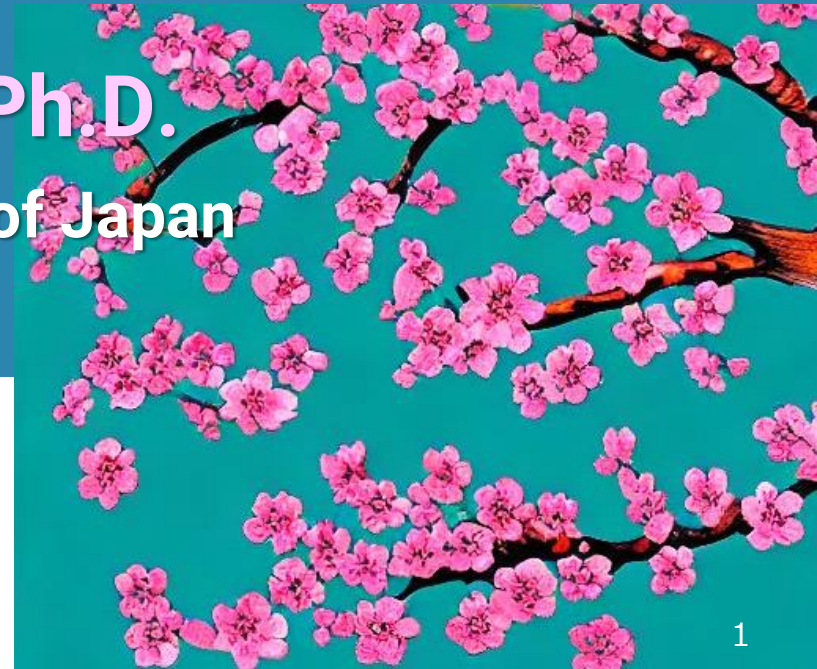# From Traditional to Tech-Enabled: The Open University of Japan's Journey Towards Digital Transformation (DX)

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The Open University of Japan

DX in Japan

- Despite its image of a technologically advanced nation, Japan ranked **29th out of 63 countries** according to the World Digital Competitiveness Ranking by Switzerland's Institute for Management Development (IMD) in 2022

2022 COMPETITIVENESS RANKING

			Score	
01	Denmark		100.00 ↗	3
02	USA		99.81 ↙	1
03	Sweden		99.81	-
04	Singapore		99.48 ↗	1
05	Switzerland		98.23 ↗	1
06	Netherlands		97.85 ↗	1
07	Finland		96.60 ↗	4
08	Korea Rep.		95.20 ↗	4
09	Hong Kong SAR		94.36 ↙	7
10	Canada		94.15 ↗	3
11	Taiwan, China		94.11 ↙	3
12	Norway		93.23 ↙	3
13	UAE		91.42 ↙	3
14	Australia		87.89 ↗	6
15	Israel		87.37 ↗	2
16	United Kingdom		86.45 ↙	2
17	China		86.42 ↙	2
18	Austria		85.35 ↙	2
19	Germany		85.17 ↙	1
20	Estonia		85.06 ↗	5
21	Iceland		84.97	-
22	France		81.42 ↗	2
23	Belgium		81.34 ↗	3
24	Ireland		79.56 ↙	5
25	Lithuania		79.32 ↗	5
26	Qatar		78.37 ↗	3
27	New Zealand		77.44 ↙	4
28	Spain		77.40 ↗	3
29	Japan		76.84 ↙	1
30	Luxembourg		76.47 ↙	8

'Digital Defeat' in Japan

- **Digital Agency** was launched in September 2021
- The Ministry of Education, Culture, Sports, Science and Technology (MEXT) awarded 54 institutional projects in 2021 for digital transformation
  - ✓ Mostly small sectors of HEIs
  - ✓ Overall impact has been minimal
- At the start of COVID-19, almost all the HEIs moved their classes online, but in 2021 nearly 90% moved back to f2f
- No government-driven projects for HEIs in 2022 and 2023
- **Digital Transformation of HEIs have been very slow...**

Why DX of HEIs have been so slow…

- **Cultural factors**
  - ✓ Face-to-face contacts are highly valued and online education had not been widely adopted before the pandemic

- **Lack of funding**
  - ✓ Japanese HEIs heavily rely their funding on the government
  - ✓ The student fee revenues at most HEIs are decreasing due to the shrinking college age population

- **Technical challenges**
  - ✓ Most HEIs in Japan don't have technical professionals in-house and they have to outsource most technical projects

- **Attitudes of faculty and students**
  - ✓ Most HEIs lack the necessary support from faculty and students as they tend to be risk averse
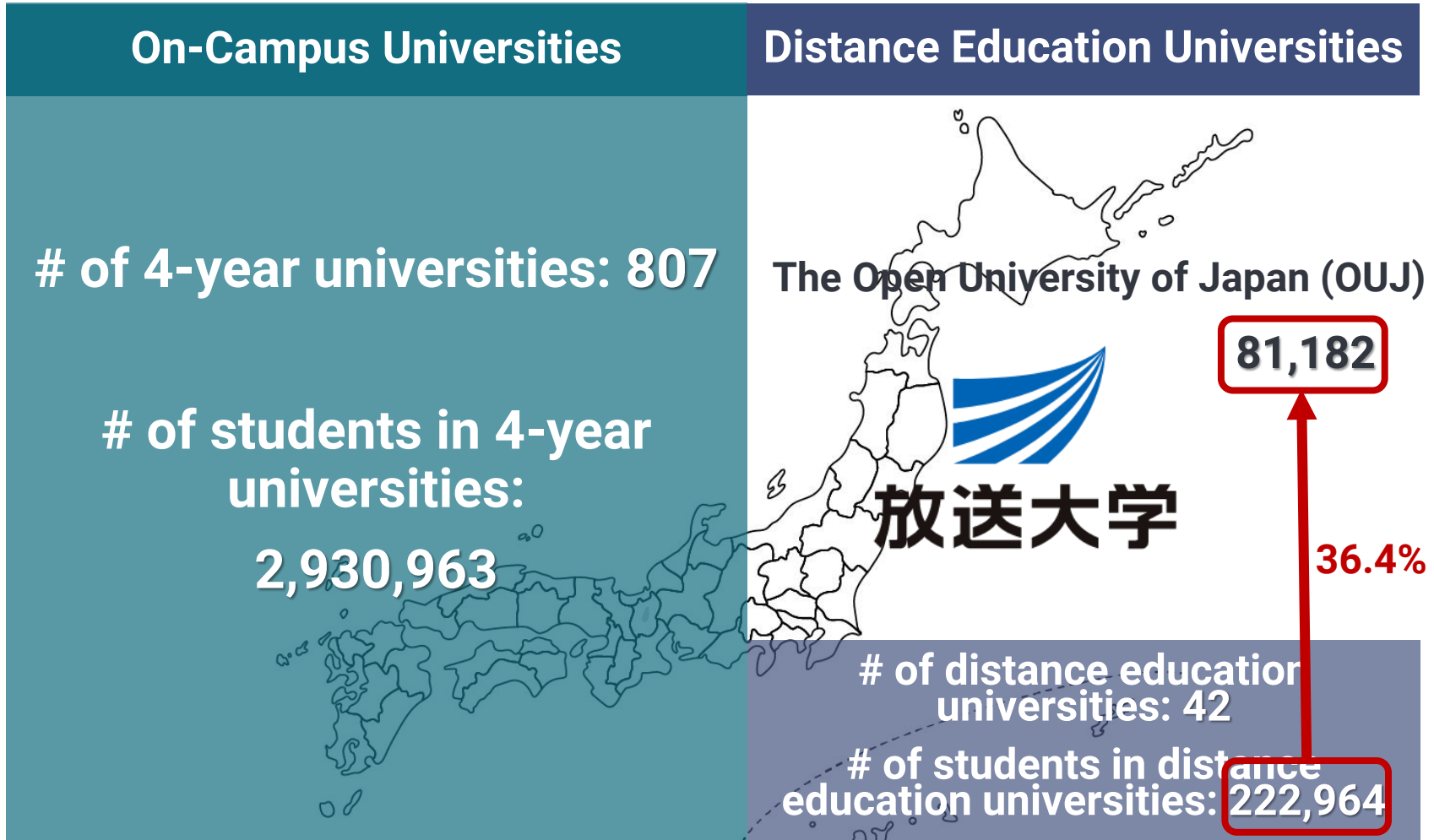
Online Education at HEIs in Japan

- At the beginning of the pandemic in 2020, all the f2f classes got cancelled and forced to move to remote teaching & learning

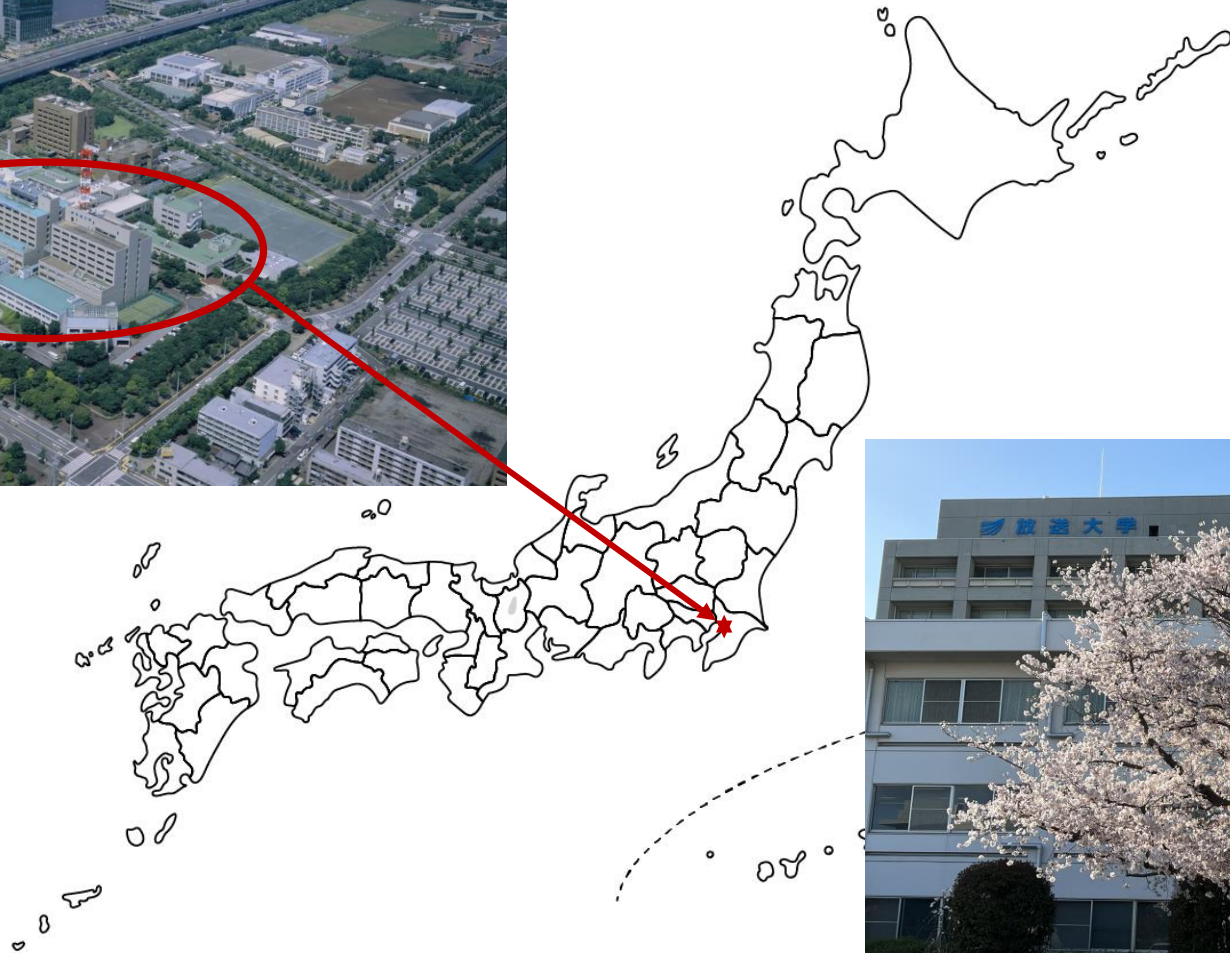- But, most of them had moved back to f2f in 2022

	Online	F2F
2021 (N=46)	29.4%	70.6%
2022 (N=48)	12.1%	87.9%

■ Online ■ F2F
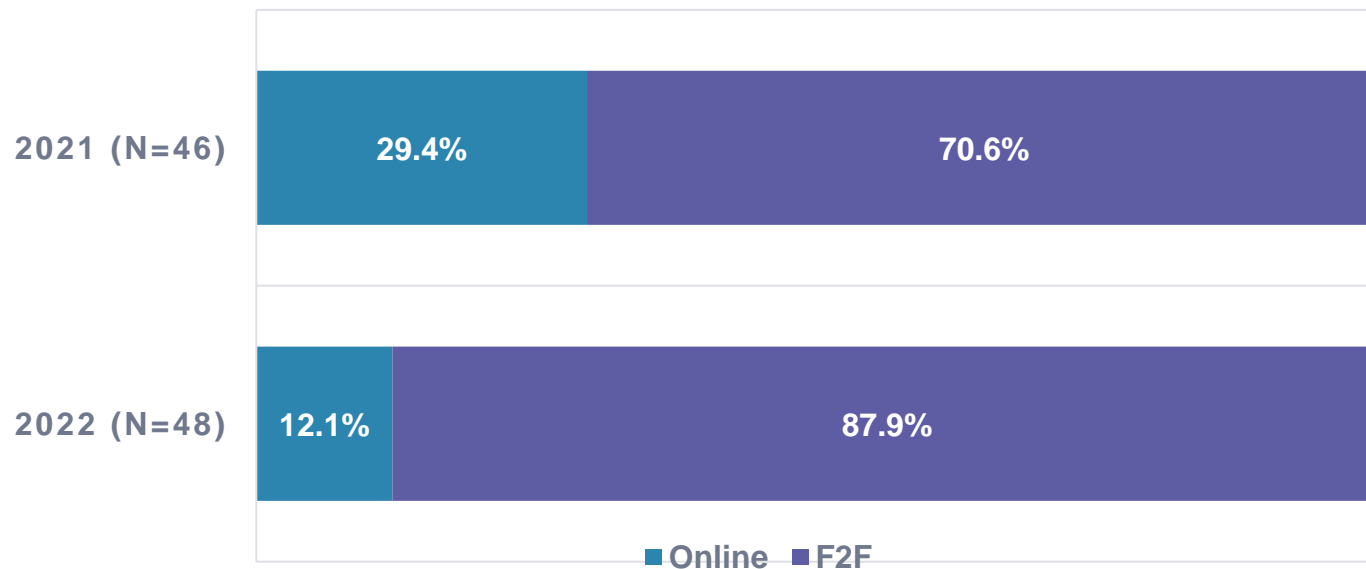
Based on the survey targeted to 60 HEIs which are considered to be digitally advanced

Higher Education Institutions in Japan

On-Campus Universities	Distance Education Universities
# of 4-year universities: 807 # of students in 4-year universities: 2,930,963	The Open University of Japan (OUJ) 81,182 放送大学 36.4% # of distance education universities: 42 # of students in distance education universities: 222,964

The Open University of Japan (OUJ)
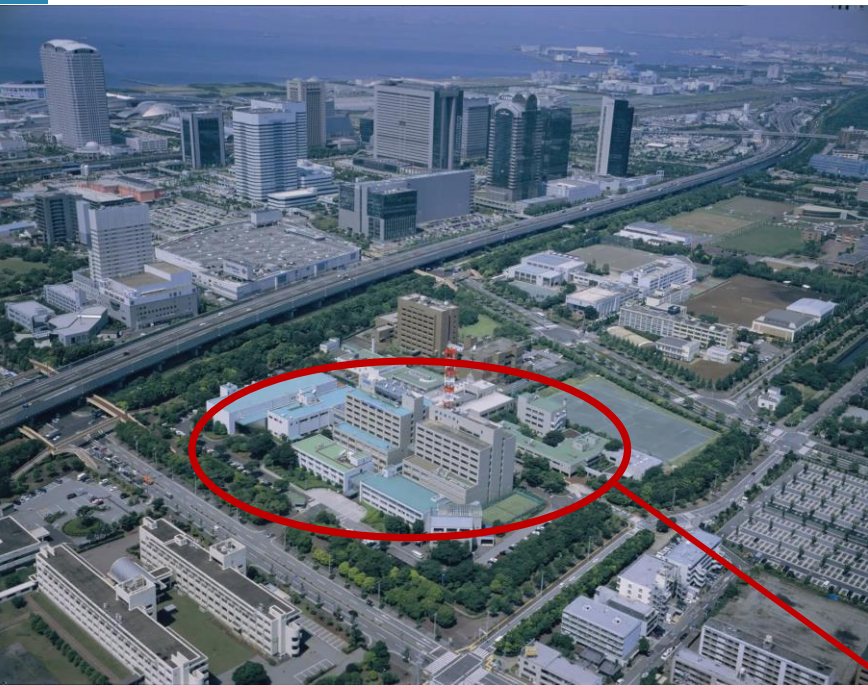
The Organizational Structure of OUJ

MEXT
MINISTRY OF EDUCATION, CULTURE, SPORTS, SCIENCE AND TECHNOLOGY-JAPAN

MIC
Ministry of Internal Affairs and Communications

The OUJ Foundation

OUJ

Faculty

Administration

Study Centers

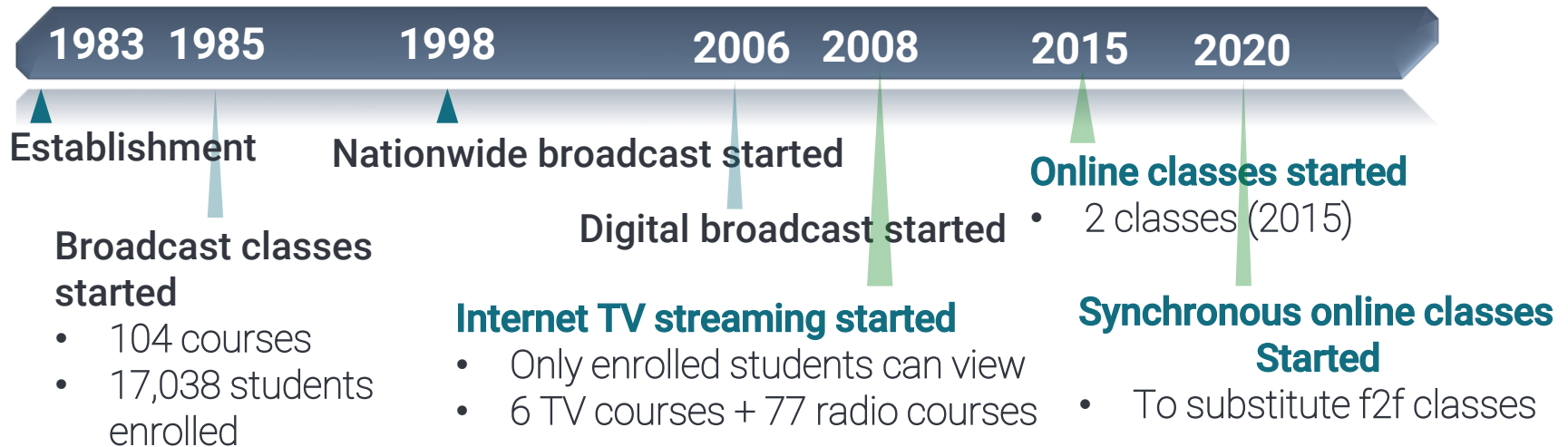**Faculty of Liberal Arts**

The School of Graduate Studies

Study Centers in each prefecture

The History of OUJ

Mission:

- *to explore the principles of new liberal education through scholarly research in each of the specialized field*

- *to provide university education through broadcasting*

- *to respond to the needs of lifelong learning*

1983 **1985**   **1998**   **2006** **2008**   **2015**   **2020**

Establishment

Nationwide broadcast started

Broadcast classes started
- 104 courses
- 17,038 students enrolled

Digital broadcast started

Internet TV streaming started
- Only enrolled students can view
- 6 TV courses + 77 radio courses

Online classes started
- 2 classes (2015)

Synchronous online classes Started
- To substitute f2f classes

Current Educational Model at OUJ

asynchronous | **synchronous**

Broadcasting programs | **Print materials**

Broadcast courses (2 credits)

Online Courses

Live Web Classes   **Distance**

F2F Classes   **F2F**

Fukui Study Center

Tottori Study Center

Tokushima Study Center

Nagasaki Study Center

Asahikawa
Hokkaido
Aomori — Hachinohe
Akita — Iwate
Yamagata Miyagi
Niigata
Fukushima — Iwaki
Toyama Gunma Tochigi
Ishikawa Nagano Saitama Ibaraki
Fukui Shiga Gifu Tokyo Chiba
Shimane Tottori Kyoto Yamanashi Kanagawa
Fukuoka Yamaguchi Okayama Hyogo Shizuoka
Kitakyushu Hiroshima Fukuyama Osaka Mie Aichi Hamamatsu
Saga Oita Kagawa Nara
Nagasaki Ehime Tokushima Wakayama
Kumamoto Kochi
Miyazaki
Kagoshima
Okinawa

Tokyo Bunkyo
Tokyo Tama Tokyo Adachi
Tokyo Shibuya (Open in April 2012)

● Study Center
▲ Satellite Space

OUJ Traditional Educational Model

Admission

Face-to-face Lectures

Thesis Writing (Optional)

Graduation

Study Broadcast Lectures

Submit Mid term Assignments
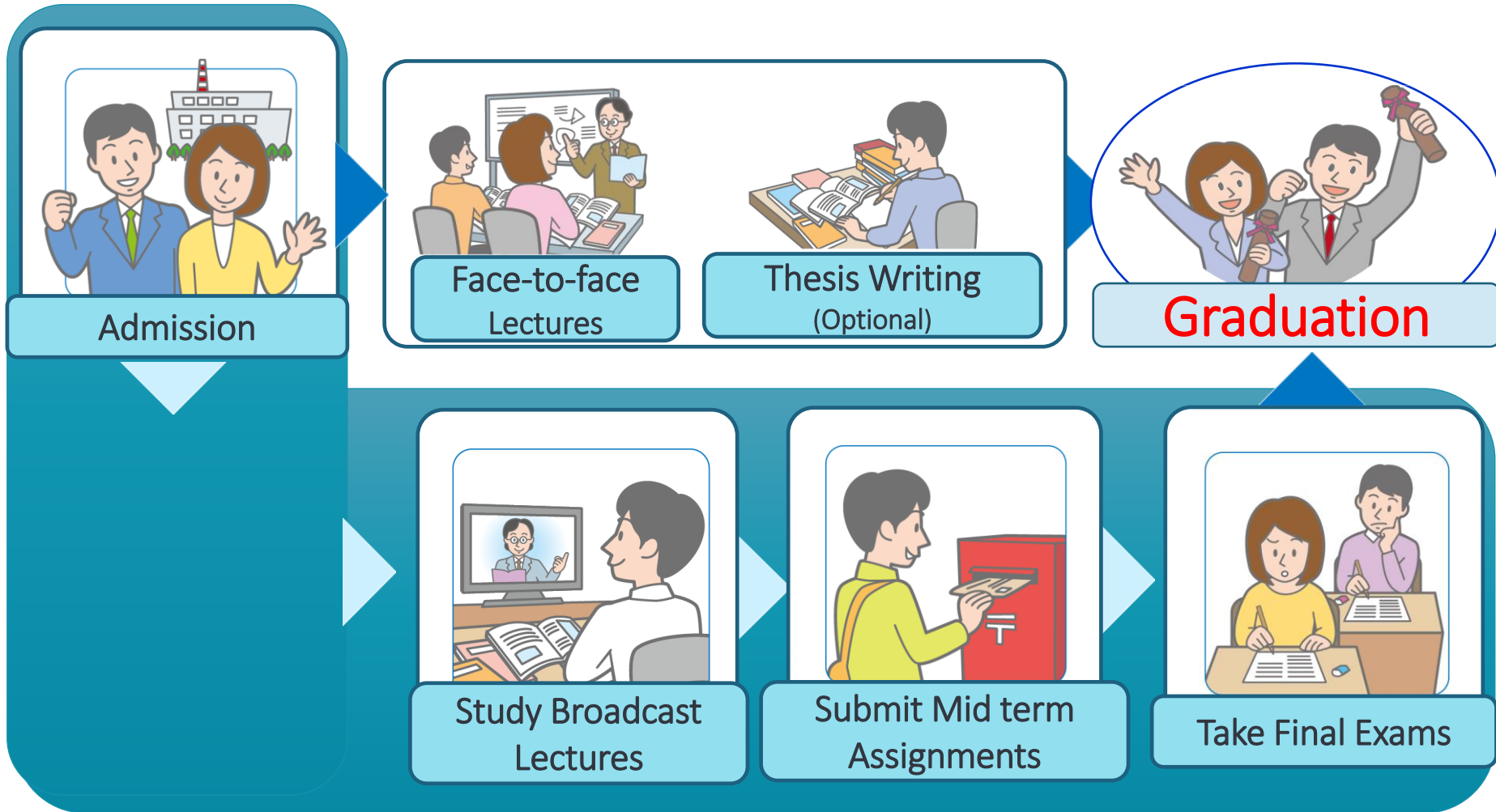
Take Final Exams

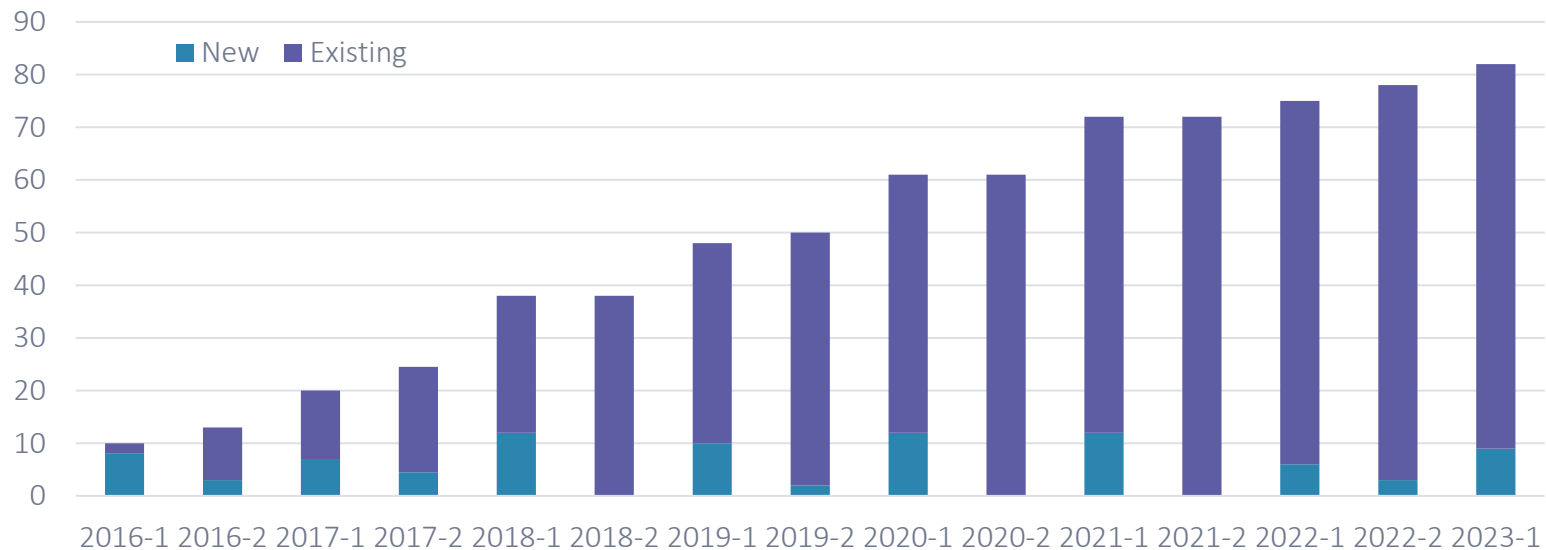# OUJ Broadcast Courses

- **Televison and radio broadcasting**
  - ✓15 x 45-minute programs
  - ✓All pre-recorded (no live broadcasting)
  - ✓Weekly scheduling (15 weeks)
  - ✓Print materials accompanying
  - ✓Final exams for assessment
  - ✓All the programs are available for students to view online (now even on the smart phone app)

OUJ Online Courses

- Full online courses started in April 2016

- **Customized Moodle** is used as its platform

- 44 undergraduate courses and 33 graduate courses are currently offered

# of Online Courses Offered

Legend: ■ New ■ Existing

Chart data (approximate values, stacked bars New + Existing):

Term	Total
2016-1	10
2016-2	13
2017-1	20
2017-2	24
2018-1	38
2018-2	38
2019-1	48
2019-2	50
2020-1	61
2020-2	61
2021-1	72
2021-2	72
2022-1	75
2022-2	78
2023-1	82

Turbulence of Pandemic

asynchronous

synchronous

Broadcasting programs	Print materials	LMS (moodle)

Broadcast courses (2 credits)

Online courses (1 or 2 credits)

Unaffected

Classroom@ Study Center

F2F classes (1 credit)

All cancelled

Web conferencing (Zoom)

Live Web Classes
- Started as special measures

Great needs of Live Web Classes are realized
- No cost for students to travel
- Possibility of real-time interactivity
- Possibility of recruiting students all over the country
- Fewer cost of course production
- Possibility of dealing timely topics
- Possibility of limiting student numbers

Graduation Requirements

- ## Current

Instructional Mode	Required Credits	
Broadcast courses	94	
F2F or online courses	20	10
Total	124	

- ## Proposed (2024.4~)

Instructional Mode	Required Credits	
Broadcast courses	74	
F2F or online courses	20	30
Total	124	

Final Exams

- **Before pandemic**
  - ✓In-person exams scheduled at study centers
  - ✓Exam schedules dictate the combinations of the courses students can take
  - ✓Logistical nightmare
- **During pandemic (2020~2021)**
  - ✓Mail-in exams taken at home
- **Current (2022.4~)**
  - ✓IBT (Internet-Based Testing) taken at home
    - *Only 193 out of a total of 175,407 students asked for mail-in*
- **Future (2024~)**
  - ✓IBT with web camera for student authentication

Non-formal Courses

- **Broadcasting programs (2018.10~2023.3)**
  - ✓One satellite TV channel has been dedicated to non-formal learning (i.e., non-credit bearing programs)

- **Online courses (2020.5~)**
  - ✓A separate LMS for non-students
  - ✓Paid courses for digital badges
    - e.g., programming courses, data science/AI

- **Self-study support system**
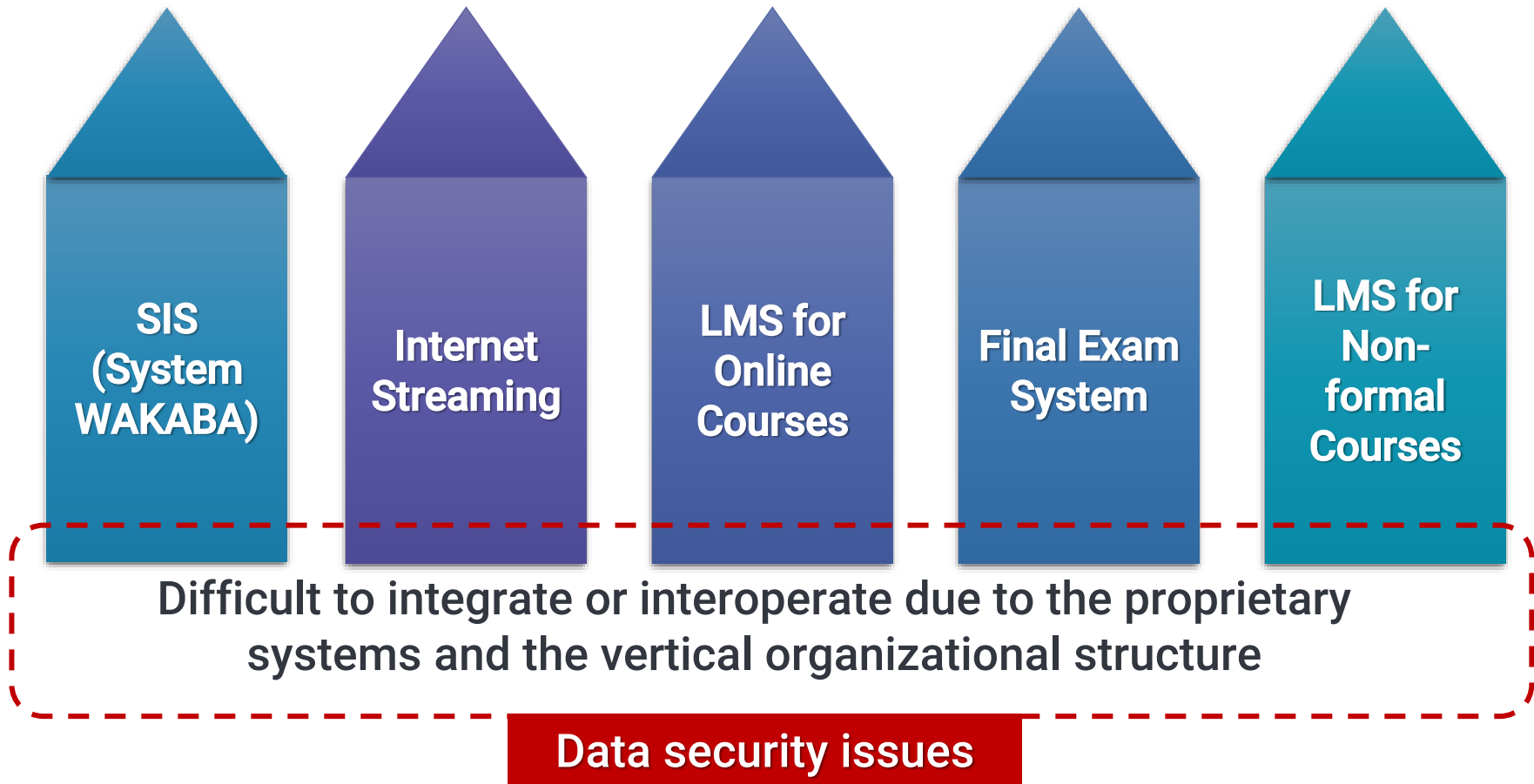 - ✓Math and science
  - ✓English
  - ✓Digital skills

Use of Computers in F2F Classes

- **Each study center has a set of PCs for classes**
  - ✓Costly to maintain
  - ✓Difficult to purchase the latest computers
  - ✓Security issues
  - ✓Limiting what can be done in classes
- **Shift towards BYOD (Bring Your Own Devices)**
  - ✓Students bring their own devices
  - ✓Many students may not have their own devices they can bring
  - ✓Teachers are tasked with dealing with diverse devices
  - ✓May limit kinds of students who can take certain classes

DX Challenges

- **Silos of legacy systems**

SIS (System WAKABA)

Internet Streaming

LMS for Online Courses

Final Exam System

LMS for Non-formal Courses

Difficult to integrate or interoperate due to the proprietary systems and the vertical organizational structure

Data security issues

DX Challenges

- **Resistance to change**

Teachers	Students	Staff
Workload	Lacking digital skills	Rigid structures
Little incentive	No clear explanation	Little incentive
Fear/inertia	Lacking financial resource	Job descriptions
Lacking digital skills	Lacking support	Process orientation

Conclusion

- DX is rapidly changing the landscape of higher education

- It can enhance the learning experience for students, improve operational efficiency, and better engage with stakeholders

- It requires careful planning and collaboration across different departments and stakeholders
  - ✓ Hodgepodge process doesn't work well

- Clear visions and strategic frameworks are needed

Thank you!!

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