**THE ROLE OF STUDENT SDGS PROMOTER AND 　　　　　　　　　　　　　　　　　　　　　　　　　　　　ITS IMPACT ON BOTH INSIDE AND OUTSIDE OF THE UNIVERSITY**

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**Abstract**

**Nagaoka University of Technology (NUT) has been promoting SDGs activities and NUT was appointed as the global hub university of the United Nations Academic Impact (UNAI) for SDG9 (Industry, Innovation and Infrastructure) for two consecutive terms, as a model university for innovative efforts related to the SDGs (Sustainable Development Goals). In 2019, the Office for the Promotion of Sustainable Development Goals (SDGs) was established to promote the university's activities toward the achievement of the SDGs in a comprehensive and effective manner through close cooperation with internal and external organizations. The following year, a student organization was established to encourage students to think freely about public relations activities and events to promote the SDGs and as well as initiatives to further build momentum for SDG promotion on campus, together with our faculty and staff members.**

**The student organization member “Student SDGs Promoter” was appointed by the president. As a member of the first SDGs promoters, a total of 13 diverse students were appointed, consisting of four Japanese students and nine international students of a wide range of ages, from undergraduate students to students with full-time jobs. In September 2020, the appointment ceremony for Student SDGs Promoter was held in a hybrid format considering the students who could not come to Japan due to the COVID-19 disaster. Currently, 28 students are enrolled as SDGs Promoters and involved in various SDG activities. In order to deepen children's understanding of the SDGs while having fun, SDG education materials and games developed by our university are introduced free of charge on our website. Through these contents, the SDGs promoter organizes events, and event participants are given the opportunity to explain about a sustainable society and learn about the SDGs.**

**As the UNAI hub university of SDG9, we will introduce how the university works with local governments to achieve SDG4 and realize a world where no one is left behind.**

**Keywords:** *SDGs, Student SDGs Promoter, SDGs educational materials and games*

**Introduction**

Nagaoka University of Technology (hereinafter designated as NUT) was originally established in 1976 with a clearly defined mission. NUT aimed to nurture and developed leading, practical engineers who have the potential to instigate innovation and drive technological advancements. Upholding the university's motto, the Spirit of Vitality, Originality, and Services (VOS), NUT continues to provide high-quality education in engineering.

Most of the students at NUT have a rich academic background, often originating from KOSEN (College of Technology). 80% of NUT students choose to continue their studies at NUT as third-year students, participating in uniquely structured programs that provide an integrated Undergraduate–master's engineering education. These programs equip students with the comprehensive knowledge and skills required to excel in the engineering field.

NUT is particularly renowned for conducting an engineering education based on the concept of “GIGAKU,” also known as the Science of Technology. The objective of GIGAKU is to foster innovative human resources that can transform and revitalize the industry sector. The education model is designed not only to impart core academic knowledge but also to develop practical skills in the field.

Through its unique engineering education, NUT successfully fosters individuals who are not only experts in their respective fields but are also capable researchers, innovators, and practitioners. Furthermore, these individuals grow into individuals of high integrity and develop the capability to apply their technical knowledge through collaborations between academia and industry.

In 2017, NUT took a pivotal step forward by incorporating the concept of Sustainable Development Goals (SDGs) into its existing educational programs. This led to the establishment of the “GIGAKU SDG Institute,” The new program represents a significant evolution of the original engineering education, explicitly aiming to contribute to shared global goals and foster a better society. The GIGAKU SDG Institute, to which we have applied, is recognized by the UNESCO Chair Program. It promotes the establishment of a practical engineering education system with a focus on creativity and a commitment to contributing to the achievement of the SDGs. This is achieved through industry-academia collaboration and international cooperation. In conjunction with our partner universities, who share these fundamental educational principles, we have applied to the UNITWIN program and have been granted permission to establish a UNITWIN Network (GIGAKU SDG Network) in 2023.

Numerous student activities occur, such as the student-led international conference “STI-Gigaku,” and the development of educational materials related to the SDGs by students of the Science of Technology Innovation, the 5-year Integrated Doctoral Program. These commendable efforts led to the United Nations Academic Impact (UNAI) appointing the NUT as the SDG9 Hub University for the first term, which lasted from 2018 through the end of May 2021.

Following this successful term, NUT has been reappointed as the SDG9 Hub University for the second term, which runs from 2021 through the end of May 2024. In this crucial role, NUT continues to promote education and research aimed at achieving all objectives related to Goal 9 of the SDGs, which is centred on Industry, Innovation, and Infrastructure. Additionally, the university is working to promote social contribution activities aimed at achieving the SDGs. As the world's only SDG9 hub university, NUT is committed to making a significant contribution to global development and innovation.

**Student Organization “SDGs Promoter”**

NUT has established the Student SDGs Promoter, a student organization tasked with promoting the understanding and awareness of the SDGs both on and off campus. This initiative encourages students, faculty, and staff to collaboratively think about and pursue activities aimed at achieving the SDGs. Candidates for the Promoter role, regardless of age or nationality, should be (1) NUT students who have a strong interest in the SDGs, (2) willing to contribute to NUT's SDG promotion activities alongside faculty and staff, and (3) capable of publicizing the SDGs, planning events, and prioritizing teaching and research. Selected candidates are then interviewed and appointed.

In the first appointment, a diverse group of 13 students—9 international students and 4 Japanese students, ranging from undergraduates to working adults—were appointed as Student SDGs Promoters. An appointment ceremony was held both in-person and online to accommodate students unable to travel to Japan due to the ongoing effects of the novel coronavirus.

During the appointment ceremony, each student receives a letter of commission from the NUT president and an orange T-shirt, symbolizing SDG 9, in recognition of the United Nations' designation of the university as a hub university. At present, there are 18 active Student SDGs Promoters. Additionally, there are now 31 alumni who support the organization by publicizing events related to the SDGs.

**SDGs Promoter-organized events**

Although NUT has been appointed as a UNAI SDGs Hub University and society expects corporations to contribute to the SDGs, not all faculty and staff members and students have been adequately engaged with the SDGs. A survey (non-disclosure) conducted on campus regarding interest in the SDGs revealed that a few, but not many numbers of faculty members and students are either unaware of the SDGs or have no interest in them.　Therefore, in an attempt to increase awareness and understanding of the SDGs among the campus community, we organized an event led by the Student SDGs Promoter, which included a seminar conducted primarily online.

*CPR (Cardiopulmonary Resuscitation) seminar:*

This seminar was organized by the student based on ideas that emerged from SDGs Promoters discussions. It was held on September 29, coinciding with “World Heart Day,” to spread knowledge about CPR, which can save lives in emergencies, and raise awareness of SDG3, “Good Health and Well-being.” The SDGs Promoter, a graduate from a medical school in Mexico, led the session (Fig.1). Following his presentation, which



Fig. 1 Students taking the CPR Seminar

used slides and videos, participants practiced CPR using a resuscitation mannequin and training AED (Automated External Defibrillator), guided by an English audio version.

*Webinar on Elimination of Violence Against Women:*

The seminar was scheduled to coincide with the “International Day for the Elimination of Violence against Women” on November 25, the final day of the “Campaign for Eliminating Violence against Women” running from November 12-25. The purpose of this seminar was to raise awareness about the various forms of violence and discrimination that women around the world, including in Japan, face.

グラフィカル ユーザー インターフェイス, Web サイト

自動的に生成された説明The seminar was conducted online and simultaneously streamed via social media to enable participation from anyone interested, including those at overseas universities. A Student SDGs Promoter gave a presentation on numerous cases from around the world, including Japan, using materials prepared in both English and Japanese (Fig.2). The guest speaker, Mr. Ayesh Madushanka Wijayasinghe from the Sri Lanka Press Council, gave a presentation on “The Impact of Media on Violence against Women.”

Fig. 2 Lecutered by the international student from Sri Lanka

*Seminar “Let's Talk Diversity! Seminar on LGBT+ and GSRM”:*

This seminar was held during “Trans Awareness Week” (November 13-20) to share the difficulties faced by LGBT+ and GSRM individuals and to inspire attendees to think about potential solutions for the future (Fig. 3).

グラフィカル ユーザー インターフェイス, アプリケーション

自動的に生成された説明

Fig. 3 Lecutered by the international student from Mexico

The seminar was conducted online, allowing participation from foreign universities. A Student SDGs Promoter clearly explained the basics of LGBT+ and GSRM, their relevance to the SDGs, and the challenges faced by social minorities in Japan and abroad. Presentation materials were prepared in both English and Japanese.

This seminar offered an opportunity to gain knowledge on various topics, such as information on support groups and help desks, discussions on sexual diversity and sexual minorities, and initiatives for gender equality.

*Webinar on Refugees and SDGs:*

This seminar was held online and simultaneously streamed via social media. A student gave a presentation, using materials prepared in both Japanese and English, which primarily focused on the relationship between refugees and the SDGs.

The guest speaker, Ms. Parwana Amiri, is an activist from Afghanistan who has published books based on her personal experiences as a refugee (Fig. 4). She discussed her evacuation from her country, the current situation of refugees in other countries, and her experience of setting up a school (Wave of Hope for the Future) in a refugee camp alongside other refugees. Ms. Amiri has established an organization called “Youth Refugee Movement” to promote Sustainable Development Goals, particularly Goal 5 (Gender Equality), among refugee youth.

グラフィカル ユーザー インターフェイス

自動的に生成された説明In Japan, refugee issues seldom come to the forefront of daily life. However, through this webinar, we have been able to emphasize that they are globally recognized as matters of significant importance.

Fig. 4 Ms. Parwana Amiri, an activist from Afghanistan

The activities carried out by the SDGs Promoters have sparked increased interest in SDGs-related matters within universities. For instance, they have emphasized the importance of having AED instructions available not only in Japanese but also in English. Additionally, they have facilitated an environment where students wishing to use a pseudonym based on their gender identity can do so at their request.

**Contributing to the local community**

NUT not only organizes SDGs-related events and seminars to promote the SDGs beyond its university activities but also actively participates in events sponsored by Nagaoka City. SDGs Promoters explain the SDGs to attendees, including children and their parents at these events. This is part of NUT's effort to achieve the SDGs through collaboration with the local community and educational institutions.

*Exhibited SDG booth at HAKKO trip:*

SDGs Promoters participated in a family-friendly event titled “Nagaoka City, a Place of Fermentation HAKKO trip” held at Nagaoka City Hall Aore. As part of their promotional efforts, the students set up a booth to introduce the NUT's SDGs activities, aiming to raise awareness about the SDGs within local communities.

The event attracted a large number of visitors, including many children and their guardians who visited our SDGs booth. SDGs Promoters provided opportunities to understand sustainable societies through board games (like SDG Carom and SDG Activity games), creating an enjoyable and educational experience around the topic of SDGs (Fig. 5 and 6).

人, テーブル, 子供, 部屋 が含まれている画像

自動的に生成された説明

Fig. 5 SDGs Carom

テーブルを囲んでいる人たち

中程度の精度で自動的に生成された説明

Fig. 6 SDG Activity games

*Beach Cleanup × Learning:*

The event, titled “Beach Cleaning x Learning,” was held at Nagaoka City's Gomoto Beach. With the core concept of learning about the sea and science while cleaning the beach, it saw participation from members of NUT, primarily student SDGs promoters, as well as local residents.

Participants picked up litter on the beach, separating the garbage by local rules. This included the collection of plastic bottles, plastic products, and microplastics — plastics that have deteriorated due to ultraviolet rays and radiation and have become less than 5 mm in size. Following the beach clean-up, participants engaged in learning activities about the sea and science, such as practicing the process of making iron from iron sand collected on the beach (Fig. 7 and 8).

砂浜を歩く人々

自動的に生成された説明Fig. 7 Beach cleanup

屋外, 建物, 道路, 男 が含まれている画像

自動的に生成された説明

Fig. 8 Thermite process with Sand Iron to make iron

NUT conducted a questionnaire survey on the SDGs among about 400 residents (who used city hall at that time) of Nagaoka City. In fiscal 2020, approximately 23% of respondents reported that they either “did not know what the SDGs were” or were “not interested in the SDGs.” However, the proportion of Nagaoka residents interested in the SDGs increased by about 10% in fiscal 2021.

Also, when asked whether they were aware of NUT's designation as a hub university, the percentage who knew about it rose from 25% in 2020 to 31% in 2021. While the rising interest in the SDGs among Nagaoka citizens can partly be attributed to the overall increasing interest and activities related to the SDGs in Japan, we believe that the university's efforts have also made a significant contribution.

**Conclusions**

The visibility of NUTs SDGs activities among the Nagaoka City resident suggests that SDGs promoters are effectively promoting social contribution activities. These are aimed at achieving the SDGs and include creating opportunities for people to familiarize themselves with the SDGs through events, raising awareness of the SDGs in the local community, and spreading the understanding that the SDGs are for everyone's problem.

Despite the halt in progress toward the targets due to global pandemics, natural disasters, and wars, we have now passed the halfway point to our target year. The increasing interest in sustainability and the growing collaboration between industry and academia under the SDGs goals are becoming more prominent.

Certainly, NUT students, including the SDGs promoters, are future candidates for roles as SDGs-minded practical engineers, and their potential is highly valued by the industry. We hope that the SDGs Promoters will continue to intensify their efforts, introducing innovative ideas to achieve the SDGs, to contribute to a sustainable and improved world by 2030.

**References**

Masamitsu Kawakami. (1979). How can we strengthen the Japanese ability to run alone? (Japanese), Polymer, 28(3) 177.

Kohichi Niihara. (2015). Strengthening of University Function ~Strategic Globalization of Nagaoka University of Technology~, Seisan to gizyutu (Japanese), 67(2), 37-39

Mami Katsumi, Osamu Takahashi (2022). Engineering Education for Sustainable Development ss UNAI Hub for SDG9, 15th International Symposium on Advances in Technology Education

Mami Katsumi, Toshiyuki Tanaka, Takaomi Kobayashi (2022), Role of Coordinators of the Top Global University Project through the GIGAKU Techno Park, Transactions on GIGAKU, 2022 Volume 9 Issue 1 Pages 09002-1-09002-7

UNESCO Chairs and UNITWIN Networks

<https://www.unesco.org/en/education/unitwin>

United Nations Academic Impact

<https://www.un.org/en/academicimpact>

SDGs Student Member

https://www.nagaokaut.ac.jp/e/annai/intro/sdg/senryaku.html

Survey on the SDGs

https://www.nagaokaut.ac.jp/e/annai/intro/sdg/graph.html