



Times Higher Education  
**Impact Rankings**

**SDG**

**1**

No Poverty



## SDG 1.2.1 Low income students receiving financial aid

### Number of students

Number of NCUE students in the daytime programs at our university in 2022 (Figure 1): 4,988 in bachelor's programs, 1,686 in master's programs, 488 in doctoral programs with a total of 7,162 full-time equivalent (FTE) students.

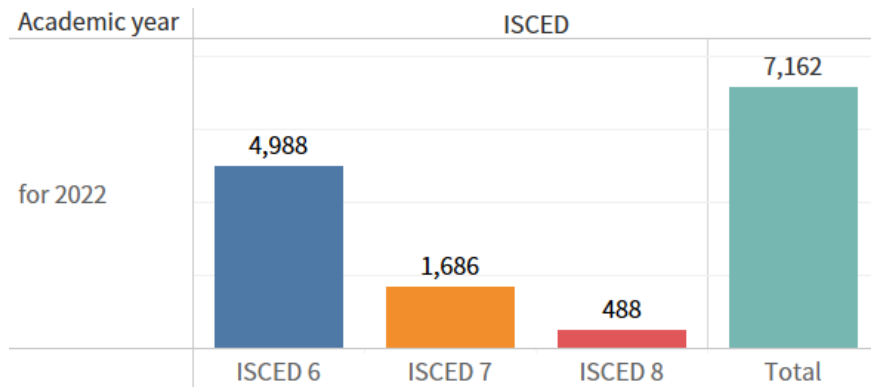


Figure 1. Number of students in 2022

### Number of low income students receiving financial aid

In 2022, NCUE provided financial aid such as tuition and miscellaneous fee subsidies, scholarships, and work study student subsidies (Tables 1-3) to low-income students. A total of 1,130 low-income students (16% of all students) received financial aid (Figure 2). The total amount of subsidies and scholarships was NT\$27,594,231.

The details of economic assistance measures are as follows:

#### 1. Tuition and Miscellaneous Fee Subsidies: (Please refer to Annex 1.2.2A and 1.2.2B)

For students from low-income households, the entire tuition and miscellaneous fees are waived. For students from middle to low-income households, there is a 60% reduction in tuition and miscellaneous fees.

#### 2. Work-Study Student Subsidies: (Please refer to Annex 1.2.2A and 1.2.2C)

Calculated based on the hourly wage standard of the Ministry of Labor's basic wage. Wages are paid on an hourly basis, with a maximum of 10 hours per week during the semester and a principle of not exceeding 40 hours of work-study per month.

#### 3. Scholarships:

In order to encourage NCUE's The Soaring Eagles Students (economically and culturally disadvantaged students) to strive for academic excellence, various scholarships, and subsidies are provided. Eligible students must participate in relevant learning support activities and submit records to receive these scholarships and subsidies. (Please refer to Annex 1.2.2D, 1.2.2E, 1.2.2F, 1.2.2G)

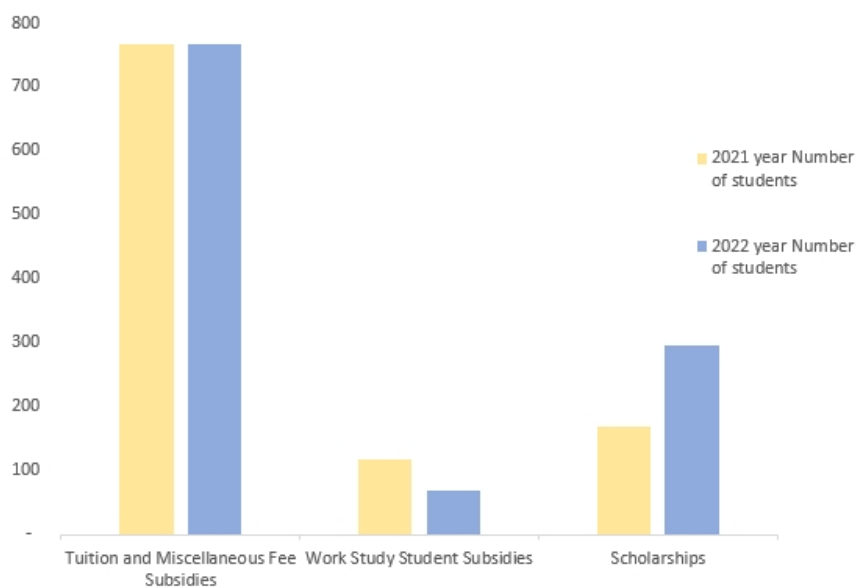


Figure 2. Number of economically assisted students in 2021 and 2022

Table 1. Tuition and miscellaneous fee subsidies

Item	Number of students	Amount (NTD)
Economically disadvantaged; low-income	75	3,649,650
Economically disadvantaged; middle-to-low-income	94	2,662,416
Economically disadvantaged; students in financial hardships	26	642,882
Indigenous people	99	3,939,080
People with disabilities	71	1,813,329
Children of people with disabilities	157	4,642,249
Other	11	323,050
Disadvantaged Level 1 (Less than NT\$300,000)	136	2,219,250
Disadvantaged Level 2 (NT\$300,000 to NT\$400,000)	38	475,000
Disadvantaged Level 3 (NT\$400,000 to NT\$500,000)	28	275,000
Disadvantaged Level 4 (NT\$500,000 to NT\$600,000)	15	112,500
Disadvantaged Level 5 (NT\$600,000 to NT\$700,000)	16	80,000
<b>Total</b>	<b>766</b>	<b>20,834,406</b>

Table 2. Work-study student subsidies

Item	Number of students	Amount (NTD)
Indigenous people	12	462,143
Military survivors and civil servants	0	0
Students in hardship	1	27,151
People with disabilities	8	794,325
Children of people with disabilities	10	359,695
Low-income	8	234,258
Middle-to-low-income	12	394,537
Disadvantaged Level 1 (Less than NT\$300,000)	9	369,395
Disadvantaged Level 2 (300,000 to NT\$400,000)	5	197,622
Disadvantaged Level 3 (400,000 to NT\$500,000)	2	86,431
Disadvantaged Level 4 (500,000 to NT\$600,000)	1	124,208
Disadvantaged Level 5 (600,000 to NT\$700,000)	0	0
Total	68	3,049,765

Table 3. University scholarships

Scholarship name	Semester	Number of students	Amount (NTD)
Notice for the Application of the National Changhua University of Education Mr. Jin-Pyng Wang Scholarship for The Soaring Eagles Students (Please refer to Annex 1.2.2D)	Second semester of 2021	24	480,000
	First semester of 2022	21	420,000
Subsidies for Diligent and Economically Disadvantaged Students entrusted to the National Changhua University of Education (Please refer to Annex 1.2.2E)	Second semester of 2021	10	200,000
	First semester of 2022	10	200,000
Notice for the Fei-Ling Electrical Engineering Company Scholarship and	Second semester of 2021	25	500,000

Scholarship name	Semester	Number of students	Amount (NTD)
Bursary for The Soaring Eagles Students Entrusted to National Changhua University of Education (Please refer to Annex 1.2.2F)	First semester of 2022	25	500,000
Notice for the Application of the National Changhua University of Education Mr. Jin-Pyng Wang Emergency Aid and University Meal Coupons for Economically Disadvantaged Students (Please refer to Annex 1.2.2G)	Second semester of 2021	100	746,760
	First semester of 2022	81	663,300
Total	–	296	3,710,060

### **SDG 1.3.1 Bottom financial quintile admission target**

To eliminate all forms of poverty, ensure the rights and interests of the poor and disadvantaged groups to be educated, and implement social protection measures, NCUE takes the following measures to assist domestic low-income students or other students who meet stricter standards:

**1. NCUE has implemented the Higher Education Sprout Project and the The Soaring Eagles Project (aid for economically disadvantaged students) to help disadvantaged students receive a university education.**

With the momentum of the Higher Education Sprout Project, NCUE students come from diverse backgrounds. NCUE encourages its departments to actively provide enrollment quotas for disadvantaged students, waives their registration fees, provides transportation and accommodation subsidies for individual applicants, and holds seminars at high schools and vocational high schools. In 2022, NCUE started offering the Caring for Regional High Schools and Vocational High Schools micro-course activity to attract more students from families in Taiwan's lowest 20% income group to study in NCUE (Figure 1). As of the end of June 2022, there were 402 students from families in the lowest 20% income group (low-income, middle-to-low-income, and disadvantaged levels 1-5) studying at NCUE, accounting for 5.6% of all students.



Figure 1. The Affiliated Industrial Vocational High School of NCUE employs interactive gaming methods to enhance students' understanding of the course content.

**2. NCUE has introduced a variety of admission pathways for disadvantaged students and a better enrolling and learning mechanism to increase social mobility.**

NCUE is committed to providing opportunities for disadvantaged students (indigenous peoples, students with physical or mental disabilities, and economically disadvantaged students) to enroll. NCUE encourages its departments to allocate additional admission quotas through various channels and has devised a comprehensive set of educational, learning, and counseling mechanisms to enable students to unleash their full potential while studying at NCUE. The goal is to progressively increase the number of economically disadvantaged students enrolled each

year. The details of the relevant admission measures are as follows:

- (1) Priority Admission (Please refer to Annex 1.3.1A): In the 2018/2019 academic year, NCUE introduced a “Priority Admission” mechanism in the university application process, which lowers admission criteria and increases the chances of admission for economically disadvantaged students. Applicable Departments: Department of Mathematics, Department of Physics (Physics Group), Department of Physics (Optoelectronics Group), Department of Biology, Department of English, Department of Electronic Engineering, Department of Fine Arts, etc.
- (2) The Soaring Eagles Admission Groups (Please refer to Annex 1.3.1A): In the 2019/2020 academic year, NCUE established the “The Soaring Eagles Admission Groups”. Some departments allocate a certain number of admission quotas to each group, allowing for adjustments in the General Scholastic Ability Test standards and exempting some applicants who passed written document reviews from interviews. The goal is to enhance the opportunities for economically disadvantaged students to enroll in our university.
- (3) Additional admission quotas for indigenous peoples (Please refer to Annex 1.3.1A): Enrollment quotas are determined based on the principle of adding two percent to the admission quotas approved by the Ministry of Education for each college, institute, department, and degree program. The admission methods include written exams, interviews, written document reviews, skill tests, or implementations.
- (4) Separate Admission for Students with Physical or Mental Disabilities (Please refer to Annex 1.3.1B): Each department can separately allocate admission quotas up to ten percent of the department’s annual approved admission quotas. Admission methods may include written document reviews, interviews, skill tests, etc, at the discretion of each department. However, departments are encouraged to minimize the use of written exams.

In 2022, NCUE’s departments provided 129 admission quotas for disadvantaged students (low-income households, middle-to-low-income households, students in hardship, indigenous people, and students with physical and mental disabilities). 84 students were admitted. The related admission results are presented in Table 1 and Figure 2 below.

Table 1. Overview of 2022 Admission Results

Admission Name	Number of Admissions
2022 University Application Admission – Priority Admission (Economically disadvantaged students)	0 1 admitted through regular admission, no need for priority admission mechanism
2022 University Application Admission – The Soaring Eagles Admissions Group	14

(Economically disadvantaged students)	
2022 University Application Admission – Additional Quotas for Indigenous People	48
2022 Bachelor’s Degree Program Separate Admission for Students with Physical and Mental Disabilities	8
2022 Screening-based Admission (Score-Based Admission) for Students with Physical and Mental Disabilities	14



Figure 2. Overview of 2021-2022 Disadvantaged Student Admissions



### SDG 1.3.2 Bottom financial quintile student success

In keeping with its development strategy for students from the families in Taiwan’s lowest 20% income group in Taiwan, NCUE takes actions to eradicate poverty and ensure the social mobility of disadvantaged groups. For students from low-income households in Taiwan, NCUE has formulated projects, actions, and guidance mechanisms to assist students in achieving their graduation goals. The measures are as follows:

- 1. NCUE provides learning assistance and counselling measures based on such projects as the Higher Education Sprout Project and the The Soaring Eagle. In 2022, 68 students received counselling, for a counselling rate of 54.4%. The total amount of rewards of NT\$2,393,050.**

Through the Higher Education Cultivation Plan, NCUE is dedicated to assisting students from families in the lowest 20% income group in establishing diverse learning objectives. NCUE also provides corresponding learning assistance and counseling measures, including initiatives such as the The Soaring Eagles Intensive Learning, promoting diligent learning, fostering excellent conduct, offering mutually beneficial guidance, facilitating research project learning, and providing generalized training. In 2022, a total of 125 students from families in the lowest 20% income group successfully graduated, constituting 16.02% of the disadvantaged graduating students. Among them, 68 received counseling through the The Soaring Eagles Project, with a counseling rate of 54.4%, and were awarded a total of over NT\$2,393,050. The detailed comparisons of economically disadvantaged students who received counseling and graduated successfully in 2021 and 2022, along with the rewards, are as follows (Figures 1-2):

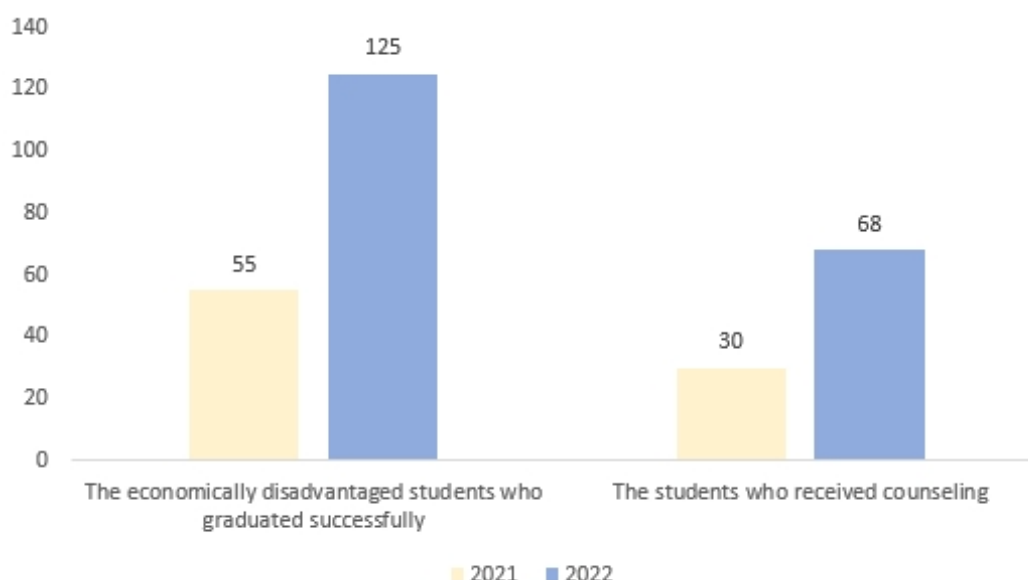


Figure 1. Comparison of economically disadvantaged students who received counseling and graduated successfully in 2021 and 2022

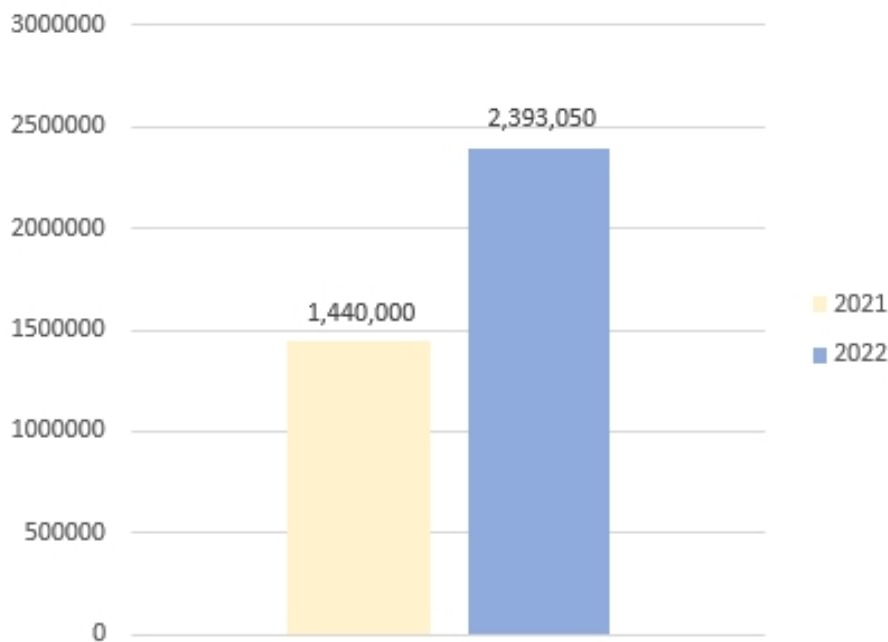


Figure 2. Comparison of rewards for economically disadvantaged students who received counseling and graduated successfully in 2021 and 2022

**2. For relevant guidance and additional information about the award projects,** please refer to photos in Figure 3 and Figure 4. For more details and achievements, please visit the The Soaring Eagles Project website: <https://reurl.cc/Yj1kAD>.

(1)**The Soaring Eagles Learning Support:** A monthly reward of NT\$6,000 is provided for Exploration and Implementation, Interdisciplinary Learning, Specialized Field Advancement, Enabling Off-Campus Internships, Community Engagement, Generalized Training, and National Indigenous Education. A monthly reward of NT\$8,000 is provided for Global Competence.

(2)**The Soaring Eagles The Soaring Eagles Learning Enhancement Options:** A maximum reward of NT\$1,000 per semester is provided under the categories of Vocational Goal Attainment, Diverse Learning Empowerment, and Campus Academic Value Addition.

(3)**The Soaring Eagles The Soaring Eagles Value Addition Package:** Categories include Achievements in The Soaring Eagles Learning, Practical Project Productions, Professional Certification Attainment, Academic Progress, Competition and Exhibition Design, and Diverse Developmental Learning. The rewards range from NT\$5,000 to NT\$10,000, based on the number of student applications, the content of achievements, learning performance, and project funding for the academic year.

(4)**Freshman Student Financial Assistance:** A reward of NT\$10,000 is provided to freshman students who participate in designated freshman student financial assistance seminars and related activities, complete the submission of learning records, and pass the review process. An additional reward of NT\$1,000 is provided if they participate in two or more freshman student financial assistance seminars (different seminars from the first participation), and pass the review process.

(5)**Research Project Learning:** Participation in designated sessions of The Soaring Eagles Learning Enhancement Seminars and the completion of monthly learning logs are eligible for a reward. The reward is provided to a maximum of 25 students per semester. With each student receiving NT\$6,000 per month for 4 months (from September to December).



Figure 3. Career Exploration Seminars



Figure 4. Adaptive Teaching Micro-courses

### **SDG 1.3.3 Low-income student support**

To support students from low-income households in finishing their studies, NCUE provides more support to students to increase their income and respect their equal rights to education. The measures include the following:

#### **1. NCUE integrates resources to provide support in areas such as finances, accommodations, food, education, and daily life.**

In compliance with the Ministry of Education's Assistance Program for Disadvantaged University and College Students (please refer to Annex 1.3.3A), NCUE implements various financial aid initiatives, including tuition grants, living grants, emergency relief grants, and accommodation benefits, to support disadvantaged students. Additionally, the Office of Student Affairs—and the Center of Teaching Excellence, among other units of NCUE, actively provide support measures for low-income and economically disadvantaged students to assist them in successfully completing their university studies. The comprehensive plan is as follows:

##### **(1) Economic and Accommodation Support:**

- (a) Tuition Grants: Financial aid is provided at five different levels, ranging from NT\$5,000 to NT\$35,000, to alleviate the financial burden of tuition.
- (b) Living Grants: Students receiving monthly living grants of NT\$3,000 to NT\$6,000 are required to engage in service-learning.
- (c) Emergency Relief Grants: Grants are provided based on the difficult situations faced by students.
- (d) Accommodation Benefits:
  - i. On-Campus Accommodation: Free on-campus accommodation is provided to students from low-income households, and priority is given to students from middle-to-low-income households for on-campus accommodation (including summer and winter breaks).
  - ii. Off-Campus Accommodation: A subsidy ranging from NT\$1,200 to NT\$1,800 per month is provided for off-campus rental expenses based on the locations.

##### **(2) Food, Education, and Daily Life Support:**

- (a) **Mr. Jin-Pyng Wang Emergency Aid and University Meal Coupons for Economically Disadvantaged Students** (please refer to Annex 1.3.3B): Intended for students in unfavorable living conditions due to the unfortunate demise of a student, significant family crises, severe injuries, or critical illness requiring medical treatment. The maximum aid amount is set at NT\$50,000. The maximum aid amount may be adjusted for special cases. Students are eligible to apply for university meal coupons, with a maximum distribution of 40 coupons per application and up to 160 coupons per student per semester.

- (b)**The Soaring Eagles Mr. Jin-Pyng Wang Scholarship for The Soaring Eagles Students** (please refer to Annex 1.3.3C): The number of scholarships is contingent upon budget availability. Approved The Soaring Eagles Students are required to complete learning guidance records before receiving a scholarship of NT\$20,000.
- (c)**Fei-Ling Electrical Engineering Company Scholarship and Bursary for The Soaring Eagles Students** (please refer to Annex 1.3.3D): As a general guideline, these scholarships are provided to 25 students per semester, each receiving NT\$20,000. Additionally, in the first semester of each academic year, there is a guaranteed allocation of 10 scholarships for freshmen.
- (d)**Scholarship and Subsidies for Diligent and Economically Disadvantaged Students** (please refer to Annex 1.3.3E): Ten scholarships are awarded per semester, with at least one recipient from the Department of Industrial Education and Technology. Approved The Soaring Eagles Students are required to complete learning guidance records before receiving a scholarship of NT\$20,000.
- (e)**The Soaring Eagles Grants** (please refer to Annex 1.3.3F): These grants are provided to undergraduate freshmen and continue until their fourth year. An annual grant of NT\$60,000 is provided to each student, disbursed in two installments of NT\$30,000 per semester. If donors fail to contribute or remain uncontactable for more than 3 months, grants will be temporarily suspended.

## **2. NCUE implements various units' assistance measures to help economically disadvantaged students move towards a better future.**

NCUE's various units provide other relevant assistance measures, including the following: project fund empowerment—Studying with Peace of Mind: Establishing Sustainable Special Funding for Education and Improving the Fundraising Management Mechanism; guidance and counselling—Provide Various Support on Daily Life; psychological counselling—Provide Relevant Counselling Resources and Establish a Case Management Tracking System; learning support—Provide Various Learning Guidance Resources; and career planning—To help students understand the professional competency of their majors, and their career interests. NCUE hopes that students from low-income families and economically disadvantaged students will realise their potential at NCUE to create a better future with them and fulfil its social responsibilities.

### **SDG 1.3.4 Bottom financial quintile student support**

To help students from the families in the lowest 20% income group finish their studies and secure opportunities to pursue a brighter future, NCUE has formulated projects, actions, and guidance mechanisms to assist them in achieving their graduation goals.

NCUE integrates and coordinates resources: from Ministry of Education's Higher Education Sprout Project to support students until graduation in the areas of daily life, learning, and careers. The details of the different guidance projects are as follows:

1. Daily life guidance and psychological care—NCUE's Higher Education Sprout Project uses target-based learning to help students improve their conduct and planning skills in the course of serving others to develop their work abilities for employment. The Project offers students various forms of living assistance, including campus meal coupons and emergency aid, to ease their economic burdens. NCUE provides counselling resources and follow-up tracking to students with physical or mental disabilities, severe emotional distress, or special needs.
2. Learning guidance to identify the best students and assisting the competent ones—The Project helps students formulate learning plans and programmes, learn to allocate their time, and control their learning progress to enhance autonomous learning, cross-disciplinary learning, and learning guidance. NCUE provides diverse empowerment and learning advancement, competency objectives, and The Soaring Eagles Intensive Learning to the students' knowledge, skills, and the scope of competency-based learning.
3. Career counselling that facilitates employment—By participating in empowerment lectures or training courses, the students are exposed to different issues and viewpoints to expand their outlook and develop their abilities through self-exploration and growth. The activities that enhance students' career planning abilities include Creativity, Innovation, and Entrepreneurship (CIE) empowerment workshops, custom customizing résumés, and mock interviews.
4. Precise guidance, fostering students' resilience (Figure 1): In addition to continuing to provide students with reviews, mock interviews and guidance, as well as career-related workshops. In the second phase of the project, we will adjust the capacity of "career orientation" counseling. This will expand from serving only disabled students with career orientation needs to encompass economically or culturally disadvantaged students on campus who also require career counseling and assessment. This will help a greater number of students in planning their future career directions.



Figure 1. Targeted Counseling Concepts

In 2022, the Project’s 17 guidance projects helped 2,488 students, resulting in a disbursement of NT\$12,284,000 in rewards. Learning guidance topped the list at 46.3%, followed by psychological guidance (29.5%), daily life guidance (22.5%), and career guidance (1.7%). NCUE also continued to improve the management mechanism of bursary projects, ensuring the students’ economic safety during their studies and helping them study at ease until graduation. The relevant issuance details are as shown in the following Table1, Figure 2 and Figure3.

Table 1. Expenditures for economically and culturally disadvantaged student rewards in 2022

2022	Daily life guidance	Psychological guidance	Learning guidance	Career guidance	Total
Number of students served	561	733	1,151	43	2,488
Expenditures for student rewards (NTD)	5,344,000	N/A	6,904,000	36,000	12,284,000

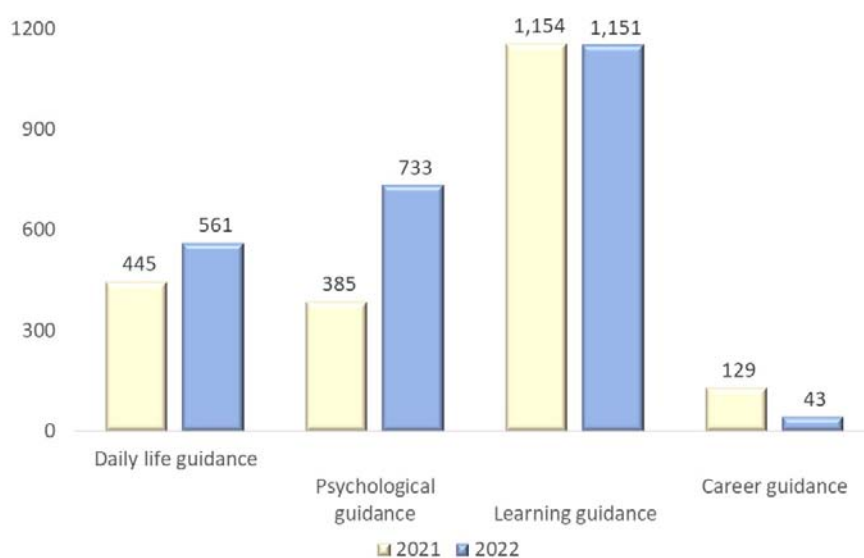


Figure 2. Comparison of the number of economically and culturally disadvantaged students served in 2021 and 2022

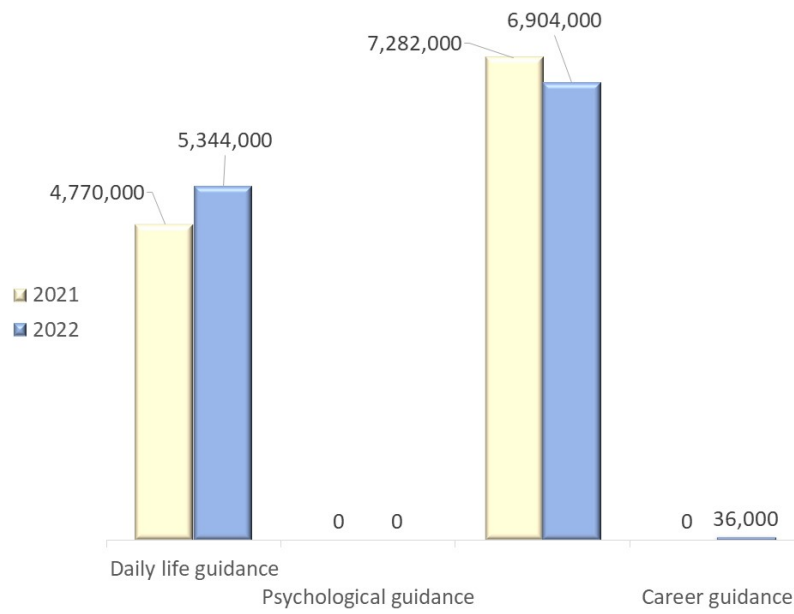


Figure 3. Comparison of expenditures for economically and culturally disadvantaged student rewards in 2021-2022



## **SDG 1.3.5 Low or lower-middle income countries student support**

One of the world's toughest challenges today is eradicating poverty, and that challenge is an indispensable part of sustainable development. NCUE not only actively subsidises domestic low-income students to ensure social mobility and increase their chances of a bright future, but also attaches great importance to the poverty-eradication measures for students from low-income or lower-middle-income countries. The following NCUE projects help students from low-income or lower-middle-income countries pursue their studies in Taiwan:

### **1. NCUE formulates relevant plans, scholarships, and bursaries.**

NCUE has formulated and continues to implement scholarships and bursaries for economically disadvantaged students from lower-middle-income countries, (e.g., Indonesia, India, Vietnam, Pakistan, Thailand, Nepal, Eswatini, etc.). The financial aid includes the following:

- (1) Grants for Overseas Taiwanese Students: Providing support for overseas Taiwanese students from underprivileged backgrounds who are dedicated to their studies. (Please refer to Annex 1.3.5A)
- (2) Graduate School Scholarship for Outstanding Overseas Taiwanese Students: Encouraging outstanding overseas Taiwanese students to return to NCUE for graduate studies. (Please refer to Annex 1.3.5B)
- (3) Foreign Students Scholarship: Attracting outstanding foreign students to enroll in degree programs at NCUE and encouraging foreign students on campus. (Please refer to Annex 1.3.5C)
- (4) Nurturing Excellence Doctoral Students Scholarship: Encouraging outstanding and research-capable doctoral students. (Please refer to Annex 1.3.5D)
- (5) Ministry of Education's TEEP (Taiwan Experience Education Program): Attracting more outstanding young individuals from advanced countries or emerging markets to come to Taiwan. (Please refer to Annex 1.3.5E)

### **2. NCUE grants subsidies as it implements the plans continuously.**

In 2022, 87 people received financial aid totaling NT\$3,951,820 (Table 1). NCUE also pressed ahead with subsidies for students from developing countries. For relevant statistics, please refer to Annex 1.3.5F.

Table 1. Schedule of subsidies for students in need from low-income or lower-middle-income countries

<b>Support Projects</b>	<b>Number of grantees</b>	<b>Grant amount (NTD)</b>	<b>Country</b>
Grants for Overseas Taiwanese Students	29	348,000	Indonesia Malaysia
Graduate School Scholarship for Outstanding Overseas Taiwanese Students	2	120,000	Malaysia
Foreign Students Scholarship	33	1,653,820	India Vietnam Indonesia Malaysia Pakistan Eswatini
Nurturing Excellence Doctoral Students Scholarship	2	960,000	India
MoE's Taiwan Experience Education Program (TEEP@Asia Plus)	21	870,000	India Indonesia Vietnam Thailand Nepal

## **SDG 1.4.1 Local start-up assistance**

To demonstrate the power of change and to allow the growth of sustainable enterprises, NCUE uses relevant academic and government resources to offer training workshops and venues to nurture and develop enterprises. The supportive measures of NCUE are as follows:

### **1. NCUE combines the strengths of different units to provide enterprises with business diagnoses and problem-solving suggestions.**

NCUE's related units integrate the resources of academia and industry to form a cross-disciplinary team of teachers who take students to visit enterprises in Central Taiwan. NCUE selects experts from academia to join the teaching teams and hold relevant courses, workshops, and seminars to jointly provide the enterprises with business diagnoses and problem-solving suggestions.

### **2. NCUE established the Innovation Incubation Centre of the Research and Development Department to promote new ventures and help local enterprises develop AI and green energy.**

To promote higher education publicity and fulfill the University Social Responsibility, the Innovation Incubation Centre of the Research and Development Department of NCUE actively promotes entrepreneurship and assists traditional industries. Additionally, in compliance with national policies, a diversified platform centered around precision machinery, smart electric vehicles, and green energy industries has been established, forming a comprehensive incubation network. Furthermore, by leveraging its educational resources, NCUE assists businesses in accessing government resources, deepening the school's collaboration with industries in Changhua, Taichung, and Nantou regions, and disseminating the benefits of guidance. The objectives of NCUE's enhancement efforts are as follows:

- (1)Enterprise Support: Actively nurturing new startups and assisting traditional industries in transforming and upgrading, promoting international marketing for businesses, and attracting investments from venture capital firms to foster a cluster effect in precision machinery, smart electric vehicle, and green energy industries.
- (2)Talent Cultivation: Establishing mechanisms for nurturing innovative talent, closely collaborating with various types of enterprises, assisting in the cultivation of corporate talent, expanding the incubation network to achieve a cluster effect of entrepreneurs, and enhancing competitiveness and business opportunities.
- (3)Industry Integration: Integrating peer groups and suppliers to reduce production costs, enhance international competitiveness, and assist businesses in creating their own brands and accessing relevant government resources.
- (4)Policy Alignment: Aligning with national policies to develop industries such as precision

machinery, smart electric vehicles, and green energy, and initiating industrial innovation to promote economic development.

NCUE’s measures and plans for supporting the sustainable development of local businesses in 2022 are summarized in Table 1:

Table 1. Measures and Plans for Supporting the Sustainable Development of Local Businesses in 2022

Plan/policy	Highlights
<p>Academia’s Technology Caring Project for SMEs/Industrial Park-based Industrial Counseling Innovation Project in Support of SMEs /Small Business Innovation Research (Please refer to Annex 1.4.1A) (Figures 1-2)</p>	<p><b>Care plans:</b>            (a)Participating enterprises: 9; experts and scholars: 15; students: 15            (b)New products/technology development: 3 cases            (c)Technical and talent training courses: 2 sessions            (d)Applications for government subsidies: 2 applications for a total of NT\$1,016,000            (e)Autonomous Industry-Academia Collaboration Projects: 2 cases            (f)Patent utilisation:2 cases            (g)National contests on special topics: 6 cases  <b>Innovation plans:</b>            (a)Participating enterprises: 109; experts and scholars: 16            (b)Technical coaching: 15 cases            (c)Technical and talent training courses: 9 sessions            (d)Applications for government subsidies: 2 applications (1 approved) for a total subsidy of NT\$3,041,000            (e)Autonomous Industry-Academia Collaboration Projects: Two projects, with a total collaboration amount of NT\$1,782,000.            (f)Student productions on special topics: 7 cases            (g)Student internships: 37 people  <b>SBIR Program:</b>            Through the promotion of short-term technical guidance for businesses and practical training courses, NCUE is committed to enhancing business skills in line with current trend requirements, further achieving the goal of improving production efficiency, and strengthening industrial competitiveness. In 2022, Jiajun Fashion Development Co., Ltd., successfully applied for government subsidy projects after counseling and</p>

	<p>received subsidies totaling NT\$780,000.</p> <p><b>National Industry-Academia Innovation Practices Competition:</b></p> <p>To foster the innovative thinking and practical skills of university and college students, as well as to promote interdisciplinary teams with diverse technological expertise in making innovative and highly practical projects, NCUE partnered with the Changhua Association of Industry-Academia Advancement to co-host the National Industry-Academia Innovation Practices Competition. In 2022, this competition attracted a total of 217 teams comprising students and faculty members from universities and colleges nationwide, resulting in the submission of 184 projects for the final round.</p> <p><b>Highlights:</b></p> <p><a href="http://eedept.ncue.edu.tw/INNnovation2022/album.html">http://eedept.ncue.edu.tw/INNnovation2022/album.html</a></p> <p><b>News Coverage:</b></p> <p><a href="https://www.youtube.com/watch?app=desktop&amp;v=ZpzY2qN3RA">https://www.youtube.com/watch?app=desktop&amp;v=ZpzY2qN3RA</a></p> <p><a href="https://money.udn.com/money/story/5723/6798238">https://money.udn.com/money/story/5723/6798238</a></p> <p><a href="https://money.udn.com/money/story/5635/6791237">https://money.udn.com/money/story/5635/6791237</a></p>
<p>University Social Responsibility (USR) Projects: ‘Deep Cultivation in Fangyuan’ and ‘Joining Hands in Dacheng: Changhua Twin Cities’ Industrial and Environmental Sustainability’ (Please refer to Annex 1.4.1B) (Figures 3-4)</p>	<p>(a)Held 53 training sessions (24, 33, or 100 hours long) for environmental educators</p> <p>(b)Conducted four sessions of environmental education staff training with local teachers</p> <p>(c)Held 8 environmental education courses and workshops on solar photovoltaics and green energy</p> <p>(d)Held 14 workshops related to the aquaculture industry and local cooperation</p> <p>(e)Actively nurtured local environmental educators and helped them implement food and agriculture education and relevant marine conservation initiatives.</p> <p>(f)Established a care team to support industrial sustainable development and held 21 preparatory meetings of experts</p> <p>(g)Held 13 food and agriculture education workshops with local community development associations</p> <p><b>In-Depth Cultivation of Fangyuan, Working Hand in Hand with Dacheng: Industrial and Environmental Sustainability Plan of the Two Townships of</b></p>

**Changhua County fan page:**  
<https://www.facebook.com/NCUEUSR>  
 (Note: Renamed in 2023 to Beautiful and Treasured Clams in Fangyuan and Dacheng: Sustainable Industry and Environment Project of Changhua's Two Cities Amid Climate Change)

**案例1：協鴻工業股份有限公司－智慧螺桿研發**

廠商需求	<p>針對螺桿因熱溫升變位問題，以即時監控智慧補償方式，達到螺桿定位精度穩定控制</p> <p>輔導重點</p> <ol style="list-style-type: none"> <li>1) 螺桿會隨著運動而產生熱，累積的熱量造成尺寸伸長，造成加工偏差，一般會以中空螺桿配油冷機去改善，但無法做到即時的回饋修正，只能有限度的改善。</li> <li>2) 智慧螺桿最佳化流道設計冷卻迴路，即時監控熱伸長及調整油冷機流量，可對螺桿進行動態即時熱補償，達到螺桿定位精度穩定控制在0.01mm以內。</li> <li>3) 此功能應用在工具機進給軸，達到長時間加工，工作精度穩定的目標。</li> </ol>				
輔導成果	<table border="1"> <thead> <tr> <th>輔導前</th> <th>輔導後</th> </tr> </thead> <tbody> <tr> <td>在朝向智慧機械發展的過程中，工具機智慧熱穩定控制已成為不可或缺的關鍵功能，經本計畫輔導，廠商對建構工具機智慧螺桿已有相關研發規劃，協助廠商縮短研發初期於相關技術評估應用或導入之時間。</td> <td> <ol style="list-style-type: none"> <li>1) 智慧螺桿最佳化流道設計冷卻迴路，即時監控熱伸長及調整油冷機流量，可對螺桿進行動態即時熱補償，達到螺桿定位精度穩定控制在0.01mm以內。</li> <li>2) 此功能應用在工具機進給軸，達到長時間加工，工作精度穩定的目標。</li> </ol> </td> </tr> </tbody> </table>	輔導前	輔導後	在朝向智慧機械發展的過程中，工具機智慧熱穩定控制已成為不可或缺的關鍵功能，經本計畫輔導，廠商對建構工具機智慧螺桿已有相關研發規劃，協助廠商縮短研發初期於相關技術評估應用或導入之時間。	<ol style="list-style-type: none"> <li>1) 智慧螺桿最佳化流道設計冷卻迴路，即時監控熱伸長及調整油冷機流量，可對螺桿進行動態即時熱補償，達到螺桿定位精度穩定控制在0.01mm以內。</li> <li>2) 此功能應用在工具機進給軸，達到長時間加工，工作精度穩定的目標。</li> </ol>
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Figure 1. Notable Counseling Cases – She Hong Industrial Co., Ltd.

Figure 2. The Evaluation Process of the 2022 National Industry-Academia Innovation Practices Competition



Figure 3. Environmental Education Workshop

Figure 4. Innovative Curriculum for Ocean Education

## **SDG 1.4.2 Local start-up financial assistance**

NCUE is proactively intensifying its partnerships with local industries, with a specific emphasis on bolstering interdisciplinary collaboration among neighboring educational institutions, especially strategic alliances with regional universities and industry stakeholders. These collaborative efforts provide NCUE with valuable insights into industry needs, facilitate the adaptation of the school's research focus, and offer practical hands-on experiences. Consequently, NCUE is well-equipped to strategize and implement cross-institutional, interdisciplinary, and startup-oriented collaborative projects. This approach substantially amplifies the capacity and impact of NCUE's industry-academia partnership initiatives. The relevant implementation strategies are as follows:

1. Actively participate in various industry-academia collaboration projects (Table 1), assisting businesses in enhancing their competitiveness and fostering collaboration between the industrial and academic sectors.
2. Foster collaboration between NCUE's faculty and businesses to develop new products and technologies. Actively seek government research and development subsidies and resources.
3. Provide technical training courses for businesses and support students in internships and competitions to cultivate professionals in the fields of green energy and smart manufacturing.
4. Through regional cross-institutional alliance mechanisms, jointly promote specialized knowledge in smart manufacturing, green energy, and carbon reduction. Offer entrepreneurship and business development courses to facilitate the commercialization of research and development outcomes.
5. Organize intellectual property and innovation entrepreneurship cultivation events. Provide expertise in patent protection for smart manufacturing and research and development outcomes. Promote the research and development achievements of campus-derived enterprises.

### **Key Achievements:**

NCUE collaborated with National Chung Hsing University, Hungkuang University, Tunghai University, National Chiayi University, National Yunlin University of Science and Technology, Taipei Medical University, National Taipei University of Technology, and National Chin-Yi University of Technology on the Central Taiwan Cross-Institutional Integrated Research and Industrialization Platform Project, aiming to foster expertise in smart manufacturing and green energy reduction, offer entrepreneurial and business incubation programs to promote industrial innovation, and facilitate the commercialization of research and development outcomes.

1. Assisted 53 businesses by engaging 54 experts and scholars, along with 108 students, to support these businesses in their industry and technology upgrades from 2020 to 2022. This effort contributes to strengthening the operational and research and development capabilities of Taiwan's small and medium-sized manufacturing factories. It also enhanced the expandability of smart manufacturing technologies required by various industries.

2. Provided assistance to its faculty in jointly developing new products and technologies with businesses. From 2020 to 2022, there were 17 cases of new product and technology development, resulting in two patent applications from two different businesses through industry-academia collaboration.
3. Actively assisted faculty and businesses in applying for government subsidies (local or central). In 2022, a subsidy of NT\$739,500 was secured.
4. Conducted technical and talent training courses in response to the needs of businesses in industrial areas. In 2022, 9 large-scale technical and talent training sessions were organized in the Fuxing and Taichung industrial areas.
5. Offered substantial support and guidance to its faculty for establishing start-ups rooted in their patented research and development work in 2022. Professor Tsung-Chi Lin from the Department of Biology received approval from the National Science and Technology Council for the 2022 Taiwan Germination Program (MOST Germination Program), with approved funding totaling NT\$7,600,000.
6. Organized a seminar focusing on intellectual property, innovation, entrepreneurship incubation, along with an exhibition showcasing the research and development achievements of NCUE. This event served to provide faculty members from NCUE and other universities and colleges nationwide with a profound understanding of intellectual property, patent strategies, and patent protection for campus-derived enterprises. Additionally, it aimed for the promotion of research and development outcomes.

Table 1. Outcomes of National Science and Technology Council Projects,  
Non-National Science and Technology Council Projects,  
and Industry-Academia Projects executed by NCUE's faculty members in 2022

<b>Project Category</b>	<b>Number of projects/ Percentage</b>	<b>Number of projects</b>	<b>Amount (NTD)</b>
National Science and Technology Council Projects, regular projects		146	139,003,600
Non-National Science and Technology Council Projects		159	329,223,000
Industry-Academia Projects		77	39,541,400
Total/Proportion		378	507,768,000



### SDG 1.4.3 Programmes for services access

People are at the core of sustainable development. NCUE is duty-bound to create a fair, just, and inclusive future. It is vital for universities to promote sustainability and improve everyone's access to basic services. To eradicate poverty, NCUE organizes training and projects to improve students' and related interest groups' access to basic services.

To care for the community with high-quality education and reduce inequality, NCUE seeks to improve everyone's access to basic services by implementing various projects (e.g., National Science and Technology Council, Ministry of Education projects, University Social Responsibility (USR) Projects, University Social Responsibility (USR) Hub Projects), offering language courses, sending groups to serve remote areas, and holding open seminars and community education activities. The relevant plans, policies, and results on education, service, electricity, health are as follows:

Category	Responsible units	Plan/policy	Highlights
Education	Special Education Centre	The Project of Recruiting and Guiding Students with Physical and Mental Disabilities by Universities and Colleges 2022 (Please refer to Annex 1.4.3A)	Provided relevant support services to NCUE students with physical and mental disabilities; 1056 people received help with learning, 950 people received help with daily life, 232 people received help with the transition to employment, and 243 received guidance and counselling services
Education	Special Education Centre	The implementation plan of Changhua–Nantou–Yunlin Region's Special Education Identification and Guidance (Enhancing Professional Competency) 2022 (Please refer to Annex 1.4.3B)	Held 21 professional competency activities, including 17 special education competency study groups, 3 thematic case study seminars, and 1 workshop
Education	Special Education Centre	Special Education Centre's Counselling Project for Students with Disabilities 2022 (Please refer to Annex 1.4.3C)	<ol style="list-style-type: none"> <li>Served a total of 75 people</li> <li>Paid 3 visits to schools to provide counselling services</li> <li>Published two issues of the Special Educator's Journal to benefit special education departments, special education resource centers, special education administrative entities, faculties and students at all levels,</li> </ol>

			<p>and community members across Taiwan</p> <p>4. Conducted 1 session on special education work review in the counseling districts and one liaison meeting for disabled university/college students on their transition to life in a higher education institution</p>
Education	Special Education Centre	<p>The 2022 project of Senior High School's Special Education Programs (Central Region) for Students with Disabilities (Please refer to Annex 1.4.3D)</p>	<ol style="list-style-type: none"> <li>1. Practical courses in special education operations: 36 hours, serving 17 participants</li> <li>2. Social skills courses in areas with special needs: 36 hours, serving 17 participants</li> <li>3. Learning strategy courses in areas with special needs: 36 hours, serving 17 participants</li> </ol>
Education	Center for Teacher Education	<p>University Distinctive Project Application for the Third Phase (2022-2023) - University Social Responsibility Implementation Project: NCUE × Common Good: Deep Cultivation and Advancement of Local Communities (Please refer to Annex 1.4.3E) (Figure 1)</p>	<ol style="list-style-type: none"> <li>1. Organised one-week NCUE × Common Good camps in 6 rural secondary and primary schools in 2 counties and cities, serving 320 students</li> <li>2. Using career exploration assessment tools to serve 52 disadvantaged students from 4 rural schools, helping them complete individual career-expectation blueprints</li> </ol>
Education	Language Centre	<p>Language courses (Please refer to Annex 1.4.3F) (Figure 2)</p>	<p>Held 51 foreign language classes for 700 trainees.</p>
Education	College of Extension Education	<p>Public lectures and community education activities</p>	<p>Provided courses on senior education (24 classes, 704 person-times), enhancement of teachers' capabilities (72 courses, 1,805 person-times), industrial training (975 classes, 3,175 person-times), and various continuing education courses (71 classes, 1,346</p>

			person-times)
Service	Extracurricular Activities Team, Office of Student Affairs	Service Clubs - Mountain Service Club, Fishing Village Service Club, Rural Service Club (Please refer to Annex 1.4.3G)	Held nine service activities with 147 participants
Electricity	Department of Electrical Engineering	“Energy Transformation – Changhua True Wind God” Green Energy Education Train (Please refer to Annex 1.4.3H) (Figure 3)	NCUE collaborated with Ørsted Taiwan Limited to launch the “Energy Transformation – Changhua True Wind God” Green Energy Education Project. In compliance with the 2019 Curriculum Guidelines set by the Ministry of Education, from March to June, 2022, NCUE conducted 30 touring educational events across 30 elementary schools in Changhua County and organized three seed teacher training seminars, nurturing 60 seed teachers, and involved approximately 750 students. Through the use of specialized educational materials and interactive learning, students gained an understanding of the importance of green energy, laying the foundation for sustainable development.
Electricity	Department of Electrical Engineering	University Social Responsibility Hub (USR Hub): ‘Energy and Technology Education Development with Changhua’s Uniqueness’	<ol style="list-style-type: none"> <li>1. Provided a professional service team to assist with local inquiries and counseling services, accumulating a total of 248 service hours</li> <li>2. Organized the World Energy Trends and the Development of Green Energy Industry in Changhua forum. Approximately 45 students, 5 teachers, and 150 external participants attended. The satisfaction rating was 4.03, and the agreement rating was 4.06</li> <li>3. Conducted online lectures on energy-related topics such as nuclear</li> </ol>

			energy and green energy, green energy and net-zero emissions, and global warming and sustainable green energy development. A total of 359 people participated, with an agreement rating of 4.48
Health	Graduate Institute of Sports and Health	University Social Responsibility Hub (USR Hub) USR: Training Muscle Power for happy life in Northern Changhua: Enjoying Sports Project (Figure 4)	<ol style="list-style-type: none"> <li>1. Offered guidance on Nordic walking, aerobic exercise, and strength training, along with physical fitness testing and health counseling services, totaling 74 classes (148 hours). There were 11 instructors and 47 participants, with a total of 3,478 person-times</li> <li>2. Offered a total of 11 sports-related courses, including sports competition programs and internships, topic discussions, aerobic dance, yoga, and rhythm in 2022. A total of 518 students enrolled in these courses</li> <li>3. Established the U-First Gym, consisting of 11 seed teachers and 40 volunteers. Organized various professional sports coaching and counseling activities</li> <li>4. Conducted “U-First GYM” home workout online coaching on the YouTube platform, including basic strength training, chair stretch workout, body sculpting, fat-burning dance, prevention of muscle loss, tabata, and other courses (with a total of 1,641 views)</li> <li>5. Provided guidance services for the “HOMEFIT” fitness online course during the summer break. This program lasted for 8 weeks (5 times a week, totaling 40 hours) and involved 3 instructors and 25 participants, with a total of 1,000 person-times</li> </ol>



Figure 1. Inquiry-Based Science Experiment Course – Electric Circuits



Figure 2. Language Center's Vietnamese Language Promotion Course



Figure3. Green Energy Education Train



Figure 4. Group Photo of Participants in the New Strength Training Event

## SDG 1.4.4 Policy addressing poverty

NCUE has actively collaborated with local communities, elementary schools, junior high schools, vocational senior high schools, charitable organizations, local businesses, and local governments to establish resource linkages, create collaboration platforms, and collectively devise plans and policies aimed at eliminating all forms of poverty. Additionally, NCUE has executed relevant initiatives within local communities, elementary schools, junior high schools, vocational senior high schools, charitable organizations, and local businesses. Relevant outcomes are as follows:

1. On November 17, 2022, the Department of Physics of NCUE signed a Memorandum of Understanding (MOU) with Formosa Petrochemical Corporation (Figures 1-2). This collaboration is geared towards supporting the advancement of local science education, with a particular focus on enhancing science education for disadvantaged children and students in remote areas in Yunlin. This partnership contributes to the integration of local science education resources, improves the quality of teaching in elementary schools and junior high schools, facilitates talent exchange, promotes collaborative research projects, and strengthens NCUE's commitment to social responsibility.

Additionally, in collaboration with Yuan T. Lee Foundation Science Education for All, NCUE organized science camps, fostering hands-on learning experiences through scientific research, competitions, and other activities to enhance students' practical skills. By bringing science education to remote areas, NCUE aims to boost students' scientific capabilities, provide real-world learning experiences, and help them overcome poverty to improve their future opportunities.

Furthermore, this collaboration allows for the integration of personnel and resources from both parties to enhance science and environmental education, promote science popularization, and encourage elementary schools and junior high schools to value science education. In the future, NCUE plans to deepen the collaboration by conducting research projects and R&D initiatives, establishing a technology collaboration platform, enhancing research and development capabilities, and assisting in the upgrading of industries.

In 2022, NCUE organized various events, including Yuan T. Lee's Science Winter (Summer) Camp, Yuan T. Lee's Junior High School Math and Science Promotion Program, Yuan T. Lee's Science Contest, Science Rooted Program (Tong An Elementary School, Hu Dong Elementary School, and Ma Tsuo Elementary School), and science winter (summer) camps for the visually and hearing impaired, benefiting a total of 6,500 students. (Figures 3-4)

Yuan T. Lee's Changhua Science Camp fan page:

[https://www.facebook.com/ytleeorg/?locale=zh\\_TW](https://www.facebook.com/ytleeorg/?locale=zh_TW)

2. To fulfill the university social responsibility, "NCUE × Common Good Education" team has formed the "Baisha Quality Education Alliance" in collaboration with 12 rural schools in

Taichung City, Changhua County, Nantou County, Yunlin County, and Penghu County, as well as National Taichung University of Education. This alliance harnesses strategic educational synergy, resource integration, and the enhancement of rural education quality. The objective is to cultivate a greater number of highly qualified educators, offer increased support, and actively address the educational challenges prevalent in rural areas. NCUE collaborates closely with educators from partner schools, designing curricula that integrate local characteristics and cultural elements, developing localized competency-based and interdisciplinary courses, enhancing the learning, digital literacy, and career readiness of students from rural schools, boosting their motivation to learn and their overall academic performance, implementing the spirit of holistic education in the 12-Year Basic Education, fostering core competencies in students from rural schools, and achieving the ideals of self-motivation, interaction, and Common Good. In 2022, during the summer break, NCUE conducted one-week “NCUE × Common Good” camps in 6 rural elementary and junior high schools across 2 counties, serving approximately 320 students. Through career exploration-related assessment tools, NCUE assisted about 52 disadvantaged students from 4 rural schools in completing individual student career aspiration blueprints.

Outcomes of the “NCUE × Common Good” Project in 2022: (Figures 5-8)

<https://sites.google.com/view/ncue-teach/%E8%A8%88%E7%95%AB%E6%88%90%E6%9E%9C/111%E5%B9%B4%E5%BA%A6?authuser=0>.



Figure 1. Group photo with attending faculty members and dignitaries



Figure 2. Signing of the Memorandum of Understanding.



Figure 3. Experimental courses at the Yuan T. Lee's Science Camp



Figure 4. Outdoor activities at the Yuan T. Lee's Science Camp



Figure 5. Group photo during the signing ceremony



Figure 6. Group photo with students from Wanxing Junior High School



Figure 7. Chinese language lesson at Shanshui Junior High School and Elementary School



Figure 8. Campus plant tour at Tianzhong Junior High School