ASEM LLL Hub meeting: 'Self-learning in a digital era' Delhi, India, 2-4 November 2015

# Quality Assurance of MOOC

Tsuneo Yamada
The Open University of Japan (OUJ)



# WHAT IS "MOOC"? - NOMINAL DEFINITION

## MOOC

Not scalable LMS, But a total solution to realize Openness and Quality Assurance at once in sustainable way using IT and Big Data Science

# "MOOC" HAS BEEN OVER? "POST MOOC" ERA?

# Regional MOOCs

- OpenupEd (EU) + UNESCO supports African MOOC
- Asian MOOC Consortia
  - JMOOC (November, 2013)
  - \* ThaiMOOC, CMOOC, KMOOC, Indonesia MOOC(2014)....
  - AAOU launched a feasibility study taskeforce (2014 @ Hong Kong)
- A variety of MOOCs

# MOOCs Growth Stages (Yamada, 2013)

Stage	Impact on Higher/Tertiary Education	Indicator (for example, Dropout Rate)
1	A new type of quality OER Still Limited	80-90% and higher
2		the same as the rate of correspondence courses and lower
3		the same as the rate of traditional universities Face- to-Face/blended courses and lower plus course accreditation system by trusted third parties

# More complicated

# Our view 1: the nature

"MOOC" is an aspect / a phenotype of the next-generation ICT-enhanced learning /education system for humans toward the next singularity. Depending on ICT environments and learners' readiness, the system(s) reorganizes the elements, architecture (structure) and functions in adaptive and scalable ways "Paradigm EX", tentatively).

# MOOC PHENOMENA IN JAPAN

# Univ. of Tokyo joined Coursera, February 2013



# Kyoto Univ. joined EdX(X Consortium), May 2013





HOW IT WORKS COURSES SCHOOLS REGISTER NOW

トピックス

アフリカはいま 橋下氏発言の波紋

南海トラフ地震

石田記者のページ、公開中

CREATING BETTER SOLUTIONS

for their campus and the world

ニュース > 社会 > 記事

2013年5月22日15時4

The colleges and universities that comprise the edit consortium are among the best in the world. They are dedicated to quality education both on carryos and ordine. EdX is femored they have chosen to become part of the retistive by opening their virtual doors to the world.

#### ★サイート 〈64











₩ メール

#### 京大、無料オンライン講座参入 教育レベルを世界にPR

【佐藤剛志、金成隆一】 京都大学(は21日、 米マサチューセッツ工科大(MIT)とハーバー 大が設立した 非営利 の教育機関エデックス 日本經濟新聞

Web⊞

ビジネスリーダー マーケット

トップ : 特集 : コラム : 読者アンケート : 紙面連動

京大、講義を無料配信へ ネット教育機能 2013/5/21 22:05

京都大は21日、米ハーバード大や米マサチューセッ が講義をインターネットで無料配信する非営利の教育 したと発表した。





## HARVARD

**TU**Delft



Berkeley





Australian National University





























UNIVERSITY of WASHINGTON

京大によると、人気のある講義には世界中から十数万八か夏採りることものる。文誦有の中から 優秀な人材を大学に呼び込むことで研究開発競争に打ち勝ち、トップ大と競い合うことで教育の質 を向上させるのが狙い。



エデックス参入の意義などについて会見で語る松( 本紘総長(左)と上杉志成教授=京都市左京区の 京都大学

# J MOOC Establishment (October, 2013)



受講登録

修了証発行

ニュース お問い合わせ 必要なのは あなたのやる気。いつでも どこでも 学べます。 無料で修了証が取得できる大学講座 盟議議座一覧より学びたい講座を選択。 2014年02月 【プレスリリース】日本初の大規模公開オンライン講座 (MOOC) サイト「gacco (ガッコ)」を開設 該当講座を提供するJMOOC公認プラット フォームにて、会員登録の上、受講登録。 2014年01月 イベント・シンポジウム告知 開講時期になりましたら、受講スタート。ビ 2月3日(月)JMOOC新春講演会「オープン教育の未来を拓》 デオ講義問覧、質問・議論、課題提出。 く日本発MOOCの展開|予約受付開始 修了条件を満たすと修了証が取得できます 2013年12月 お知らせ

ボランティア募集のご案内

English

http://www.jmooc.jp/

## Our view 2: the historical roles

"MOOC" is a catalyst of the nextgeneration ICT-enhanced learning /education system(s), which is applicable to developing areas and late-majority (judicious!) institutions.

"MOOC" is the common test-beds for late-majority/adopters.

## Multiple Platforms



- NTT Docomo Platform "Gacco" (62 courses)
  - edX-based
  - Video Lecture
  - From April 2014
- OUJ-TIES Platform (3 courses)
  - Multimedia e-textbook (iBOOK/epub 3.)+LMS
  - Video Lecture/CAI/SNS
  - From April 2014
- Net-Learning Platform "Open Learning" (13 courses)
  - Domestic Integrated Learning Support Platform
  - From October 2014

### Number of JMOOC courses



	OUJ- TIES	Gacco (Open- edX based)	Open Learning (Japanese domestic)
Course running	0	9 (4)	0
Registration Open	1*	15 (8)	1 (1)
In preparation	1*	2	3
Over	3 (1)	36 (18)	9 (4)
Total	3 (1)	62 (30)	13 (5)

Numbers in parentheses: courses w/flipped class

Asterisks: Repeat class w/same content

# OUJ-MOOC THE MEANING FOR AN OPEN U

# Thoughts

- 1) Does MOOC have potentiality which exceeds OU's education in the quality? Maybe, currently, it is not a threat, but, in the future, the trend will change, for example,
- 2) If personalization will be the main stream of the future education, what should prepare for?

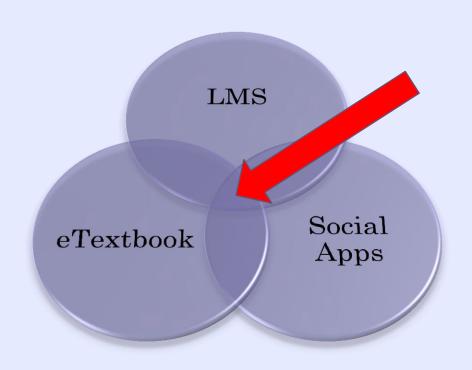
# QUALITY OF MOOC: OUR VIEW

# Quality Level

- Quality of Content
  - Textbook / Course materials/
- Quality of Course
  - Curriculum / Learner support
     (Customization) / Instructor
- Quality of Certificate
  - Accrediting entity / Credit transferability
- Quality of Provider

# **QUALITY OF CONTENT**

# OUJ MOOC Platform: Concept



+ Big DATA Collection & Learning Metrics and Analytics

## OUJ MOOC Platform

- Adaptive/multimedia e-textbook
  - iBook/ePub3.0 (Powered by TIES / Chilo Book)
- Backend LMS
  - Moodle
- SNS
  - Facebook/YouTube/Mozilla Open Badge/(Twitter)/(Evernote)
- Big Data Collector/Learning Analytics
  - More time (will be based on IMS Caliper)

### **Architecture**

#### **OUJ MOOC Portal**



http://dev.chilos.jp

## MASHUP

#### Download CHiLO Books for free







eBook version

Web version

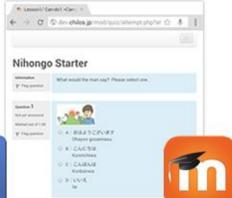




#### Learning Community



#### Quizzes & Exercises



#### Mozilla Open Badges



# **QUALITY OF COURSE**

# 提供コース Initial Courses

	Course	Lecturer	Features
コンピュータのレくか-Vol1- ディジタルとは Back 用版子 放送大学	Computer System: A premier (Japanese)	OUJ President Yoichi Okabe	Regular Course (15 lessons, full asynchronous) Based on OUJ TV regular course
NIHONGO STARTER 1 LESSON Konnichiva CALIS III	NIHONGO STARTER A1 (English)	OUJ+JF Project Team (PI: Tsuneo Yamada, OUJ)	Short Course (10 lessons, 2 lessons/week, 5 weeks) CEFR oriented, competency-based
でしている。 は少なでの利用コットフーフリ 頭 コ イングーオットの理点とグトの取出 ver.2.1	Information Network for Beginners 1	Shinji Hioki (Tezukayama Univ)	Short Course (7 lessons, full asynchronous) w/ flipped classroom on site (admission fee needed)

- √ {Mulitimedia e-textbook+LMS) } +SNS
- ✓ Released in April 2014



# JAPANESE LANGUAGE STARTER A1 LEVEL

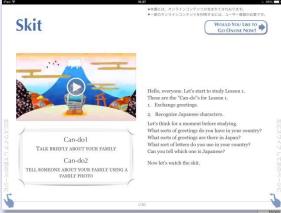
# 講座の構成 Course Plan

10 Leggens 27 Can dea			
10 Lessons	27 Can-dos		
1) Hello Konnichiwa	Exchange greetings     Recognise Japanese characters		
Would you say that again?     Moo ichido onegaishimasu	Use basic classroom expressions     Write your name and country in Japanese		
Nice to meet you.     Doozo yoroshiku	5) Give a simple self-introduction 6) Recognise the parts of a business card		
4) There are three people in my family Kazoku wa san-nin desu	7) Talk briefly about your family 8) Tell someone about your family, using a family photo		
5) What kind of food do you like? Nani ga suki desu ka	9) Talk about your favorite foods 10) Offer someone a drink 11) Talk about your breakfast		
6) Where are you going to have lunch today?  Doko de tabemasu ka	12) Say what your favorite dish is 13) Talk with a friend about where to go for lunch 14) Read a menu 15) Order food and drinks at a hamburger shop		
7) There are three rooms in my home. Heya ga mittsu arimasu	16) Say what kind of home you live in 17) Say what you have in your home 18) Write an e-mail inviting someone to your home		
8) It's a nice room. Ii heya desu ne	19) Ask/Say where to put things in the room 20) Visit / Welcome a friend 21) Show someone around your home 22) Recognise the name and address on signs		
9) What time do you get up? Nan-ji ni okimasu ka	23) Say the time you do something 24) Talk about your daily routine		
10) When is convenient for you? Itsu ga ii desu ka	25) Talk about your schedule for this week 26) Talk about when to have a party 27) Write a birthday card		

### Multimedia e-textbook

#### Index Skit Let's Watch the Skit! Can-doXX: XXXXXXX **Explanation** Exercise Can-do Practice Can-do Challenge Can-do Check Learn More Language and Culture 資料 **English Script** Romaji Script Kana Script **Instruction Manual** Feature of This Book Characters **Author & Copyright** Copyright

#### iBooks版



#### Skit

Can-do1 Exchange Greetings

Can-do2 Recognise Japanese Characters



), everyone. Let's start to study Lesson 1. These are the -dos" for Lesson 1.

change greetings. cognise Japanese characters.

think for a moment before studying.

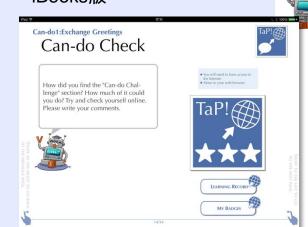
t sorts of greetings do you have in your country? What of greetings are there in Japan? What sort of letters do you use in your country?

Can you tell which one is Japanese?

Now let's watch the skit.

ePub版

#### iBooks版







How did you find the "Can-do Challenge' section? How much of it could you do? Try and check yourself online. Please write your comments.











# Our Lecturer

# QUALITY OF CERTIFICATE

# Digital Badge

- Mozilla Open Badge
- OUJ-MOOC Badge System
- 1)In each of 10 lessons
  - 70% and higher of quiz AND
  - 2 stars and more of self-evaluation
  - get "SMALL" Badge
- 2)Collect 10 Badges

get "Big" Badge



(equivalent to Certificate)

## Certificate

ISSUE NUMBER 0123456789

#### NIHONGO STARTER

#### A CERTIFICATE OF COMPLETION

This is to certify that

# TARO HOSO

Tokyo, Japan

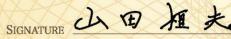
has finished NIHONGO STARTER A1 PART 1 of OUJ-MOOC

under the auspices of

Japan Massive Open Online Course (JMOOC)

Tsuneo YAMADA

Professor, the Open University of Japan







DATE

September 30th, 2014

# Reflection: QA in JMOOC

Level	Indicator	Evaluation
Content (Textbook, Course materials /packs)	N of Download Cost	Good NG
Course (Curriculum, Learner support (Customization), virtual Instructor /TA)	Competency model Interaction in SNS Personalization Number	Good NG Not yet Not automated
Certificate (Accrediting entity, Credit transferability)	Awarded by Lecturer Not official	Primitive
Provider	Certified by JMOOC	limited

Probably: Learning opportunities, Not yet: Learning processes

# Community Responses: Facebook "Like" Countries (as of August 7, 2015)

Country	Fans
Mexico	1,262
Japan	684
Colombia	443
Cambodia	437
Panama	395
Venezuela	233
Argentina	223
Brazil	222
Philippines	205
Vietnam	201
Serbia	200
Indonesia	183
Egypt	164
United States of America	161
Spain	148

Country	Fans
Thailand	121
India	109
Bulgaria	92
Croatia	90
Saudi Arabia	83
Singapore	82
Lithuania	75
Chile	71
Nepal	70
Ireland	69
Malaysia	62
Australia	57
Canada	55
Kenya	55
United Kingdom	50
Turkey	45
Lebanon	41
Uruguay	37
Myanmar	36
Taiwan	36

# Community Responses: Facebook "Like" Languages (as of August 7, 2015)

Country	Fans
English (US)	2,391
Spanish	2,017
English (UK)	685
Japanese	502
Spanish (Spain)	440
Portuguese (Brazil)	198
Vietnamese	128
Indonesian	113
Arabic	90
French (France)	87
Russian	75
Serbian	64
Thai	58
Bulgarian	53
ja_KS	48

Country	Fans
Lithuanian	44
Turkish	39
Croatian	34
Italian	27
Simplified Chinese (China)	26
Traditional Chinese (Taiwan)	25
Polish	19
Spanish (Colombia)	17
German	16
French (Canada)	13
Slovak	9
Korean	9
Portuguese (Portugal)	9
Hebrew	8
Dutch	8
Catalan	8
Norwegian (Bokmal)	8
Hungarian	7
English (Pirate)	7
Mongolian	6

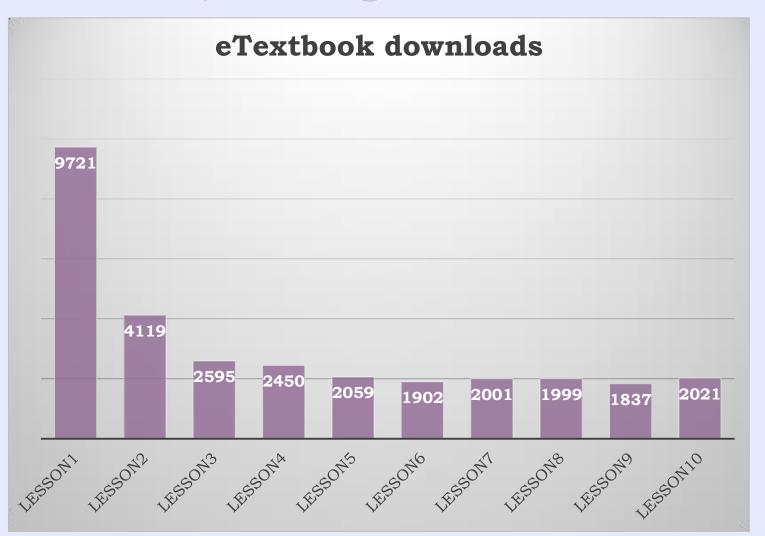
# Number of Registrants/Graduates

CLS	Period	Pace-making	No. of Registrants [Moodle/Faceb ook]	No. of Certificate holders ("Big Badge holders)	
1	14 <sup>th</sup> Apr- 18 <sup>th</sup> May	2 lessons /wk	-/467		
2	2 <sup>nd</sup> Jun – 7 <sup>th</sup> Jul	2 lessons /wk	-/882		
3	4 <sup>th</sup> Aug –15 <sup>th</sup> Oct	Self-paced	-/1475	159	
4	3 <sup>rd</sup> Nov- 23 <sup>rd</sup> Dec	2 lessons /wk	353/249		
5	12 Jan – 23 Mar 2015	1 lesson / wk	120/96		
6	11 Jun -15 Jul 2015	2 lessons /wk	200/0		
		Total	673/3169		

The numbers of actual unique registrants in each lesson and "Big Badge" holders (As of August 7, 2015, Class 1-6)



### The numbers of e-textbook chapter downloads (As of August 7, 2015, Class 1-6)



Diversity of Learners (w/limited staffs)
Customization and Personalization
Control of quality by machine-assistance

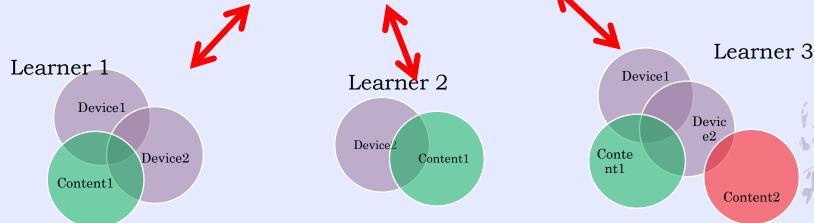
#### **COMING NEXT**

#### Joint MOOC

- Personalization
- Localization
- Contextualization
- Interoperability

- User-specific
- Context-specific
- Purpose/Goal Dependent

Cloud Computing + Big Data Analysis



### NEW sharable elements

Multi-devices/ Multi-platform (LMS, mobile, e-book)	MOOC platform (Multimedia e-book & LMS, SNS, OSS)
Customization /Personalization	Materials Repository
Mash-up	API (Application Programming Interface) Store
Optimization	Big data and Learning Metrics/Analytics
New Standards	EDUPUB, IMS/Caliper ADL/experience APIs

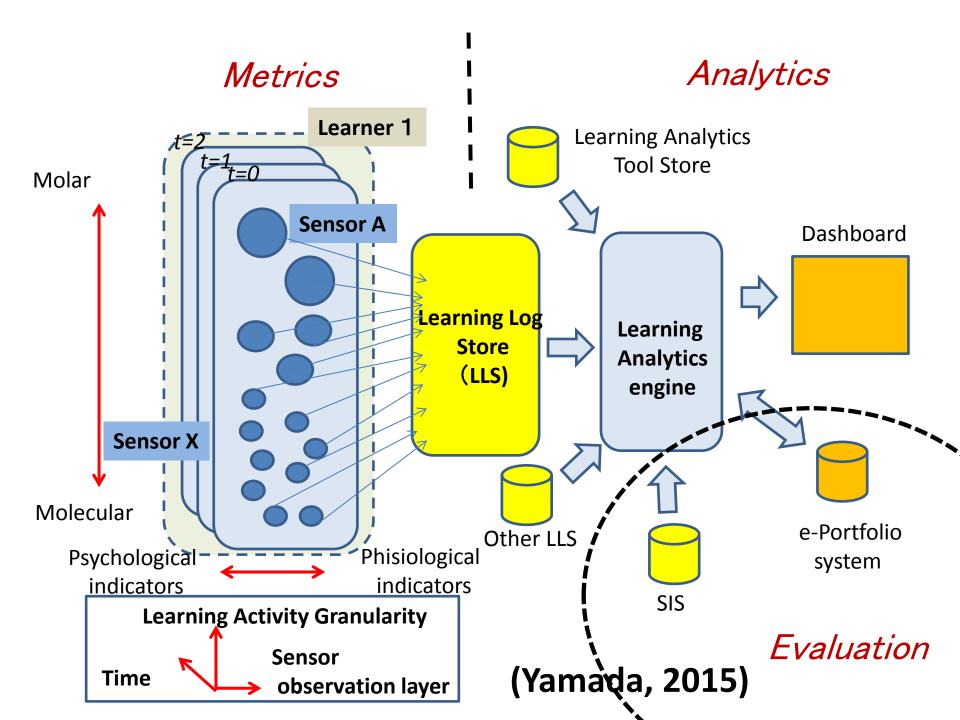
Content Application

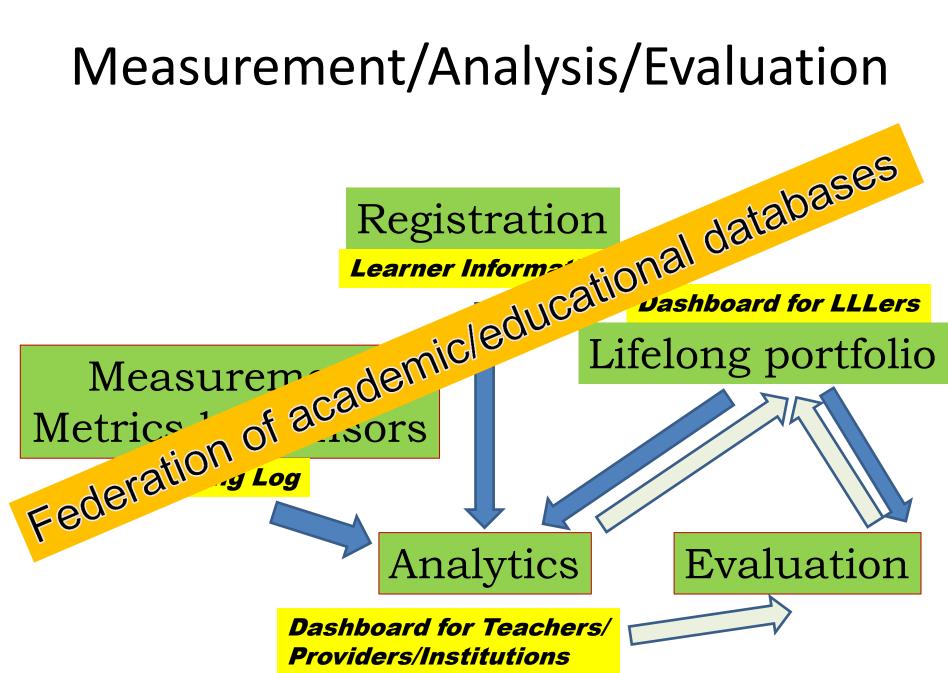
Data

## LEARNING METRICS AND ANALYTICS

## OUJ MOOC: Learning Data and Analytics

- "Big Data" Database and the Federation
- Toward to a Compliant of some International Standards
   e.g. IMS Caliper Analytics/ ADL xAPI
- Description of multi-layer learning processes
  - Population/Individual/Mental Function /Sensory-Motor/Brain Activity!!





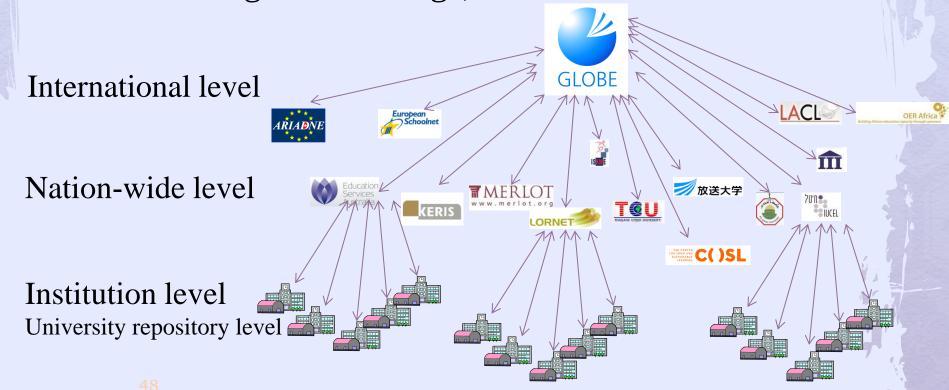
## "MATERIALS" REPOSITORY

## Metadata elements used in "JOCW Search"

No.	Name	Corresponding element to IEEE 1484.12.1-2002
1.	ID of the metadata	3.1 Meta-Metadata - Identifier
2.	ID of the LO <sup>1</sup>	1.1 General - Identifier
3.	Title	1.2 General - Title
4.	Language(s) used within the LO	1.3 General - Language
5.	Description	1.4 General - Description
6.	Keyword(s)	1.5 General - Keyword
7.	Aggregation level	1.8 General - Aggregation Level
8.	Contributor to the LO	2.3 Life Cycle - Contribute
9.	Language of the metadata	3.4 Meta-Metadata - Language
10.	MIME media types of the LO	4.1 Technical - Format
11.	URL	4.3 Technical - Location
12.	Technical requirements to use the	4.4 Technical - Requirement
	LO	
13.	Educational stages <sup>2</sup>	5.6 Educational - Context
14.	Intended learning time	5.9 Educational - Typical Learning Time
15.	Intended user of the LO	5.10 Educational - Description
16.	Paid-for or free	6.1 Rights - Cost
17.	Restriction of usage	6.3 Rights - Description
18.	Classification <sup>3</sup>	9. Classification
19.	Copyright <sup>4</sup>	-
20.	Quality <sup>5</sup>	-
21.	Permission to Harvesting	- (for GLOBE Harvesting)
22.	Permission to Federated Search	- (for GLOBE Federated search)

## GLOBE: An international consortium for reuse and sharing

- Cross-Institutional search system of quality learning content and information beyond borders
- Exchange and Sharing of METADATA
- Federated search and Harvesting
- Movement of global coverage, all school level



### **Global Learning Object Brokered Exchange (GLOBE)**



September, 2004







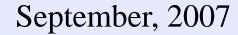
Australia







February, 2007











April, 2008

September, 2008

KERIS



April, 2013

March, 2009







February, 2010

October, 2010





### Thank you very much!!

# Contact Information tsyamada@ouj.ac.jp

#### Please Join us!





**Nihongo Starter avatar faculty** 

#### **Portal**

https://www.facebook.com/nihongostarter/

#### Registration

http://dev.chilos.jp/login/index.php

https://www.facebook.com/groups/nihongostarter6/