Future development of Niigata University of Health and Welfare (2021-2030): Considering internal troubles and external pressures

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Abstract

This paper presents a personal proposal for the future development of Niigata University of Health and Welfare (NUHW) considering internal troubles and external pressures (Nai'yu-Gai'kan in Japanese). Nai'yu-Gai'kan stands for internal (domestic) troubles and external (foreign) countries' threats. In the present paper, however, "external pressures" is used in a milder sense. First, major internal troubles and a countermeasure strategy and tactics are introduced. The major troubles include the rapid decrease in the total population and the disparity in population density in local communities in Japan. Second, major external pressures, and a countermeasure strategy and tactics are introduced. The major pressures include the 2030 Agenda and Industry 4.0, because they are partly related to economic globalism and artificial intelligence that may decide the future destiny of Japan. Countermeasures are suggested by introducing the Japan Revitalization Strategy and Society 5.0 as original strategies and tactics. Finally, long-term goals for NUHW in the next decade (2021-2030) are presented, based on the Grand Design for Higher Education toward 2040 (Grand Design 2040). A conceptual map for the perspectives of NUHW (2021-2030) is also presented. The paper concludes by stating the need for a contingency plan in case the primary plan is unsuccessful.

Introduction

From the beginning of my tenure as the President of Niigata University of Health and Welfare (NUHW) in April 2010, my priority was to make long-term goals for the decade ahead (2010-2020). After first reviewing my professional career of 42 years in the field of preventive medicine, I then anticipated how NUHW should be in the next decade [1]. After careful consideration under the supervision of the Director and Vice Director of the Executive Board of Trustees, the Strategic Development Initiatives (SDIs) from 2010 to 2020 were produced. We divided this period into three terms: the first from 2010 to 2013; the second from 2014 to 2017; and the third from 2018 to 2020. We are now in the final term of our SDIs.

In this paper, I would like to present the next SDIs, since the planning of the future development of NUHW (2021-2030) was approved by the Executive Board of Trustees on March 29, 2019. I will put forward a tentative proposal for the future development of NUHW, considering internal troubles and external pressures (Nai'yu-Gai'kan

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in Japanese).

Nai'yu-Gai'kan is a four-character compound word, originating from Chinese commentary notes on the book Spring and Autumn Annals in the sixth century BC. The word stands for internal (domestic) troubles and external (foreign) countries' threats. However, for the latter expression, "external pressures" is used in this paper in a milder sense. In such circumstances, Gai'atsu may be equivalent to Gai'kan in modern Japanese.

At any rate, the concept of Nai'yu-Gai'kan is considered as the main risk factor that probably influences the survival of private universities in Japan. The former includes demographic issues, such as rapid population decrease, ultra-aging, and uneven population distributions in urban and rural areas. The latter includes requests from external countries to open Japanese society to the world in every respect, which may break the so-called "bed-rock" regulations, including traditional education.

Finally, I would like to comment on why I write this report in English. The first reason is that I would like to demonstrate our efforts to open opportunities for our university to the globalized world. The second reason relates to the Japanese common practices of Tate'ma'e and Hon'ne, which respectively mean that people only state principles in public and only express their true intentions in a closed personal circle. In other words, there are differences between people's official comments and their true intentions. This remark seems applicable to the difference between Japanese and English comments, especially on serious issues. Therefore, I write this report in English to express my Hon'ne.

Internal Troubles and How to Counter Them

1. Major troubles

It is estimated that the total population in Japan will shrink to below 100 million in the mid-21st century. Those engaged in the field of education fear a dramatic decrease in the population entering university aged 18 years. It is said that population shrinking started from 2018 in Japan, although we do not actually feel it. This issue is known as the "2018 Problem." The Ministry of Education, Culture, Sports, Science and Technology (MEXT) forecast likely changes in the 18-year-old population up to 2040, based on the demographic data collected in 2017 by the National Institute of Population and Social Security Research [2].

The demographic projection using objective data did not betray our subjective feeling. MEXT reported that the 18-year-old population may decrease by 30% in 2040, and the actual number of enrollments in universities may decrease by 20%, if the total number of enrollment capacities and enrollment rates are the same as those in 2017. In addition to the decrease in Japan's 18-year-old population, MEXT indicated that the disparity of population density will be more evident between urban and rural areas in Japan, because migrating to metropolitan areas and the subsequent social decrease of population in rural areas are inevitable as people seek job opportunities.

Regarding the demography of Niigata Prefecture, the official demographic data as of October 1, 2018 disclosed that the population had decreased by 59,207 from the census on the same day in 2015, which was the second worst after the 96,303 decrease in Hokkaido [2]. Another report [3] by MEXT estimated that the percentage of university enrollment in Niigata Prefecture in 2040 will be 68.3% of the number recorded in 2017, which was the fourth largest forecast drop, after Tokushima, Akita, and Iwate (with the worst forecast). Therefore, it is not an exaggeration to say that we must be prepared for the worst.

In this section, I will not discuss what I believe is the riskiest internal trouble: this will be disclosed at the end of the paper.

2. Countermeasure strategy and tactics
1) Regional Revitalization Strategy

Since Japan's total population is forecast to

shrink to below 100 million in the mid-21st century, maintaining the population above 100 million became a major political issue. In 2014, the Cabinet approved the Regional Revitalization Strategy for not only increasing population, especially in rural communities, but also reviving small and medium-sized businesses, developing human resources, and creating jobs in local and depopulated areas [4].

2) Center of Community Plus Project (COC+)

As part of the above-mentioned efforts for revitalizing local communities, I focus on the COC+ here, since the project was aimed at encouraging university students to return to their hometowns and take up employment.

The minimum requisite for universities was to submit a protocol on how to increase students' employment rates by more than 10% from the baseline at the end of a five-year project. At the time of completing the application form in fiscal year 2014, we already had an impression that students' employment rates in Niigata Prefecture were de-

creasing. Therefore, I assumed that our university may be not an eligible candidate. For reference, we analyzed the trends regarding students' cases by place of employment inside or outside Niigata from 2012 to 2018, as shown in Figures 1 and 2. In Figure 1, findings on the changing tendencies are summarized by students' hometown being inside or outside Niigata and their respective employment locations. At a glance, the numbers of student employment increased rapidly for seven years. This finding is explained by the establishment of new departments and the increasing enrollments in already established departments. In case of the employed outside Niigata, more than a two-fold increase (from 209 in 2012 to 497 in 2018) was noted. This finding may have resulted from an increase in the number of students whose hometown and employment location are both outside Niigata. In contrast, the numbers employed inside Niigata Prefecture remained stable for seven years, regardless of students' hometown. Incidentally, Figure 1 indicates that we attained
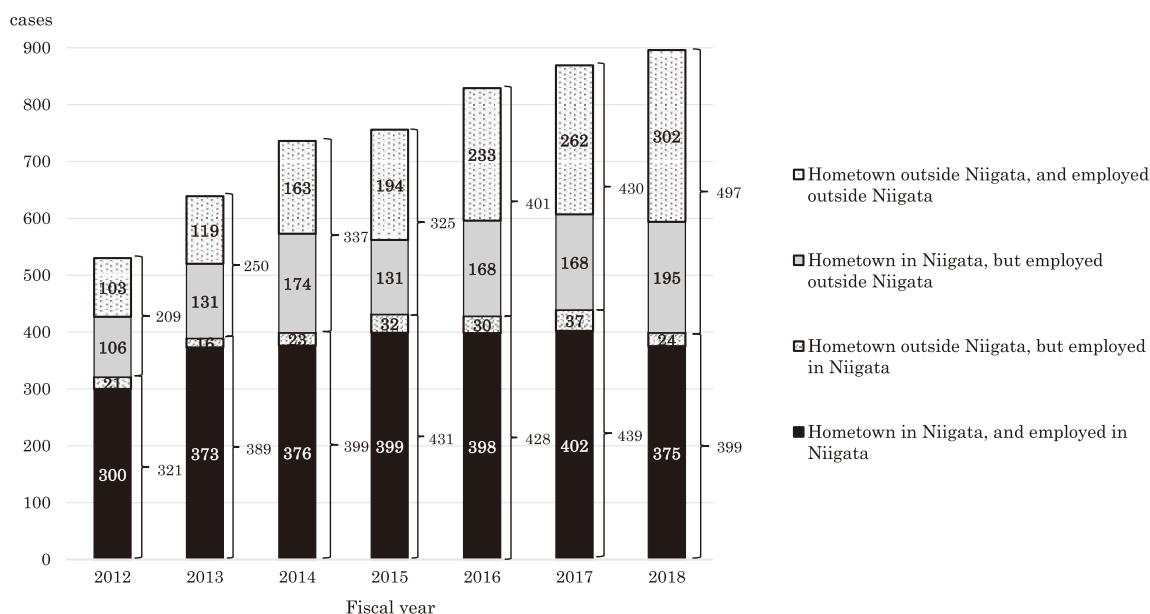

Figure 1. Trends in employment cases by students' hometowns in Niigata or outside Niigata prefecture.
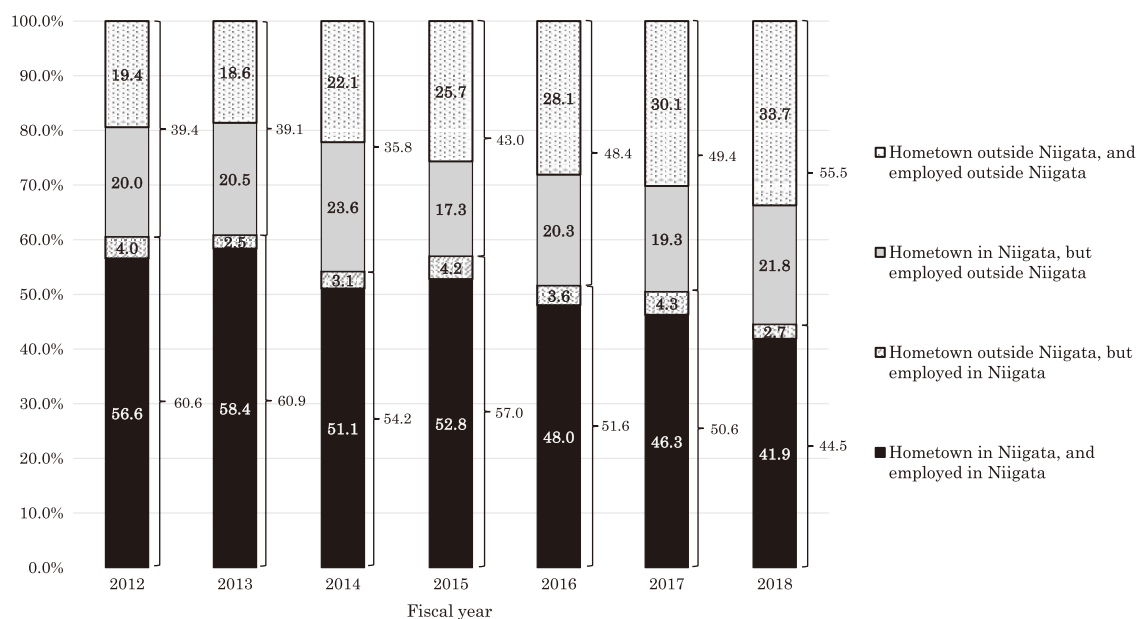
Figure 2. Trends in employment success composition ratios (%) by students' hometowns in Niigata or outside Niigata prefecture.

the 10% increase in employments inside Niigata from fiscal year 2014 to 2017, but the number of employments inside Niigata returned to the same level of 2014 in 2018.

The composition ratios expressed as percentages support the above-mentioned explanations, as shown in Figure 2. The composition ratios of students' employment inside Niigata decreased from 60.6 % to 44.5%, regardless of whether their hometown was inside or outside. Conversely, the ratios increased from 39.4% to 55.5% in case of employment outside Niigata, regardless of whether their hometown was inside or outside. Moreover, the ratios of students with a hometown in Niigata but employed outside Niigata, and those with a hometown outside Niigata but employed in Niigata, have changed little since 2012.

We are proud of our efforts dedicated to revitalizing prefectures outside Niigata rather than Niigata prefecture, which open opportunities for our university throughout Japan.

3) Grand Design for Higher Education toward 2040 (Grand Design 2040)

In 2018, MEXT finally presented the Grand Design 2040 to the public [5], as a draft submitted for deliberation by the policy planning committee of the Central Education Council. Their dystopic vision of the world of 2040 visualized a rapidly declining and aging population. They developed a grand design on how to successfully overcome population-related problems in higher education. This concept of planning led me to include the Grand Design 2040 in the present section on internal troubles, although the draft discussed diverse issues: visions for 2040, education and research systems, quality assurance and information disclosure, size and locations of institutions, roles of individual institutions, and investment from all sectors in society.

The Grand Design 2040 can be summed up in one word: "diversity"—diverse students, diverse teachers, diverse educational programs, govern-

ance to accept diversity, enhancement of diverse strength, provision of diversified career paths, diversification of financial resources, etc. I generally agree with the Grand Design 2040; therefore, I adopted these keywords as long-term goals for our plan (2021-2030).

In summary, this section has identified several internal troubles, which are all population-related problems. Other troubles are not pointed out here, such as the growing wealth gap and an increase in the number of workers from foreign developing countries who endure harsh working conditions at low wages.

External Pressures and How to Counter Them

Before introducing the major external pressures that may influence Japan's higher education system, I would like to explain a common Japanese practice for tackling external pressures. Japanese people consider such pressures as an opportunity to reform old-fashioned systems using Gai'atsu, because of the difficulty of internal self-reformation. I write this paper from the same perspective.

1. Major pressures
1) 2030 Agenda

In 2015, the United Nations (UN) released an agenda called "Transforming our World: The 2030 Agenda for Sustainable Development" (2030 Agenda) [6]. This agenda covers all human activities worldwide and is summarized as 5Ps: people, planet, prosperity, peace, and partnership. The UN decided to take actions to shift the world toward sustainability and resilience by 2030. They proposed 17 sustainable development goals (SDGs) and 169 targets for changing the world to stimulate these actions.

As for "Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all," Education 2030 by UNESCO [7] captured the vision for "No one left behind" in education.

Pertaining to the implementation of Agenda

2030, an internet blogger [8] interpreted it as follows: a "new universal agenda" that shares the same meaning as the phrase "one world government" under the authority of the UN. Although I refute this theory, it is noteworthy that it prevails in alternative media. If so, the 2030 Agenda may become an external pressure when the Government of Japan conducts specific measures to achieve SDGs, namely in economic, social, and environmental areas. In fact, SDGs Promotion Headquarters described the background to the adoption of the 2030 Agenda and its implication for Japan [9]. I quote the following key sentences from the SDGs Implementation Guiding Principles: "Today's global economy is driven by the worldwide movement of people, goods and currency, and an economic crisis in one country can have an immediate impact on other countries. In addition, climate change, natural disasters, infectious diseases and other global issues can set off chain reactions, hampering social and economic growth and causing serious impacts across the globe." I assume that they express Hon'ne using English instead of Japanese.

2) Industry 4.0

In 2011, the Government of Germany launched a project called "Industry 4.0" for supporting companies through a high-tech strategy [10]. The underlying concept of this project is the fourth industrial revolution, which is summed up in short as a "Smart Factory." The first industrial revolution is characterized as steam-powered mechanization, the second as electric-powered mass-production, the third as computerized automation, and the fourth as an integrated system of cyber and physical mechanisms.

The original concept of Industry 4.0 can be considered an "external pressure" upon the Government of Japan. In other words, this concept perhaps stimulated the Government of Japan to not only incorporate "Smart Factory" but also create "Smart Society" by planning a new growth model, called "Society 5.0" [11].

2. Countermeasure strategy and tactics

1) Japan Revitalization Strategy

The Government of Japan has already addressed many strategies and tactics corresponding to the trend in global changes. The Japan Revitalization Strategy addressed in 2014 [12] seems to be the most important one, which could decide Japan's future in global societies. In the draft for the second stage in 2016, it was declared that the so-called "sextuple whammies" were improved dramatically in the first stage of the Growth Strategy [13]. It indicated that the "Population of Japan will begin to decrease in full scale before the rest of the world and face a big challenge on both the supply and demand sides."

In the draft revised in 2014 [12], there are notable descriptions for those concerned about university reforms: progress in achieving key performance indicators, progress made in implementing measures, and specific new measures to be implemented under the chapter of "University reforms/Strengthening human resources capabilities to meet the needs of globalization."

2) Society 5.0

In 2016, the Government of Japan advocated Society 5.0. The official webpage of the Cabinet Office [14] defines Society 5.0 as follows: "A human-centered society that balances economic advancement with the resolution of social problems by a system that highly integrates cyberspace and physical space." It is also documented that Society 5.0 followed Society 1.0 (hunting society), Society 2.0 (agrarian society), Society 3.0 (industrial society), and Society 4.0 (information society). The final goal of Society 5.0 is a human-centered society, called "Smart Society."

In 2018, MEXT started a discussion regarding leading projects for Society 5.0 [15]. This information should be considered by Japanese universities when formulating plans for the future.

In summary, external pressures provide an opportunity to reform old-fashioned systems using Gai'atsu because of the difficulty of internal self-reformation. Our university's special concerns include the global standardization of the educational system, admission of foreign students, and responsibility for fostering qualified health professionals in a global setting.

A Personal Plan Regarding the Future Development of NUHW (2021-2030)

1. Objective

NUHW was established in 2001. At the time of its establishment, its declared mission statement included the following objectives: to provide Quality of Life (QOL) to those who need help accessing health and social welfare services, to contribute to the community, and to promote international exchanges. In short, the mission of NUHW is to "Foster qualified QOL supporters for the people who need help in health and social welfare services." Pursuing the mission, we provided more supportive educational and academic services, which we defined as "caring university" (Men'domi–no-yoi-Dai'gaku in Japanese). This mission should be continued in the decade beginning 2021.

2. Long-term goals based on the Grand Design 2040

1) Quantitative aspects

To fill the need for highly qualified health professionals in the global society of Japan and beyond, we plan to increase the number of students from 4,300 as of April 2019 to about 8,000 by 2030. In addition, we aim to admit more than 200 foreign graduate students per year as the final goal in 2030.

2) Qualitative aspects

According to the Grand Design 2040, the Central Council for Education suggested the classification of all Japanese universities, including private ones, into three categories from the perspective of human resources development. These three categories are probably based on the future direction protocol for strengthening the functions of nation-

al universities, published in 2016 [16]: developing educational and research bases at an international level, national educational and research bases, and core bases for regional invigoration.

Although the actual classification criteria have not yet been revealed, I hope that NUHW will be an eligible candidate for the second category.

3. "STEPS" as the five requirements to become highly qualified QOL supporters

We have developed a system called STEPS, an acronym for Science and art, Teamwork and leadership, Empowerment, Problem-solving, and Self-realization (see the definition below). The continuation of this system over the next decade is desirable, not only for three policies (admission, curriculum, and diploma), but also for encouraging students to contribute to forthcoming global societies.

We propose a new definition of STEPS as follows:

(1) Science and art with IT literacy: Ability to utilize scientific knowledge and skills literacy in an academic discipline with IT literacy.

(2) Teamwork and leadership with communication skills: Ability to work together as a team and to show leadership qualities with communication skills.

(3) Empowerment with intercultural understanding: Ability to support clients by giving them powers to promote QOL with international understanding.

(4) Problem-solving with innovative thinking: Ability to find ways to resolve problems and propose better solutions with innovative thinking.

(5) Self-realization of full personal potential: Attitude toward the fulfillment of his/her potential.

4. Domains

To pursue the above-mentioned ideals over the next decade, we established ten domains. Slight modifications were introduced for the future world depicted in the Grand Design 2040 [5] and Society 5.0 [15].

(1) Domain I: Campus development

(2) Domain II: Enhanced provision of academic information worldwide by promoting institutional research (IR)

(3) Domain III: Enrichment of education and research for students

(4) Domain IV: Promotion of student support

(5) Domain V: Securing staff resources and faculty development (FD)

(6) Domain VI: Enhancement of research capabilities and environments for the NUHW brand

(7) Domain VII: Supporting alumni and lifelong learning

(8) Domain VIII: Promotion of collaboration with local communities, industries, and governments

(9) Domain IX: Promotion of international academic exchanges

(10) Domain X: Reform of management and staff development (SD)

1) Domain I: Campus development

The aim of this domain is to promote the development of our campus with an abundance of nature and greenery for fostering highly skilled QOL supporters in the fields of health, medical care, welfare, and sports [17].

The long-term specific goals are as follows:

(1) To establish campuses that will accept the values of diverse students, including students with disabilities and international students, in view of future changes in society.

(2) To set up identical courses in graduate programs when new undergraduate faculties/departments are established.

(3) To maintain the brand name "NUHW" even when establishing new undergraduate faculties/departments, even if their specialties are different from that of NUHW.

(4) To establish "Rental Labs" for graduate and undergraduate students' research activities, including for animal and gene recombination

experiments. Here, "Rental Labs" are a space for use during students' training, short-term research projects, or emergency response research grants, and the facilities are used without vested rights.

2) Domain II: Enhanced provision of academic information worldwide by promoting IR

The aim of this domain is to secure students who can be excellent QOL supporters in the future by establishing people's recognition of us as a "caring university" as well as by reforming the entrance examination system and activities to increase student application [17].

The long-term specific goals are as follows:

(1) To promote publicity of research outcomes to establish the university's reputation as one with diverse and flexible academic programs worldwide.

(2) To release quality assurance and information on educational results to the public annually.

3) Domain III: Enrichment of education and research for students

The aim of this domain is to become a "caring university" by adjusting its educational and research contents to nurture excellent human resources who can help people with diverse lifestyles to extend their healthy life expectancies [17].

The long-term specific goals are as follows:

(1) To shift to learner-oriented education and research to enable students to acquire university knowledge and understanding as well as diverse and flexible skills in both humanities and sciences.

(2) To improve the foreign students' enrollment system in undergraduate and graduate universities.

(3) To develop education and technology (EduTech) that are compatible with Society 5.0.

4) Domain IV: Promotion of student support

The aim of this domain is to strengthen the support system for student welfare and, by doing so, to obtain the status of a "caring university [17]."

The long-term specific goals are as follows:

(1) To strengthen the support of welfare for not only Japanese students entering higher education aged 18 years but also students with disabilities and international students.

(2) To consolidate the support system in order to maintain the highest employment rate.

5) Domain V: Securing staff resources and FD

The aim of this domain is to secure excellent human resources by becoming an attractive university, and to reinforce our educational and research capabilities [17].

The long-term specific goals are as follows:

(1) To develop a scheme for recruiting a diverse range of teaching staff (i.e., diversity in age, gender, and nationalities).

(2) To establish a system that reinforces the faculty's educational research capabilities, enabling students to develop their skills in innovative thinking.

(3) To keep undergraduate professorship (Dai'gaku Kyo'ju in Japanese), even if an education policy emphasizes a shift to the priorities of a graduate school. In other words, graduate professorship is not adopted (Dai'gaku'in Kyo'ju).

(4) To prepare for a new FD system for teaching staff from other universities, in case the higher education system in Niigata is restructured.

6) Domain VI: Enhancement of research capabilities and environments for the NUHW brand

The aim of this domain is to establish the university as one of the best research bases in Asia and to enhance and reinforce its research environment where undergraduate and graduate students alike can acquire advanced knowledge in the fields of health, medical care, social welfare, and sports [17].

The long-term specific goals are as follows:

(1) To enhance the working environment of the faculty, enabling members to further engage in education and research.

(2) To attain a higher level of research power and

education in the case of new faculty staff.

(3) To enhance the research administration division.

7) Domain VII: Supporting alumni and lifelong learning

The aim of this domain is to grow as a "caring university" and to advance the provision of health, medical care, social welfare, and sports services for local communities by promoting interchanges, cooperation, and lifelong learning among alumni [17].

The long-term specific goals are as follows:

(1) To strengthen support for lifelong learning, enabling further development of expertise, innovative thinking, and problem-solving skills.

(2) To strengthen support for alumni-led activities that contribute to society.

8) Domain VIII: Promotion of collaboration with local communities, industries, and governments

The aim of this domain is to enhance and strengthen the system of promoting regional collaboration in the fields of health, medical care, social welfare, and sports to foster highly skilled QOL supporters and, by doing so, to establish ourselves as an attractive university [17].

The long-term specific goals are as follows:

(1) To create a "Platform for Regional Cooperation" for universities, local communities, industries, and governments to discuss future visions.

9) Domain IX: Promotion of international academic exchanges

The aim of this domain is to develop and enhance the necessary systems and environment to foster human resources who can succeed on a global scale in the fields of health, medical care, social welfare, and sports and, by doing so, to establish ourselves as one of the main international exchange bases in Asia [17].

The long-term specific goals are as follows:

(1) To accept more enrollments (about 200 per year in the graduate school) of foreign residents in Japan who can speak Japanese, and of students from foreign countries whose mother tongue is not Japanese.

(2) To deliver lectures in Japanese to students from foreign countries whose mother tongue is not Japanese, for the sake of supporting their future employment in Japan.

(3) To establish an international exchange hall to accommodate all functions related to not only public relations but also foreign students' education and health care from admission to graduation.

(4) To provide rooms for foreign students and space for international exchange activities in the dormitory.

10) Domain X: Reform of management and SD

The aim of this domain is to check and improve the systems of organization and management in this ever-changing world to achieve our goals, and to obtain the status of a "caring university," and to realize the organization management that can reform itself and secure transparency [17].

The long-term specific goals are as follows:

(1) To develop flexible governance to accept diversity.

(2) To develop a scheme for enhancing management functions.

(3) To set up the position of corporate staff, the so-called "Corporate Kyo'in" (in Japanese), to promote collaboration between faculty and staff. The main activities include supporting research administration, foreign students' enrollment and employment placement, and settling conflicts of interest and achieving reconciliation between faculty members.

5. A conceptual map for the perspectives of NUHW (2021–2030)

Figure 3 graphically depicts the propositions of our objectives and basic goals. It is characterized as an integrated model of education and research functions, combining the undergraduate and graduate schools to maximize the objective of NUHW. In summary, this plan is only a draft proposal,
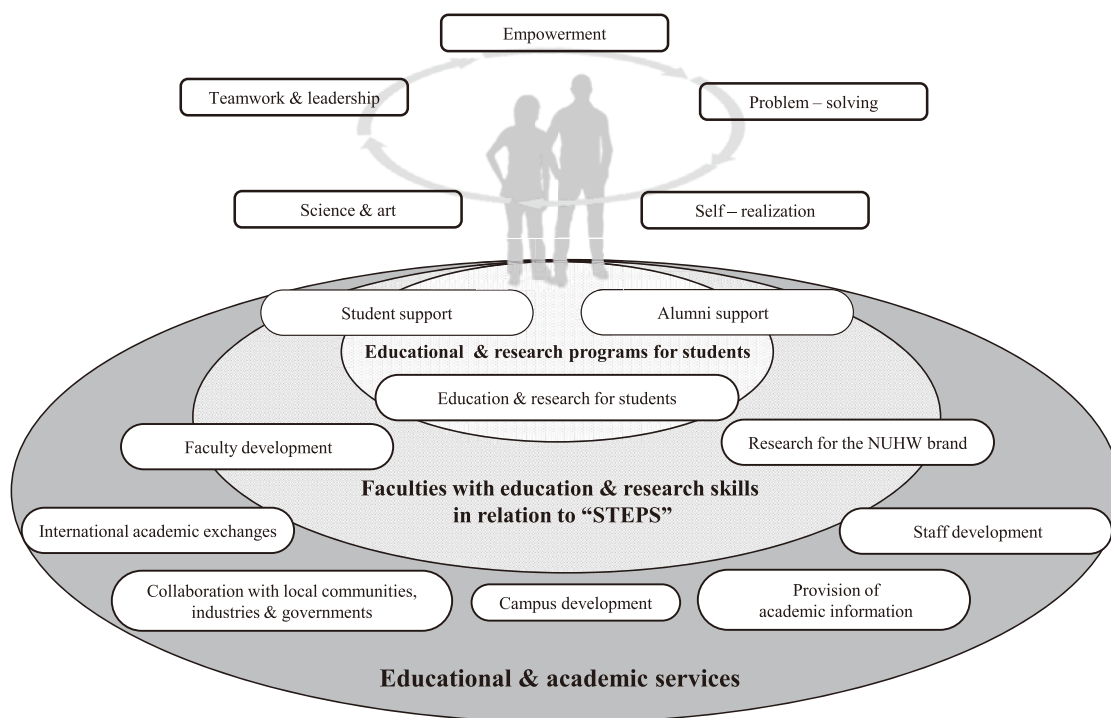
Figure 3. Three-layer platform for fostering highly qualified health professionals in global societies. "STEPS" stands for five requirements for qualified QOL supporters: S: Science and art with IT literacy, T: Teamwork and leadership with communication skills, E: Empowerment with intercultural understanding, P: Problem-solving with innovative thinking, S: Self-realization of full personal potential, based on the following information: Grand Design 2040, Society 5.0, and 2030 Agenda.

serving as a basis for discussion in various committees in NUHW. It will undergo several stages of revision before being approved by the Board of Faculty Meeting and the Executive Board of Trustees.

Conclusion

In this paper, a plan for the future development of NUHW (2021-2030) was described from the perspective of countermeasures against internal troubles and external pressures. However, this paper did not mention any contingency plans for scenarios in which the primary plan is unsuccessful.

In my view, utmost priority should be given to forming a contingency plan for the riskiest internal trouble, the so-called "enemy within," which refers to an internal collapse caused by disorganization. Of secondary importance is the development of contingency plans for a global financial crisis [18-20].

Conflicts of Interest

There are no conflicts of interest to declare.

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