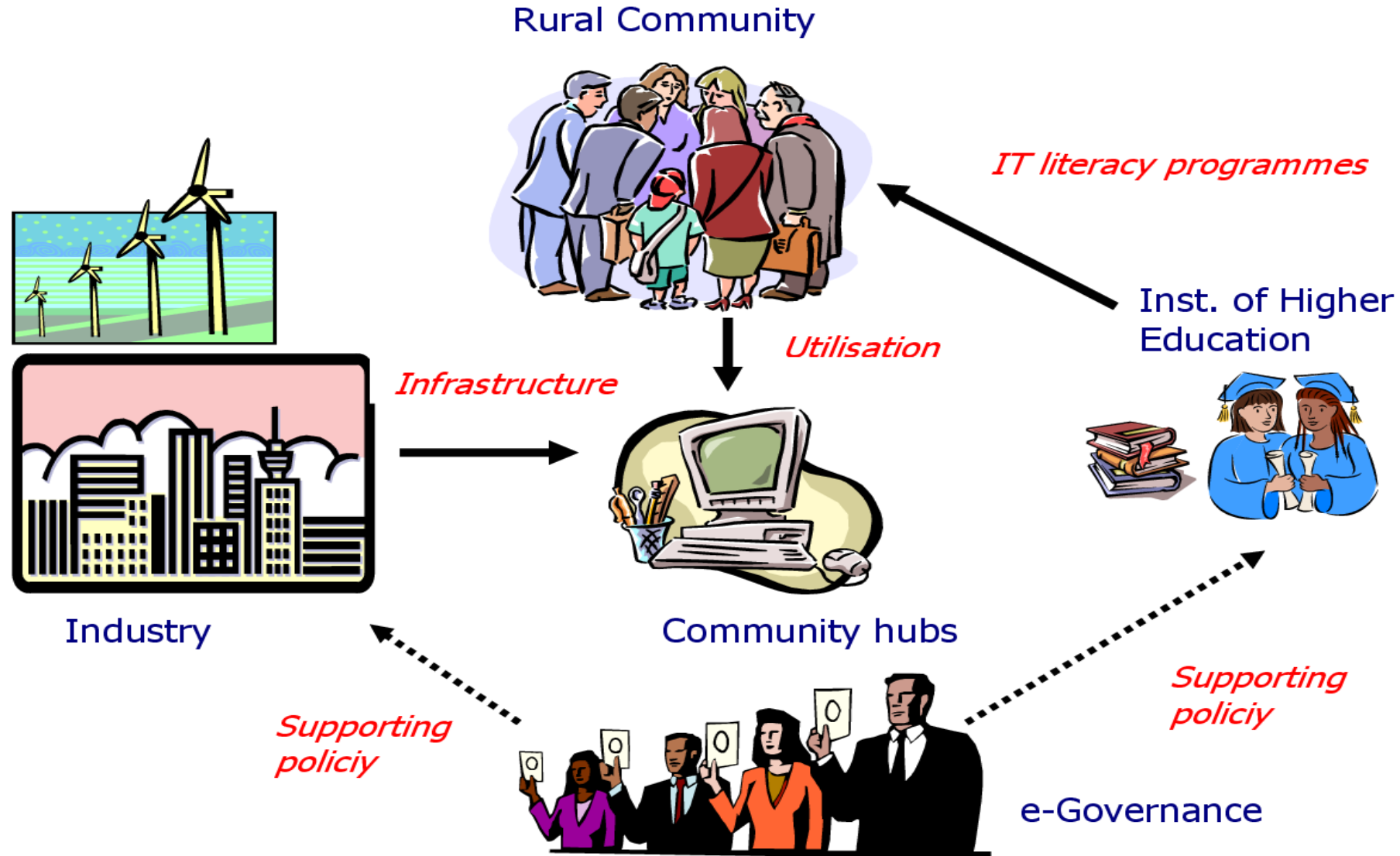
## MOOCS contexts production trends in SSA





# Bridge the digital divide gap

## Proposed Solutions

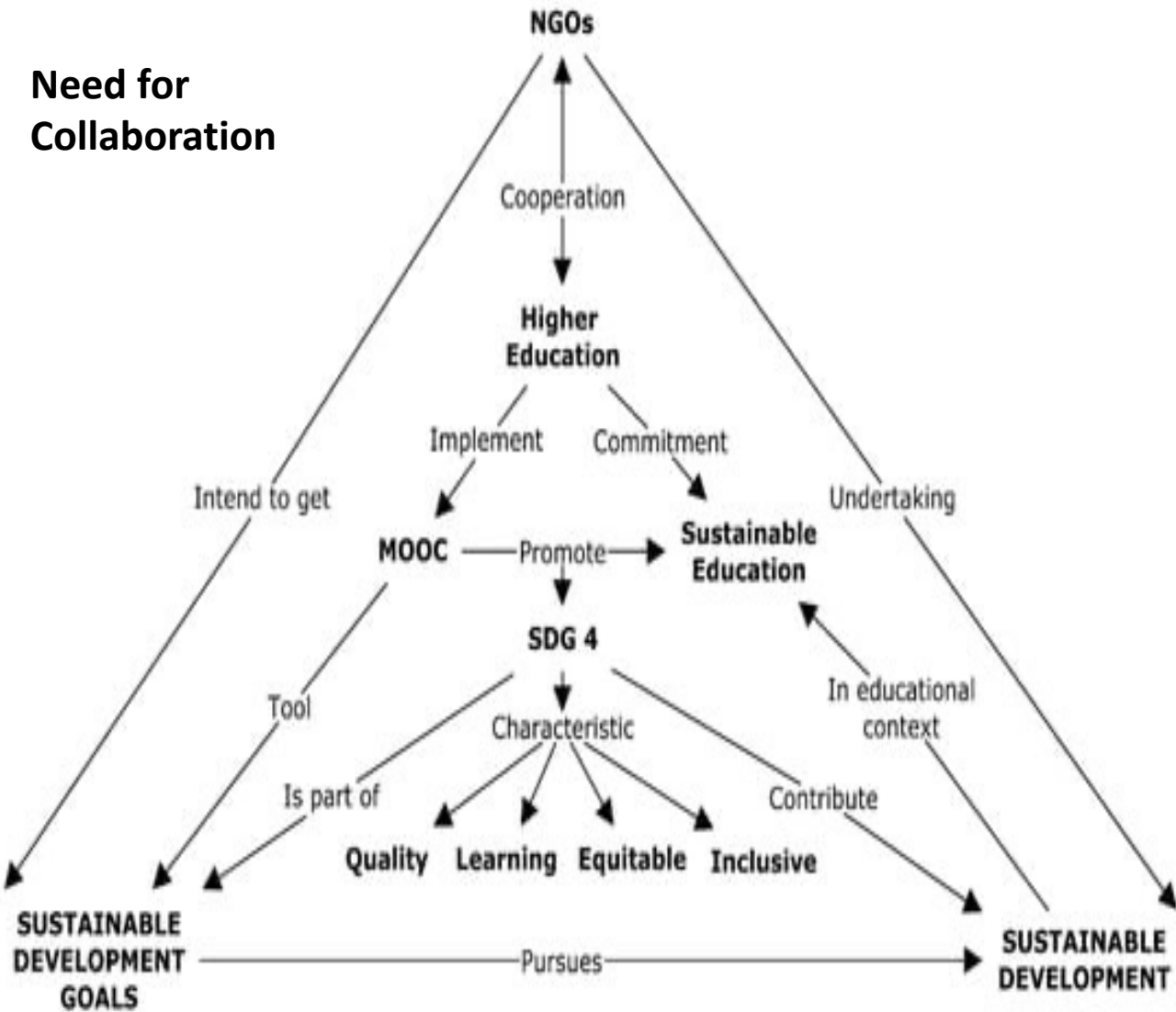


-Libraries as information dissemination institutions should play a role in raising awareness about MOOCs and internet access points

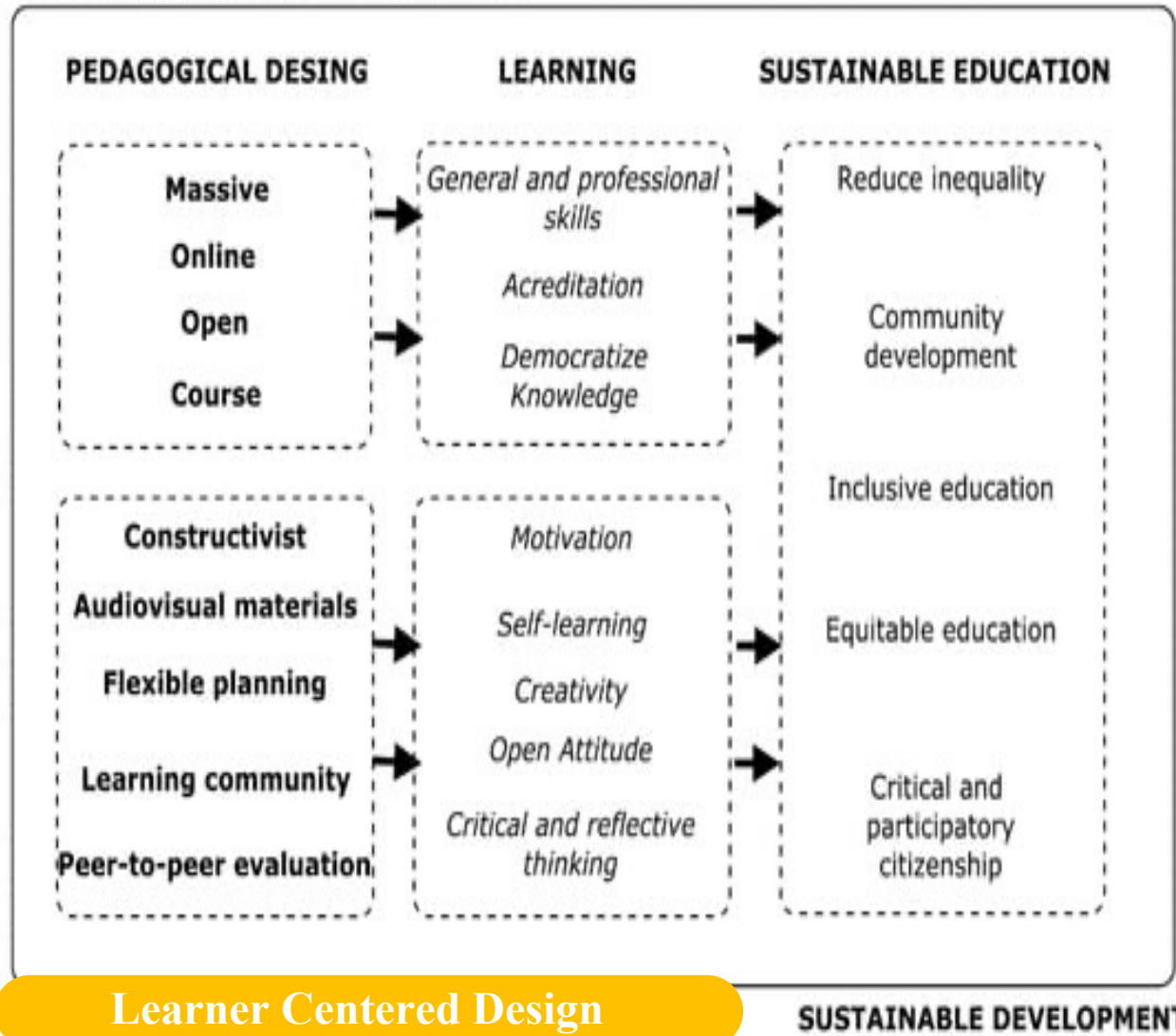
# MOOC pedagogical design to promote sustainable development

Proposed Solutions

Need for Collaboration



## SUSTAINABLE DEVELOPMENT GOALS 4







# Collaboration between HIEs to build Labs that integrate High Tech

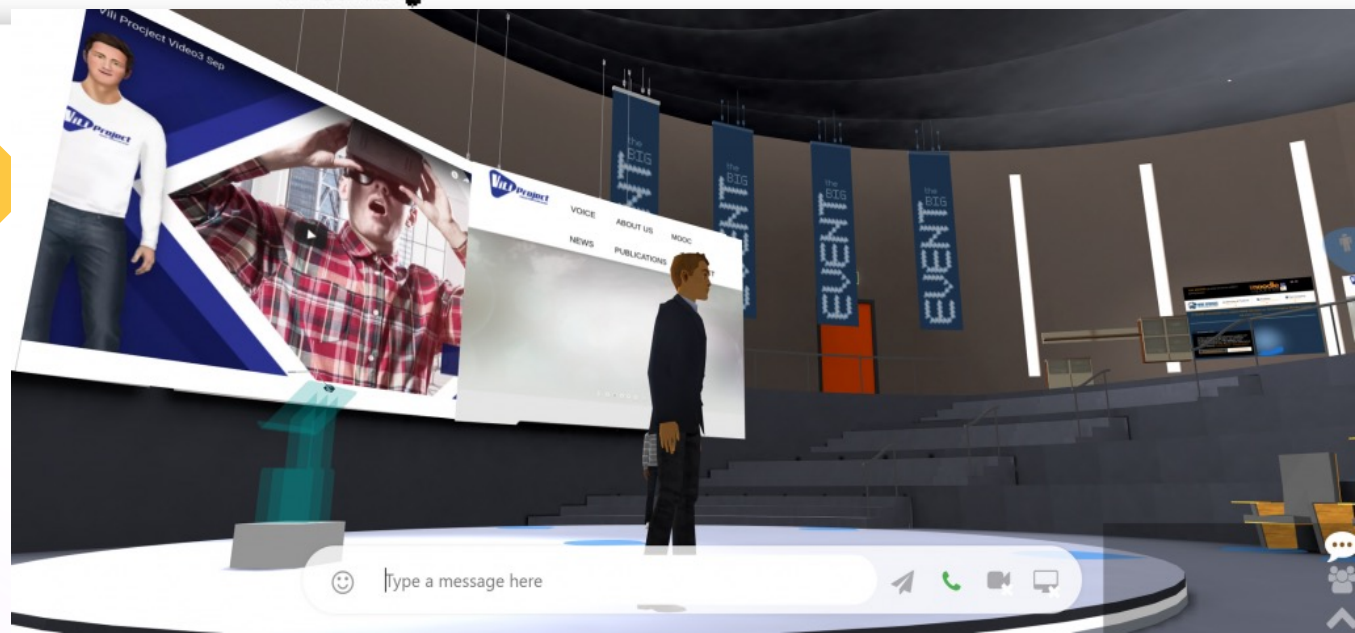
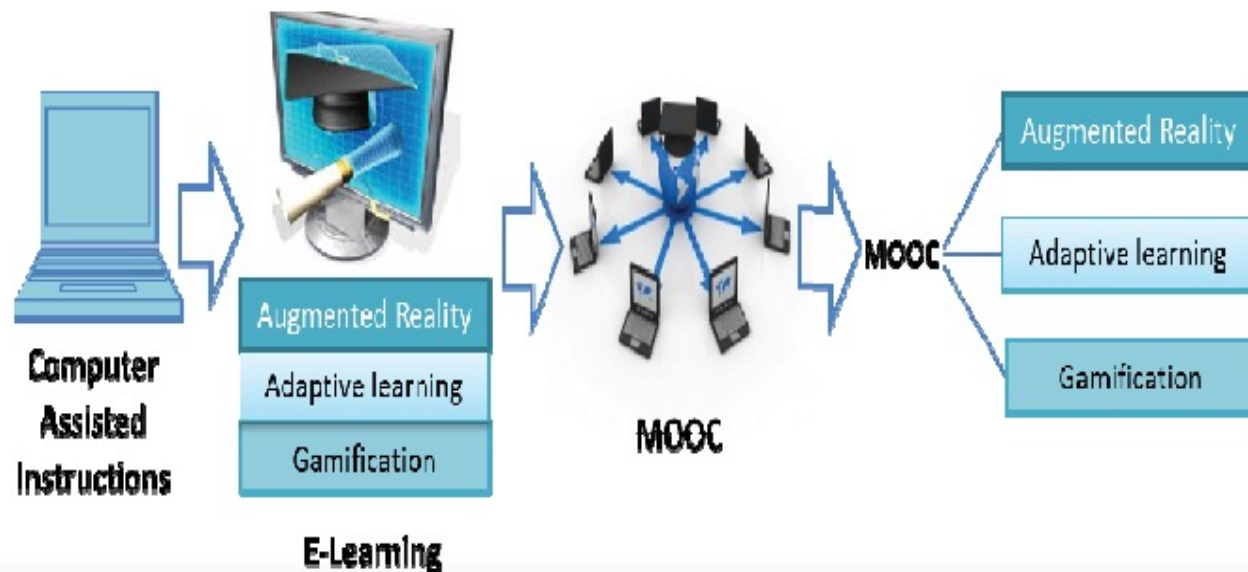
**Problem:** The pedagogy of many MOOCs, resembling common lecture hall teaching, is poor.

-Conservative techniques of content presentation (fixed video, audio, scripts) lack personalization and interaction.

-Lack of Funds.

**Solution:** the transformation of education: Computer Assisted Instruction, E-Learning, Traditional MOOC, and Enhanced MOOC.

Proposed Solutions





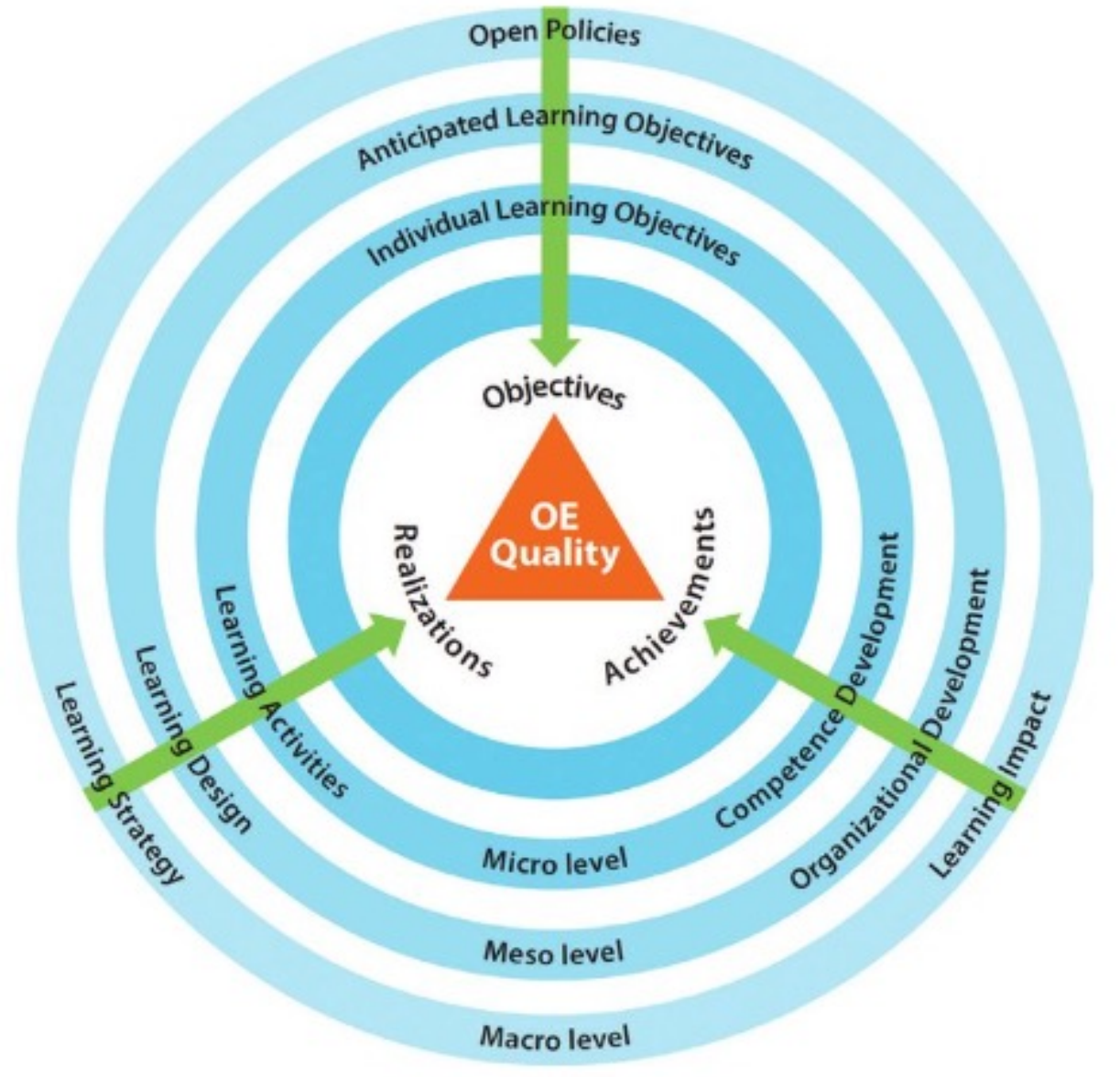
# Build Context Specific Quality Assurance Frameworks

**Problems:** Most MOOCs have a low completion rate. Taking completion rate as a measure for the quality of a MOOC has been criticized (e.g., Jordan, 2015); completion rate should be connected to learners' intentions, and not all learners intend to finish a MOOC

-In reality, access seems mainly limited to a specific category of learners.

A quality assurance framework is a critical component for a national MOOC strategy; yet such a framework does not yet exist for MOOCs, as they are a very recent development.

**Solution**



**Proposed Solutions**





## Proposed Solutions

### ***MOOC Implementation Activities for Developing Countries***

Item	Activity	Responsibility
1	MOOC curriculum development and accreditation	Contracted academics from public universities coordinated by national MOOC secretariat
2	Development of an online and offline eLearning platform for MOOC delivery	Contracted local firm coordinated by national MOOC secretariat
3	Development of electronic content corresponding with MOOC curriculum	Contracted academics from public universities coordinated by national MOOC secretariat
4	Formation of MOOC coordination units at HEIs	HEIs with funding from Education Ministry
5	Creation of MOOC access hubs at strategic regional centres	National MOOC secretariat with funding from government



# Thank you for listening

MOOCs can contribute to SDG 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.