2011 INQAAHE conference and AGM

Global Rankings and its Impact on Higher Education Policy and Institutional Behaviors, and Students' Choice

: Effective Use of College Rankings

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Outline of Presentation

- Excellence in global higher education: building world class universities
- Quality Challenges and Academic Rankings
- Rationales and dilemma of university rankings
- HEEACT Rankings
- From ranking to benchmarking: A wise choice for institutions, governments and students

Excellence in global higher education: building world class universities

- No matter whether countries are developed or developing ones, they are immensely eager to build at least one world class university, but they don’t know exactly what they look like
- World class University by Philip Altbach
  - excellence in research, top professors, academic freedom and an atmosphere of intellectual excitement, governance, adequate facilities and funding

Academic Excellence and global benchmarking

- Many nations tend to use global rankings as a basis of building world class universities despite their well documented methodological flaws.
  - Launching several Excellence Programs
  - Brain21 (Korea)
  - Global 30 (Japan)
  - 5 year-50 Billion Program (Taiwan)
  - 985 project (China)
- All aim at building at least one world class university within a period of time through the policy of funding concentration.
- accelerated public investment "world-class' universities" has forged a unique culture called the "Confucian Model" in the region. (Margison, 2010)

Universities’ goal

- Many top administrators at leading universities are learning to use global rankings in order to achieve the institutional short term and long term strategic plans, not just to boycott them.
  - Minnesota’s initiative to become one of the top three research institutions in the world
  - Taiwan National University announced the initiative of “Moving into the top 100” at its 80th anniversary
  - Baylor University put the vision on making the institution one of the *U.S. News* Top 50 by 2012
  - Griffith University has set its ambition to reach the ARWU and HEEACT Top 500 by 2012.

Quality Challenges and Academic Rankings

- quality of higher education is a complex concept due to the fact that practically all the methods and mechanisms of its assessment such as peer review, accreditation, audit, benchmarking, and rankings are a mixture of objective and subjective aspects". (by Jan Sadlak)
- The definition of quality can differ in terms of stakeholders, context and type of institutions. No matter how differently quality might be defined, there is something in common in the most popular global rankings.

Relevance between global rankings and World Class University

- Examining current global ranking outcomes, it can be found that universities that figure in the top ranks have owned these features.

Global Ranking

- intense international competitions between universities in the 21st Century
- global college rankings have drawn international attention worldwide

Five Major Rankings

- Academic Ranking of World Universities by Shanghai Jiao Tong University in 2003
- QS's "World University Ranking" in 2004
- "Webometrics Rankings of World Universities" by the Spanish National Research Council published in 2004
- **Performance ranking of scientific papers of world class universities by the HEEACT in 2007**
- The Times Higher Education's 'World University Ranking" in 2010

Top 20 Universities in the Four Rankings (1/2)

University Name	HEEACT	ARWU	THE	QS
Harvard University	1	1	1	2
Stanford University	2	3	4	13
Johns Hopkins University	3	18	13	17
University Washington- Seattle	4	16	-	-
UC- Los Angeles	5	13	11	-
UC - Berkeley	6	2	8	28
MIT	7	4	3	5
University Michigan- Ann Arbor	8	-	15	15
University Toronto	9	-	17	-
University Oxford	10	10	6	6
University Pennsylvania	11	15	19	12
UC - San Diego	12	14	-	-
Columbia University	13	8	18	11
Tokyo University	14	20	-	-

Top 20 Universities in the Four Rankings (2/2)

University Name	HEEACT	ARWU	THE	QS
UC - San Francisco	15	19	-	-
University Cambridge	16	5	6	1
University College London	17	-	-	4
Yale University	18	11	10	3
Duke University	19	-	-	14
University Wisconsin- Madison	20	17	-	-
CIT	-	6	2	9
Princeton University	-	7	5	10
University Chicago	-	9	12	8
Cornell University	-	12	14	16
Imperial College London	-	-	9	7
ETH Zurich	-	-	15	18
McGill University	-	-	-	19
Australian National University	-	-	-	20

(Higher Education Evaluation & Accreditation Council of Taiwan (HEEACT)

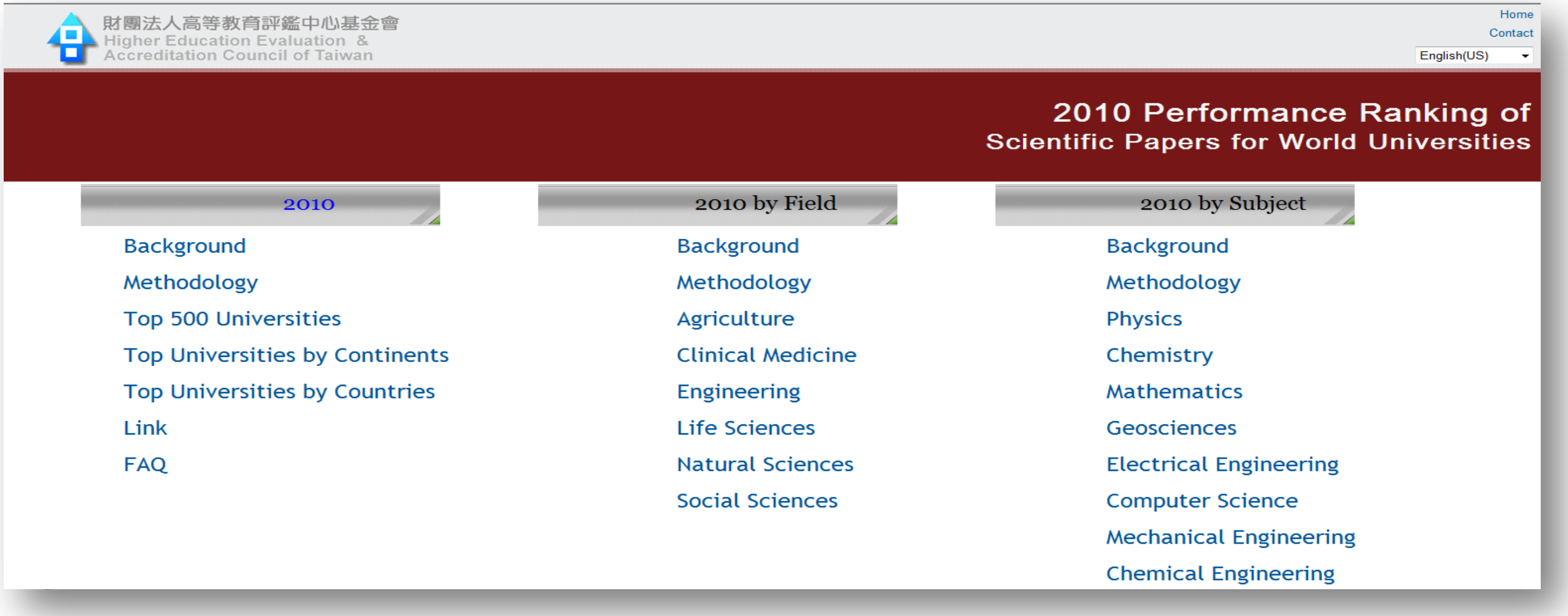
- Leading QA agency in Taiwan
- Operating program and institutional accreditation
- Publish a variety of rankings
- Endowed in 2005 with mutual funds of the government and 153 institutions in Taiwan
- IREG member (International Ranking Expert Group)

HEEACT Rankings

- Two major rankings published by HEEACT
  - Performance Ranking of Scientific Papers of World Class Universities in 2007
  - College Navigator in Taiwan in 2009

HEEACT's Performance Ranking of Scientific Papers of World Class Universities (by institution and by field)

- Biblio-metric ranking published first by HEEACT in 2007
- 2010 edition has been published
- Goal: analyze and rank the scientific paper performances of the top 500 universities in the world.



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Higher Education Evaluation & Accreditation Council of Taiwan

Home
Contact
English(US)

2010 Performance Ranking of Scientific Papers for World Universities

2010
- Background
- Methodology
- Top 500 Universities
- Top Universities by Continents
- Top Universities by Countries
- Link
- FAQ

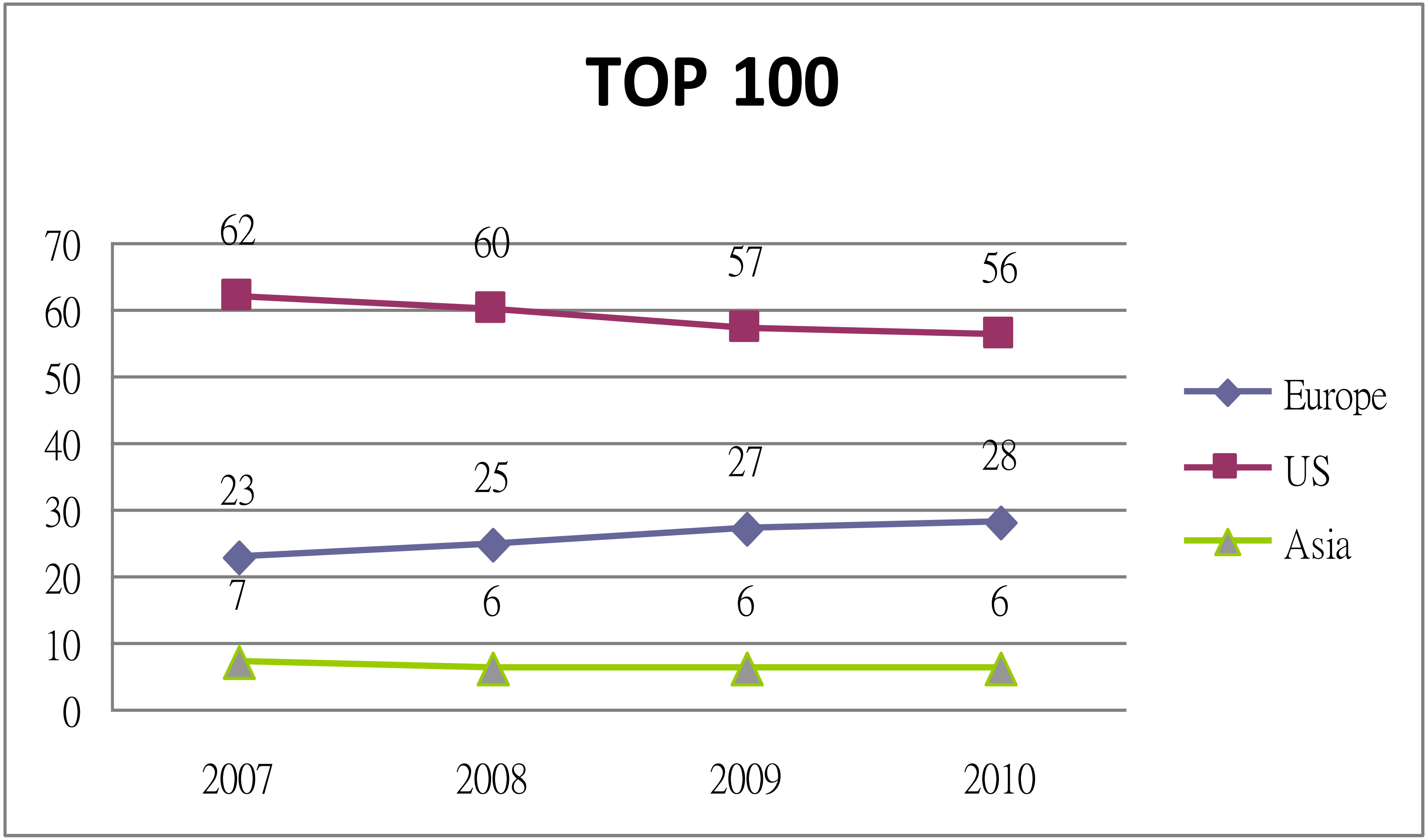
2010 by Field
- Background
- Methodology
- Agriculture
- Clinical Medicine
- Engineering
- Life Sciences
- Natural Sciences
- Social Sciences

2010 by Subject
- Background
- Methodology
- Physics
- Chemistry
- Mathematics
- Geosciences
- Electrical Engineering
- Computer Science
- Mechanical Engineering
- Chemical Engineering

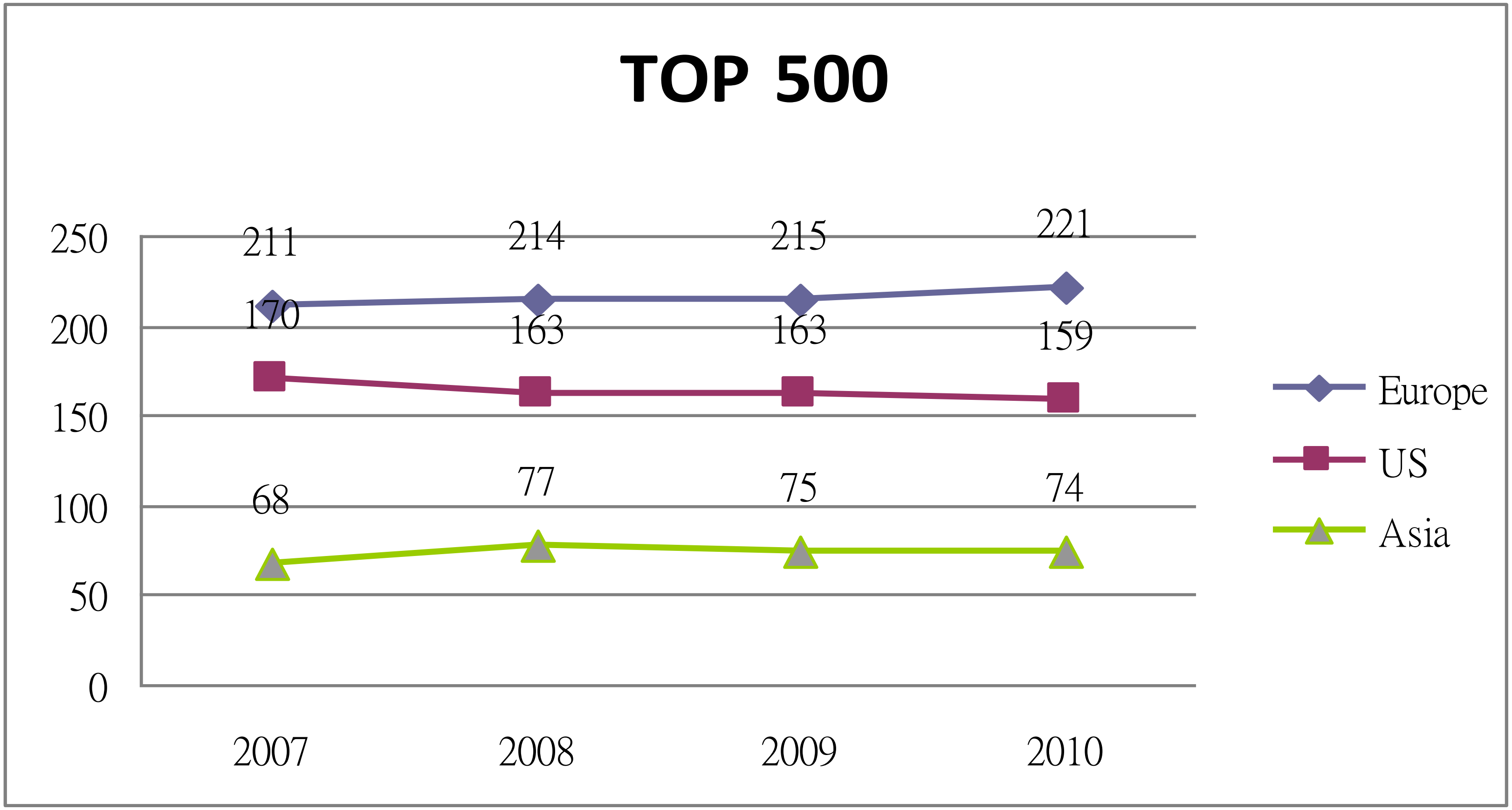
Criteria and Indicators

Criteria	2010 Overall Performance Indicators	Weight	
Research Productivity	Number of articles in the last 11 years (1999-2009)	10	20
	Number of articles in the current years(2009)	10	
Research Impact	Number of citations in the last 11 years (1999-2009)	10	30
	Number of citations in the last 2 years (2008-2009)	10	
	Average Number of citations in the last 11 years (1999-2009)	10	
Research Excellence	H-index of the last 2 years (2008-2009)	20	50
	Number of highly cited papers(1999-2009)	15	
	Number of articles in high-impact journals in the current year (2009)	15	

HEEACT Institutional Ranking from 2007 to 2010



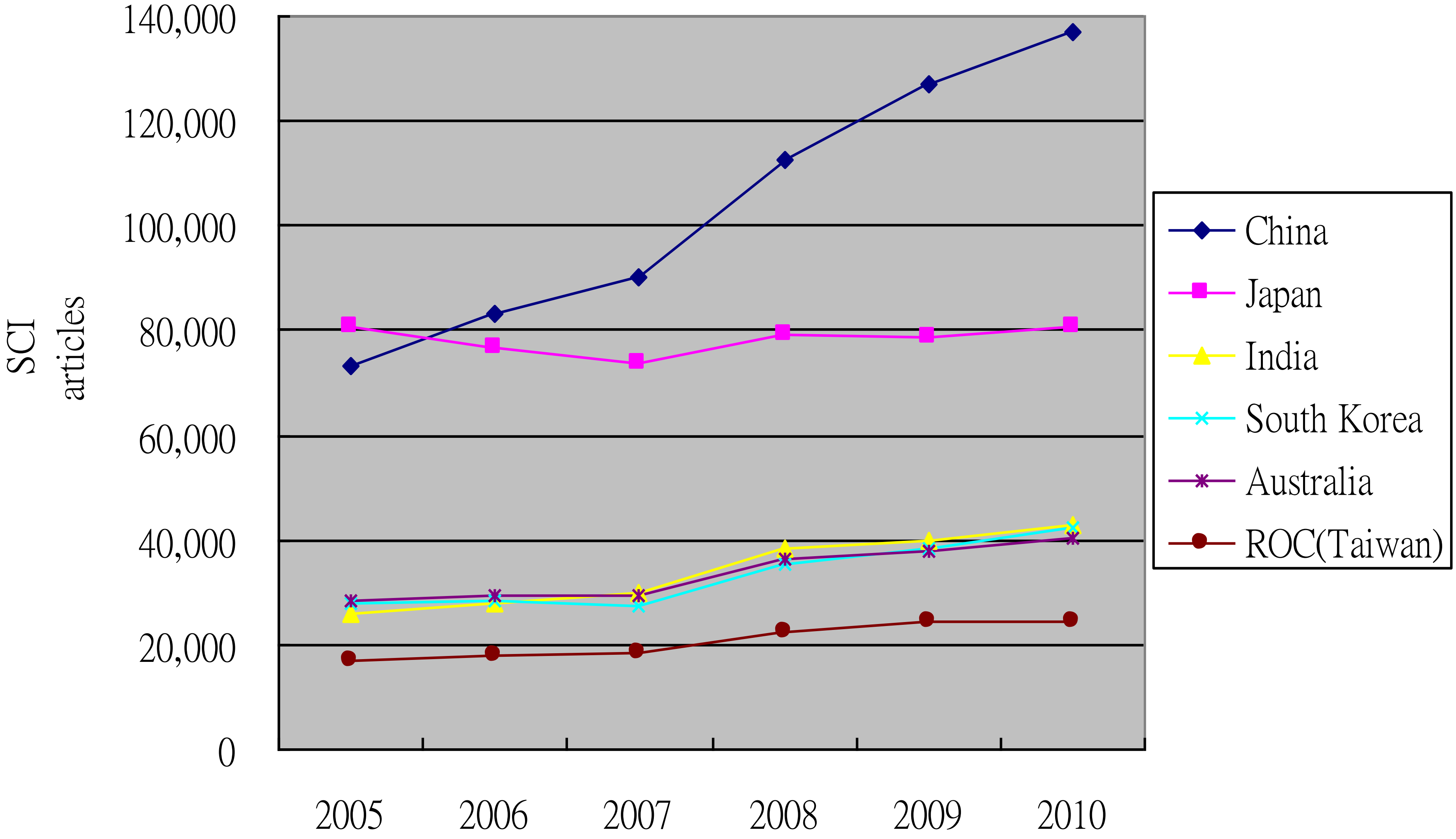
HEEACT Institutional Ranking from 2007 to 2010



Number of Top 500 Universities of HEEACT 2010 Ranking in each Asia Countries

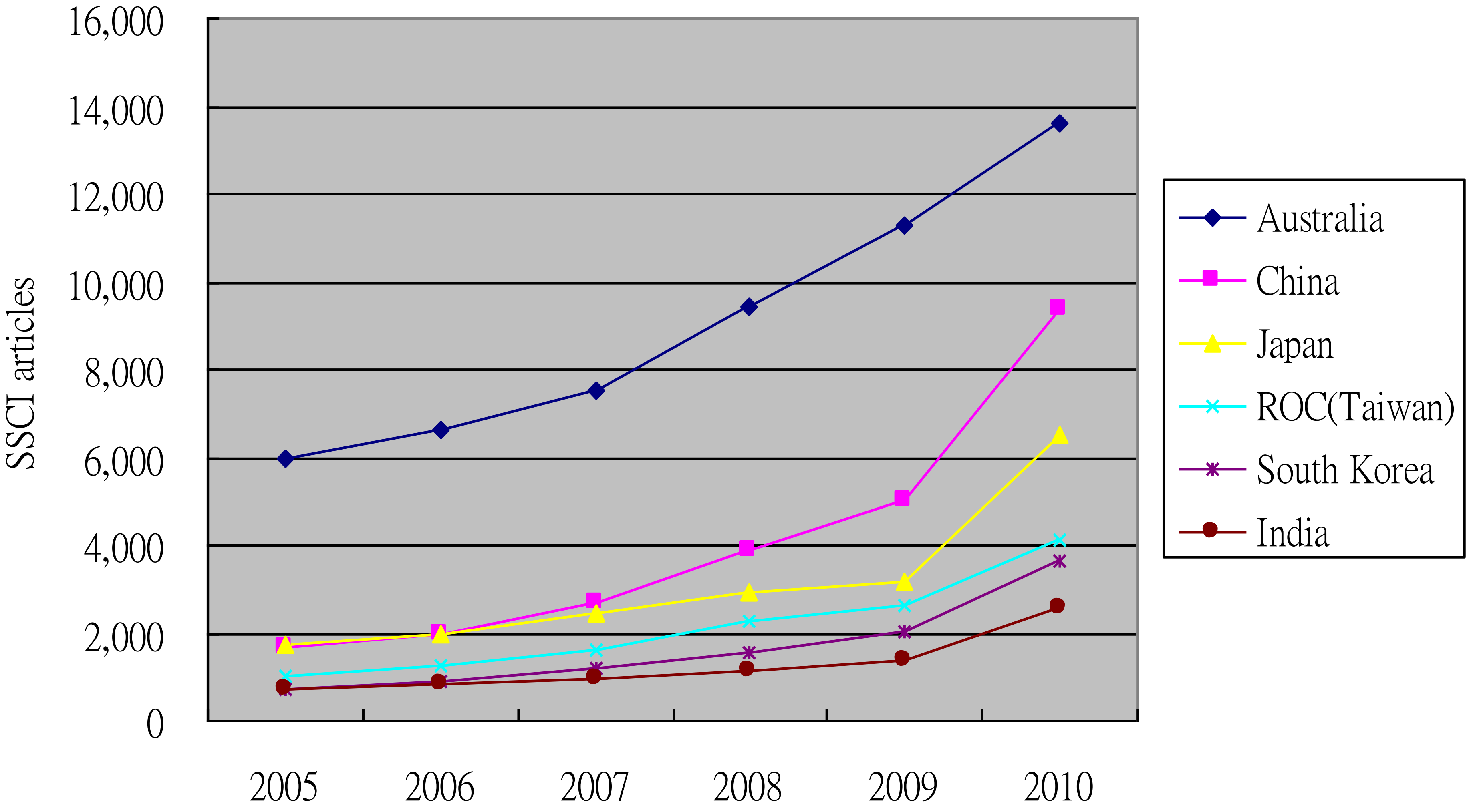
Countries	Number of Top 500 Universities of HEEACT Ranking
JAPAN	**28**
CHINA	16
AUSTRALIA	10
SOUTH KOREA	10
TAIWAN	**5**
HONG KONG	5
INDIA	**2**
SINGAPORE	2
THAILAND	1

Changing Pattern of Increases of SCI Articles in Asia-Pacific Countries



Source: Indicators of Science and Technology (NSC) 2010

Changing Pattern of Increases of SSCI Articles in Asia-Pacific Countries



Source: Indicators of Science and Technology (NSC) 2010

College Navigator in Taiwan Published in 2009

- Goal
  - lead to a match between the student and the institution or the program that they're most interested
- Selection of Institutions
  - 69 4-year colleges and universities evaluated by HEEACT from 2006 to 2010.
  - 77 University of Technology and Technical College

大學院校 Comprehensive University
技職院校 University of Technology and Technical College
大學選校互動系統
College Navigator in Taiwan
College Navigator in Taiwan
University of technology and technical college
| Homepage | Chinese |
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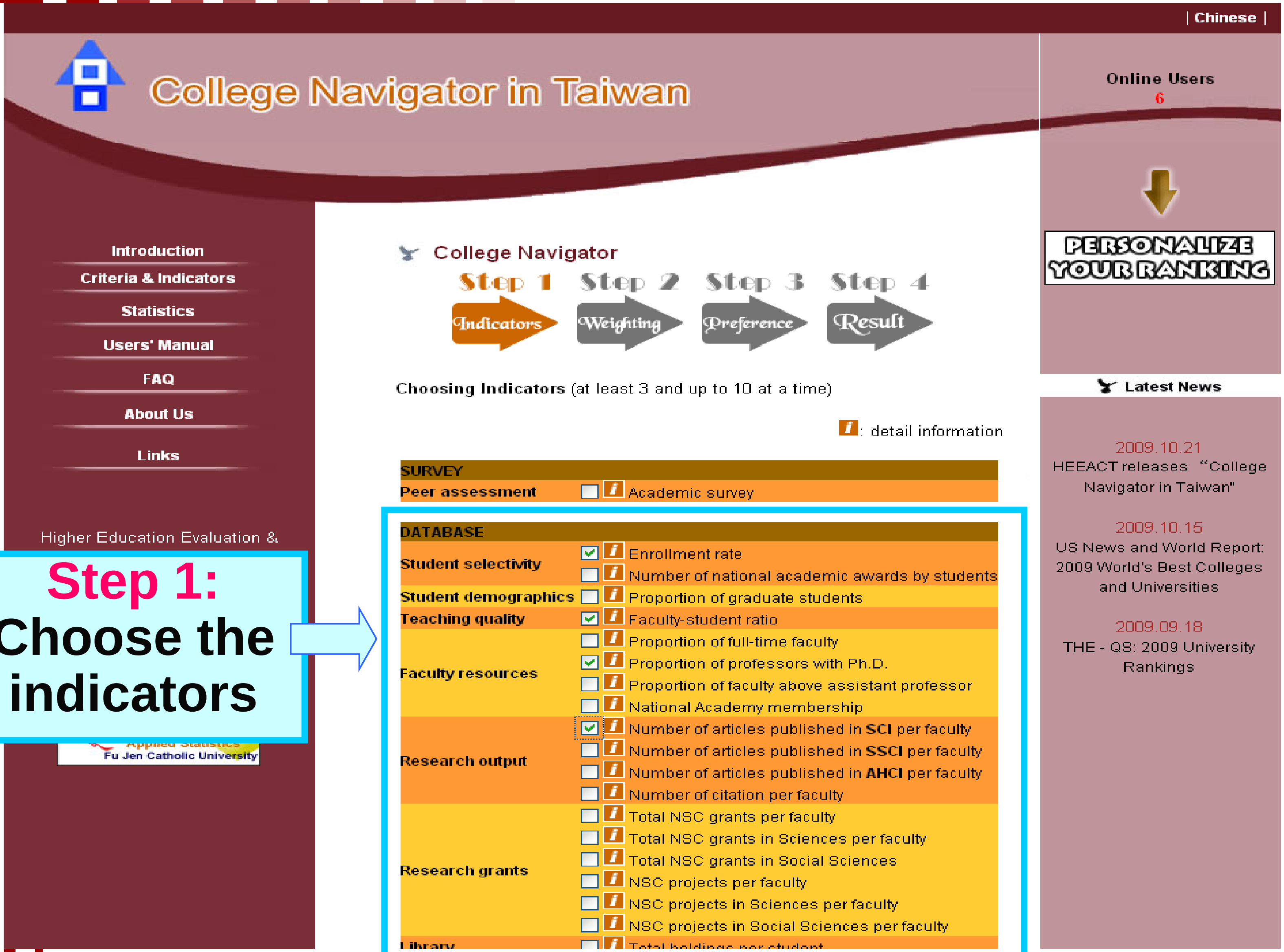
Make your dreams come true
PERSONALIZE YOUR RANKING
Latest News

Step 1: Indicators



| Chinese |
College Navigator in Taiwan
Online Users
6
PERSONALIZE YOUR RANKING
Introduction
Criteria & Indicators
Statistics
Users' Manual
FAQ
About Us
Links
Higher Education Evaluation &
Applied Statistics
Fu Jen Catholic University
College Navigator
Step 1 Indicators
Step 2 Weighting
Step 3 Preference
Step 4 Result

Choosing Indicators (at least 3 and up to 10 at a time)

i : detail information

SURVEY	
Peer assessment	☐ i Academic survey
DATABASE	
Student selectivity	☑ i Enrollment rate ☐ i Number of national academic awards by students
Student demographics	☐ i Proportion of graduate students
Teaching quality	☑ i Faculty-student ratio
Faculty resources	☐ i Proportion of full-time faculty ☑ i Proportion of professors with Ph.D. ☐ i Proportion of faculty above assistant professor ☐ i National Academy membership
Research output	☑ i Number of articles published in SCI per faculty ☐ i Number of articles published in SSCI per faculty ☐ i Number of articles published in AHCI per faculty ☐ i Number of citation per faculty
Research grants	☐ i Total NSC grants per faculty ☐ i Total NSC grants in Sciences per faculty ☐ i Total NSC grants in Social Sciences ☐ i NSC projects per faculty ☐ i NSC projects in Sciences per faculty ☐ i NSC projects in Social Sciences per faculty
Library	☐ i Total holdings per student

Latest News

2009.10.21
HEEACT releases "College Navigator in Taiwan"

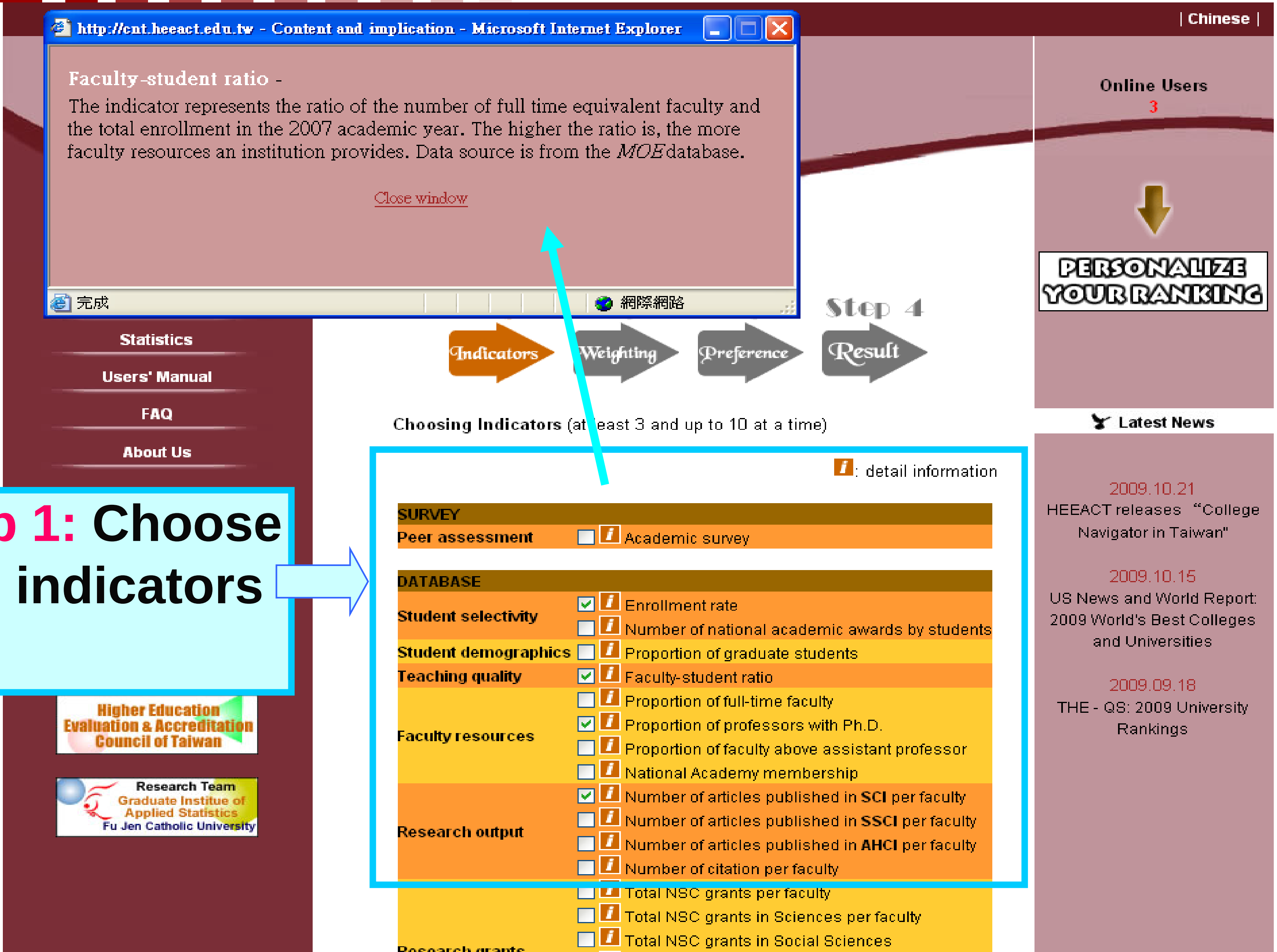
2009.10.15
US News and World Report: 2009 World's Best Colleges and Universities

2009.09.18
THE - QS: 2009 University Rankings

Step 1:
Choose the indicators

Step 1: Indicators

Step 1: Choose the indicators



http://cnt.heeact.edu.tw - Content and implication - Microsoft Internet Explorer

Faculty-student ratio -

The indicator represents the ratio of the number of full time equivalent faculty and the total enrollment in the 2007 academic year. The higher the ratio is, the more faculty resources an institution provides. Data source is from the *MOE* database.

Close window

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| Chinese |

Online Users
3

PERSONALIZE YOUR RANKING

Step 4

Statistics
Users' Manual
FAQ
About Us

Higher Education Evaluation & Accreditation Council of Taiwan

Research Team
Graduate Institute of Applied Statistics
Fu Jen Catholic University

Choosing Indicators (at least 3 and up to 10 at a time)

i: detail information

SURVEY	
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Student selectivity	☑ i Enrollment rate
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Student demographics	☐ i Proportion of graduate students
Teaching quality	☑ i Faculty-student ratio
Faculty resources	☐ i Proportion of full-time faculty
	☑ i Proportion of professors with Ph.D.
	☐ i Proportion of faculty above assistant professor
	☐ i National Academy membership
Research output	☑ i Number of articles published in **SCI** per faculty
	☐ i Number of articles published in **SSCI** per faculty
	☐ i Number of articles published in **AHCI** per faculty
	☐ i Number of citation per faculty
Research grants	☐ i Total NSC grants per faculty
	☐ i Total NSC grants in Sciences per faculty
	☐ i Total NSC grants in Social Sciences

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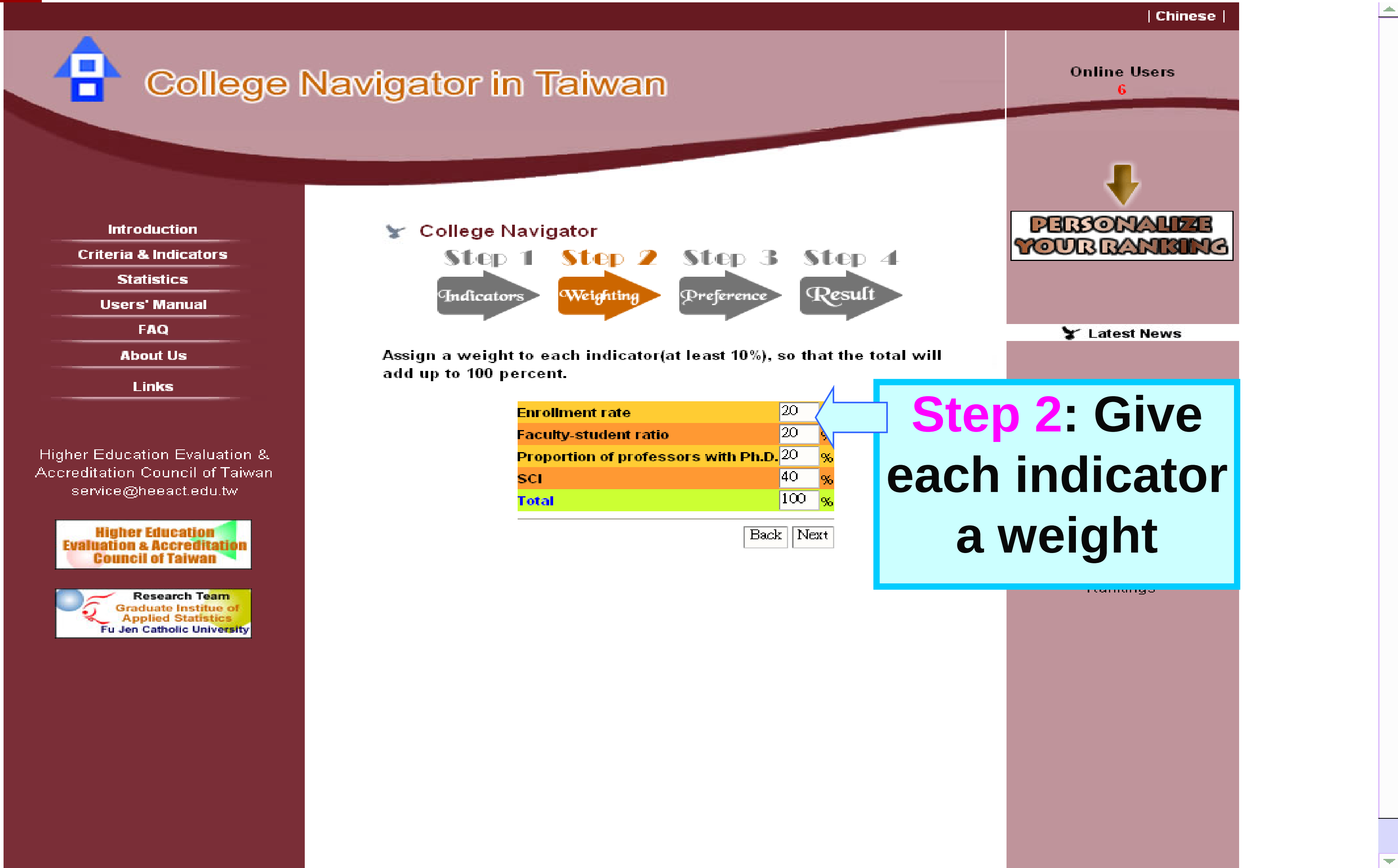
Step 2: Weighting


| Chinese |
College Navigator in Taiwan
Online Users
6
PERSONALIZE YOUR RANKING
Latest News
Introduction
Criteria & Indicators
Statistics
Users' Manual
FAQ
About Us
Links
Higher Education Evaluation & Accreditation Council of Taiwan
Research Team Graduate Institue of Applied Statistics Fu Jen Catholic University
College Navigator
Step 1 Indicators
Step 2 Weighting
Step 3 Preference
Step 4 Result
Back
Next

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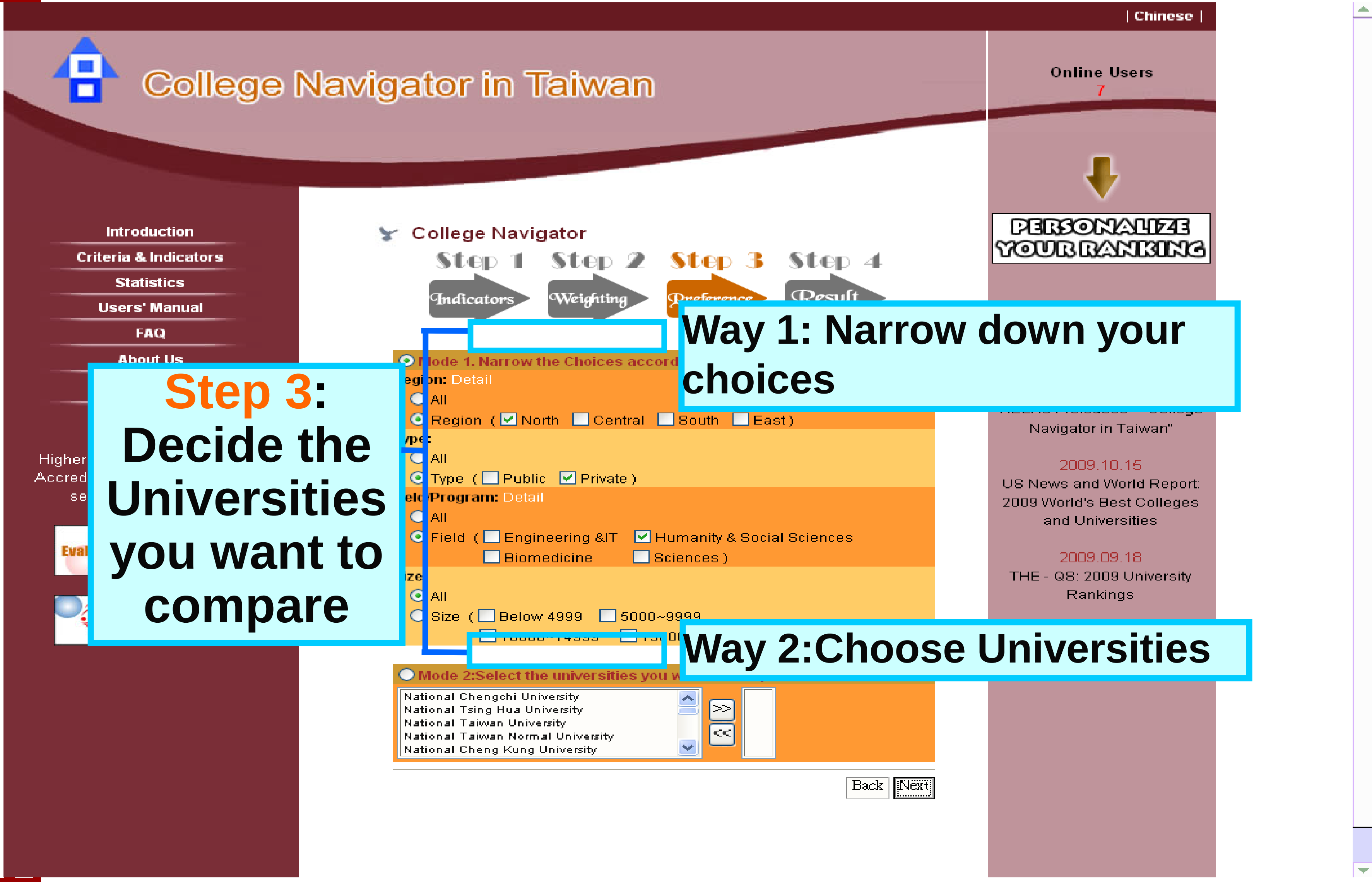
service@heeact.edu.tw

Assign a weight to each indicator(at least 10%), so that the total will add up to 100 percent.

Enrollment rate	20	
Faculty-student ratio	20	
Proportion of professors with Ph.D.	20	%
SCI	40	%
Total	100	%

Step 2: Give each indicator a weight

Step 3: Preference


| Chinese |
College Navigator in Taiwan
Online Users
7
PERSONALIZE YOUR RANKING
Introduction
Criteria & Indicators
Statistics
Users' Manual
FAQ
About Us
College Navigator
Step 1
Indicators
Step 2
Weighting
Step 3
Preference
Step 4
Result
Back
Next

○ Mode 1. Narrow the Choices accord

egion: Detail
○ All
● Region (☑ North ☐ Central ☐ South ☐ East)

ype:
○ All
● Type (☐ Public ☑ Private)

eld Program: Detail
○ All
● Field (☐ Engineering &IT ☑ Humanity & Social Sciences ☐ Biomedicine ☐ Sciences)

ize
● All
○ Size (☐ Below 4999 ☐ 5000~9999 ☐ 10000~14999 ☐ 15000

○ Mode 2:Select the universities you w

National Chengchi University
National Tsing Hua University
National Taiwan University
National Taiwan Normal University
National Cheng Kung University

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<<

Navigator in Taiwan"

2009.10.15
US News and World Report: 2009 World's Best Colleges and Universities

2009.09.18
THE - QS: 2009 University Rankings

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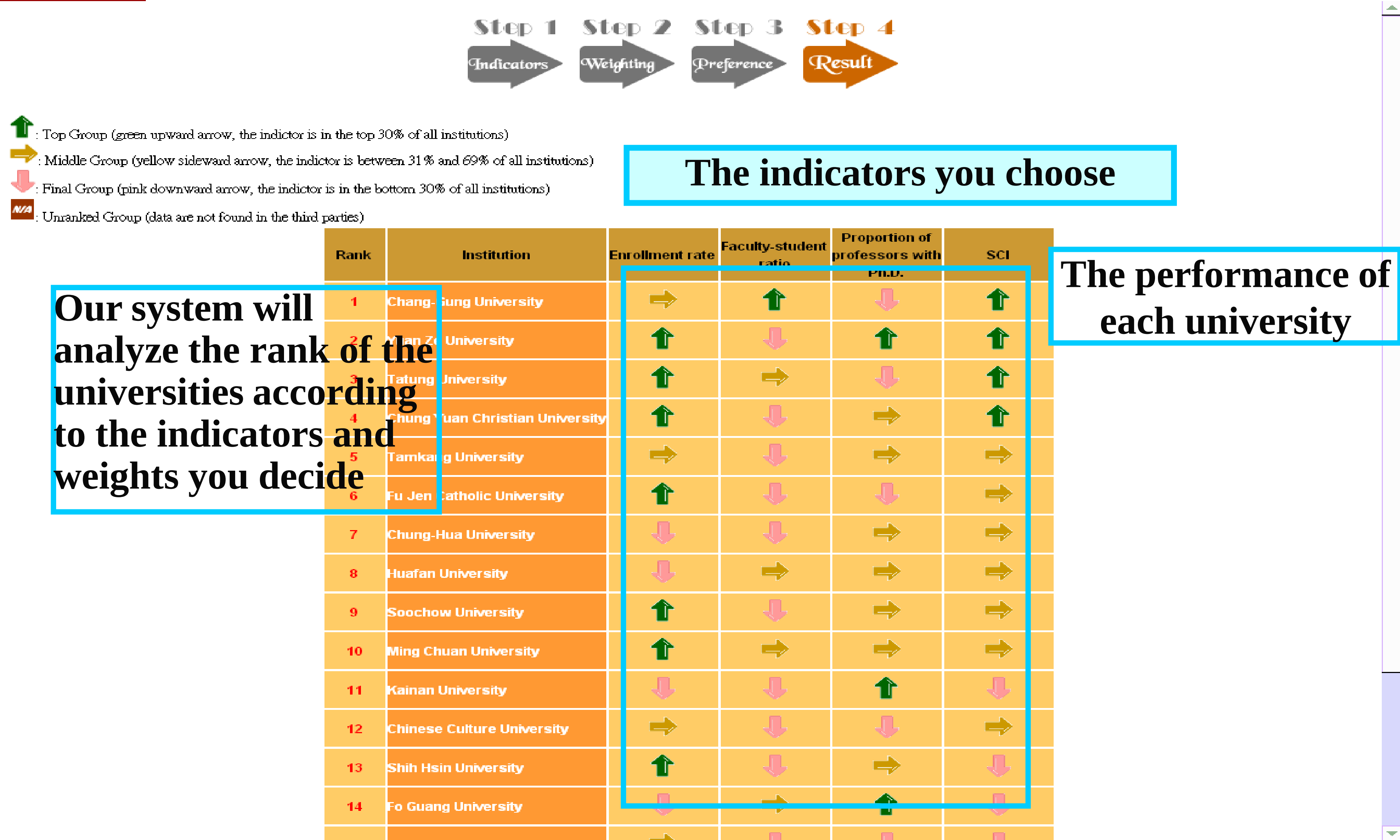
Step 3: Decide the Universities you want to compare

Way 1: Narrow down your choices

Way 2:Choose Universities

Step 4: Result



↑ : Top Group (green upward arrow, the indictor is in the top 30% of all institutions)

→ : Middle Group (yellow sideward arrow, the indictor is between 31% and 69% of all institutions)

↓ : Final Group (pink downward arrow, the indictor is in the bottom 30% of all institutions)

N/A : Unranked Group (data are not found in the third parties)

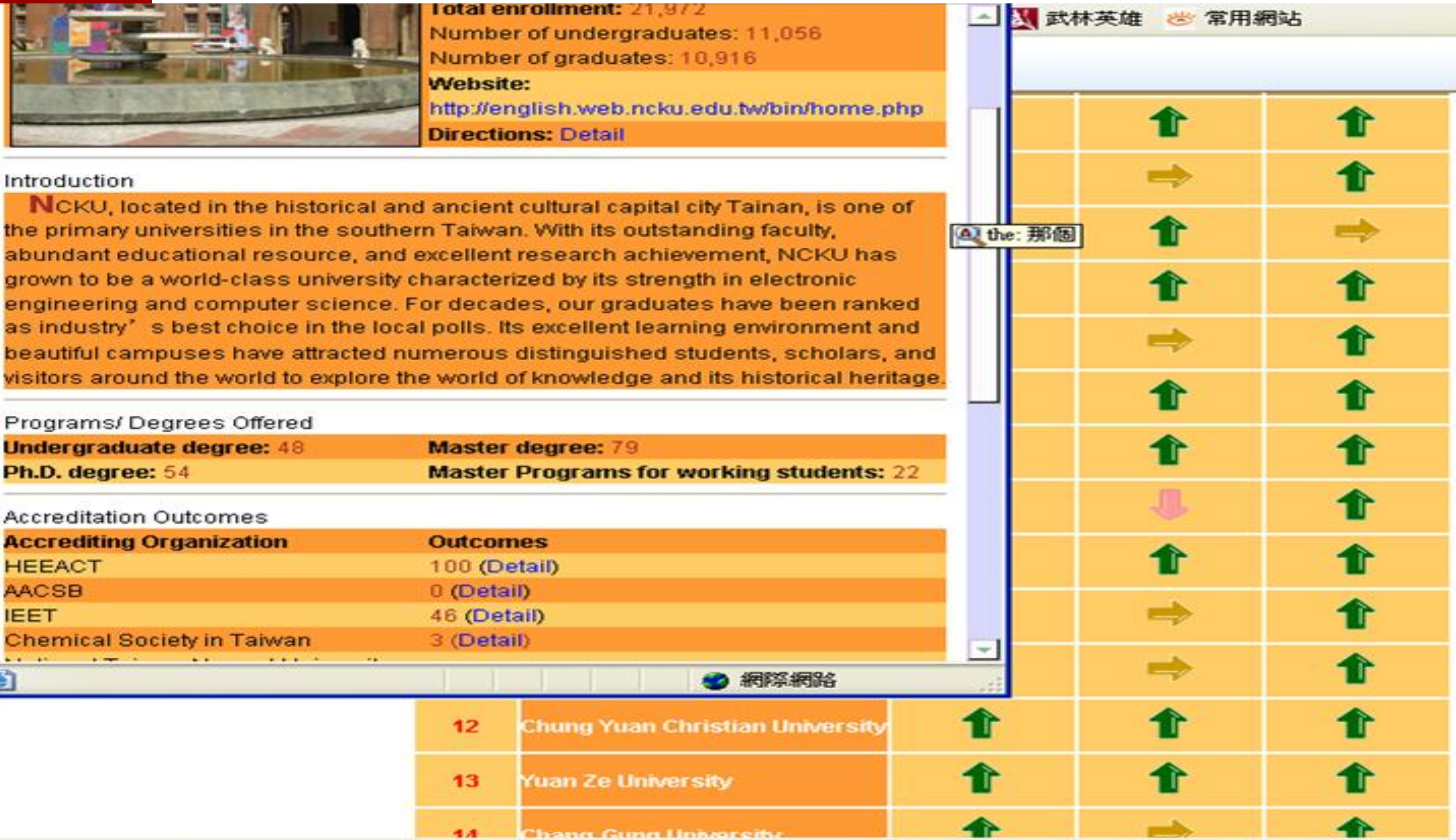
Rank	Institution	Enrollment rate	Faculty-student ratio	Proportion of professors with Ph.D.	SCI
1	Chang-Gung University	→	↑	↓	↑
2	Yuan Ze University	↑	↓	↑	↑
3	Tatung University	↑	→	↓	↑
4	Chung Yuan Christian University	↑	↓	→	↑
5	Tamkang University	→	↓	→	→
6	Fu Jen Catholic University	↑	↓	↓	→
7	Chung-Hua University	↓	↓	→	→
8	Huafan University	↓	→	→	→
9	Soochow University	↑	↓	→	→
10	Ming Chuan University	↑	→	→	→
11	Kainan University	↓	↓	↑	↓
12	Chinese Culture University	→	↓	↓	→
13	Shih Hsin University	↑	↓	→	↓
14	Fo Guang University	↓	→	↑	↓

The indicators you choose

Our system will analyze the rank of the universities according to the indicators and weights you decide

The performance of each university

College Navigator in Taiwan - Step 5: General l information



Total enrollment: 21,972
Number of undergraduates: 11,056
Number of graduates: 10,916
Website:
http://english.web.ncku.edu.tw/bin/home.php
Directions: Detail

Introduction

NCKU, located in the historical and ancient cultural capital city Tainan, is one of the primary universities in the southern Taiwan. With its outstanding faculty, abundant educational resource, and excellent research achievement, NCKU has grown to be a world-class university characterized by its strength in electronic engineering and computer science. For decades, our graduates have been ranked as industry's best choice in the local polls. Its excellent learning environment and beautiful campuses have attracted numerous distinguished students, scholars, and visitors around the world to explore the world of knowledge and its historical heritage.

Programs/ Degrees Offered

Undergraduate degree: 48	**Master degree:** 79
Ph.D. degree: 54	**Master Programs for working students:** 22

Accreditation Outcomes

Accrediting Organization	**Outcomes**
HEEACT	100 (Detail)
AACSB	0 (Detail)
IEET	46 (Detail)
Chemical Society in Taiwan	3 (Detail)

			↑	↑
			→	↑
			↑	→
			↑	↑
			→	↑
			↑	↑
			↑	↑
			↓	↑
			↑	↑
			→	↑
			→	↑
12	Chung Yuan Christian University	↑	↑	↑
13	Yuan Ze University	↑	↑	↑
14	Chang Gung University	↑	→	↑

Popular use of global rankings by stakeholders

- Students are using ranking tables in their decision-making about where to study.
  - choice of institution (domestic) or for studies abroad
- Governments are taking advantage of rankings to know where to invest
- Scientists use them to know where to work
- Institutions use rankings to know where they stand and whom they can partner with.
  - collecting and publishing more reliable data
  - analyzing key factors explaining ranking
  - seeking to improve teaching, learning and research□

Major Benefit

- Culture of transparency

What We can’t see in the rankings ?

- overall performance of tertiary education systems
  - access vs. equity
  - quality and relevance
- institutional differentiation
- contribution to local economic and social development (human capital vs. patents

From ranking to benchmarking: A wise choice for institutions, governments and students

- thirst for information
  - culture of transparency and accountability
- rankings
  - one among many QA and accountability
- international comparisons help to stimulate a healthy debate on main challenges

2011 HEEACT International Conference & Workshop and IREG-6

Internationalization of Standards in Higher Education : Accountability, Student Learning Outcomes and Collaborations in Quality Assurance Agencies

Workshop: Graduate Tracking Mechanism

June 2-4, 2011

Academic Rankings and Advancement of Higher Education: Lessons from Asia and other Regions

April 18 ~ 20, 2012

Thank you for your attention

Welcome to Taipei in June !!!

Higher Education Evaluation & Accreditation Council of Taiwan

http://www.heeact.edu.tw/