



Reform into competency-based curriculum in medical education in South Korea

Seoul National University College of Medicine

Wan Beom Park

wbpark1@snu.ac.kr



Seoul National University College of Medicine

History

- 1899~ 醫學校 **Eui-Hak Gyo**: Korea's first modern medical school
- 1946~ Seoul National University College of Medicine

Current Status

- 536 full time professors, 339 clinical professors
- 842 medical students (premed: 211, med: 631)
- 719 graduate students (M.S., Ph.D.)

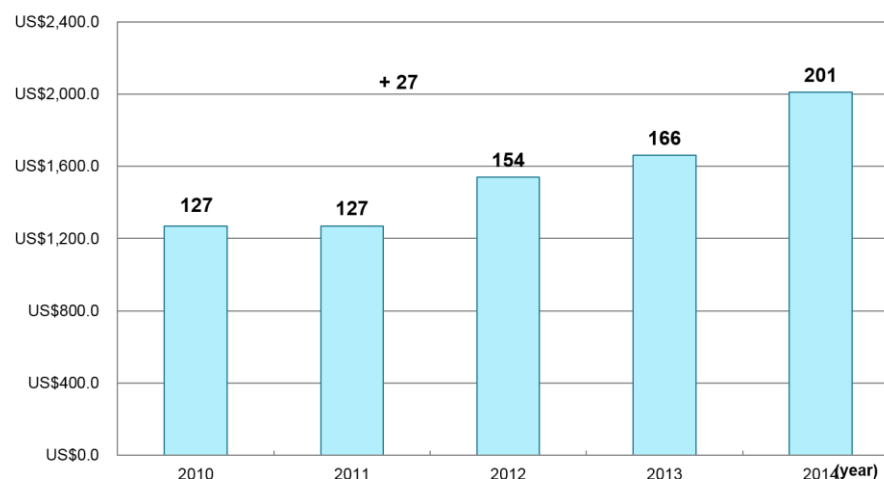
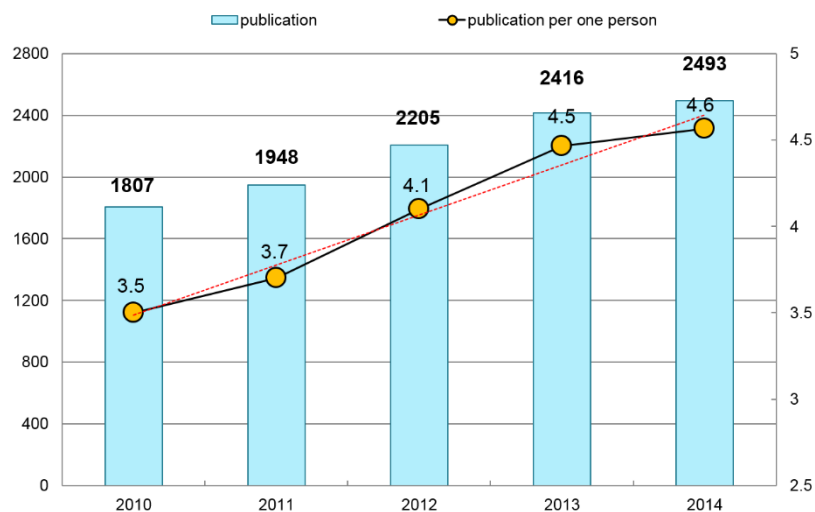
Affiliated organization

- Seoul National University Hospital
- SNU Children's Hospital
- SNU Cancer Hospital
- SNU Bundang Hospital
- SNU Boramae Hospital
- SNU Gangnam Center



Seoul National University College of Medicine

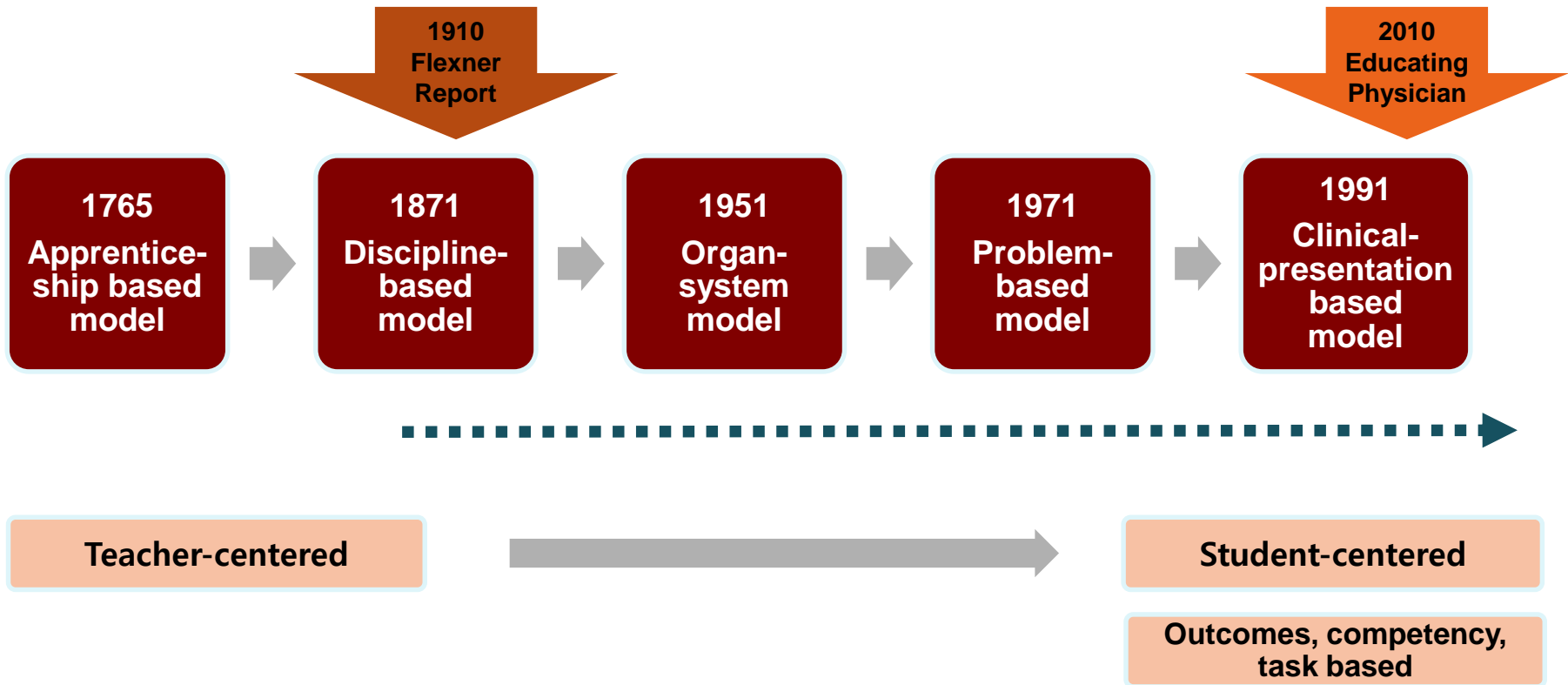
Research publication and grant



QS ranking by subject

	2014	2015	2016	2017
Subject (medicine)	56	48	48	40

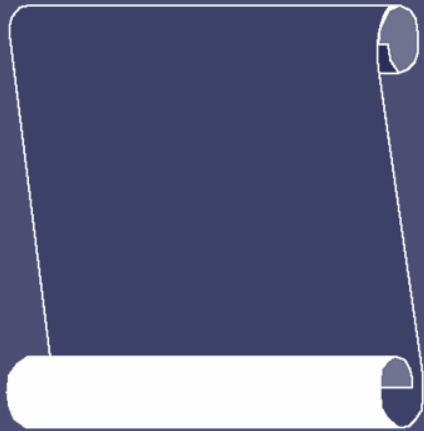
Trend of medical education



Flexner Model



**Define
“Fundamental
Knowledge”**



**Teach the
Fundamentals**



**Test for
Knowledge of
Fundamentals**



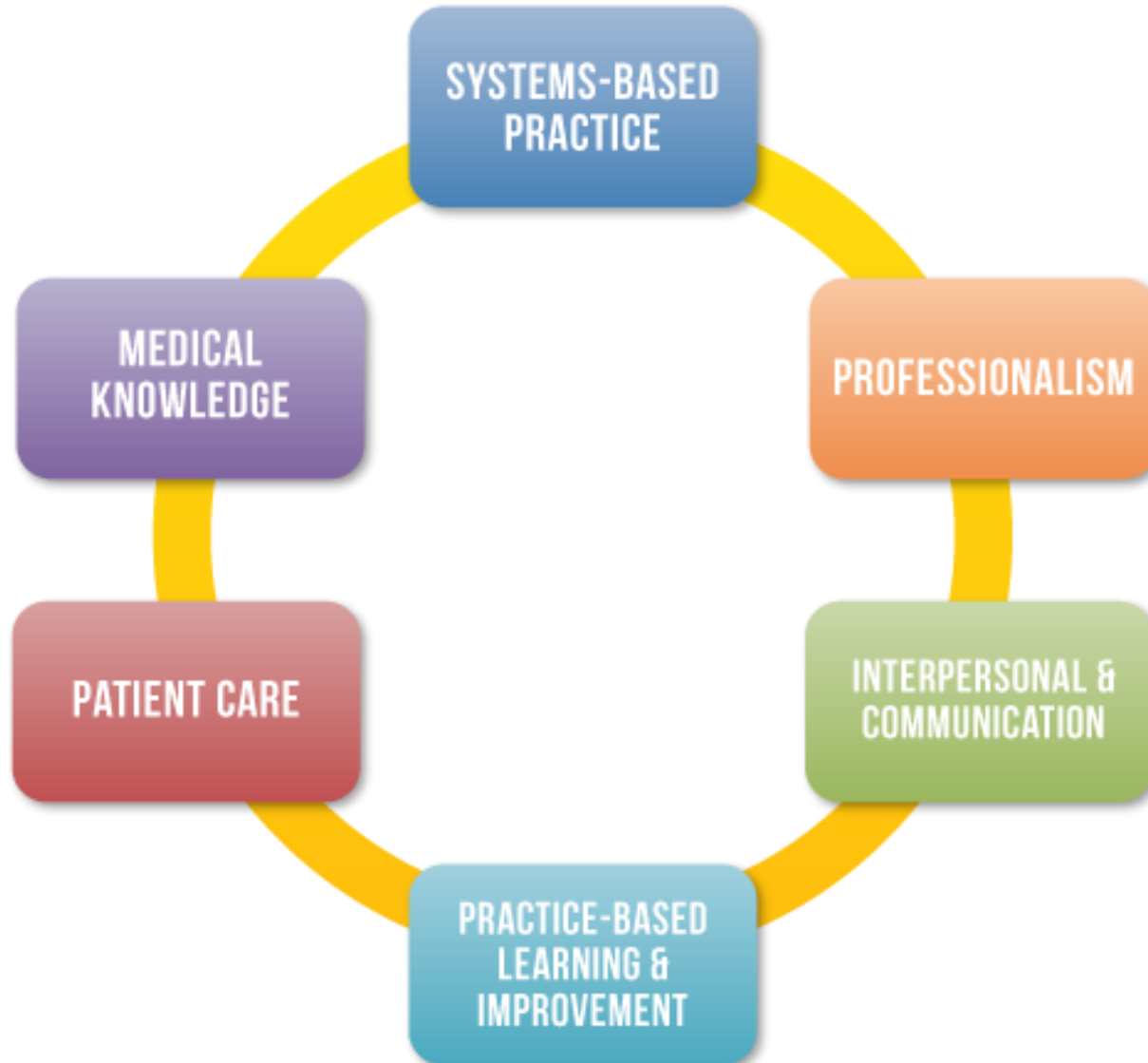
**Hope for
the Best**



Competency Based Model



ACGME Core Competencies



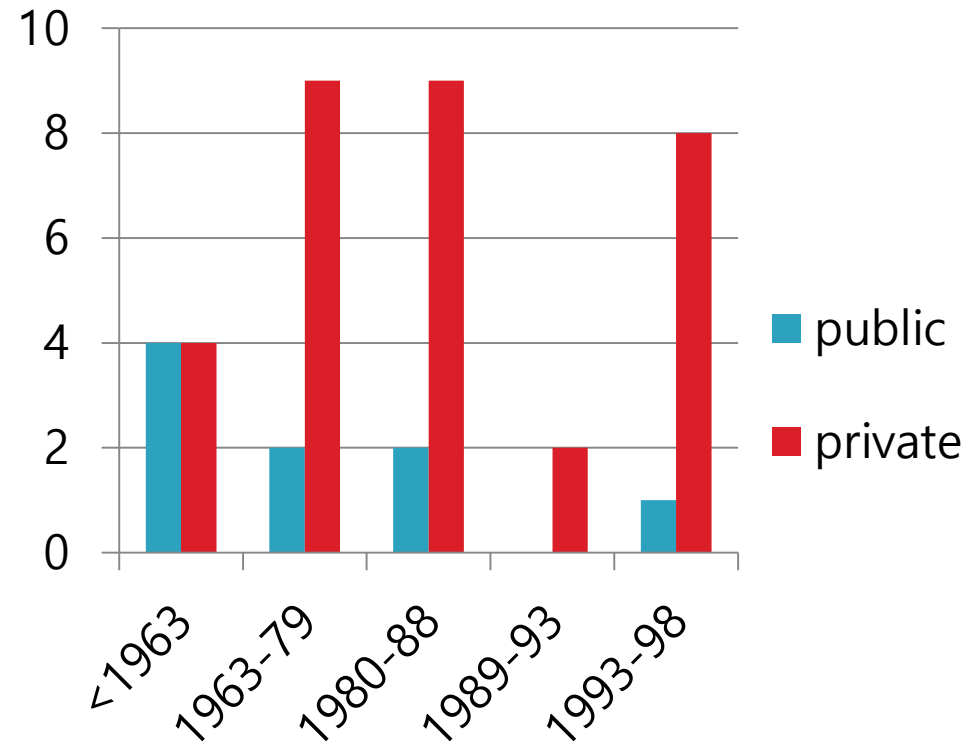
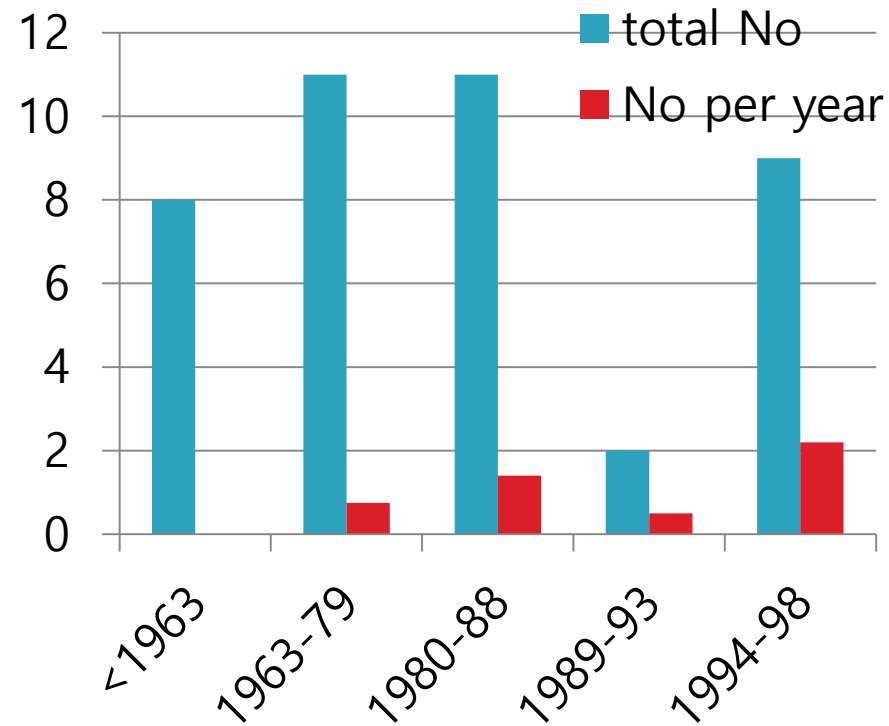
2014 Medical Doctors' Competency in Korea



Accreditation standards for medical education

GMC	WFME	LCME
1. Learning environment and culture	6. Educational resources	3. Academic and Learning Environments 5. Educational Resources and Infrastructure 9. Teaching, Supervision, Assessment, and Student and Patient Safety
2. Educational governance and leadership	1. Mission and outcomes 2. Governance and administration 9. Continuous renewal	1. Mission, Planning, Organization, and Integrity 2. Leadership and Administration
3. Supporting learners	4. Students	10. Medical Student Selection, Assignment, and Progress 11. Medical Student Academic Support, Career Advising, and Educational Records 12. Medical Student Health Services, Personal Counseling, and Financial Aid Services
4. Supporting educators	5. Academic staff/faculty	4. Faculty Preparation, Productivity, Participation, and Policies
5. Developing and implementing curricula and assessments	2. Educational programme 3. Assessment of students 7. Programme evaluation	6. Competencies , Curricular Objectives, and Curricular Design 7. Curricular Content 8. Curricular Management, Evaluation, and Enhancement

Distribution of Established Year of Medical Schools in Korea (N=41)



Development of accreditation system in Korea

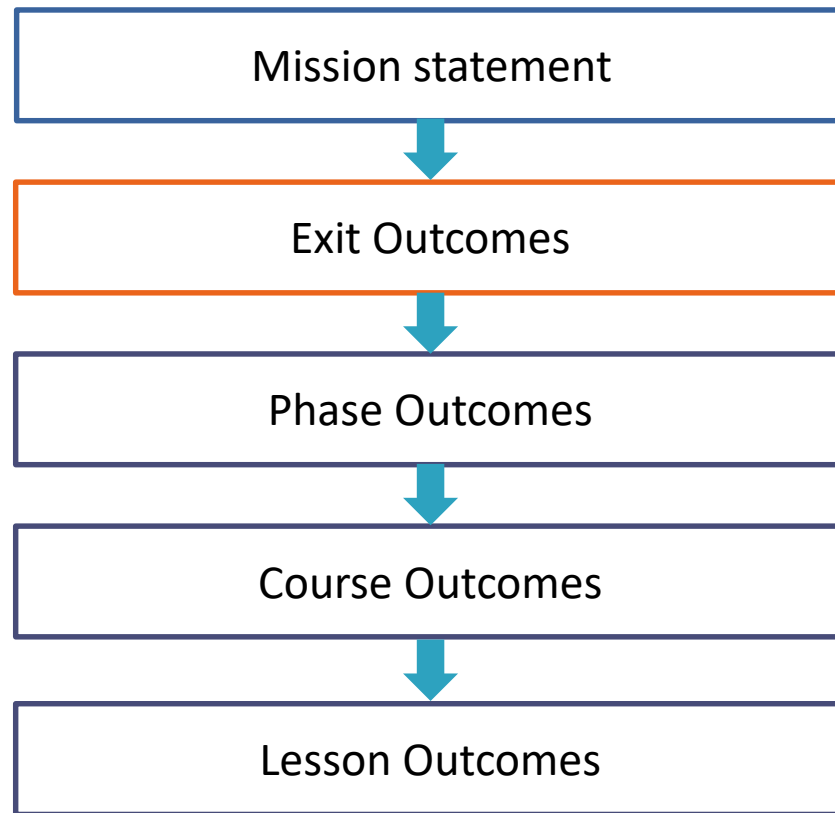
- Early 1990s Need for quality assurance system
- 1992 Seminar on the confidential system of medical school sponsored by Korean Association of Medical College
- 1993 Voluntary, small scale self-evaluation
- 1996 Programmatic accreditation done by Korean Council for University Education
- 1998 Accreditation Board for Medical Education in Korea (ABMEK)
- 2003 Korean Institute of Medical Education and Evaluation (**KIMEE**)

Standards in accreditation by KIMEE (2013)

Areas (6)	Sub areas (20)
Governance	Foundation/administration/finance/developmental plan/improvement effort (5)
Basic medical education curriculum	framework/ development and support/structure and operation/outcome evaluation/assessment quality (5)
Student	Admission policy and selection/guidance system/welfare and security/career guidance (4)
Faculty	Full-time faculty/academic activity/faculty development (3)
Facilities and resources	Education equipment/research equipment (2)
Postgraduate education	Postgraduate curriculum (1)

Design Process for New Curriculum

❖ Outcome based curriculum



Exit Outcomes in SNUCM

1. Clinical competency

1. Understanding human body and diseases
2. Collecting clinical data and diagnosis
3. Utilization of medical resources and treatment
4. Diseases prevention and health promotion

2. Research competency

5. Critical, clinical thinking
6. Ability for research performance

3. Leadership and International Perspectives

7. Empathetic understanding and communication
8. Understanding society and culture
9. Understanding international health

4. Professionalism

10. Observing ethics and law
11. Continuous self development
12. Social contribution

Five Design Principles for New Curriculum

- Horizontal/vertical Integration
- Expansion of selective course
- Reinforcement of self-directed learning
- Intensification of clinical clerkship
- Comprehensive and appropriate evaluation and feedback

Directions of curriculum reform

Graduates of SNUCM

**Clinical
Competency**



Elective



**Self-Directed
Learning**



**Enhanced
Clinical Clerkship**

Professionalism

Research



Integration



**Evaluation
and Feedback**

Leadership

New Curriculum in SNUCM (2016~)

2016	1		2		3				4				5				6				7		8				9				10				11				12				1									
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																																					Selective Course 1				Selective Course 2				ICM I							
2017	1		2		3				4				5				6				7		8				9				10				11				12				1									
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																																	ICM II – 1				ICM II – 2															
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2018	1		2		3				4				5				6				7		8				9				10				11				12				1									
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3 th yr	Clinical Reasoning 1	ICM III	Clinical Clerkship for Medical Parts						Human Society : Medicine 5	Clinical Clerkship for Women & Children						Vacation	Clinical Clerkship for Surgical Parts						Human Society : Medicine 6	Clinical Clerkship for Mental / Nervous System & Image						Progress test	Vacation																					
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2019	1		2		3				4				5				6				7		8				9				10				11				12				1									
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4 th yr	Advanced Selective Course						Human Society : Medicine 7	Selective Clinical Clerkship										Progress test	Student Internship						Progress test																											
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4. Professionalism

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11. Continuous self development
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4 phases in the curriculum

1. Normal human body
 - Anatomy, physiology, biochemistry, histology, neuroscience
2. Basics for understanding disease
 - Pathology, microbiology, pharmacology, parasitology
3. Human & diseases
 - Integrated courses between basic and clinical science
 - Team-based learning, case-based learning
4. Clinical clerkship
 - Core clerkship
 - Selective clerkship
 - Student internship

Integration

- Horizontal & Vertical Integration
- Integration among
 - basic science
 - clinical medicine
 - professionalism
 - leadership

Early exposure to clinical situation

- In 1st and 2nd year
 - Patient interview
 - Physical examination
 - Hospital visit
 - Clinical ethics
 - Career development programs

Simulation Based Learning



SEOUL
NATIONAL
UNIVERSITY

지 석 영 센터
College of Medicine Clinical Skill Training Center

SNUCM Simulation center

Ji Seok-Young was the school's first principal



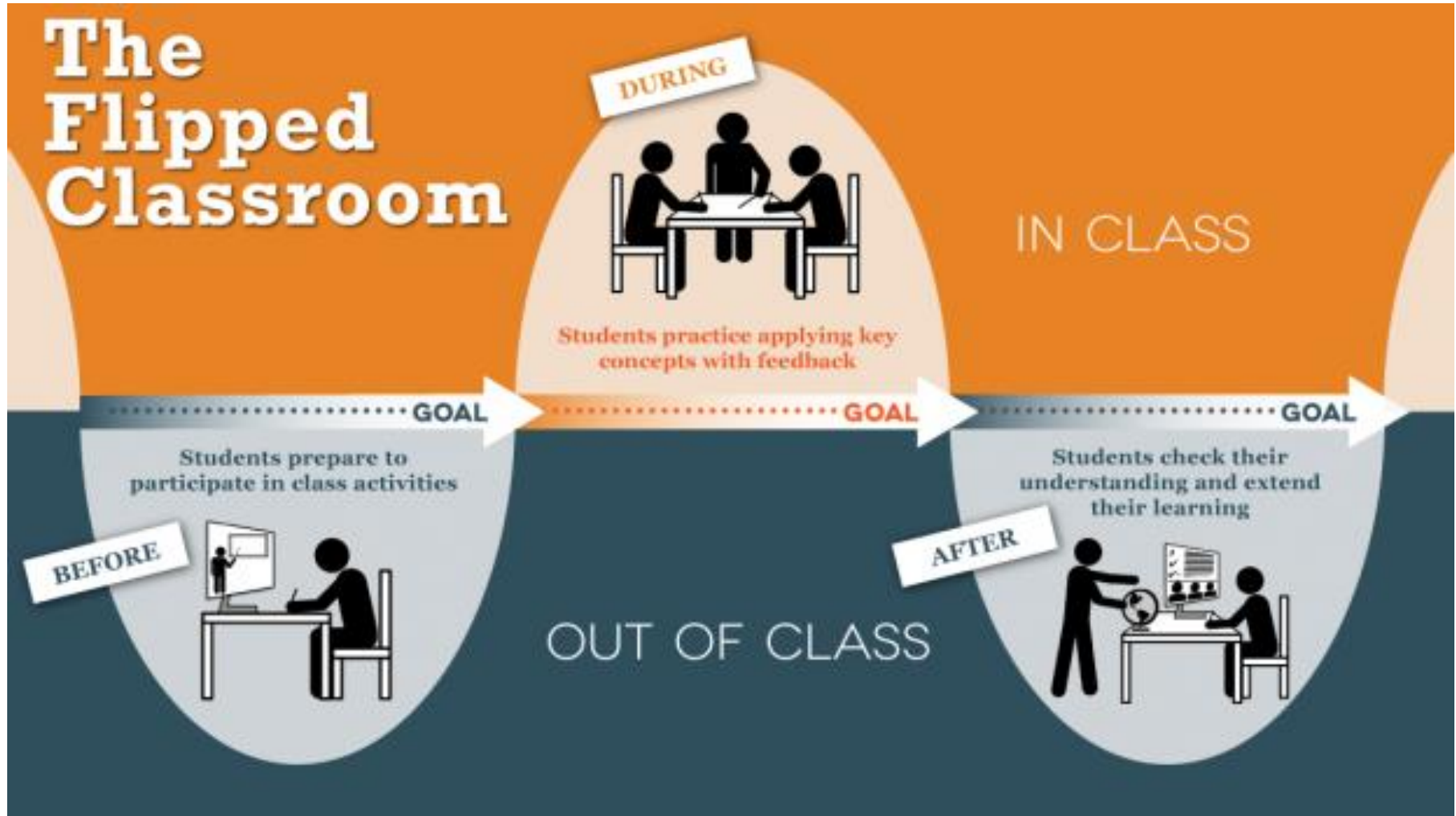
Simulation Based Learning



Self-directed Learning

- Lecture halls without lecture
- Flipped learning
 - Team-based learning
 - Case-based learning
- Interactive learning

Active Learning: Flipped Classroom



E-Learning: Medical Education 3.0

← → http://snuon-med.snu.ac.kr/_ocw/ OCW X

파일(F) 편집(E) 보기(V) 즐겨찾기(A) 도구(T) 도움말(H)

My Courses SNUON - Medical Education 3.0 분류별 주제별 제공처별 로그인

Home All Enter keyword Search

정규 강의

평점 : 100 13:13

당뇨병의 병태생리
Pathophysiology of Diabetes Mellitus

서울대학교 의과대학 내과학교실
박경수/조영민



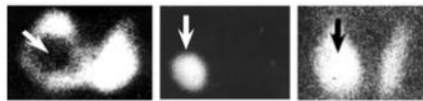
당뇨병의 병태생리

Jun 24, 2014

198 0 2

평점 : 0 17:03

Thyroid nodule의 스캔 소견



Cold nodule Hot nodule Warm nodule

* Iodine scan에서 hot nodule은 functioning nodule이라고 할 수 있지만 ^{99m}Tc scan에서의 hot nodule은 Functioning nodule이 아닐 수도 있다.

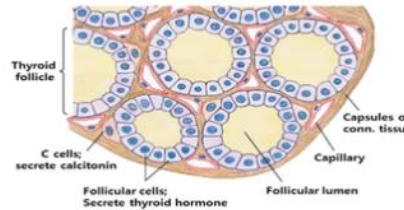
갑상선 생리 및 갑상선 기능검사

Jun 24, 2014

159 0 0

평점 : 0 12:54

Structure of thyroid gland



갑상선호르몬의 생성, 대사 및 분비조절

Jun 24, 2014

126 0 0

평점 : 0 11:31

갑상선기능항진증의 치료

갑상선기능 조절
• 갑상선호르몬생산억제
• 갑상선 파괴



T₄ → T₃

- 갑상선호르몬생성 억제
- T₄와 T₃ 전환 억제
- 갑상선종괴형의 병상조절

그레이브스병(Graves' Disease) 진단과 치료

Jun 24, 2014

113 0 0

인기강사

'스누온 메드'에 오신 여러분을 환영합니다.
유익한 동영상들 통해 학습에 도움을 얻길 바랍니다.



서울대학교 의과대학

인기강의

당뇨병의 병태생리
Pathophysiology of Diabetes Mellitus



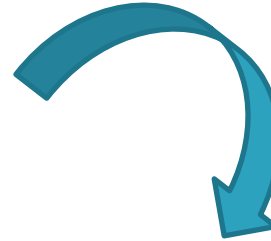
당뇨병의 병태생리...
당뇨병은 고혈당을 특징으로 하는 질환군입니다.
당뇨병증 제1형...

Summary on Auto-Blood Balance



Regulation of Body H...
주권욱 교수님의 신장오로학 2번째 강의입니다...

Team-based learning



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New Curriculum in SNUCM

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Medical Research

- 1st year (2 weeks)
 - Course for orientation of medical research
 - Basic concept for medical research, ethics, basic methodology, statistics, etc.
- 2nd year (10 weeks)
 - Performance of medical research as a team with other student or individual with a supervisor in diverse laboratories
- 4th year (6 weeks)
 - Students can spend this period for completing their research

Integrative Biomedical Education Research Building

Develop a “21st Century R&D and talent development linked system” that will lead cutting-edge modern research

* *Location* Multi-Disciplinary Laboratory, Research Building 2

* *Gross floor area* 17,700 m²



Medical Science Building

Total Cost 167 mil USD **Gross floor area** 10,506 m²



Wide River Institute of Immunology

To make a healthy world by leading biomedical research based on creative and collective intelligence

Location Guneop-ri, Hwacheon-myeon, Gangwon, Korea

Gross area 93,691 m² **Gross floor area** 8,340 m² (3 Building)



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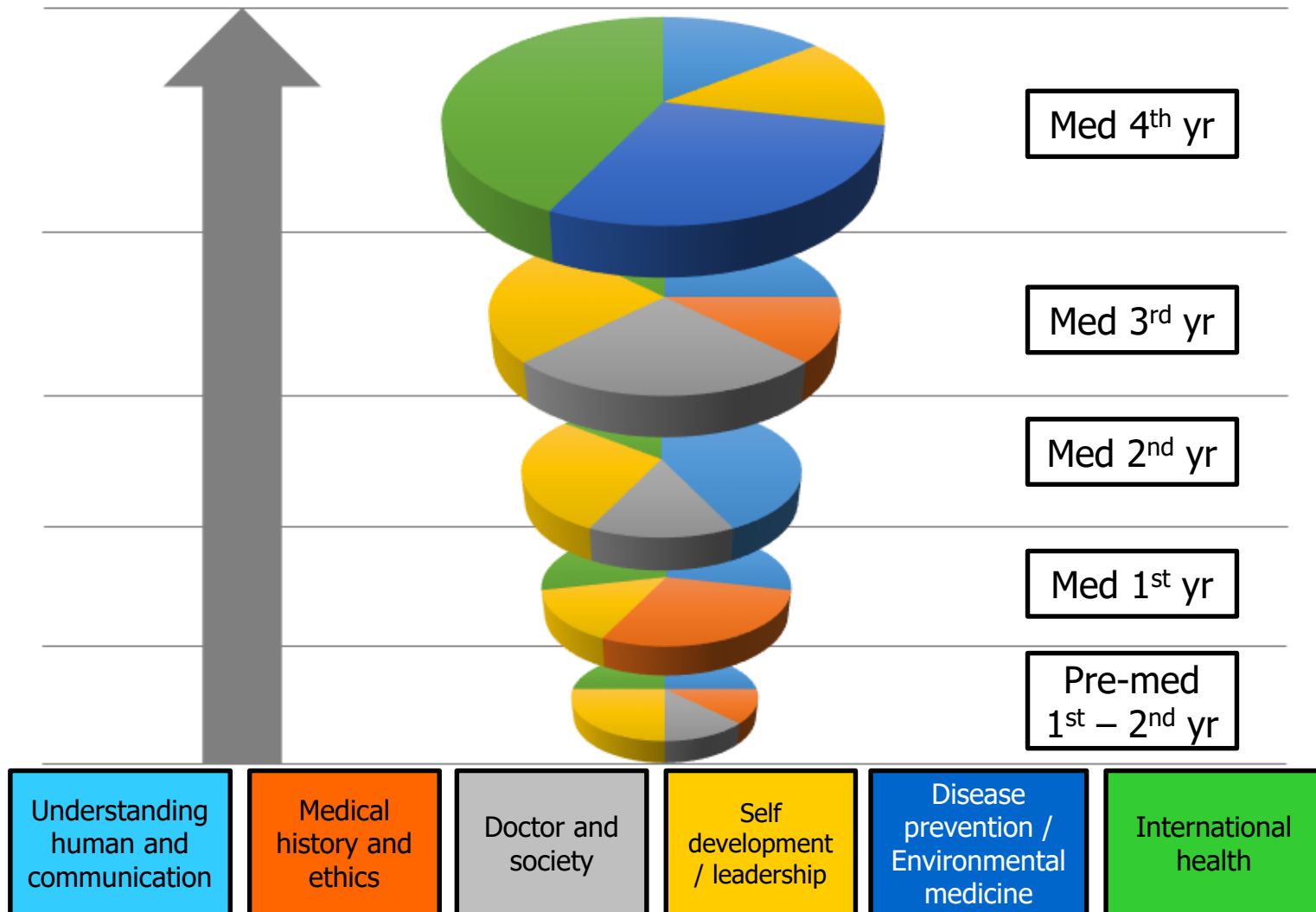
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Human·Society·Medicine



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Diverse selective courses

- Selective course in 1st and 2nd years
 - 3-4 hours a week for 8 weeks during a half year
 - Students select one from 10-20 subjects according to their interest and ability
- Advanced elective course in 4th year
 - Research: basic science, clinical science or complementary-alternative medicine
 - Career search opportunity: internship in newspaper publishing company, pharmaceutical company...
 - Voluntary service: overseas, domestic
- Selective clerkships in 4th year

International Partner Institutions

Total 56 (America 13, Europe 3, Asia 35, Oceania 4, Middle East 1)



JW LEE Center for Global Medicine

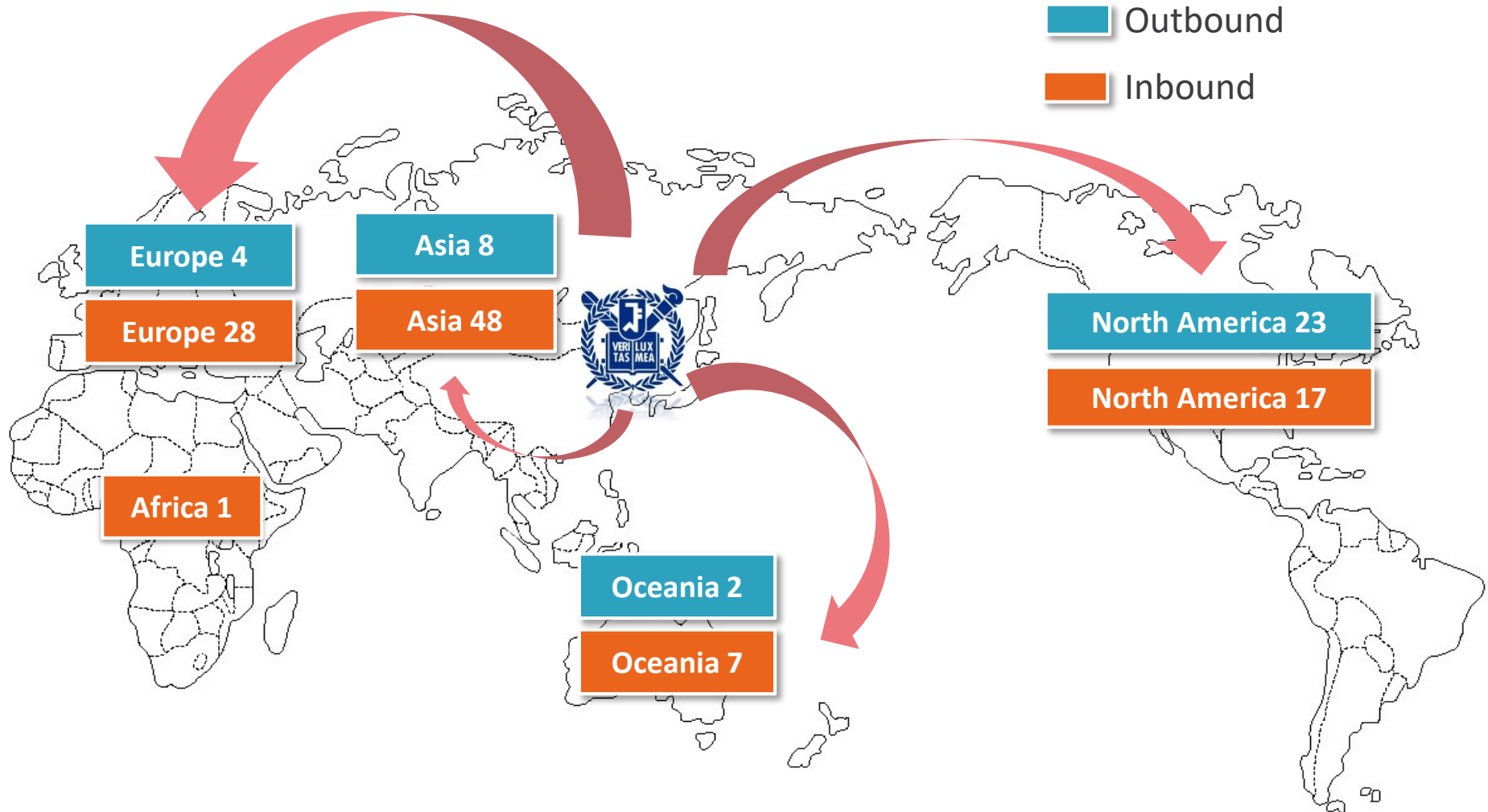


*In the international community, especially in developing countries, JW LEE CGM at SNU supports health promotion activities based on its foundation of **sustainable medical knowledge** and **technology**.*



JW LEE Center
for Global Medicine

SNUCM Students' International Clerkship




Challenge of curricular reform

- Faculties' resistance to curricular reform
 - Incomplete comprehension of intention of curricular reform
 - Unfamiliarity with new methods such as team-based learning
 - Adherence to previous curriculum and teaching systems
- Students' resistance to curricular reform
 - Lack of patience to unavoidable trial-and-errors during the reforms
- Overloading work to the staffs leading the reform
 - Steadily demanding process of curricular reform
 - Needs for manpower and financial supports to the office of medical education

Summary

Competency-based curriculum in South Korea

- Background
 - Change of medical environment (self-directed learning, team-work, etc.)
 - 2003~ Korean Institute of Medical Education and Evaluation (KIMEE)
 - Global standard (WFME, LCME)
- Introduction of competency-based curriculum

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graph LR; A[Exit outcome] --> B[Phase outcome]; B --> C[Course outcome]; C --> D[Lesson outcome]
```
- Challenge of curricular reforms
 - Faculties' resistance and adherence to previous system
 - Exhaustion of the staffs working for curricular reform

Thank you