

Japanese Higher Education in the Digital Age

~ Reforms with Optimism and Pessimism ~



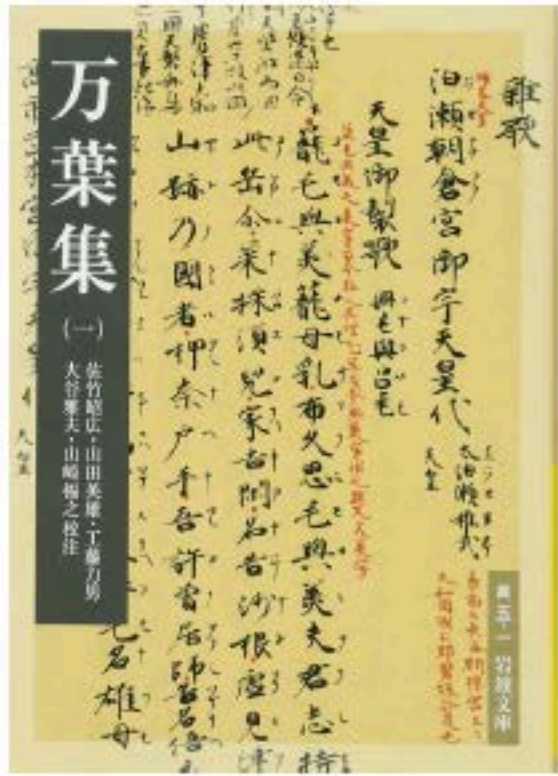
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A Brief History of Japan and Its HE in five minutes 1

Ancient Japan was influenced by Chinese culture and introduced goods and information, including Chinese characters. Japan sometimes send official delegation to Chana and learned a lot. Gradually, from 9th century, Japan developed its own culture and became a civilized country in east Asia.



A Brief History of Japan and Its HE in five minutes 2



For Japan, 16-17th century was a period of globalization in relation with the age of European voyages of discovery. A feudal lord Date send a group of people headed by Tsunenaga Hasekura (picture) to Mexico for the aim of trade in early 17th century. But later Japan closed its door to European countries except Holland until mid 19th century.

A Brief History of Japan and Its HE in five minutes 3



During “Edo” period (17-19th Century), Japan developed its cultural and scientific study and this helped the establishment of a modern university (U of Tokyo) in 1886. Since then, Japan has expanded its HE system. Now, in Japan, there are nearly 800 universities and 300 junior colleges. The total enrolment is about 3 million.

Universities in Japan have played such roles as teaching, research, and contribution to the society including national goals, industrial needs and community welfare. With any of those roles, “knowledge” is the key concept, i.e., knowledge creation (research), knowledge transmission (teaching), and knowledge dissemination (social contribution). In the Digital Age, however, knowledge should be dealt with a different manner from what we have been doing.

In Japan now, a big movement of university reform has been on a rampage since 1990s. The introduction of **national accreditation** and the **incorporation of national universities** are typical cases. In addition to those, differentiation of role for each institution has been seriously discussed. Eventually, by the strong initiative of the Government, they **have been stratified into three categories**, one is “research intensive,” and others are “professional research and teaching.” and “vocational teaching oriented.”

In 2018, National Council on Education send a report to the Minister of Education titled "Grand Design of Higher Education in 2040." In the report the council tells about coming digital age called "Society 5.0." Thus "Society 5.0," that means 4th industrial revolution, is one of the keywords widely discussed in Japan recently. Main topics on this matter are (1)what this society will be, (2)how we should respond to, and (3)how universities should train students for this change. AI, Big Data, Internet of Things (IOT), Robotics are now main concerns for those who are dealing with policy formation and business management.

Society 5.0で実現する社会

- 2030年頃には、第4次産業革命ともいわれる、IoTやビッグデータ、人工知能等をはじめとする技術革新が一層進展。狩猟社会、農耕社会、工業社会、情報社会に続く、人類史上5番目の新しい社会であるSociety 5.0の到来が予想されている。

新たな社会 "Society 5.0"



The relationship between higher education and the new society has much room for further discussion.

University has been an important social entity and has long history of nearly 900 years, if we think of European-style institution. Even in Japan, we have 140 years history since establishment of the first modern university. The digital age is now challenging a lot of traditional functions of university, i.e., **teaching, research, and social contribution.**

These are examples of the new wave to the digital age now observed.

1. Teaching

(1) teaching on AI (What is AI? How to work with this?)

(2) teaching with AI (New devices and methods) in the class rooms, laboratories and libraries

(3) teaching by AI (not by human instructors) how about campuses, curriculums, etc ?

2. Research

(1) Research on AI

AI vs Human (should AI be wiser than human?)
ethical problems (AI weapon!)

(2) Research with AI

method of research : traditional and new

(3) Research by AI

ethical problems?
paper written by AI?



How should we pave the best or at least better way to solve the problems?