Reform of Higher Education and Research（Shibayama Initiative）

～ Integrated promotion of education and research reform at institutions of higher education ～

February 1, 2019

＜Basic concept＞

In the rapidly globalizing society that is aging and facing a declining birthrate, the reform of universities, which will be the foundations for fostering human resources and for creating innovation for Society 5.0, is now an urgent task.

A responsibility of the government is to secure opportunities for young people with the desire to proceed on to institutions of higher education to realize their hopes. By providing **generous support** and thoroughly conducting **rigorous evaluation and assessment** to boost the efforts and achievements of institutions of higher education and research, the government will accelerate education, research, and governance reforms.

MEXT will promote the formation of 'groups of top universities that will be a leading force in the world' and 'clusters of universities that will be leading forces in their regions and specialist fields', and the activities of 'researchers at the frontlines of their fields' and 'students who will lead the next generation.'

＜Direction of the reforms＞

	Generous support	Rigorous evaluation and assessment
Ensuring access to higher education institutions	✓ ① **Exemption or reduction of tuition and enrollment fees,** ② **Provision of grant-type scholarships** to students from low-income households who truly need assistance	✓ Support targets **limited** to higher education institutions achieving a good balance between academic studies and practical education ✓ Strict conditions set for study performance after enrollment; assistance **will cease** if student fails to fulfill the requirements
Improving and ensuring quality of university education	✓ **Building mechanisms** for quality assurance of education and publicizing of information ✓ **Making the educational system more diverse and flexible** by promoting the hiring of teachers with practical experience	✓ **Thorough** confirmation of students' progress in the **university evaluation** ✓ **Exclusion** of universities unable to ensure quality of education
Boosting research capability	✓ Research **human resources** reform (prioritization of posts to excellent young researchers, etc.) ✓ Research **funding** reform (priority assistance to young researchers etc.) ✓ Research **environment** reform (sharing of facilities, etc., and strengthening of research support system)	✓ **Rigorous evaluation of research performance** ✓ **Improved transparency of examination** of use of competitive research funds, **thorough** evaluation and verification of research system
Strengthening education-research base and governance	✓ **Priority support** to universities with strong desire to reform ✓ **Building mechanisms** for advancing governance reform and collaboration/integration ✓ Promoting industry-academia collaboration (**acquisition of outside funding**)	✓ **Thorough** evaluation and adjustment of resource funding allocation in line with progress and results of reforms ✓ **Realignment, mergers and exclusion** of universities that cannot carry out the reforms by themselves

<Main efforts>

Ensuring access to higher education institutions

Ensuring opportunities for access to higher education for students from low-income families by **reducing their education-related financial expenses**

Enhanced financial support to students from low-income households
～Exemption or reduction of tuition and enrollment fees, substantial expansion of grant-type scholarship system～

Submission of a "Bill regarding Assistance for Study at Universities etc." at a regular session of the Diet

Improving and ensuring quality of university education

Improving the quality of education to enable diverse graduates to utilize the knowledge and skills acquired at universities etc. in society

Ensuring quality of education and publicizing information
～Improving contents and methodology of education, and making capabilities and values acquired by students clear～

Building diverse and flexible education systems
～Employment of diverse teachers including former businesspersons and young people etc., and promotion of education responding to changes in society in cross-cutting sciences/humanities～

Promoting enrollment of diverse students
～Recurrent education, international student exchanges ～

Reform of graduate school education
～Fostering excellent doctoral students by improving quality of graduate school education ～

Improving the quality of education by the submission of a draft amendment to the School Education Law at a regular session of the Diet, formulation of guidelines for education management and drastic revision of standards for establishing educational institutions, etc.

Enhancing functions

Ensuring opportunities

Creation of value and HR for leading the future

Improving research capability

Improving research capability of universities, National Research and Development Agencies to enable virtuous cycle of innovation centering on universities

Researcher reform
～Securing **researchers who will lead the next generation** by clarifying and optimizing career paths etc.～

Research funding reform
～Mt. Fuji-type Research support system supporting **top-quality academic and fundamental research**～

Research environment reform
～Making research more efficient and securing research time by improving environment for researchers～

Fostering and securing high-quality researchers who will be world-leaders in their fields, building research support system enabling researchers to continuously engage in their research, and improving research productivity

Enhancing functions

Strengthening education-research base and governance

Strengthening foundation of education and research through enhancement of management base, collaboration and integration, and variable fiscal support

Strengthening management and governance
～Strengthening education/research capabilities and management base through evaluation and optimal allocation of financial resources and drastic reforms～

Promotion of collaboration and integration
～Promoting collaboration, integration etc. to optimize strengths of human and material resources ～

Promotion of industry-academia collaboration
～Expansion of full-fledged "organization-to-organization" industry-academia collaboration to achieve virtuous cycle of funding ～

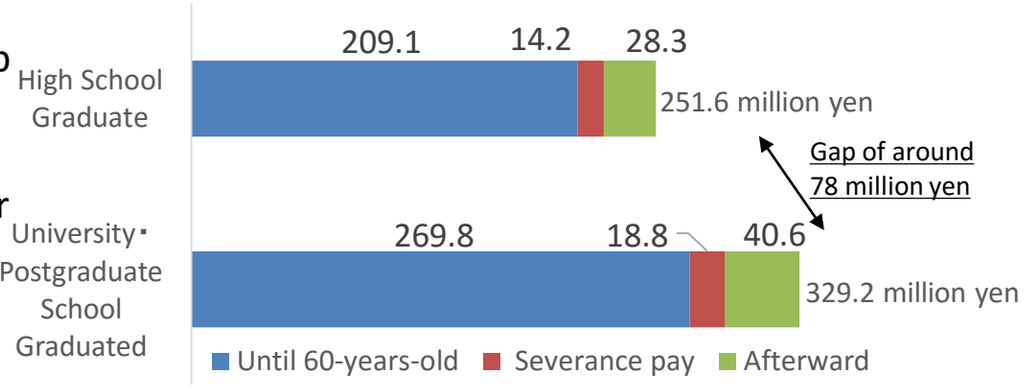
Strengthening the foundation of education and research through the submission of draft amendments to the National University Corporation Act and Private Schools Act, etc. at a regular session of the Diet, introduction of new evaluation and funding allocation mechanisms at national universities, formulation of reform guidelines for national universities, and revisions of funding allocations for national and private university reforms, and so on

Ensuring Access to Higher Education Institutions

1. Current situation and issues

- ✓ The final academic background causes a gap between people's average wages.
- ✓ Lower proportion of children from low-income households proceeding on to higher education institutions.
- → <u>Financial burden of studying at a quality institution of higher education must be eased for children from low-income households.</u>

<Gap in Lifetime Earnings by academic background>



※Lifetime earnings by educational attainment (men, 2016) (million yen)
Source: Survey, Japan Institute for Labor Policy and Training (2018)

<Proportion of children from low-income households advancing to higher education>

Around 40% of children from households exempt from residence taxes are estimated to proceed on to institutions of higher education (university, junior college, college of technology, specialized training college). (Around 80% for all households)

*Estimate from utilization of scholarships from JASSO for students from households exempt from residence taxes.

2. Future Direction

- ➢ All children, regardless of the financial situation of their family, will be ensured an opportunity to proceed on to a university, specialized training college, etc. if they have a clear consciousness to the future path and a strong desire to learn before enrollment and maintain a good academic record after enrollment.

3. Specific measures

- ➢ Submission of "Bill regarding Assistance for Study at Universities, etc." at a regular session of the Diet
  - 【Target school type for assistance】 University, junior college, college of technology, specialized training college
  - 【Assistance contents】 <u>① Exemption or reduction of tuition and enrollment fees.</u> <u>② Provision of grant-type scholarship</u>
  - 【Target students】 Students from households exempt from residence taxes, or households close to those
  - 【Implementation period】 From April 2020 (students enrolled in FY2020 [including students already enrolled])
  - 【Conditions for assistance】

(Conditions for student learning)
- Negative judgments are not given by applicant's grades at high school, submission of report and interview of applicants to confirm learning desire, study aims, etc.
- Students must meet rigorous study requirements after enrollment; failure to meet requirements will result in loss of assistance.

(Conditions for institutions)
- Courses taught by lecturers who have working experience are allocated to classes that account for more than 10% of the credits.
- Multiple appointments of external persons to board of directors
- Strictly manage and publicly announce their management of study performance
- Disclosure of Financial and management information in accordance with laws and regulations
- Have no serious management issues

<u>Rise in the proportion of students from low-income households processing on to higher education institutions</u>

Improving and Ensuring Quality of University Education

1. Current situation and issues

- ✓ In an unpredictable era, fostering human resources that can adapt to change and actively support and improve society is an urgent issue.
- ✓ Universities must change to learner-centered education and make learning outcomes tangible.
- ✓ In order to respond to the needs of diverse students and their learning needs, universities need to move away from the notions of “university education starts at 18” and the “go-it-alone university,” and develop diverse models for education and research.

2. Future direction

- ➢ In order to enable diverse graduates to make use of the knowledge and skills they acquired at university, etc. in the society, universities must promote quality assurance of education and the public disclosure of information, as well as build diverse and flexible education systems.

3. Specific measures

Universities where students can really learn

➢ Promoting quality assurance of education and public information disclosure

・Establishment of education management

⇒Preparing guidelines for education management

(Advanced curriculum development, presentation of standardized syllabus descriptions, proper application of grade evaluation criteria, and improvement of faculty quality (faculty and staff development) etc.)

・Establishment of quality assurance system

⇒Drastic revision of Standards for Establishment of Universities

⇒Review of evaluation by organizations certified by the Minister of MEXT

(Make accreditation of whether university meets evaluation standards mandatory for evaluation organizations certified by the Minister of MEXT)

Universities where growth is tangible

・Visualization of learning outcomes and public disclosure of information

⇒Revision of laws, etc. related to visualization of learning outcomes and information disclosure

(Acquisition of credits, post-graduation situation including career path decisions etc., study time, students’ feeling of growth/satisfaction, presentation of syllabus contents, etc.)

➢ Promoting acceptance of diverse students

・Further promotion of recurrent education

⇒New development and expansion of programs for adult learners, and strengthening assistance for adult learners

(Revision of extension program certification system, promotion of credit accumulation system, development of short-term programs for adult learners, development of industry-academia programs at universities and special training colleges, expansion of practical online courses, and building system for training businessperson faculty members, etc.)

・Promotion of international student exchanges

⇒Attracting excellent international students (establishment of regional offices for promoting study in Japan)

⇒Enhancing post-study career opportunity of international students as highly-skilled professionals (spreading the outcome of the Program for Enhancing Employment of International Students of employment promotion programs).

Universities where students can make use of the abilities they acquired

➢ Building diverse and flexible education systems

・Promotion of employment of diverse faculty members, including businesspersons, young persons, women, foreigners, etc.

⇒Development and implementation of training programs for businesspersons/teachers

・Promotion of education responding to change to cross-cutting sciences/humanities society

⇒Math/data sciences taught to all undergraduates

⇒Institutionalization of degree programs across organizational boundaries such as departments and graduate courses for the flexible implementation of cross-sectoral education, integrating AI with many fields

⇒Establishment of certification system for educational programs related to mathematics/data sciences, in collaboration with relevant ministries/agencies

➢Reform of graduate school education

・Fostering of excellent doctoral students by improving quality of graduate school education

⇒ Revision of relevant ministerial ordinances

(Mandatory formulation and announcement of Three Guidelines*, mandatory efforts for implementation and provision of information on pre-FD, etc.)

⇒ Improving quality of doctoral course education leading to the fostering of advanced “knowledge professionals” accepted by society, and ascertaining/visualization of graduates’ activities

*”Degree conferral guidelines,” “Educational programs revision/implementation guidelines,” “Enrollment guidelines” (the last one was already made mandatory in 2011)

・Securing career paths for doctoral students, financial support

⇒Improvement of quality of education and research at graduate schools

⇒Promotion of career development responding to needs of society

⇒Tuition etc. exemption, non-obligation for students with excellent academic records to repay loan-scholarships, implementation of special researcher system by Japan Society for the Promotion of Science, strengthening of HRD in collaboration with industry, etc.

Towards universities where students truly learn, achievements are visible, and acquired capabilities are utilized in society

Improving Research Capability

1. Current situation and issues

✓ **Compared to other countries, research capability in Japan has seen a relative decline.**

【Research papers】

〇Trend of numbers of research articles published by Japanese researchers sluggish; Japan's international position declining.

〇Compared to Britain and Germany, number of Japanese internationally co-authored papers among top 10% of most cited papers is small. Japan's research productivity said to be low.

〇The number of research domains Japanese researchers are engaged in is relatively small.

【Researchers】

〇The number of people entering doctoral courses in Japan is decreasing, reaching a peak in fiscal 2003. The number of doctoral students in other countries is increasing; in Japan, the number is flat.

〇Although the number of faculty member is increasing, the proportion under 40 is decreasing.

〇The number of researchers with medium- or long-term stays overseas began to decline after reaching a peak in 2000, and has been flat in recent years.

2. Future direction

➢In order to raise the research capability in Japan, efforts will be made to accelerate and deepen reforms in the systems for science and technology innovation in conjunction with the university reforms. Specifically, emphasis will be on:

①Securing high-quality researchers who can lead their fields and ensuring mobility in their careers

②Reforming research funding to support researchers' continuous research efforts

③Realizing research environments that can improve research productivity

Top 10 countries/regions in terms of the number of papers and the number of hot papers (top 10%) (based on the fractional counting method)

All fields	2003 – 2005 (PY) (Average)		
	The Papers of papers		
Country/Region	Fractional counting		
	Papers	Share	World rank
U.S.	221,367	26.1	1
Japan	67,888	8.0	2
Germany	52,315	6.2	3
China	51,930	6.1	4
U.K.	50,862	6.0	5
France	37,392	4.4	6
Italy	30,358	3.6	7
Canada	27,847	3.3	8
Spain	21,527	2.5	9
India	20,319	2.4	10

All fields	2013 – 2015 (PY) (Average)		
	The Papers of papers		
Country/Region	Fractional counting		
	Papers	Share	World rank
U.S.	272,233	19.9	1
China	219,608	16.0	2
Germany	64,747	4.7	3
Japan	64,013	4.7	4
U.K.	59,097	4.3	5
India	49,976	3.7	6
France	45,315	3.3	7
korea	44,822	3.3	8
Italy	43,804	3.2	9
Canada	39,473	2.9	10

All fields	2003 – 2005 (PY) (Average)		
	The Papers of adjusted top 10% papers		
Country/Region	Fractional counting		
	Papers	Share	World rank
U.S.	33,242	39.4	1
U.K.	6,288	7.5	2
Germany	5,458	6.5	3
Japan	4,601	5.5	4
France	3,696	4.4	5
China	3,599	4.3	6
Canada	3,155	3.7	7
Italy	2,588	3.1	8
Netherlands	2,056	2.4	9
Australia	1,903	2.3	10

All fields	2013 – 2015 (PY) (Average)		
	The Papers of adjusted top 10% papers		
Country/Region	Fractional counting		
	Papers	Share	World rank
U.S.	39,011	28.5	1
China	21,016	15.4	2
U.K.	8,426	6.2	3
Germany	7,857	5.7	4
France	4,941	3.6	5
Italy	4,739	3.5	6
Canada	4,442	3.2	7
Australia	4,249	3.1	8
Japan	4,242	3.1	9
Spain	3,634	2.7	10

Note: Aggregation was performed by NISTEP using Web of Science XML (SCIE, the end-of-2016 version) provided by Clarivate Analytics.

3. Specific measures

Building systems for strengthening researchers' capabilities

- Prioritizing securing of posts for excellent young researchers
- Ensuring improvement of quality and diversity of researchers (mobility, internationalization, diversity)
- Ensuring variety of career paths

Comprehensive development of reforms for improving research capability

Researcher reforms

Research funding reforms

University reforms

Research environment reforms

Building "Mt. Fuji–type" research support system

- Strengthening of and building mechanisms for collaboration among funding agencies
- Priority support to young researchers
- Opening up new and merged research domains, and building policy planning frameworks
- Dual support through funding for basic expenses and competitive funding
- Increased transparency of examination of research expenses, thorough evaluation and verification etc.

Promotion of university reforms leading to improved research capability

- Establishment of foundation for universities' creation of innovation through reform of management of personnel salaries and functional division between management and teaching, etc.
- Introduction of new mechanisms for evaluation and allocation of resources at national universities, etc.

"Lab reforms" for provision of research equipment, etc. to make conducive research environments and for carrying out integrated strengthening of research support systems

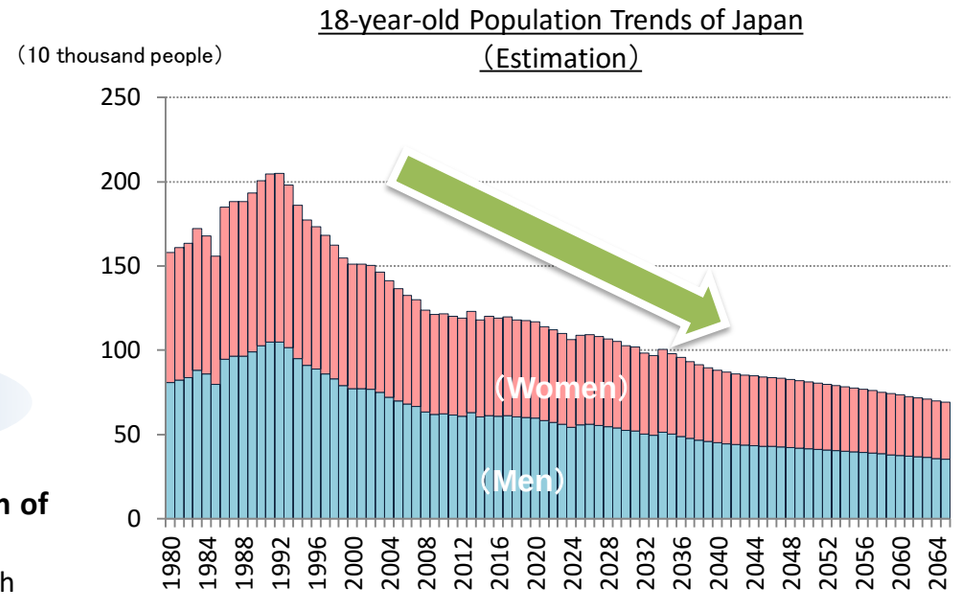
- Systematic co-sharing of research equipment, facilities etc.
- Reduction of researchers' administrative burden
- Strengthening of technical specialists at the center of lab reforms and co-sharing of equipment
- Upgrading rules for co-sharing research facilities and equipment, etc.

Toward improvement of Japan's research capability and creation of society of constant innovation through fostering of, and strengthening of support system for, researchers who can lead their fields in the world

Strengthening education-research base and governance

1. Current situation and issues

- ✓ Necessity of mobilizing personnel and resources within and across universities
- ✓ Necessity of optimizing overall scale of higher education institutions in light of the decrease in the 18-year-old cohort population.



2. Future direction

- ➢ Acceleration of reforms through strengthening of management capability, promotion of collaboration and integration, and adjustment of fiscal support

3. Specific measures

Transformation to strong universities

- ➢ **Strengthening of management foundation and governance**
  - **Introduction of new mechanisms for evaluation and resource allocation at national universities, promotion of personnel and salary management reform, and enabling separation between management and teaching**

⇒Promotion of national university reforms based on balance of reform incentives and continuous education and research
⇒Allocation of subsidies for operating expenses in accordance with objective, common indicators related to results
⇒Promotion of personnel and salary management reforms packaging various elements together, including complete introduction of yearly salary system, strict performance evaluation, and cross-appointment system etc.
⇒Promotion of fiscal management reform by optimizing resource allocation through management/visualization of budgeting, accounts settlement by undergraduate and graduate schools, and making public to society management information
⇒Promotion of reforms through revision of National University Corporation Act and implementation of University Governance Code.

- **Review of allocation of subsidies to private educational institutions**

⇒Reform of government subsidies to private schools (adjustments based on student quota rates, introduction of objective indicators for assessing quality of education, adjustments according to situation of public provision of information, and reduction of subsidies to universities with budget deficits or unfilled student quotas etc.)

Investment and utilization of diverse resources in society

- ➢ **Promotion of collaboration and integration making use of the strengths of human and material resources of universities etc.**
  - **Introduction of national university "umbrella system," increased number of outside directors**

⇒ Revision of National University Corporation Act

- **Formulation of reform guidelines for national universities**

⇒Roles to be fulfilled by national universities and direction of reforms regarding scale, allotment etc. (scale of student quotas based on 18-year-old population cohort, emphasis on graduate school functions, reform of undergraduate education emphasizing cross-cutting math-humanities and problem-solving education, upgrading of teacher training colleges and cross-sectoral collaboration/consolidation, and reorganization based on regional conditions and making use of affiliated corporations etc.)

- **Improvement of management/operational systems of incorporated educational institutions, and promotion of collaboration/integration of private universities**

⇒Revision of Private Schools Act (Clarification of responsibilities of officials, strengthening of auditing functions, upgrading of information disclosure system, preparation of medium-term plans, and facilitation of bankruptcy proceedings etc.)
⇒Establishment of system for transfer of faculties

- **Establishment of mechanisms transcending traditional frameworks of national, public, and private universities, as well as research and development corporations**

⇒Revision of relevant ministerial ordinances etc. for the introduction of "University Collaboration Promotion Corporations" (provisional name)

- **Building of regional systems for collaboration**

⇒Formulation of guidelines for the introduction of "Regional Partnership Platform" (provision name)

- ➢ **Promotion of industry-academia collaboration**
  - **Preparation of Open Innovation Promotion System**
  - **Support for university-initiated venture business creation**
  - **"Innovation Hub" consolidating industry-academia-government collaboration**

Creation of "top universities leading the world" and "universities leading specialist fields and regions" in both education and research through promotion of transformation to strong universities and investment and utilization of various resources in society

Schedule ①

	FY2018	FY2019	FY2020	FY2021 and beyond
Ensuring access to higher education Institutions	Exemption or reduction of tuition and enrollment fees, and substantial expansion of grant-type scholarship system System design and publicizing Submission to Diet of "Bill regarding Assistance for Study at Universities etc."	Procedures for selection of targets for assistance Procedures for confirmation of requirements for universities etc.	Implementation of exemption or reduction of tuition and enrollment fees Provision of grant-type scholarships	
	(Conditions for institutions) • *Strictly manage and publicly announce their management of study performance* • *Courses taught by lecturers who have working experience are allocated to classes* • *Multiple appointment of external persons to board of directors, etc.*	*Setting of objective indicators for performance assessment, including GPA* *Development and implementation of programs for training businessperson faculty members* *Establishment of schemes for promoting appointment of outside board of directors members*	*And other efforts for promoting efforts for instituting university reforms and raising the quality of education and research at universities.*	
Improving and ensuring quality of university education	Establishment of education management system	Establishment of and discussion at Education Management Special Council Formulation of education management guidelines and revision of ministerial ordinances	Publicizing of education management guidelines Publicizing of revisions and implementation	
	Establishment of quality assurance system (review of establishment standards and evaluation by organizations certified by the Minister of MEXT)	Establishment of and discussion at Quality Assurance System Working Group Submission of revision to School Education Act etc. Discussion of revision of Standards for Establishment of Universities Study of examination period for evaluation by organizations certified by the Minister of MEXT	Revision of Standards for Establishment of Universities Revision of ministerial ordinances regarding evaluation by organizations certified by the Minister of MEXT	*Quality assurance of education in regards to ensuring opportunities for access to higher education institutions*
	Visualization of learning results and promotion of information publicizing	Student survey trial	Full-fledged implementation	
	Institutionalization of degree programs across organizational boundaries such as departments and graduate courses	Deliberation and consultation at university working groups System revision and publicizing	Full-fledged implementation of new degree program	
	Employment of faculty from diverse backgrounds	Development and implementation of training program for businessperson faculty members	*Setting of courses offered by faculty with business and other experiences as condition for target organizations providing tuition etc. exemptions and grant-type scholarships*	
	Diversification of education programs	Development and implementation of practical, recurrent education programs Clarification of standards and methods for credit transfer system and ICT classes (Issuing of notification)	Revisions in systems for certificate programs and credit accumulation system; publicizing of revisions	

Schedule ②

	FY2018	FY2019	FY2020	FY2021 and beyond
Improving and ensuring quality of university education				
Further promotion of recurrent education	New development and expansion of programs for adults; enhancement of support to adult learners			
Promotion of international student exchanges	Disseminating the appeals of study in Japan through Study in Japan Regional Offices Implementing of Program for Enhancing Employment of International Students and spreading its outcomes			
Improvement of quality of graduate school education	Summarization of deliberations at Graduate School Working Group	Revision and publicizing of ministerial ordinances		
Financial support to doctoral course students	Implementation of tuition exemptions and JSPS Special Researcher System Expansion of financial support not dependent on government assistance			
TF for accelerating improvement of research capability	Revision of Act for Strengthening Research and Development Capability	Establishment of TF for accelerating improvement of research capability	Compilation	Promotion of respective reforms → Reflected in 6th Science and Technology Basic Plan

Improvement of research capability

Researchers

Prioritization of securing posts for excellent young researchers	Study and implementation to further promote prioritization in tandem with personnel and salary management reform
	Promoting advancement to doctoral courses in graduate schools *Promoting employment of young researchers through reform of personnel and salary management system*
Improvement of quality of researchers and ensuring diversity	Study and implementation for further promoting improved quality of researchers, mobility, internationalization, and diversity

Research funding

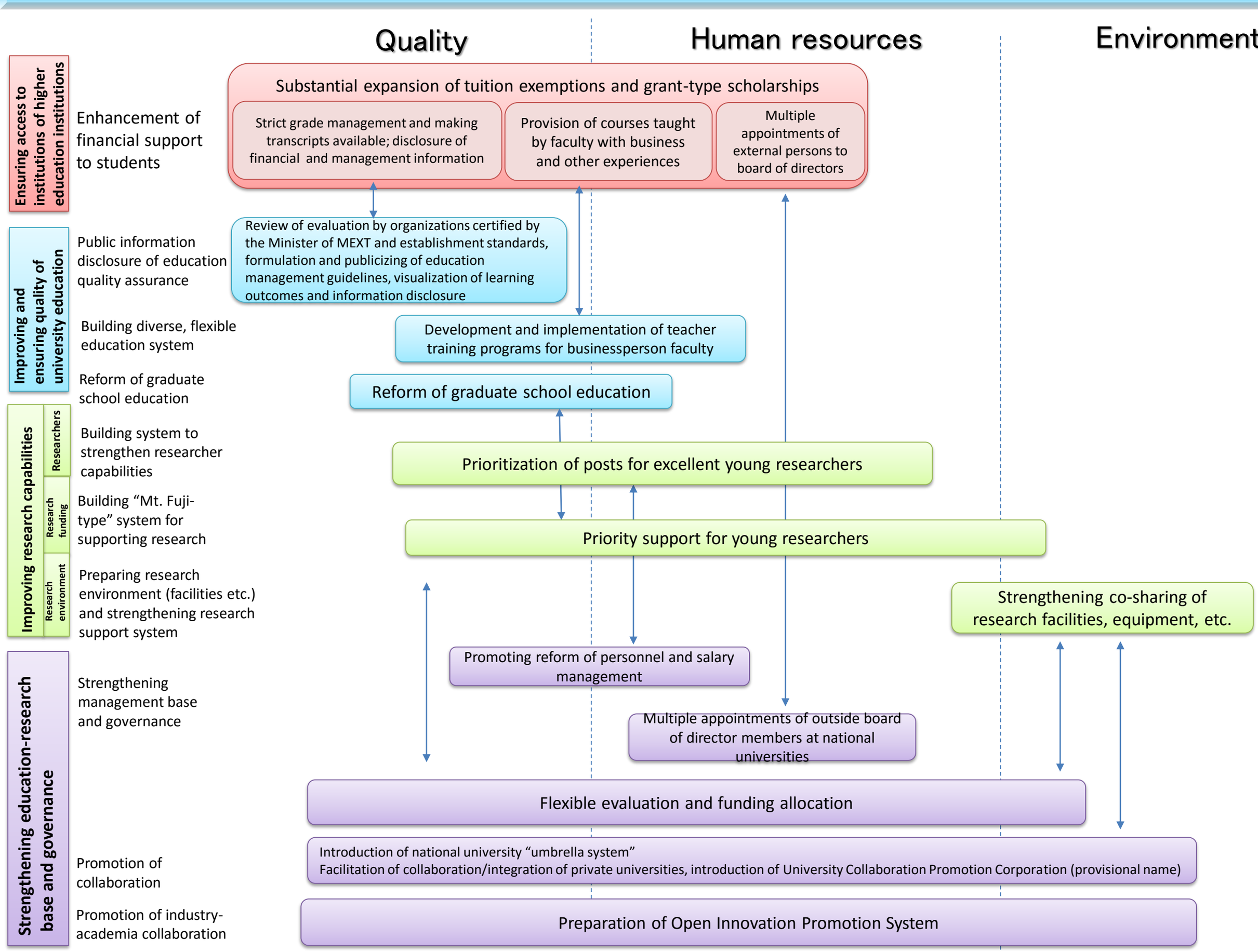
Priority support to young researchers	Priority support to young researchers for research funding and strategic projects
Opening up emerging and integrated fields and building policy planning frameworks	Developing systems for opening up emerging and integrated fields → Setting strategic themes for strategic projects etc. through advanced surveys and analysis of research trends → Increased efforts and further improvement where necessary
	Review of research funding (new areas of academic research) → Open calls after review
	Obtaining outside funding through industry-academia collaboration

Research environment

Planned preparation and strengthening co-sharing of research facilities, equipment, etc.	Steady promotion of co-sharing in existing projects
	Study and implementation for strengthening of further actions
Enhancement of technical specialists who will be core personnel for reform and co-sharing of labs	Proactive implementation at some National Research and Development Agencies → Study and expansion for similar development at other organizations
Reduction of administrative burden on researchers	Collaboration with other relevant ministries, agencies. Improvements in application forms etc. for competitive funding → Study and implementation for further improvement measures

Schedule ③

Strengthening education-research base and governance

	FY2018	FY2019	FY2020	FY2021 and beyond
Strengthening governance and promoting collaboration/integration	Formulation of national university reform guidelines	Formulation → Promotion of reforms		Start of 4th mid-term target period for national universities (from FY2022)
	Formulation of university governance code	Support for formulation by university-side parties	Promotion of reforms at all universities based on code	
	Introduction of national university "umbrella system" Appointment of outside directors Strengthening governance of incorporated educational institutions Facilitation of collaboration and integration of private universities	Compilation of findings by survey and examination council Final compilation by sub-committee Submission of draft revisions of National University Corporation Act and Private Schools Act etc. Revision of enforcement regulations of Private Schools Act etc.	Revision of laws etc. Starting strengthening of management guidance with study on management of incorporated educational institutions	Introduction of system *Making multiple appointment of external persons to board of directors requirement for target organizations to defer tuitions etc. or provide grant-type scholarships*
	University Collaboration Promotion Corporation (provisional name)	Designing of system	Revision of ministerial ordinance	
	Building of Regional Partnership Platforms (provisional name)	Formulation of guidelines	Support for building Regional Partnership Platforms (provisional name)	
Strengthening management capability	Introduction of new evaluation and resource allocation mechanism	Ascertainment of relative performance situation by objective, common indicators based on results; allocation of resources based on these evaluations (Successive expansion of allocation target ratios and redistribution rates according to indicators) Establishment of objective, professional, multi-faceted evaluations		Start of 4th mid-term target period for national universities (from FY2022)
	Reform of personnel and salary management	Formulation of guidelines	Implementation and verification of reforms *Prioritization of posts for excellent young researchers from the perspective of improving research capability*	
	Review of allocation of subsidies to private schools	Pre-implementation of flexible allocation for education quality assurance and enhancement of management capability	Full-fledged implementation of flexible allocation for education quality assurance and enhancement of management capability *Constant revision for ensuring allocation method in accordance with societal needs	
Industry-academia collaboration	Full-fledged promotion of "organization-to-organization" industry-academia collaboration	Preparation of Open Innovation Promotion System (priority allocation and linkage of management expenses grants to national universities based on record of obtaining outside funding etc.)		
	Consolidation of base-type industry-academia-government collaboration system	Establishment of committee to assist promotion of support for co-creation of base formation	Promotion of systemic reforms, such as building of management systems for large-scale joint research by universities etc. through "support for co-creation of base formation"	
	Support for university-initiated venture business creation	• Fostering of entrepreneurial human resources who will create innovation • Support for creation by universities, etc. of venture businesses with growth potential through amalgamation of public funds and private-sector commercialization knowhow etc.		

Main relevance of 4 reforms （For reference）