

*World CALL 08  
August 5-8, 2008  
Fukuoka, Japan*

# Nation-wide and global services for sharing quality lifelong learning content in Japan

*Center of ICT and Distance Education  
(CODE),*

*The Open University of Japan (OUJ)*

*Tsuneo YAMADA*



# Introduction: NIME and OUJ-CODE

1978

founded for the establishment of *Univ. of the Air (currently, OUJ)* as a governmental institute.

2004

*NIME* was reorganized as an “*Independent Administrative Institution*” to realize government policies as the National Core Institution for the educational use of ICT in HE.

April 2009

(By the decision by the Cabinet meeting), closed and the main support functions were moved to *OUJ-CODE*.

# CODE's Missions

As an institute of OUJ (as a NC for LLL),

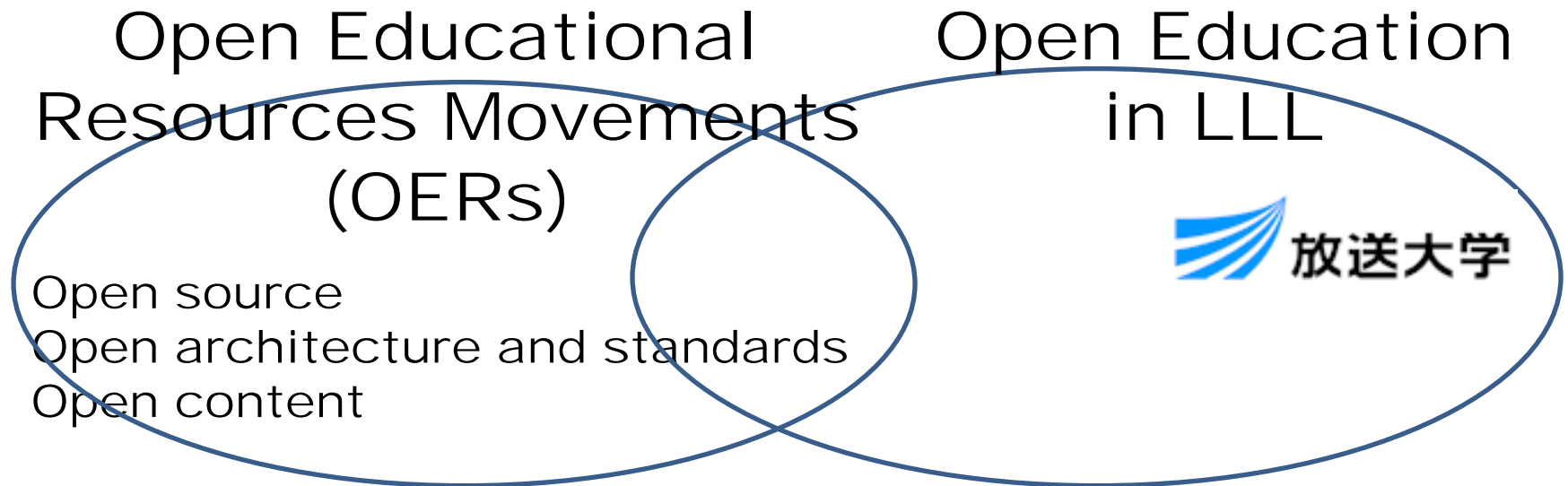
- ◆ Faculty member
- ◆ Research institute for innovation of learning
- ◆ ICT-related functions support center

As continued operations from NIME,

- ◆ Facilitation of ICT-enhanced education in Japanese HE
- ◆ International / domestic survey for Government
- ◆ Facilitation of Internationalization and International Collaboration in Japanese HE

# Openness and LLL

Accumulation and utilization of quality learning resources is a key factor for sustainable LLL. To realize the “open access”, some social agreements and infrastructure are necessary.



Global/domestic infrastructure for sharing and reuse of open/proprietary content

# The present situation

- Although the quality issue is still remained, the huge number of learning content is accumulated in the repositories all over the world.
  - e.g. OER movements
- In addition to open content, the delivery of proprietary learning objects are now focused and more complicated access control is required.

Users have to visit many sites and compare information among pages.

.: AVU Home



The African Virtual University  
Université Virtuelle Africaine  
Universidade Virtual Africana

# OER Movements



**JOCW**  
JAPAN OCW CONSORTIUM



International Institute for Educational Planning

INTERNET DISCUSSION FORUM  
**OPEN EDUCATIONAL RESOURCES**

24 October – 2 December 2005

**THE WILLIAM AND FLORA HEWLETT FOUNDATION**

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OPEN EDUCATIONAL RESOURCES

Open Educational Resources (OER) – Making High Quality Educational Content and Tools Freely Available on the Web



Open Content Initiative

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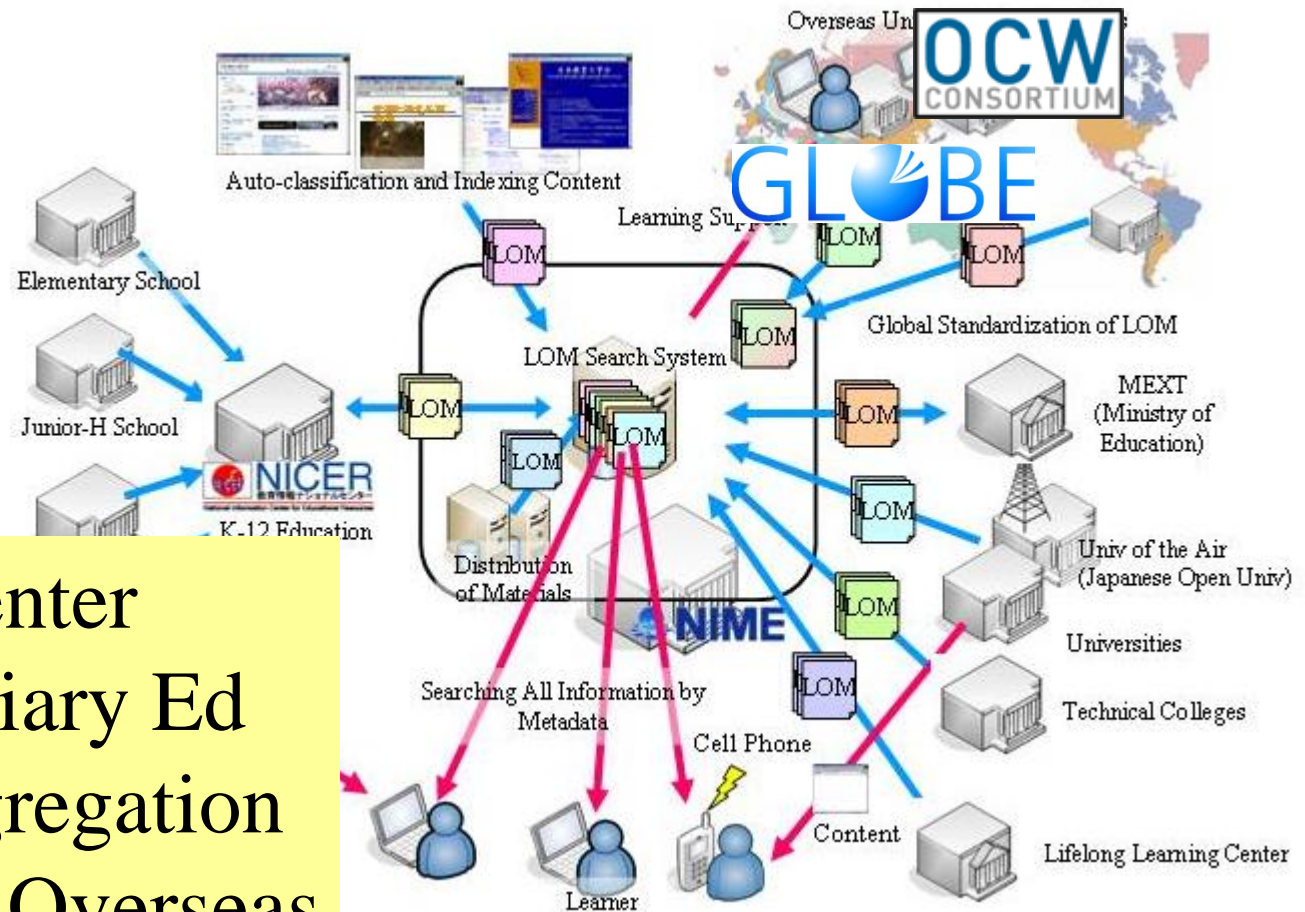
How can we find the most appropriate content from deep web?

- Course providers: in developing courseware
- Teachers: in preparing classroom materials
- Learners: in searching suitable content

A solution:

Global cross-institutional search

# Japanese Nation-wide Infrastructure for sharing digital learning resources: “NIME-glad”



- National Center
- Higher/Tertiary Ed
- Simple Aggregation
- Gateway to Overseas

# IEEE/Learning Object Metadata (LOM) (Maximum elements)

1. General
2. Life Cycle
3. Meta-metadata
4. Technical
5. Educational
6. Rights
7. Relation
8. Annotation
9. Classification

# International collaborations for distribution and exchange of LO

- ◆ Open Educational Resources Movements (OERs)  
OCWC
- ◆ International Brokerage  
GLOBE
- ◆ International Standardization Activities for Open Standards  
IMS/GLC-LODE,  
ADL, SCORM, CORDRA, ISO

# The Common Backgrounds in 2003-4

Each Member had

- an orientation to contribute to Global Knowledge-based Society
- missions to promote educational improvements through providing high-quality Learning Materials and Educational Information
- been asked to be a regional gateway (hub) in Europe, North America, Australia and Japan
- felt drastically increasing needs and demands for LM
- the limited financial and human resources
- necessities of new strategies to reach "Critical Mass"

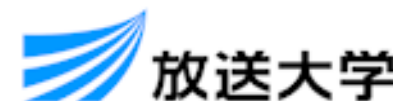
# Shared Concepts

- global collaboration on a shared vision of ubiquitous access to quality educational content
- development of use cases, specifications, business rules and technologies which will enable searches across the repositories
- federated search / harvesting technologies to search across multiple databases and digital libraries
- not a closed “club”

# Global Learning Object Brokere Exchange (GLOBE)



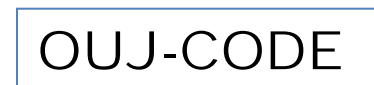
September, 2004



February, 2007



September, 2007



April, 2008



September, 2008



March, 2009



# Global Learning Object Brokered Exchange (GLOBE)



- An international broker
- To reach "Critical Mass"
- Focus on educational/learning resources
- All levels
- Federated search and harvesting
- Communication with international standardization activities (e.g. IEEE-LOM, IMS-GLC LODE)
- Finding scalable and interoperable infrastructure and sustainable business model

# Federated Search

**NIMEglad** *English*  
Gateway to Learning for Ability Development

[JAPANESE](#)

 I'm glad

 Sitemap

 Contact

**Keyword Search**

☐ Universities in Japan ☐ e-Learning ☐ OCW ☒ All Categories [Advanced Search](#)

**NIME-glad Categories**

 **Top Pages of Universities in Japan**  
[Alphabetical List](#) [Geographical List](#)

 **Faculty and Department in Japan**  
[Alphabetical List](#) [Geographical List](#) [Disciplinary List](#)

 **International Distance Learning**  
[USA](#) [Canada](#) [Australia](#) [Singapore](#) [All](#)

 **Learning**  
[OCW](#) [e-Learning Courses](#) [Materials](#)

 **Specialized Fields**  
[Electrical Engineering and Computer Science / Philosophy / Psychology / Social sciences / Anthropology / Political science](#)

**Federated Search**

☒ NIME

☒ MERLOT ☒ LORNET ☒ edna

☒ ARIADNE

A federated searching is a data retrieval service which can perform a cross-sectional search on multiple search engines and display the results collectively. To implement this capability, a federated search server program and a client program must be installed on each of the servers.

[more...](#)

 **Sign In / Register**

[Study List](#)

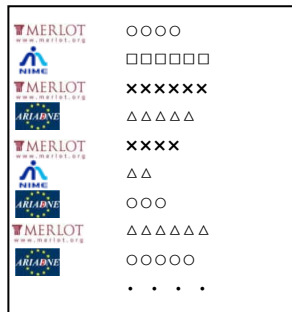
# Federated Search ( NIME-glad )

## SQL: Simple Query Interface

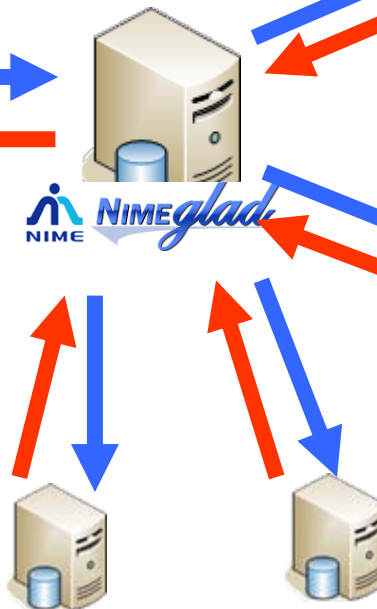
① Search keyword  
「Science」



⑥ display after the merge of search results



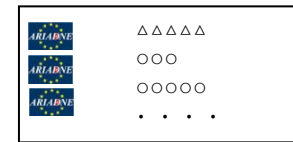
*Education.au*  
creative capable connected  
edNA API



LORNET  
SQL

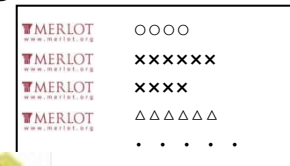
② query learning  
object include  
keyword "Science"

③ return search result



④ query learning  
object include  
keyword "Science"

⑤ return search result



SQL Server



MERLOT API

# Federated Search Search Results



## NIME-glad Federated Search

Japanese language

Search

☒ NIME ☒ MERLOT ☒ LORNET ☒ edna ☒ ARIADNE



### Japanese Words & Phrases

A collection of basic Japanese words and phrases for the beginner.



### Writing About Race, Spring 2003

In *The Souls of Black Folk* (1903), the great cultural critic W. E. B. Du Bois wrote that "the probl...



### Japanese Language Teachers Association of Victoria

The Japanese Language Teachers' Association of Victoria Incorporated aims to promote the teaching and learning of Japanese in Victoria Australia, offe



### Department of Physics

Order is decided by local rules.

# GLOBE 2.0 for the next step

- New needs and new value-added services
  - Sharable issues in each context
  - Large-scale problems in global level
- New technological bases and architecture
- New governance and sustainability

# Use Cases : Tomorrow

- Learner

A learner need not consider the optimality of the learning content. By referring to learner's profile and contexts, the computer finds the most appropriate modules from the content repositories all over the world

- Teacher

A teacher can find the most appropriate materials which he/she uses at the classroom by consulting with the knowledge base on the pedagogy, quality, right and other information.

They can concentrate in learning and teaching in various contexts (incl. Social)

# What are needed at the discussions for the new value-added services

- advanced search
- quality assurance
- optimization / recommendation
- right management
- localization

Next-generation int'l standards of metadata and infrastructure for the discovery and delivery of content/metadata are indispensable

## GLOSS and more: Domestic issues

- Renaming
- Federation of Japanese domestic repositories and referatories
- New value-added services, e.g. copyright management and processing and quality assurance
- New framework in open education and lifelong learning

# New cross-institutional search: features

- Customized search engine
- Metadata extension
  - Covering both open and proprietary content
  - Quality evaluation
  - Pedagogical / learning information
- Domestic network for metadata
  - Harvesting

# *NIME Support as a JOCW affiliate: Cross-institutional search*



**JOCW**  
JAPAN OCW CONSORTIUM

English >>

MIT OPENCOURSEWARE  
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

OCW CONSORTIUM

Google JOCW検索

検索

Google

JOCW横断検索

検索

by NIME/NIME-glad

NIME

日本オープンコースウェア・コンソーシアム

OCWとは OCWの歴史 JOCWについて メンバー

本サイトは日本でオープンコースウェア(OCW)を公開している大学を中心としたオープンコースウェア・コンソーシアム(JOCW)のウェブサイトです。

OCWとは「大学で正規に提供された講義とその関連情報のインターネット上での公開」を指します。

JOCWについての詳細は [<<こちら>>](#)

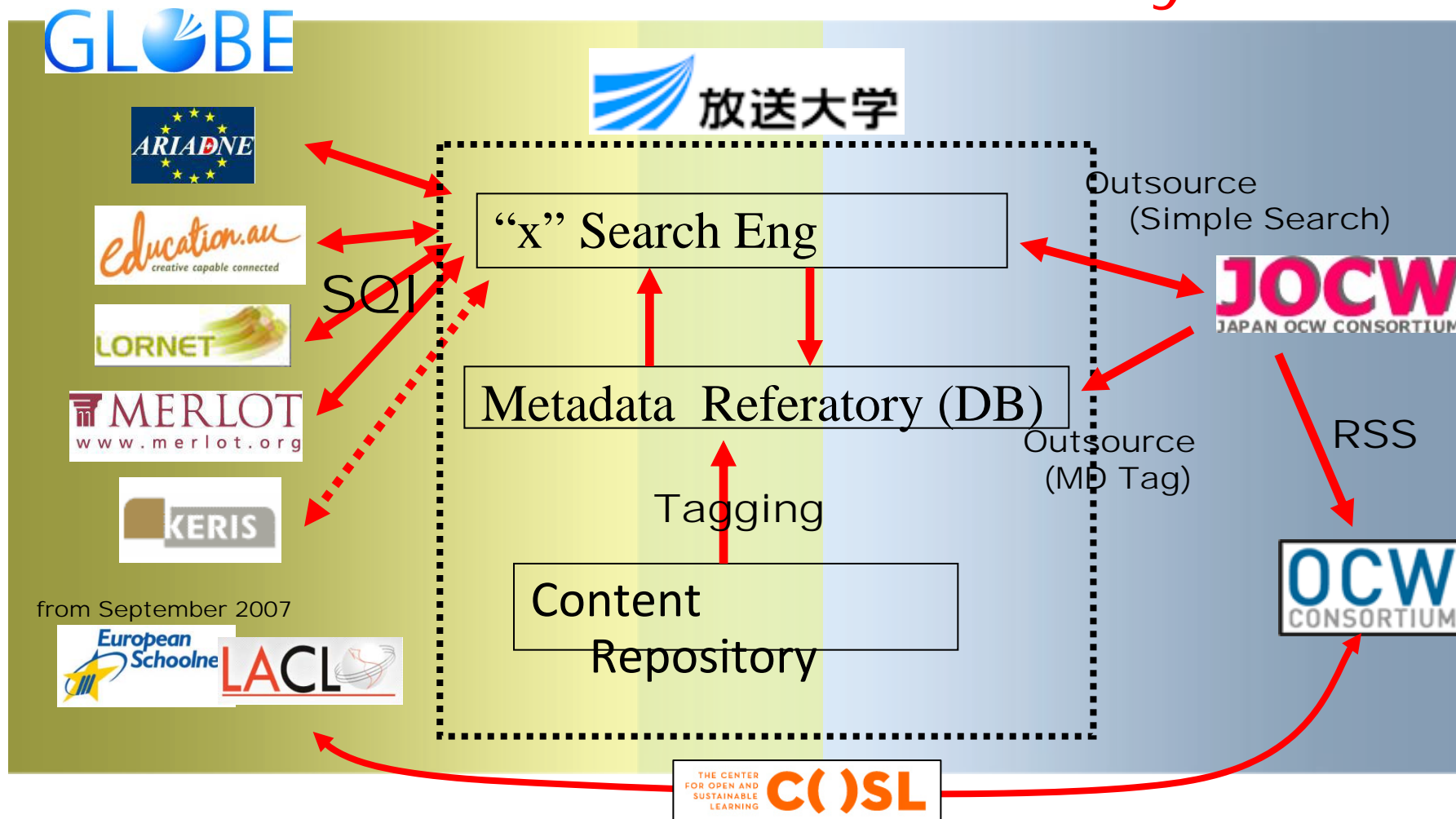
OCWについての詳細は [<<こちら>>](#)

### <Topics>

- 2007年6月11日 京都精華大学のOCWサイトが公開されました。News
- 2007年5月15日 同志社大学のOCWサイトが更新されました。また、
- 2007年5月2日 OCWコンソーシアムミーティングがスペイン、サンタン
- 2007年4月19日 「各大学の人気コース紹介」の第5回を掲載しました。大学です。
- 2007年4月16日 慶應義塾大学にてクリエイティブ・コモンズ・ジャパン「高等教育オープンコンテンツに関する知財セミナー」を開催しました。

# NIME-glad

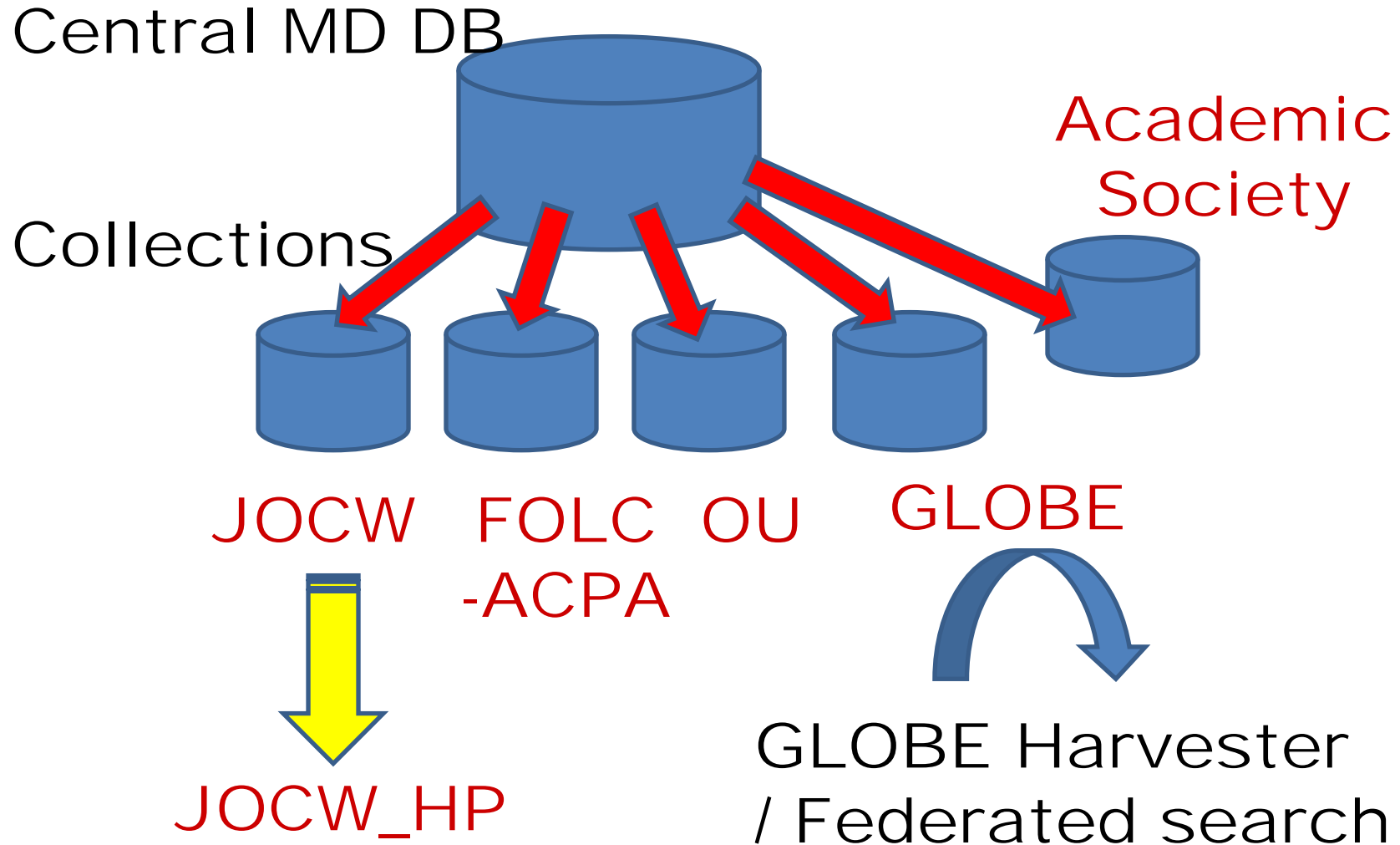
## Cross-institutional Search System



SQI : an interface protocol for exchanging index information of learning objects via SOAP (Simple Object Access Protocol) XML format.

RSS: RDF Site Summary or RSS 2.0: Really Simple Syndication

# New cross-institutional search: features



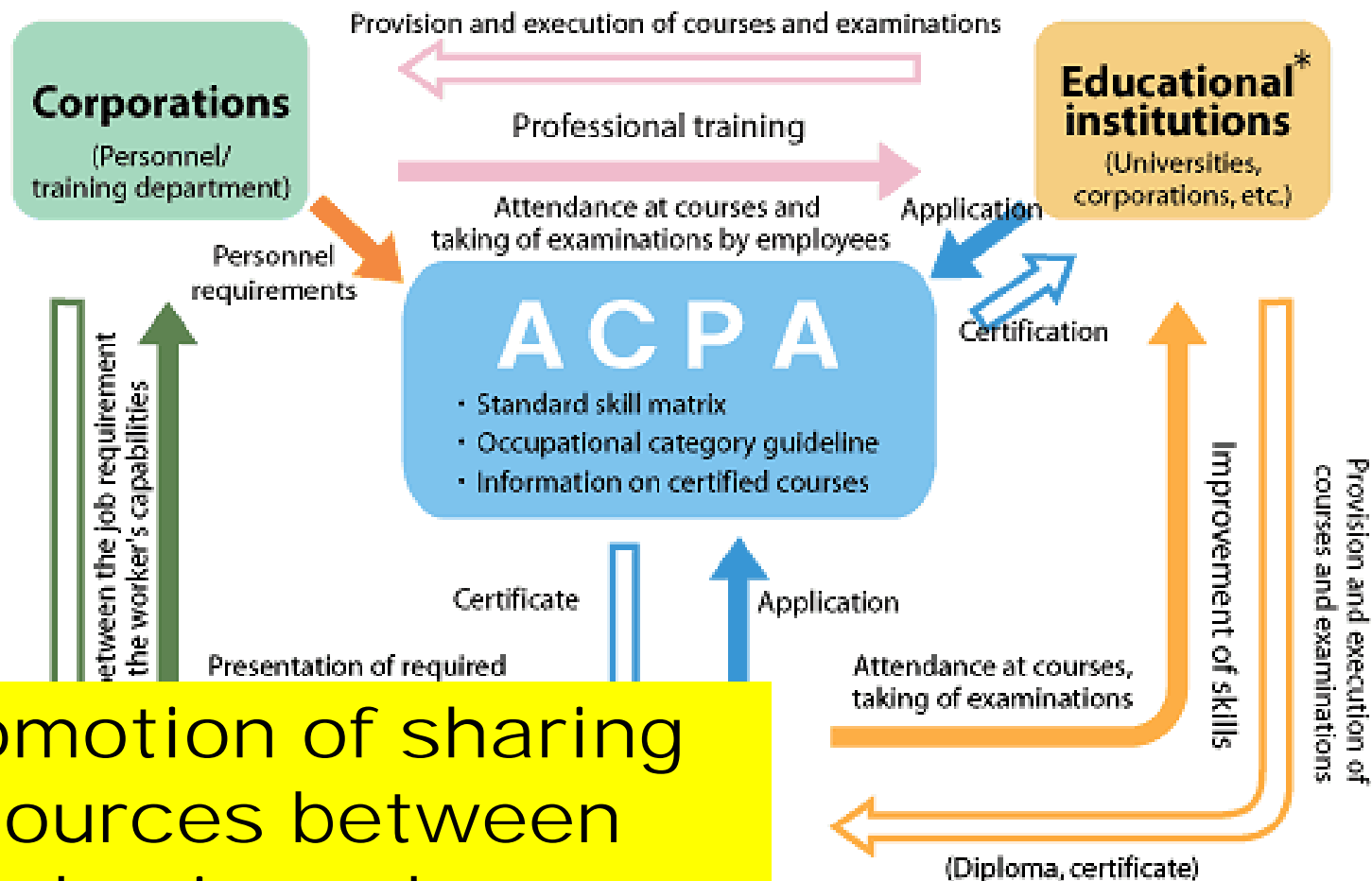
# ACPA (Accreditation Council for Practical Abilities): (<http://www.acpa.jp/en/>)

Indutries and Corporations want to:  
Outsource training programs  
Re-Utilize their original resources

Universities and Training sectors want to:  
Meet more to industries' needs to labours  
Accept new students from industries

Corporate workers and Independent learners want to:  
Get more skills and knowledge, or certificate and  
degrees for their Promotions or for their Job-seeking  
Need guide and consultation for their lifelong learning

# Business Model



Promotion of sharing resources between academia and industries

\*Educational institutions

- Institutions executing/providing courses
- Institutions executing/providing examinations

# ACPA's Activities

- Development of occupational database containing competencies which each occupation needs

Outcome: "Standard Skill Matrix", "Skill description"

- Certification of training courses in academia / corporates and institutions as a neutral organization

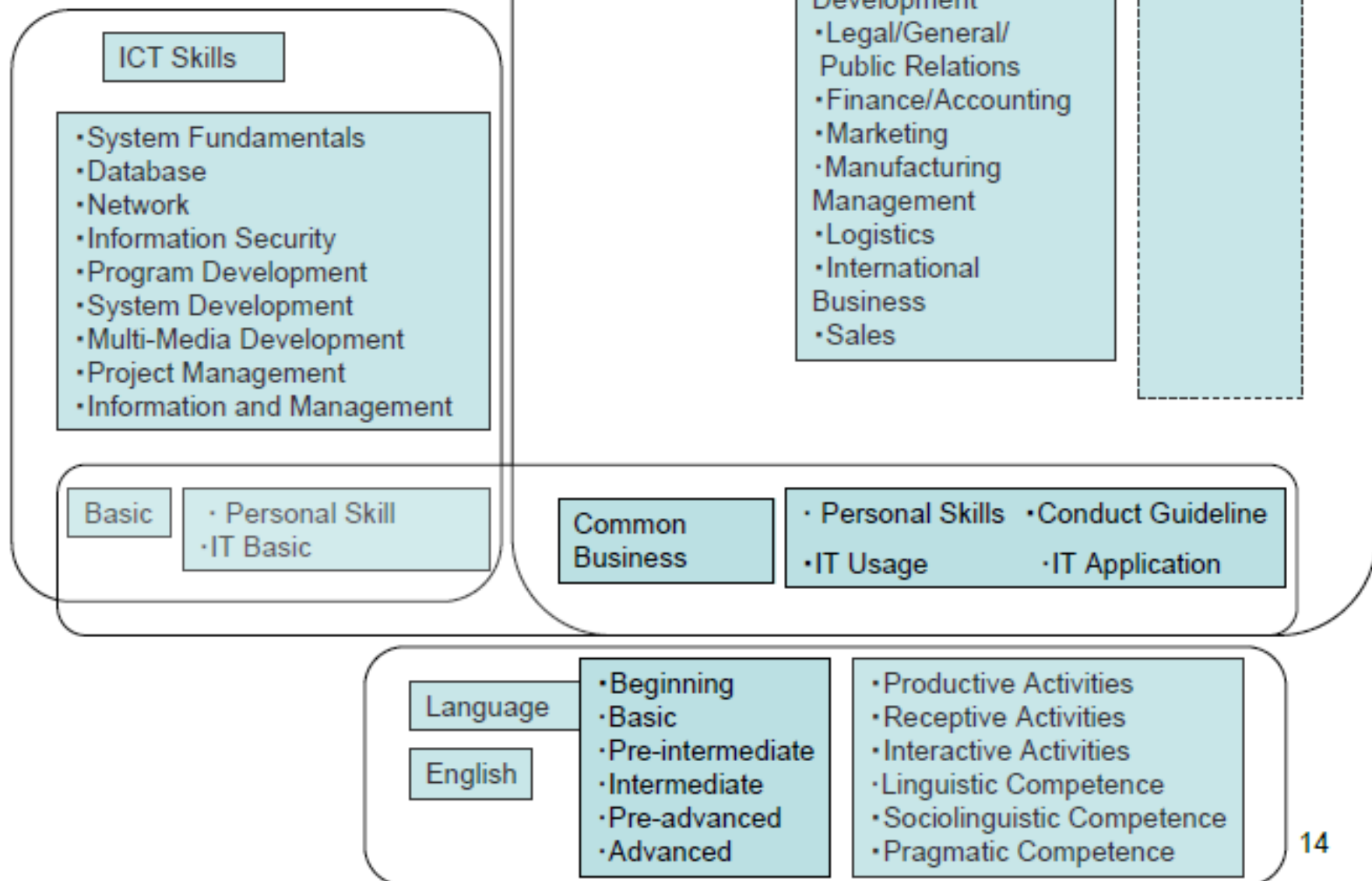
Outcome: "Skill-course Matching Table"

- Certification of practical abilities of each individual

Outcome: "Certificate"

# Skill Category

## スキルカテゴリー



# Example of Skills Description

## スキル項目説明の例

Category	Skill Sub-category	Skill Item	Skill Component	Skill Description
System Fundamentals	Operating System	Windows XP Professional (Basic)	Installation of WindowsXP	Can install the XP Professional and confirm the action.
			Configuration of desktop environment	Can provide and manage the desktop user environment in the usual business use.
			Use and management of user account	Can create and configure user accounts, make user profiles, create group accounts, and allocate user priorities.
			Use of network	Understands the fundamentals of TCP/IP protocol and the configuration of TCP/IP. Can connect the PC to a network.
			Operation in Microsoft network	Understands the network configuration (work group and domain). Understands the outline of an active directory and can enter the domain and logon the domain. Can use an active directory.
			Disk management	Can make the partitioning of a hard disk. Can make formatting of a hard disk space.
			Use and management of disk	Can manage the NTFS access permission, the resource sharing and the connection to sharing resources.
			Use of printer	Can use a local printer and a network printer.
			Trouble shooting	Can perform a trouble shooting by the bootstrapping process and find problems of other systems.

# Example of Standard Skills Matrix

## 標準スキルマトリクスの例

[Requisite achievement]

Skill Matrix (Extract)

...having comprehensive knowledge. ★★★...Able to utilize obtained skills effectively.

Category	Skill Item	Level 0	Level 1					
		General	System Development	IT Administration (SE)	Operation	Customer Service	Sales	Administration Staff
IT Basic	Internet	★★	★★★★	★★★★	★★★★	★★	★★	★★
	Business Tool	★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★
	Computer Fundamentals	★	★★★★	★★★★	★★★★	★★	★★	★★
Personal Skill	Communication	★	★★	★★	★★	★★	★★	★★
	Leadership	★	★	★	★	★	★	★
	Negotiation	★	★	★	★	★	★★	★
	Management		★	★	★	★	★	★
System	OS	★	★★	★★	★★	★★	★★	★
	System Basic							
df	Evaluation Method			★				
	Server Application			★				
	Server Implementation			★				8

[http://www.acpa.jp/en/acpa/standard\\_skill\\_matrix\\_ictd.pdf](http://www.acpa.jp/en/acpa/standard_skill_matrix_ictd.pdf)

[http://www.acpa.jp/en/acpa/standard\\_skill\\_matrix\\_bmd.pdf](http://www.acpa.jp/en/acpa/standard_skill_matrix_bmd.pdf)

# Standard Skills Matrix(2)

## 標準スキルマトリクス

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- Skill ability rating level

For each skill item associated occupational specification, the rating level of the skill ability is determined.

- ★★☆☆ The level of executing and applying skills in practical use.
- ★★☆☆☆☆ The level of understanding detailed items. Can explain to others and can apply skills to the practical use.
- ★☆☆☆ The level of understanding the outline in general.

# Metadata items for New System (tentative)

1. ID of metadata
2. ID of LO
3. Title
4. Language of LO
5. Description
6. Keywords
7. Aggregation Level
8. Contributors
9. Language of metadata
10. Technical-Format
11. URL
12. Technical-Requirements
13. Educational-Context
14. Educational-Typical Learning Time
15. Educational-Description
16. Rights- Cost
17. Rights-Description
18. Classification
19. Rights-Category- Value
20. Quality-Category-Value
21. Access Control
22. Harvesting
23. Federated Search

# Announcements

The First OUJ-GLOBE Seminar (the 6<sup>th</sup>  
from the 1<sup>st</sup> GLOBE-NIME Seminar)  
“New framework for sharing and  
distribution of quality lifelong learning  
content” (tentative)

Date: 10am-4pm, Thursday 15th    October, 2009

Venue: OUJ, Chiba, Japan (tentative)

Delegates from 12 GLOBE member organizations  
+ invited keynote speakers

Thank you very much!!

Contact Information

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