



Times Higher Education
**Sustainability
Impact Ratings**

SDG

17

Partnerships for
the goals



2024 Sustainability Report

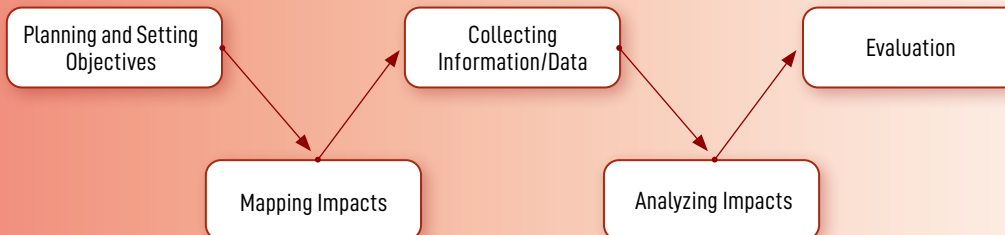


2. MCUT's Social Impact and SROI Results

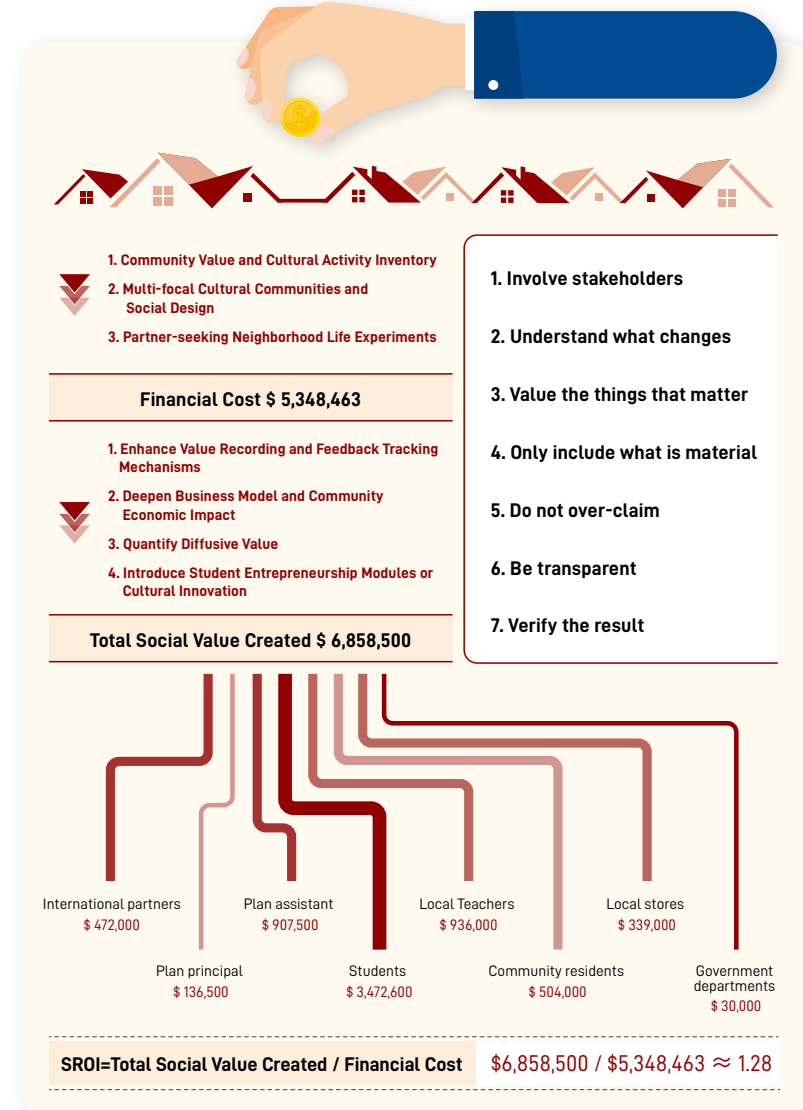
Through two years of field practice and interdisciplinary design of the USR plan titled "Co-op Design - A Life Experiment of San Chiao Yung Community Culture," MCUT has successfully integrated teachers' and students' courses, community culture, international cooperation, and local legal associations, enterprises, old street stores, and government departments to participate in local creation focused on community culture. The initial SROI is estimated at 1.28, meaning that every NT\$1 of planned public welfare resources allocated to this year's project could generate NT\$1.28 in social value.



MCUT's SROI Analysis Steps



Co-op Design - A Life Experiment of San Chiao Yung Community Culture



SROI analysis can be used to measure and calculate social benefits. It can also be classified as either "prediction type" or "evaluation type," depending on the project type. The "prediction type" refers to analyzing plans that are currently being developed and have not yet been launched. By predicting the social benefits that could be generated, this analysis aims to maximize the return on investment. The "evaluation type" is a retrospective method that assesses the social benefits produced by ongoing projects, with the goal of understanding the actual social benefits achieved and identifying ways to adjust the project. This report falls under the evaluation-type category. The social benefits generated are evaluated based on the results of this plan's implementation over two years (2023-2024).

It is planned to optimize and adjust the calculation of the social return on investment in the fourth phase of this plan. Suggestions are provided as follows:

- 1. Improving the value records and feedback tracking mechanism:** For example, tracking the impact on the community residents after the activity.
- 2. Deepening business models and impact on community economy:** For example, supporting the creation and commercialization path of the indigo dye cooperative.
- 3. Quantifying the diffusible value:** Including brand visibility and social media influence into the SROI model of the next phase.
- 4. Introducing student entrepreneurship modules or cultural innovation and creation:** Enabling the students not only to participate but also to engage in local entrepreneurship.

SROI



Material Topics	Value Chain			SDG Response	Impact Materiality		Operation Materiality
					Positive	Negative	
Industry-Academia Cooperation & Exchange		MCUT	Downstream	  	High	Medium	High
Educational Opportunities and Accessibility	Upstream	MCUT	Downstream	  	Medium	Medium	High
USR Practice		MCUT	Downstream	  	Medium	Medium	Low

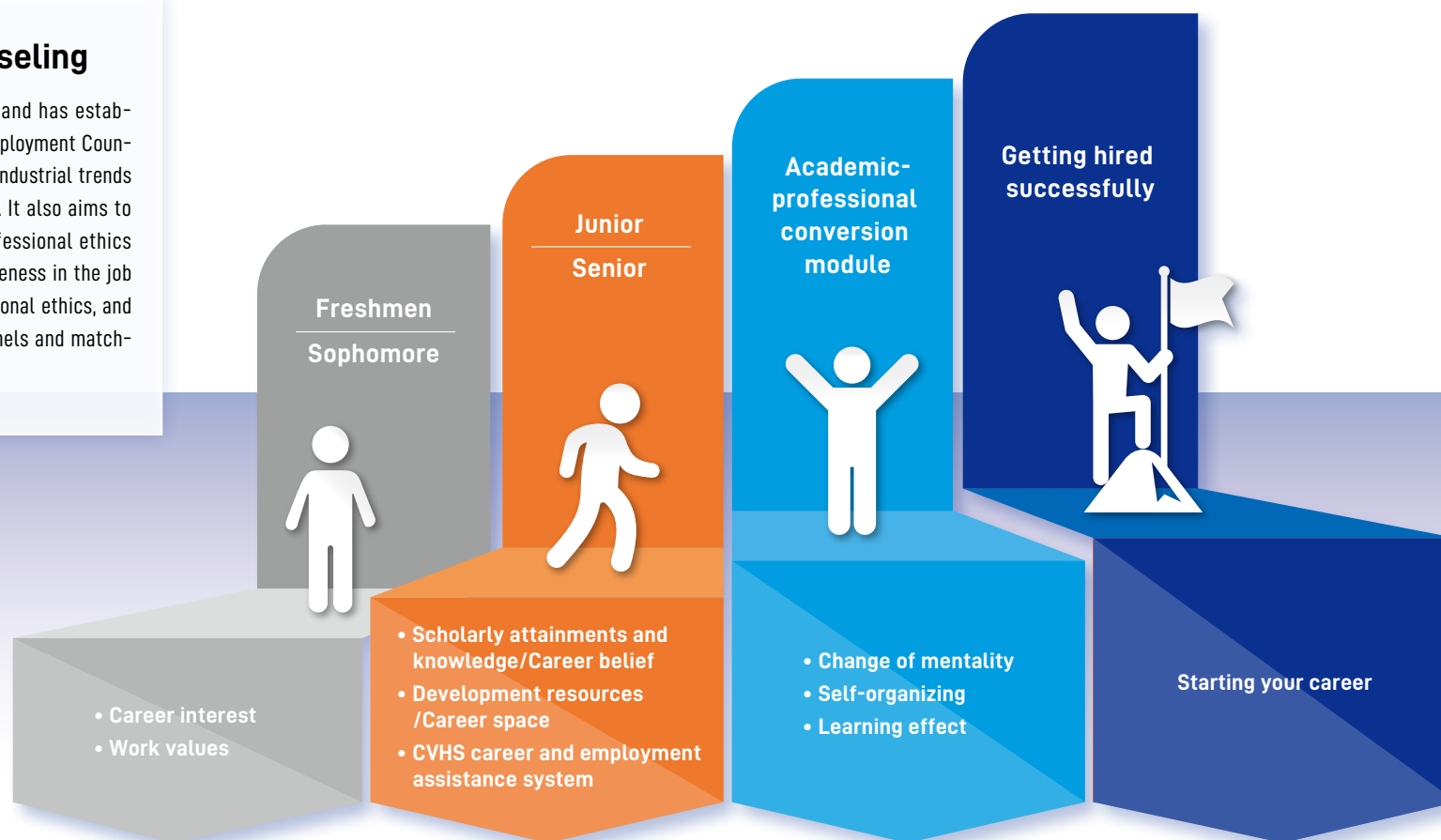
• SROI = Total Social Net Value Input / Total Project Investment = \$6,858,500 / \$5,348,463 ≈ 1.28

3.4 Cooperation and Exchange



Student Career Counseling

MCUT focuses on holistic education and has established an "Operating Procedure for Employment Counseling" to help graduates understand industrial trends and secure employment successfully. It also aims to instill a proper understanding of professional ethics in students, enhance their competitiveness in the job market, provide education on professional ethics, and strengthen employment service channels and match-making effects for graduates.



○ Employment counseling processes

MCUT actions					Effect (Quantitative data)			
	Office of Student Affairs	Office of Research and Development	Office of Academic Affairs	Other units	Office of Student Affairs	Office of Research and Development	Office of Academic Affairs	Other units
Admission of freshmen	Student Counseling Division: The division administers career exploration modules to first-year students, aiming to enhance their understanding of academic and career pathways, professional interests, and work values.				Student Counseling Division: A total of 14 sessions of UCAN [Career Interest Test] and [Generic Skill Test] were conducted, attended by 1,846 person-times.			
Sophomore year	Student Counseling Division: Sophomore students can utilize the "Using by Learning" and "Learning by Using" approaches in the required courses of specific departments. This will assist them in effectively organizing their schedules and developing skills that bridge classroom learning with real-world applications. Division of Internship and Career Services: - The Division of Internship and Career Services will organize work-study internship coordination activities for sophomore students during the second semester of their sophomore year to prepare them for their junior year internships. This will include teaching relevant workplace training themes and enhancing adaptability during workplace internships. - Students from all departments are encouraged to take exams and earn professional certificates. Additionally, certificate rewards will be given to those who meet the following criteria: obtaining professional certificates with grades A and B, verified by public and private organizations as explicitly defined by each department.				Student Counseling Division: 9 career counseling lectures were handled, and 229 people participated in these lectures. Division of Internship and Career Services: - It managed work-study internships, coordinated advance operational meetings for junior students, and conducted workplace quality training sessions for pre-interns. In 2024, a total of 80 teachers and student representatives attended the events. - The rewards paid for certificates in 2024 amounted to NT\$ 2,879,000.			
Junior year	Student Counseling Division: Before students begin their work-study internships in the first semester of their junior year, the division conducts pretests for ability development and skill assessment. This information helps understand students' current knowledge and skills and identify appropriate workplaces. Division of Internship and Career Services: - Manage student internship matchmaking operations during the first semester of the junior year, allowing students to select appropriate internship opportunities and participate in interviews organized by internship organizations. This enables them to experience the workplace interview process and enhance their employment competitiveness. - Arrange for students to engage in work-study internships at enterprise workplaces during the second semester of the junior year. After a year of off-campus internship experience, students are expected to bridge the gap between theory and practice.				Student Counseling Division: 11 sessions of UCAN Junior Student Generic Skill-Pretest were conducted and attended by 422 person-times. Division of Internship and Career Services: - In 2024, students were arranged to participate in 200 internship interviews. - In the 2022 academic year, 835 junior students were arranged to intern at relevant organizations.			
Senior year	Student Counseling Division: Conduct a skill assessment after the test in the first semester of senior year, following the completion of work-study internships. This will help evaluate students' skill growth over the year and identify the skills they wish to develop concurrently. Subsequently, senior year courses can be arranged accordingly. Division of Internship and Career Services: - Partner with the Labor Affairs Department of New Taipei City Government to organize large-scale campus talent recruitment activities, providing senior students and recent graduates with job opportunities and channels, and assisting them in finding suitable employment. - Organize enterprise talent recruitment explanation sessions and invite prominent enterprises to introduce job vacancies to students face-to-face, aiming to find suitable candidates to employ.				Student Counseling Division: A total of 19 sessions for the CVHS Competency Development Module (Post-Test) were conducted, with 885 participants. Division of Internship and Career Services: - In 2024, it partnered with the Labor Affairs Department of New Taipei City Government to organize the "2024 New Taipei City and MCUT Campus Employment Expo." During this event, 40 enterprises were invited to provide more than 2,800 job vacancies. 1,589 people participated in the activity. - In 2024, 6 enterprise talent recruitment explanation sessions were held, with 363 participants.			

○ Lecture series on employment counseling and employment expos in the past three academic years

Program	Academic year	2021	2022	2023
Lecture series on employment counseling		12	12	11
Number of participants in lecture series on employment counseling		861	845	855
Number of enterprise talent recruitment explanation sessions		4	8	6
Number of participants in enterprise talent recruitment explanation sessions		362	549	363
Number of large employment expos		1	1	1
Number of participants in large employment expos		678	693	1,589



Certificates and Second Expertise

To enhance students' professional skills, competencies, and workplace competitiveness, MCUT has established "Measures for Rewarding Students' Professional Skill Certificates" in coordination with Taiwan's certification system. Each department is required to identify the relevant types of professional verification certificates that can boost students' employability in line with their teaching goals and arrange certification study or counseling courses to help students achieve certificates through examinations. The Office of Library and Information Services and the General Education Center will implement measures governing information (computer) and language (excluding English) certificates to encourage students to develop their second area of expertise. During the 2023 academic year, graduates from the Undergraduate Program earned a total of 1,139 professional certificates with a grade of B or above while in school, averaging 1.08 certificates per student.

○ Statistics of certificates obtained by students in the past three academic years

College	Types of certificates obtained	2021	2022	2023
College of Engineering	Grade A	1	3	0
	Grade B	567	555	629
	Grade C	80	2	9
	Subtotal	648	560	638
College of Environmental Resources	Grade A	0	1	0
	Grade B	179	203	153
	Grade C	80	2	36
	Subtotal	648	560	189
College of Management and Design	Grade A	5	6	3
	Grade B	391	403	354
	Grade C	9	0	0
	Subtotal	405	409	357
Total certificates of the university		1,279	1,220	1,184

Graduate Direction Investigation

To enhance the employment rate and workplace competitiveness of students after graduation, we have established a comprehensive graduate tracking system in cooperation with the Ministry of Education. This allows us to track the employment trajectories of 90% of fresh graduates each year, as well as the employment conditions and self-evaluation of key skills for 75%-80% of graduates one year post-graduation. In the 2022 academic year, the results from the graduate follow-up survey indicated that the employment rate of graduates from the Undergraduate Program reached 93.1%, while those from the Master Program reached 88.2%. The average monthly salary of graduates from the Undergraduate School was NT\$ 41,347, compared to NT\$ 52,384 for graduates from the Master Program. Additionally, to assess whether alumni's employability and professional attitudes align with workplace requirements, MCUT conducts an employer satisfaction survey of 50-100 companies that have hired its graduates each year. The relevant survey results will serve as a key reference for adjusting the university's teaching direction.

Graduates' employer satisfaction survey in the past three years

Program \ Academic year	2022	2023	2024
Percentage of graduates' employer satisfaction	86 %	84 %	86 %

Graduation and employment rates in the past three academic years

Program \ Academic year	2021		2022		2023	
	Day School	Continuing Education	Day School	Continuing Education	Day School	Continuing Education
Number of students meeting the requirements for graduation years ¹	1,199	120	1,207	123	1,288	51
Number of graduates	1,033	96	1,036	95	1,012	38
Graduation rate	86.16 %	80 %	85.83 %	77.24 %	78.5 %	74.5 %
Overall graduation rate	85.59 %		85.03 %		78.4 %	
Graduate employment rate	93.2 %	98.4 %	91.2 %	98.1 %	The graduate employment rate is defined as the percentage of graduates who secure employment within one year after graduation. Therefore, the employment rate for the 2023 academic year was assessed at the end of 2025 and will be reported in a relevant document next year.	
Employment rate of the Undergraduate School	92.8 %		93.1 %			
Employment rate of the Master Program	96.9 %		88.2 %			
Overall graduate employment rate	93.7 %		91.9 %			

Note 1: Fresh graduates and students whose graduation was postponed due to not completing the required courses.

Alumni Relations

In 1969, MCUT established the Alumni Association to foster communication among its alumni and create a network. The association was officially registered as a social public welfare group, with its council members and supervisors elected and appointed by the members. MCUT hosts alumni experience-sharing symposiums and invites alumni with outstanding accomplishments or expertise to return to share their insights. We also offer students the chance to visit and learn from alumni across various fields.

In 2008, we launched the "Founder Wang Flame-Passing Scholarship." With regular donations from alumni, we aim to help exceptional students from underprivileged backgrounds successfully complete their studies. Since the launch of this program, our alumni have responded passionately, resulting in donations totaling approximately NT\$43.37 million.

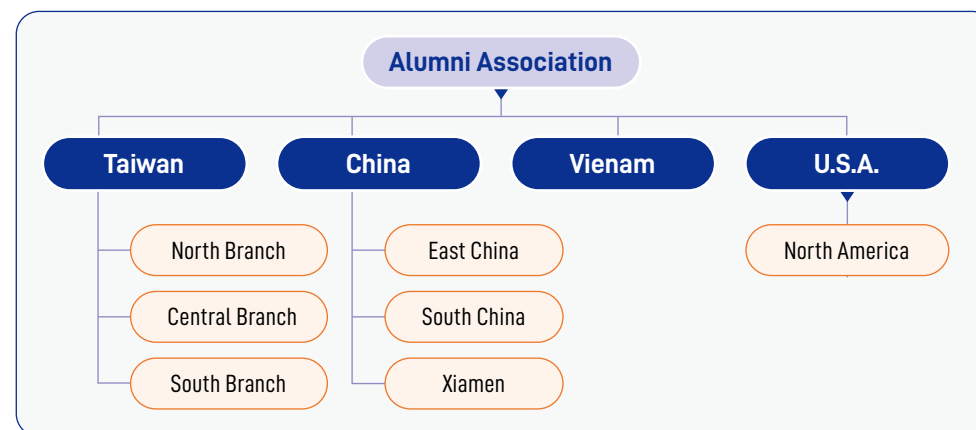
Statistics of donations from alums in the past three academic years

Program \ Academic year	2022		2023		2024	
	Amount (NT\$)	Subsidized person-times	Amount (NT\$)	Subsidized person-times	Amount (NT\$)	Subsidized person-times
Flame-Passing Scholarship	955,900	7	1,093,400	10	539,300	11
Grants for Supporting Disadvantaged Students to Fulfill their Dreams	2,024,197	619	2,032,500	704	2,451,800	Note ²
Other scholarships and grants ¹	3,561,740	15	2,749,917	14	1,252,600	10
Total	6,541,837	641	5,875,817	728	4,243,700	Note ²

Note 1: Other scholarships and grants include the Hsieh-I Kang Scholarship for Economically Disadvantaged Students, the ATrack Scholarship for Economically Disadvantaged Students, the Mr. Liu-Hsiung Hsieh Scholarship for Economically Disadvantaged Students, the Shan-Ming Chen Scholarship, a scholarship from the Alumni of the Department of Electrical Engineering, the Chan-Ming Wen Scholarship, a scholarship for Economically Disadvantaged Students from Teacher Ching-Sung Yeh in the Department of Mechanical Engineering, the Shi Dian Scholarship, the Elite Scholar Ship, the Social Responsibility Student Grant, the Fund for Dedicated Use of Funds Raised, and the Innovative Product Research and Development Project, among others.

Note 2: The donation for the Grants for Supporting Disadvantaged Students to Fulfill Dreams in 2024 will be executed in 2025 and reported in the annual report for the following year.

Organization Chart of Global Branches of MCUT Alumni Association





Industry-Academia Cooperation and Off-campus Internships

Industry-Academia Cooperation

The Office of Research and Development at MCUT has established an industry-academia cooperation platform that provides comprehensive services by connecting with relevant businesses from each department, research center, and the Innovation & Incubation Centre at MCUT. Through collaboration with the Bureau of Industrial Parks, Ministry of Economic Affairs, MCUT has supported the industrial transformation of relevant vendors. Specifically, it has coached up to 40 vendors in two industrial parks located in Tucheng and Shulin, integrating its abundant R&D, technology, and talent resources to meet the needs of these vendors regarding digital transformation, intelligent upgrading, and low-carbon development. As a result, we have helped the vendors enhance their competitiveness, build industry-academia partnerships, fulfill social responsibility, and achieve sustainable development together. Regarding the performance in promoting industry-academia cooperation, we allocated NT\$ 195 million to this effort in 2024. Although the number of industry-academia cooperation projects fell from 215 to 176, the funding per teacher for these projects raised by nearly NT\$ 1 million, placing us first among private technical colleges in terms of industry-academia funds per teacher. This demonstrates MCUT's commitment to mobilizing resources to enhance industry-academia cooperation and the resulting benefits. In 2024, the number of patent licenses saw a slight decline. To address this, the university has actively sought external funding subsidies, revised the measures for patent subsidies, engaged in discussions with the directors of each research center, and encouraged faculty members to apply for patents based on their research achievements.

Statistics of Annual Research Performance of the Organic Electronics Research Center

The Middle East Chamber of Commerce visited MCUT to explore the agency of a corporate industry-academia program for developing light therapy glasses.



MCUT's inaugural international industry-academia project with Silicon Valley in the United States. Development of an X-ray light panel for Carl Zeiss. (An international English contract between the two parties is being signed.)



The light therapy glasses were formally sold. (Winning Taiwan Excellence Award)



Jointly appointed a professor with KAIST (cooperating with teacher JY Lee to initiate a low-light power generation program). Signing of the MOA & employment ceremony of the part-time professor



Statistics of research performance in the past three years

Program \ Academic year	2022	2023	2024
Number of private industry-academia cooperation projects	185	215	176
Amount of private industry-academia cooperation (unit: NT\$ 10 million)	25.391	19.419	19.509
Number of technology transfer projects	14	14	20
Amount of technology transfer (unit: NT\$ 1 million)	10.3	10.9	18.9
Number of approved patent certificates	65	51	35
Number of vendors cultivated	26	33	36

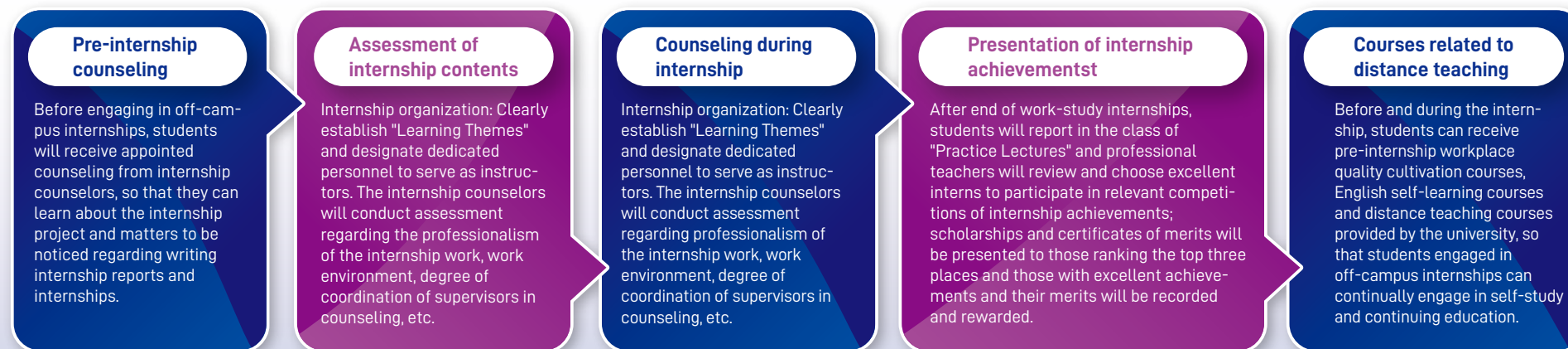


Off-campus Internships

MCUT has a unique work-study internship system aimed at developing well-rounded individuals with a strong work ethic, emphasizing both theory and practice along with a commitment to lifelong learning. The system follows a "Theory-Practice-Theory" approach, providing junior students with a one-year internship at partner companies. This internship enhances practical skills while also focusing on developing project management, interpersonal, leadership, and teamwork abilities, effectively bridging the gap between learning and real-world application. Upon graduation, students are well-prepared to enter the workforce seamlessly. To support students, we offer pre-internship workplace quality courses, self-paced English learning programs, and distance learning platforms for continuous education. Our faculty evaluates and approves all internship organizations to ensure high quality and recommends only the best options to our students.

MCUT collaborates with vendors to annually recommend students who have excelled during their internships. In 2023, a total of 201 students, representing 24.2% of the total student body, received recommendations. In addition to students suggested by each subsidiary of Formosa Plastics Group, other relevant TWSE/TPEx listed companies in industries aligned with MCUT's departments have also praised MCUT's interns. The university has developed a comprehensive internship counseling and assessment system. By implementing work-study internship courses at the Undergraduate School and taking appropriate measures, internship counselors regularly visit organizations where students intern to monitor their progress. They also work with internship supervisors to assess the impact of the internship on students at each stage. Upon completing their internships, students return to campus and participate in competitions to showcase their achievements. Each teaching unit adheres to a course learning map focused on practical internships to enhance the impact of internships on students. Guided by the United Nations Sustainable Development Goals (SDGs) and vocational education policies and guidelines, MCUT promotes off-campus internships and collaborates with enterprises to nurture talent and actively contribute to sustainable development in talent cultivation.

Work-study internship counseling mechanism



Statistics of work-study interns in the past three academic years

Program \ Academic year	2021	2022	2023
Number of interns	854	825	835
Number of counselors for work-study internship	149	160	161
Number of cooperative vendors	152	166	185

Number of excellent interns recommended by cooperative internship organizations in the past three academic years

Program \ Academic year	2021	2022	2023
Number of recommended interns	293	250	201
Ratio in the total number of interns	34.3 %	30.3 %	24.2 %

Satisfaction of junior students from day school with the work-study internship courses in the past three academic years

Program \ Academic year	2021	2022	2023
Internships can improve my ability to apply knowledge, skills, and tools.	86.29 %	90.4 %	89.28 %
I'm generally satisfied with the overall comments on this year's internship.	82.86 %	87.85 %	84.81 %

Note: After the internship ends, outstanding interns recommended by cooperative internship organizations will receive relevant rewards, including certificates of merit and documentation of achievements. Additionally, since the 2022 academic year, bonuses have been awarded to exceptional students who have been recommended after completing their internships in the same year to encourage their work-study performance during these internships. The Ministry of Education entrusted MCUT with establishing an "Off-campus Internship Project Promotion Office" in 2010 to help the Ministry of Education promote an off-campus internship course system for students from relevant technical colleges in Taiwan. This project office has been operating at MCUT for 15 years.

To learn about cooperative internship organizations' perceptions of MCUT students' performance in various aspects during the work-study period, MCUT conducts an annual satisfaction survey of these organizations at the end of each internship. In the 2023 academic year, there were 185 cooperative internship organizations. According to the survey results, over 86% of organizations indicated that MCUT students' overall performance met their corporate needs.



● Satisfaction survey of cooperative internship organizations in the past three academic years

Program	Academic year	2021	2022	2023
With an excellent working attitude and concept of professional ethics		89.84 %	91.92 %	88.36 %
With the ability to apply knowledge, skills, and tools		88.25 %	89.81 %	84.18 %
With good pressure resistance		88.57 %	89.23 %	86.36 %
With the habit and ability for lifelong learning		86.51 %	88.85 %	82.36 %
With a good attendance status		89.85 %	87.88 %	85.46 %
Overall performance complying with corporate needs		89.68 %	91.54 %	85.82 %

Note: The overall internship satisfaction rate slightly declined during the academic year 2023. The primary reason was that the interns had previously experienced online teaching due to the pandemic, which resulted in less interpersonal interaction. Consequently, the supervisors of the internship organizations tended to compare them unfavorably with previous interns. The school will continue to pay attention to the students' off-campus internships and invite advisors to consistently monitor their internship performance.

Enterprise-funded Students of Formosa Plastics Group ►

Since the 2021 academic year, students from relevant departments at MCUT related to the needs of Formosa Plastics Group may apply for the qualification of enterprise-funded students of the Group if their academic performance meets the selection standards. The average academic score should be 70 points or higher, and the class ranking must be within the top 30%. Those ranked in the 11-30% range need to attach their mentors' recommendations. The operational score should be 80 points or above. An enterprise-funded student of Formosa Plastics Group can receive a monthly payment of NT\$ 36,700, which is higher than the average internship salary of NT\$ 29,000. After the internship period ends and the submission of internship reports, interns will receive internship scores and employment verification from the internship departments to determine their eligibility for recruitment as formal employees. If interns meet the recruitment criteria, they may receive scholarships for enterprise-funded students of Formosa Plastics Group. Specifically, undergraduates will receive a lump-sum payment of NT\$ 400,000 for a service term of 4 years, while master's graduates will receive a lump-sum payment of NT\$ 500,000 for a service term of 5 years. Consequently, outstanding students seeking employment can undertake internships before graduating and secure jobs afterward. Students applying for the "Bachelor-Master Program" may also remain at the research institutes of MCUT and subsequently serve enterprises after graduation. Currently, five interns were recruited as enterprise-funded students of Formosa Plastics Group in the 2021 academic year, while this number was 3 in the 2022 academic year and 8 in the 2023 academic year.



Overseas Internship ►

In 2006, MCUT launched the "Overseas Study for Dream Fulfillment Project" to assist students in gaining international experience through work-study internships. This new initiative for Taiwanese universities offered students valuable opportunities to intern with companies abroad. In 2022, the university revived the program and arranged for 14 students to intern at Inteplast Group in Texas, USA.



Internal Exchange and External Participation

Internal Exchange

On December 1, 2021, MCUT's Board of Directors approved the elevation of the International Affairs Center, which was originally under the Office of Research and Development, to a level-1 unit known as the Office of International Affairs. This new office has established the "Division of Global Cooperation and Exchange" and the "Division of Overseas Student Affairs." These divisions oversee overseas exchange programs, local students' affairs abroad, as well as international admissions and counseling for overseas students. This restructuring aims to consolidate school resources and leverage our teams' expertise to enhance our internationalization efforts. The Ministry of Education's New Southbound Policy mandates that MCUT focus on expanding its student recruitment from Southeast Asian countries. MCUT actively engages in international education exhibitions and annual educator conferences to strengthen its global standing and build robust partnerships. In the 2023 academic year, we participated in two annual educator meetings and eight physical and online education exhibitions. For further details, please visit [the MCUT Corporate Social Responsibility website](#). Beyond forming partnerships with various institutions, we have created transnational programs in collaboration with esteemed overseas academies. Our goal is to decrease students' study duration through mutual credit recognition and to encourage involvement in international projects. All students selected for overseas study are closely monitored by our partner schools, aiming to cultivate a reliable and high-quality source of international students.

International exchange expenses in the past three academic years

Unit: NT\$

Program	Academic year	2021	2022	2023
Participation of MCUT students in local internationalization activities and overseas exchange activities		2,511,966	6,293,411	9,434,992
Participation of students from overseas sister schools in MCUT's international exchange activities		884,899	3,320,375	2,523,732
Invitation of international experts and scholars to conduct exchange lectures at MCUT and participation in overseas education exhibitions and annual meetings of educators		195,160	1,621,347	3,567,980
Scholarships and grants for overseas (non-) degree students		11,446,524	14,812,408	13,867,334
Total amount		15,038,549	26,047,541	28,876,783





Since 2021, MCUT has participated in international evaluations, such as Times Higher Education World University Rankings, to enhance its visibility and establish its brand image in the global community. We hope that through friendly competition with excellent schools worldwide, we can continually refine each measure and bolster our international competitiveness. In recent years, MCUT has actively pursued external development and collaborated with sister schools on various student exchange activities. To encourage students to step out of their comfort zones during their academic journey, we established a student overseas exchange and learning project called "MCUT Around the World" in 2017. Based on a four-part framework that includes short-term study tours, attendance at international seminars, exchange learning programs, and dual-degree studies, we aim to help students progressively gain international experience. By participating in this project, students can acquire professional knowledge in their fields, experience local cultures, improve their English and other foreign language communication skills, obtain prior international exchange experience, and significantly enhance their global perspectives.

● **Number of effective sister schools of MCUT and number of schools with cooperative programs in the past three academic years**

Program \ Academic year	2021	2022	2023
Number of foreign sister schools	72	98	142
Number of schools with transnational Program cooperation	26	30	36
Number of admitted overseas degree students	53	57	53

Note: Cooperative programs like the dual degrees system, the 3+2 Program, and the 5+1 program.

● **Achievements of overseas exchanges of MCUT students in the past three academic years**

Program \ Academic year	2021	2022	2023
Short-term study tours	87	110	134
International seminars	13	63	106
Exchange learning	0 ²	2	7
Dual degrees system ¹	8	5	7

Note 1: The dual degree system refers to a system under which MCUT signs a relevant agreement with a foreign university to recognize course credits mutually, and students who comply with the graduation provisions of these two universities can obtain their academic degrees simultaneously.

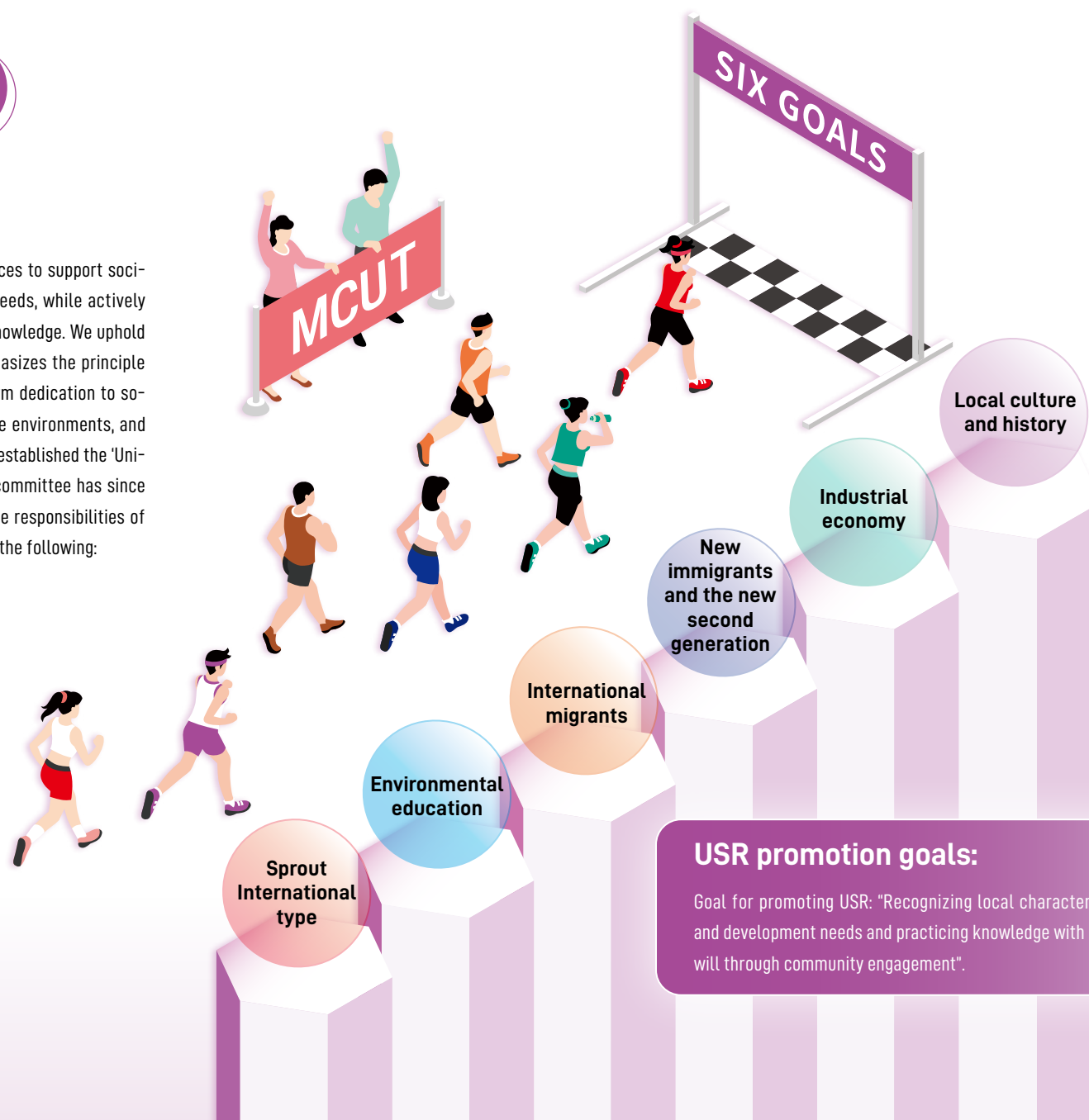
Note 2: No students went abroad for exchange learning in the 2021 academic year due to the impact of the pandemic.

6.1 USR Practice

USR Vision and Goals

Ming Chi University of Technology envisions leveraging its resources to support society by understanding local characteristics and developmental needs, while actively engaging in community participation to embody the essence of knowledge. We uphold the founding philosophy of the Kun-Chung brothers, which emphasizes the principle of 'taking from society, using for society.' Committed to long-term dedication to social welfare, fostering regional connections, ensuring sustainable environments, and fulfilling our University Social Responsibility (USR), the university established the 'University Social Responsibility Promotion Committee' in 2019. This committee has since formulated regulations guiding its establishment and function. The responsibilities of the University Social Responsibility Promotion Committee include the following:

1. Study and draft MCUT's social responsibility promotion strategies and goals.
2. Deliberate MCUT's social responsibility plan and fund allocation.
3. Supervise and guide the execution and assessment of MCUT's social responsibility plans.
4. Deliberate other MCUT matters related to social responsibility.
5. Deal with other consulting matters related to social responsibility promotion.



Promotion Organization

The University Social Responsibility Promotion consists of 13 to 17 members and holds meetings at least once each academic year. In addition to reviewing the incubation type (category A) and sprout type (category B) of MCUT's USR plan and discussing the execution direction, we also invite key communicative and cooperative groups to convene USR local forums and publish an annual report on USR implementation at the end of each year. This process aims to assess the performance of the plan and make timely adjustments based on field needs. During the meeting, a quorum of more than half of all committee members must attend, and resolutions require the consent of more than half of the attending members.

The university's Office of University Social Responsibility Promotion is tasked with coordinating, planning, and promoting USR practices and resource allocation to meet MCUT's social responsibility objectives. The office holds a regular monthly meeting to discuss the status of each planned initiative and has established key units for university social responsibility. Additionally, initiatives such as connecting the university with local industries through the College of Management and Design and creating the Action-oriented Office and Southeast Asian Culture Center have been implemented to integrate USR into teaching and administrative planning.



Practice Plan

MCUT implements the USR practice plan released by the Ministry of Education. Through New Taipei Sustainable Development 2.0 for Industry in New Taipei City, Action Plan for the Northern Taiwan Gallery-Strip of Premier Studies, and Co-op Design - A Life Experiment of San Chiao Yung Community Culture, we focus on "Industrial Linkage," "Social Care," "Environmental Ecology," and "Cultural Preservation/Local Culture and History," and have developed 6 sustainability plans accordingly, including "Academy and Community Creation," "Social Care," "New Immigrant Families," "Environmental Monitoring and Education," "Base Plan," and "Industrial Economy Sustainability." We are leveraging the local cultivation strength of our Action-oriented Office and Southeast Asian Cultural Center, integrating the professional knowledge and skills from our College of Engineering, College of Environment Resources, and College of Management and Design. Through this, we have established cooperation platforms with partner schools and connected with local government agencies, clubs, schools, and communities to create mutually beneficial partnerships and collaboratively address local issues.

Campus development plans

6 on-campus development plans every year



Seed

5 fundamental plans

1. Industry empowerment
2. Local cultural sustainability
3. Environmental monitoring and education
4. New immigrants and inter-national migrant workers
5. Urban renewal and youth community participation

Localization

Stage 3

- Sustainable Development **2.0** for Industry in New Taipei City
- Co-op Design - A Life Experiment of San Chiao Yung Community Culture
- Action Plan for the Northern Taiwan Gallery-Strip of Premier Studies

Sprout and branch opening



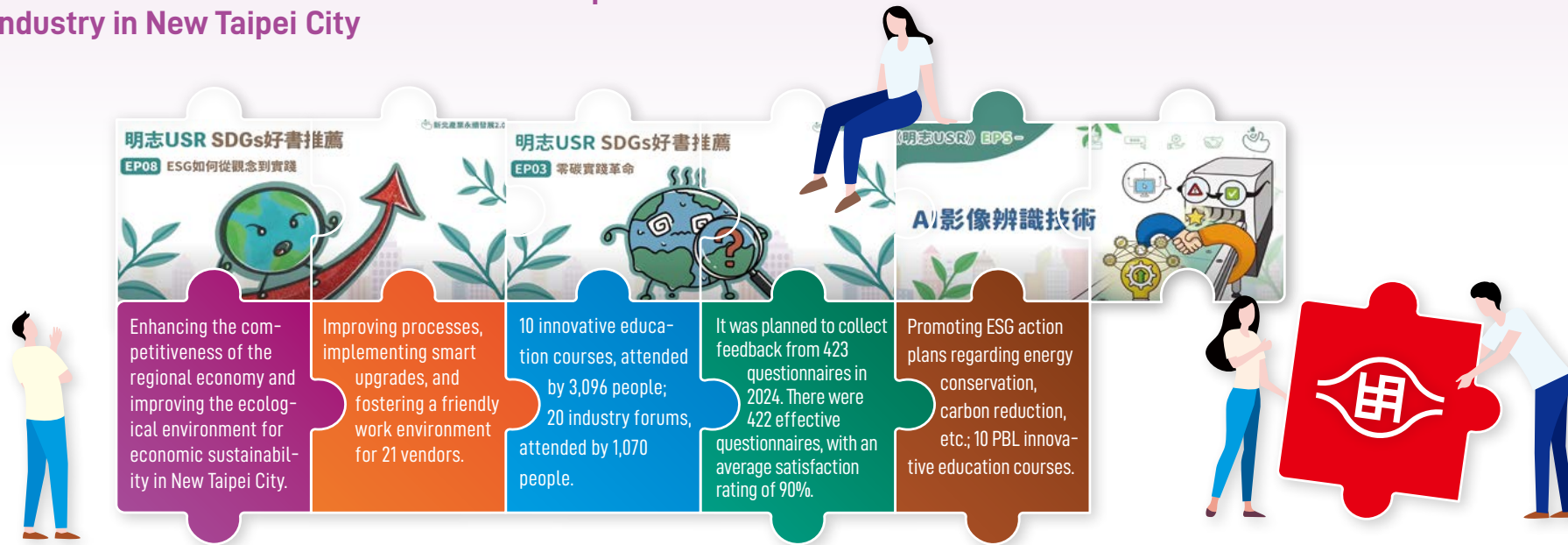
Annual Plan of Office of University Social Responsibility Promotion

The Office of University Social Responsibility Promotion holds the "USR Plan Coordination Meeting" in the second week of each month to track the progress of 9 incubation-type plans (category A), two sprout-type plans (category B), and 1 deep cultivation type plan (category C). This meeting verifies the relevant handling conditions. The office also organizes USR expert lectures in the fourth week of each month to encourage cross-domain and cross-school dialogues. In 2024, MCUT expanded the construction of five fundamental plans (USR Hub) to develop effective issue networks for mutual support. The university also encourages teachers from various disciplinary backgrounds to participate in USR and guide both teachers and students in jointly addressing field issues through relevant courses. In 2023, MCUT's USR plan received subsidies of NT\$12.05 million. An additional NT\$1.80 million of self-raised funds was allocated to support 3 USR plans. Furthermore, an extra budget of NT\$2 million was used to support MCUT's fundamental programs and six incubation-type plans. To encourage reflection on issues like environmental sustainability, industrial innovation, and care for the disadvantaged, and to adhere to the tenet of "Local Connection and Social Responsibility," MCUT allocates NT\$2 million each year to solicit proposals for USR incubation-type plans. The university also collaborates with public sectors, NGOs/NPOs, and schools at every level to address field issues. In 2023, 10 proposals were solicited from teachers in each college and department.

○ Exhibition of the performance of three major USR plans of MCUT in 2024

Activity/Plan	Content
Action Plan for the Northern Taiwan Gallery-Strip of Premier Studies	The following activities were promoted at Temple Street in Xinzhuang District, Ming Chi Academy in Taishan District, and Shou-Rang Hall in Wugu District: • 20 multicultural courses and 12 club courses were promoted. • Supplementary teaching materials written in Southeast Asian languages were popularized in 291 elementary and secondary schools in Taiwan. • We participated in 80 tasks of the Society of Wilderness and River Patrolling Team. • We participated in 18 river water quality tests and analyzed the water quality in our laboratory • We conducted field walkthroughs for 10 sessions.
Sustainable Development 2.0 for Industry in New Taipei City	• We collaborated with Nanya Technology to launch the largest interdisciplinary PBL design thinking course in Taiwan, engaging 1,081 participants and focusing on water resource issues in the SDGs. 120 disciplinary student teams were guided through an interdisciplinary dual-teacher system to develop innovative solutions. • The creative integrated practical course focused on the theme of sustainable design of green products. Three groups of works, i.e., "No More Harm, Protect the Next Bag", "Rice Sale, Rice Profit" and "Whispers of Sugarcane Spring" won the best USR awards among 48 groups of works in total, and later the winners cooperated to develop green design action plans. A total of 320 interdepartmental teachers and students participated in this course. • The "Fair Trade Experimental Station" recorded and tested the concept of transparent trade. After four experiments, valuable issues to be addressed were identified and promoted, providing important insights for continuously fostering a sound economic ecosystem and benefiting the ongoing testing of viable social enterprise models. • We won the "University SDGs9 Silver Award" at the Taiwan Sustainability Action Awards for four consecutive years. Additionally, students have applied their knowledge and experience gained from USR-related courses in multiple local and international competitions, earning 17 international awards and 11 local competition awards over these four years.
Local community building-San Chiao Yung Community	• Nine diversified courses were applied in the community field, so that students could engage in various kinds of design thinking and produce works. • We publicized the brand of Sanxia Indigo through the Special Exhibition of Local Creation and Imagination of Indigo Dye and other relevant exhibitions. • Professional development of community renovation talent: Teachers, students, and community residents participated in volunteer camps and activities. • We organized a transnational design thinking camp and local creation research cooperation (Germany, Japan, Thailand, and Vietnam). • We established a San Chiao Yung Community social platform to develop and promote the activities intended to publicize San Chiao Yung culture. • Teachers and students were led to enter Sanxia for a field survey and engage in tens of experiences for more than 1,500 person-hours.

Promotion Performance of Sustainable Development 2.0 for Industry in New Taipei City



Sustainable Development 2.0 for Industry in New Taipei City aimed to guide the economic sustainability of industrial clusters in New Taipei City. During the guidance process, it was found that industries in this area faced multiple challenges, including insufficient quality of local workers, international trade issues, a lack of awareness of SDGs, and difficulties in intelligent transformation. Therefore, while building on past foundations, we promoted the intelligent upgrading and transformation of enterprises, added value to diversified products, and linked government resources to provide vendors with more assistance. Through innovative education courses, interdisciplinary cooperation, and ESG action plans, we strived to foster the joint development of universities, regional industries, and social cultural resources, improve the competitiveness of the regional economy, and enhance the ecological environment for economic sustainability in New Taipei City. The execution of this plan focused on economic sustainability and provided technical or R&D guidance to vendors while also promoting ESG action plans related to energy conservation and carbon reduction. Regarding talent cultivation, we collaborated with relevant enterprises to launch innovative educational courses aimed at enhancing students' problem-solving abilities and interdisciplinary integration skills. To address economic sustainability issues in the industries, we held 20 industrial forums, covering themes such as precious metal recycling technology and sustainable product design. Furthermore, through online media, we broadened the reach of this plan and showcased relevant films about 10 industrial sustainability issues, including waste reduction design, innovative operating models, and industrial linkages.

Regarding the substantial progress of this plan, 169 vendors in New Taipei City were visited to understand the industrial trends in the region. Subsequently, relevant demands were collected, and the energy of the interdisciplinary and cross-campus teams was harnessed. In terms of technology and R&D, we aided in process improvements and intelligent upgrades to create a welcoming work environment that attracted talent. We guided 21 vendors, including Taiwan Fuji Die Co., Ltd., Flaxcom Technology Corporation, and Hi-lai Packing Co., Ltd., and assisted vendors such as Gianni Industries Inc., EEZCARE Medical Corp., and Single Well Industrial Corp. in promoting seven carbon inventory initiatives focused on energy conservation, carbon reduction, and carbon inventory. For talent development, we collaborated with Nanya Technology to launch innovative and integrated practical interdisciplinary PBL courses addressing green sustainability issues and partnered with ZeroNet International to offer an introductory programming course for children, aiming to enhance their logical thinking from kindergarten through elementary school. A total of ten innovative education courses were conducted, attracting 3,096 participants. Additionally, 286 teachers and students visited a wastewater treatment plant in New Taipei Industrial Park, the Bali Refuse Incineration Plant, MSI, and Reel Mask Industry Co., Ltd. Moreover, President Luo of Uwin Nanotech Co., Ltd. was invited to discuss the circular economy of 3C electronic products and corporate sustainable development, while Department Manager Yang from Nanya Technology was invited to present a lecture on corporate spirit, functionality, and workplace culture. In total, 20 industrial forums were held to promote industrial sustainability, with 1,070 participants. During the implementation of the plan, 10 corresponding videos were recorded and created to share topics such as waste reduction design, innovative operating models, and the promotion of local creation.



明志科技大學

大學社會責任實踐計畫

113年度執行成果年報



1

性別平等概念宣導 英語說故事服務多國學童計畫

計畫主持人 | 李潔嵐 國際事務處 國際長



一、問題意識與計畫目標

延續聯合國永續發展目標(SDGs)第17項建立國際間多元夥伴關係之精神，由原本的2國擴大範圍為3個國家，包含日本、台灣及馬來西亞等地，恰好也涵蓋了東北亞、東亞及東南亞3個區域。今年因新加入日本，故在比較檢視三個參與國家共同面臨之重要社會議題後，決定將「SDG 5性別平等」作為新計畫之永續發展目標主軸，另外也計畫引導參與各組能夠腦力激盪，撰寫出以倡導此主題之原創故事內容。

以回饋在地社區為宗旨，使社區學童有機會與國際人士練習英語溝通，也藉由活動中之故事分享認識聯合國永續發展目標，特別是SDG 5性別平等相關主題。而另一方面，也使就讀明志科大的學生跨出校園，進一步認識社區及與在地居民互動。本計畫擬遴選具優良英語能力之外籍生與本地生，至鄰近社區圖書館利用英語說故事時間進行SDG 5性別平等主題故事分享。

二、計畫執行重點

- 7月與共同主持人之一馬來西亞國家能源大學(UNITEN)Dr. Zuraidah分別由馬來西亞及台灣帶領參與學員赴日與另一共同主持人日本芝浦工業大學(SIT)Dr. Yoshikubo及東京區國際小學UIA高中部師生四方會合，共同在芝浦工大辦理為期3日之工作坊，四校學生混合組隊分成5個小組設計創作原創之SDG 5性別平等主題故事數位繪本及相關教案，之後則安排至芝浦工大鄰近之國際小學辦理5場英語說故事活動。
- 8月再以線上方式分別與5組同學進行討論，更新數位繪本內容使更貼近原本欲藉由故事傳達宣導之SDG 5性別平等之理念。
- 此外，9月~11月保有原執行方式-在周末至鄰近社區圖書館，共舉辦20場，利用英語說故事時間理英語原創主題故事分享活動，也由馬來西亞學生至當地社區小學辦理說故事活動，擴大跨國社區服務範圍，使三個國家之學童均能受益。

本計畫之實施也搭配既有共同英文課程，本地大學部學生(以麗澤書院生為主)與外籍同學合作一同走入社區，共同參與圖書館英語說故事活動，在計畫實施過程中不但達到連結在地社區，實踐大學社會責任，亦可精進自身英文程度，培養日後與國際接軌的能力。

在本計畫實施過程中，可達到連結在地社區，促成多國大學社會責任之實踐，也同時精進三個國家參與學生自身之英文程度，在跨國合作模式中拓展全球視野及培養與國際接軌的能力。而整個計畫架構將使大學社會責任實踐跨越國家地域，進而達成國際型大學社會責任(Global Social Responsibility)之目標。

三、計畫成果亮點

本計畫以跨國及跨校合作模式進行，結合三個國家共四所學校之學生，而這些學生因包含外籍生，故在國籍分布上亦十分多元；所有參與計畫同學發揮團隊創意創作用SDG5性別平等為主軸之原創英語故事，除文字內容外，連相關插圖也是運用網路資源AI製圖工具生成，共同設計出五部充滿創意且饒富教育意義之數位繪本。透過這些生動有趣的故事內容，加上搭配的遊戲及手作活動，有效引導學童認識性別平等的價值和意涵，並能在日常生活中具體實踐。在說故事活動之互動過程中，孩子們不僅學到新的英語詞彙，更透過故事情節加深對性別平等的認識與理解其重要性。

另一方面，本計畫不僅強化參與同學的英語說故事能力，也使他們有機會推廣性別平等，實際為達成聯合國永續發展目標盡一分心力。參與計畫之學生普遍表示，這項計畫讓他們累積寶貴的大學社會責任實踐經驗，並讓他們將課堂所學運用到真實生活中。

日期	圖書館分館	故事名稱	家長人數	小朋友人數
9/22	裕民	Mission Impossible	5	9
9/28	五股	Alex the Bakery	5	6
9/29	泰山	Sally and Sallie	6	4
10/5	泰山	India	3	3
10/6	五股	Princess's Courageous Quest	3	5
10/13	裕民	Harimau's Farm	9	11
10/19	泰山	Mission Impossible	6	7
10/20	裕民	Vietnam	12	15
10/26	守護堂	Indonesia	3	6
10/27	中港	Sally and Sallie	6	87
11/2	泰山	Thailand	7	8
11/3	守護堂	Princess's Courageous Quest	6	7
11/9	中港	Harimau's Farm	3	5
11/10	五股	Mission Impossible	6	8
11/16	中港	Alex the Bakery	7	8
11/17	守護堂	Sally and Sallie	6	4
11/23	五股	Switzerland	4	6
11/24	泰山	Harimau's Farm	7	8
11/30	中港	France	6	8
12/1	裕民	Princess's Courageous Quest	3	4
總計			113	140

截至10月底，已順利完成10場在新北市立圖書館各分館之故事分享活動，每場活動均獲得小朋友的熱烈反應和家長的支持。這些活動也充分展示了明志科技大學在推動性別平等教育和社區服務方面的積極努力與成果。未來，學校將推動更多跨國的USR計畫，讓學生在多元文化的環境中成長學習，並將學習成果回饋於社會，持續為推動聯合國永續發展目標及實踐大學社會責任做出貢獻。



7月日本USR工作坊大合照



7月至日本當地國際小學分享原創性平英語故事



8月計畫主持人分別與各組進行
線上會議檢視調整故事內容



9-10月至新北市市立圖書館分享
原創性平英語故事-說故事過程





2

校園永續食農教育推廣計畫

計畫主持人 | 崔碩副教授



一、問題意識與計畫目標

本年度新申請的大學社會責任計畫，主要是基於去年執行計畫的心得，認為與其在多場次進行推廣，不如選擇兩、三處地點進行深耕示範。如此對於廚餘廢棄物的永續循環利用，更容易建立起示範性的效果。預計推動的項目從利用EM菌將廚餘製成有機肥、到黑水虻的養殖、進一步到利用黑水虻幼蟲養雞產蛋，利用虻肥進行農耕，蚯蚓的養殖、以及利用種植的香草作物製備防蚊膏或保養品等產品，在校園內建立完整的示範基地。校外的推廣活動，預計將協助社團法人牽牛花協會(由自閉症兒童之家長所組成)、威廉斯氏症協會、或是社區活動中心的長輩們，製作甚至販售這些產品。如果示範成效良好，將能進一步將此技術擴大到更多的場域。

由於有文獻指出使用EM菌用於養殖蛋雞，能提高雞蛋的品質與產量，因此在校園內的示範基地，也將比較有餵食EM菌的蛋雞所生產的雞蛋，觀察品質與產量是否優於未餵食EM菌的控制組。此外也將協助合作夥伴進行雞蛋的無農藥殘留的驗證，提升雞蛋的可信度與接受度。

二、計畫執行重點

本計畫的活動安排，主要可分為三個主要項目：首先是校園環境教育場址的改善精進，以及對於校園內所養殖蛋雞的營養成分分析。開設十週一系列的課程，邀請校園附近居民參加，以提升附近居民對校內環境教育場址的認識。針對弱勢團體，如牽牛花協會或是威廉斯氏症協會，安排密集的課程，協助他們製作一些相關的綠色產品。

三、計畫成果亮點



裝設自動灑水系統，每日定時早上6：15~6：45及下午16：45~17：15維持30分鐘。



額外購置10隻中雞，其中一半的雞隻餵食一般的商用飼料，另一半則餵食經EM菌發酵以及添加黑水虻的飼料，並將所收集的雞蛋委外進行營養成分分析，分析的項目包含三酸甘油脂、高(低)密度膽固醇、DHA、卵磷脂、葉黃素等。

表 4-4 2023/5/24 實驗組及對照組蛋品質數據表(台美檢驗中心)

	實驗組		對照組		市售雞蛋(USDA)
粗蛋白質(g/100g)	13.2		13.1		12.6
膽固醇(mg/100g)	293		446		373
卵磷脂(mg/100g)	97.46		72.46		-
葉黃素總量(mg/g)	未檢出		未檢出		-
飽和脂肪酸總量(g/100g)	2.41	35.65%	2.93	35.69%	3.27
反式脂肪酸總量(g/100g)	未檢出		未檢出		-
順式單元不飽和脂肪酸總量(g/100g)	2.8	41.42%	3.63	44.21%	4.08
順式多元不飽和脂肪酸總量(g/100g)	1.55	22.93%	1.65	20.10%	1.41
omega3 脂肪酸總量(g/100g)	0.12	1.78%	0.06	0.73%	-
omega6 脂肪酸總量(g/100g)	1.43	21.15%	1.59	19.37%	-
脂肪酸總量(g/100g)	6.76	100%	8.21	100%	10.6



將竹子砍下後粉碎，後與已乾燥處裡的雞糞、粗糠、米糠拌勻，過程中加入綠生1號及6號。完整混和後裝置袋子裡以便靜置1個月發酵，其中不得與空氣接觸。



發酵後的竹粉雞糞肥料與一般土壤混合，分別為90%、70%、60%、全雞糞、純土壤，這次植物為空心菜。



種植第1天



種植1個月後



舉辦牽牛花運動家長協會活動，帶著參與者們認識些簡單植物，如：萬壽菊、薄荷、薰衣草等，開放大家自行採收草本植物將其沖泡成茶，給予大家飲用。



崔碩老師介紹使用磨碎後的竹粉製成的博卡西，並親身示範及體驗如何將博卡西在家製作出來，以及講解使用方式。



於奇蹟之家帶著失智老人認識些簡單植物，如：萬壽菊、薄荷、薰衣草等，帶著失智老人們手作天然植物精油乾洗手，讓大家能放在身上隨時都能使用。

3

淡水河流域環境紀錄 暨環境教育計畫

計畫主持人 陳志霖 教務處 課務組組長



一、問題意識與計畫目標

明志科技大學位於新北市泰山區鄰近新莊、五股及林口，有大窠溪及貴仔坑溪環繞匯流後從五股、蘆洲交界注入淡水河，林相及水文生態資源多樣；自109年起成立在地水環境巡守隊，擔負流域巡守及水質檢測，從110年起開始推動在地社群鏈結，共同提升在地居民對環境的感知及關注，促進人們與環境間的和諧共生並代代相傳的現代公民的責任。111年延續既有的水環境巡守任務並推動學生考取空拍機證照，112年則前進至淡水河流域，結合課程及泰山區巡守隊與荒野保護協會共同推動淡水河垃圾快篩調查並將熱點提供給公部門，以期在公部門有限資源下提升垃圾清運效能。

113年計畫將延續既有的水環境巡守任務、持續推動學生記錄流域環境中的汙染、生態資源等影像紀錄；進一步結合新北市各區水資源巡守隊，推動2024淡水河溯源川廢快篩調查，協助在地夥伴關注河川廢棄物議題，深化公私部門協力。針對環境教育的推動，113年將持續結合校內課程及環境探索活動進行學生培力後，再藉由學生與在地團體或各級學校進行合作，規劃適合在地場域的環境教育及STEM教育的行動方案，提升淡水河流域周邊民眾及學生對在地環境的知能及科普種籽，深化水環境巡守在地化、鏈結居民與在地環境間的正循環。

二、計畫執行重點

本計畫整合通識選修「環境與生活」及「經典教育與社會實踐」課程、與泰山水巡守隊、荒野保護協會、新北市政府環境保護局、新北市水環境巡守隊、實踐大學及南亞科技等近100位志工，於113年3-9月進行淡水河溯源川廢快篩調查，並於11月進行調查結果發布記者會。113年暑假期間，持續推動環境教育與在地中小學合作，合作規劃並辦理學生環境教育活動及科普教育營隊，提升大泰山地區中小學學生對在地環境的感知能力及科普種籽。



與在荒野保護協會、新莊社區大學、淡水社區大學及在地社團合作辦理本校學生培力活動，包含在地環境探索、空拍機專業操作證考照訓練、淡水河獨木舟體驗。持續進行河段水質檢測紀錄，培訓本校學生作為泰山區水環境巡守隊種子成員，建置貴仔坑溪、大窠溪及淡水河流域的影像資料。與在地中小學合作辦理環境教育及STEM教育活動，提升大泰山地區學生對在地環境的感知能力及主動學習的態度。針對2023淡水河川廢調查熱點，進行成因分析並推動公部門與地方民眾及NGO團體對話，辦理在地環境論壇以公私協力方式謀求廢棄物熱點降載的契機。

三、計畫成果亮點

113年由明志科技大學與實踐大學師生、新北市水環境巡守隊共同執行淡水河年檢擴大調查，發現流域內垃圾總量減少84,000公升，以每袋14公升垃圾換算，河岸段垃圾密度從平均每公里156袋降至72.5袋，減幅超過50%，其中又以淡水河主幹整治成效最為顯著，同步檢視112年公布垃圾熱點改善情況，在112年熱點（24個）公佈後，公部門強化河岸垃圾清理，荒野保護協會與明志科技大學於社子島與蘆洲河岸辦理多場次淨溪活動，發現清理比率高達 58.3%（減少14個熱點）值得肯定，潔流目標透過公私協力有效推進。

隨今年調查深入更多支流，新增發現新店溪左岸(近永福橋與福和橋)與大窠溪亦為民眾棄置垃圾熱點（新增24個熱點），主要類型仍為一次性飲食塑膠垃圾佔六成，足見環境教育將成為改善川廢汙染關鍵。為此，我們與荒野保護協會及淡水社區大學合作推動淡水河獨木舟活動，結合水域運動、環境體驗及環境教育發展出在地環境教育行動，讓參與民眾能瞭解一次性生活垃圾減量的重要性。此外，首屆在地永續環境論壇已於113年9月19日於明志科技大學召開，集合公部門、NGO團隊、學校等蘆堤灘地的重要利害關係人，針對蘆堤垃圾熱點降載進行意見交流及對話。



1

蒙古烏蘭巴托 偏鄉在地關懷與實踐計畫

計畫主持人 | 工業設計系 江潤華主任、楊俊明副教授
視覺傳達設計系 莊妙仙主任



一、問題意識與計畫目標

台灣家扶基金會於1985年成為自給自足非營利組織的兒童福利機構，除落實國內專業服務協助；1987年起開始回饋國際社會，2004年家扶基金會在蒙古國成立了第一個國外分事務所設立據點，協助國外需要資源的弱勢兒童與家庭，進而改善環境。蒙古國在1990年代進行民主改革，由社會主義轉變到後社會主義社會，社會問題、經濟、貧困等問題叢生，身為地球村之一員，明志於2023年8月首次由林晉寬院長、經管系廖主任、以及工設系江潤華主任以社會設計為研習主題，前往蒙古拜會蒙古家扶瞭解其各項社會議題，作為推動本校國際USR的參考，同時建立合作關係。今年度規劃明志的同學有機會赴蒙古烏蘭巴托，與國際志工組織接軌，透過設計思考之實際演練、管理及設計之專業協助，讓當地住民能夠在教育、生活、甚至經濟上能獲得改善，也讓明志之同學能以同理心及創意實踐的本質學能，盡到台灣大學生在國際社會應盡之責任義務。

二、計畫執行重點

今年度計畫由管院四位師生協同輔大國際志工，遠赴蒙古烏蘭巴托，透過設計思考之演練、視覺識別系統設計之專業協助，讓當地住民也習得如何創意思考、解決環境、生活、教育、經濟的難題與改善方案，也讓明志之同學能以同理心及創意實踐的本質學能，盡到台灣大學生在國際社會應盡之責任義務。本次活動為期10天，扣除往返交通往返，剩餘9天除完成所有既定拜會活動，包含蒙古家扶中心（TECF Mongolia）、蒙古烏蘭巴托天主教堂（SPP）、蒙古明愛會（Mongolia Caritas）、蒙古國立教育大學（Mongolia National University of Education）等機構，參與六場工作營，推動具體可行之產品及服務設計規劃、相關之教材工具及教學工作營流程，使其成為完整之SOP運作模式，以作為後續其他地區(包括國內)如何將當地居民利用設計思考之概念，發展地方文化永續經營及社區文化特色營造。尤其重要的是，此行也建立後續與蒙古SPP職訓機構國際USR工作營、Caritas社區研發參與、大學3+2招生、設計科系作品海外展示的種種聯繫管道與合作契機，可謂收穫良多。



三、計畫成果亮點

此行成果包括：

(1) 蒙古家扶中心工作營：了解該單位之服務內容、參與當地大學生之環保工作營，黃代表表示歡迎明志加入支持1+4蒙古生之行列。



(2) 聖彼得和保羅天主教堂：參與梁神父之四場講座，主題包含「愛與關懷的教學方法」、「透過團體教學培養合作與人際互動」、「從宗教角度看待社會責任」、「宗教與環境保護的連結」，梁神父表示其附屬慈幼會設有職業訓練中心，希望日後與明志有合作交流機會。



(3) 蒙古明愛會：該組織是由天主教會支持的國際援助和發展組織，致力於幫助弱勢群體。此行明志師生參與了羊毛氈的產品設計、品牌識別設計與行銷、產品手機攝影，與產品發表。他們目前在籌辦一個農業與環境友善研究中心，目標在研發太陽能、風力發電、戶外盥洗浴室等，希望有機會與明志合作，加入永續研發行列，改善其生活品質與衛生環境。





(4) 國立蒙古教育大學：蒙古六七成教師畢業於此校，此行拜會其體育學院拜訪學院校長Enkhsaikhan Gombojav，與 Bat-Otgon Batsuren副教授，對本校 3+2學制後倍感興趣，希望有進一步機會簽署MoU，也表示期待老師間的交換、研究合作、期刊共同發表。



3

永續高齡友善校園運動環境

計畫主持人 | 陳建彰 體育室主任

3 GOOD HEALTH
AND WELL-BEING

一、問題意識與計畫目標

人口老化是全球共同的挑戰議題，依教育部體育署的人口定義，年滿65歲即被視為高齡者，根據臺灣國家發展委員會推估，臺灣的高齡人口，65至74歲的比率占60%，正式邁入聯合國定義的高齡化（aging）國家門檻，預估到2025年會升高20.7%，接近老年人口比達21%的超高齡（super-aged）國家，至2036年進入老年人口比達28%的極高齡（ultra-aged）國家行列。換言之，高齡人口橫跨的年齡區間相當大，其異質性更不能輕視，因臺灣當下正面臨高齡化老年人口時代，因此老化、老人問題勢必將成為全民關注的重要議題。體育室曾在112年度執行USR孵育性計畫「活躍老化-忘記年齡，樂齡健康在明志」獲得高齡者銀髮族學員好評，故113年度再度提出計畫申請，期盼持續透過對高齡者的關懷、社區服務以增強明志科大推動USR力道，承擔身為教育界一份子需肩負永續大學社會責任之義務。明志須將高齡者照顧視為全體師生與社區（會）應共同承擔的責任，而非高齡者及其家庭的個別議題，因緊密社區居民「是大家的事、逗陣一起來」的觀念，讓明志校園成為永續高齡者的友善運動環境。

二、計畫執行重點

招募來自泰山區、新莊區共40位高齡者，歷經4個多月共22次保健課程訓練例如：簡易節拍舞蹈訓練、基礎有氧舞蹈練習、柔軟度遊戲與瑜珈練習、利用重量訓練室與徒手訓練……等保健課程；以及辦理6次專家講座，運動與睡眠、筋膜放鬆、有氧樂多多、刮痧放鬆、生活不失衡、歡呼喝采CHEER，透過專家講座的學理傳達讓高齡者學員瞭解運動的重要性及急迫性。本計畫透過對新莊區、泰山區高齡者養生健康推廣及深化與地方社區之鏈結，包含高齡者健康講座課程規劃、志工學員培訓，並將高齡者健康促進概念導入校園、擴至社區，提供校園學生與社區民眾對於高齡者健康觀念與養生之道，協助翻轉高齡者的生活品質，朝活躍老化而努力。此外，參與本計畫學員皆需進行教育部體育署銀髮族體適能健身寶典的7項功能性體適能（椅子坐姿起立、肱二頭肌手臂屈舉、原地站立抬膝、椅子坐姿體前彎、開眼單足立、抓背測驗、椅子坐立繞物）前/後檢測，驗證本研究計畫之成效。



三、計畫成果亮點

40位高齡者平均年齡70歲、體重57.8公斤，採普測方式進行7項功能性體適能檢測，所得資料刪除不完整共14位，其餘有效資料26位。統計結果：高齡者學員7項功能性體適能(前/後)檢測成績排序，進步分數前四名分別為62.08、61.75、61.57、57.71，分數愈高代表身體機能改善效果愈好。尤其在「原地站立抬膝」主要在評估高齡者的心肺有氧耐力，以檢測2分鐘內完成的踏步次數，平均次數進步12.43次，為檢測成績進步最多的項目；其次依序「肱二頭肌手臂屈舉」評估上肢肌耐力，平均次數進步5.99次；「椅子坐姿起立」評估下肢肌耐力，平均成績進步4.8次；「椅子坐姿體前彎」評估柔軟度，平均成績進步1.28公分。說明本計畫課程規劃：有氧舞蹈、瑜珈伸展、彈力帶與彈力球、重量訓練與徒手訓練之課程發揮效益，能有效提升高齡者學員的基礎代謝率能力、增強身體的代謝功能，並藉由鍛鍊增加力量改善血液循環以提高活動能力，再者，下肢柔軟度亦得到改善消除肌肉、關節緊繃帶來的疲勞感，得於促進功能性體適能後測成績，優於前測成績。



4

廢棄蛋殼永續材料再生計畫

計畫主持人 | 賴宛吟 工業設計系 副教授



一、問題意識與計畫目標

本計畫針對蛋殼廢棄物所引發的環境污染問題，探索其再利用的可能性，以支持永續發展。隨著蛋殼在校園及周邊社區的產量增加，這些廢棄物若不妥善處理，會造成環境負擔。此計畫目標為將蛋殼轉化為可持續材料，並與超高性能混凝土 (UHPC) 結合，進行實際產品的開發和應用，展示其減碳潛力和資源再利用價值。

跟專家討論後，發掘廢棄牡蠣殼的問題也是亟需解決的問題，並且廢殼的成分與蛋殼相同，但硬度更高，在廢殼處理過程中有更多問題需要解決，且日本宮城縣盛產牡蠣，但在經歷311海嘯及人口老化的多重因素影響下，無論是環境面向或是社會問題，皆需協助提出更多解決方案。因此，本計劃從在地蛋殼出發到國際牡蠣殼的問題探討，跨國合作提出多元的解方，是本計劃最主要的目標。



二、計畫執行重點

本計畫以多層次的執行方式推動，包括基礎材料研究、設計課程、國際合作和成果展示。首先，在本計畫結合工業設計系課程，課程中教授學生循環經濟與社會設計的基礎，並引導學生參與蛋殼收集和加工，進一步將蛋殼轉化為符合UHPC應用需求的材料。其次，進行國際工作坊，邀請專家分享廢棄材料再生的設計經驗，並帶領學生進行實作，實際帶學生到日本工程的浦戶群島進行田野調查深度了解在地問題，並訪談在地牡蠣業者，再進行設計思考及原型設計，最後提出四組可行的解決方案。計畫結束後更在泰山圖書館舉辦為期兩週成果展，展示台日學生們的設計概念及工作坊過程，提升公眾對永續材料的認識，強化學生的實踐能力，並促進跨國合作的交流。



三、計畫成果亮點

本計畫通過工業設計社會設計課程，帶領學生進行蛋殼廢棄物的收集與再利用，成功將其開發成可持續材料，並應用於多種設計產品中，體現了設計與材料創新的結合。國際演講與工作坊的成功舉辦則是另一亮點，該活動使學生在實踐中學習，並與來自不同文化背景的學者交流，不僅提升了學生的國際視野，也促進了永續設計的概念傳播，並透過國際工作坊，讓學生進行跨國跨領域的設計交流，設計四組可行的解決方案，分別是 Filster、Shipping oyster shells system、moneyster 和 Oyster shell & Enviroment，將本計畫的理念推廣至日本當地，最終成果在日本宮城大學舉辦的第一屆MYU創意大賽「Derucon 2024」，獲得第二名「最佳賞」佳績。成果展覽更將本次計畫成果分享予大眾，提升社會對環保議題的關注，並展示學校在區域發展及地方創生上的承諾。



6

咫尺峇里，教育前行： balinese cultural exchange

計畫主持人 | 虞邦祥 管設學院 經管系 副教授

4 QUALITY
EDUCATION



一、問題意識與計畫目標

本計畫希望從校園開始提升不同國家間跨文化互動與理解包容，以峇里島為例，其擁有豐富的文化遺產，讓台灣校園可以更深層的進行文化交流，讓台灣學生具有全球公民意識，透過進入校園，讓學生親身體驗峇里島文化和傳統，以豐富台灣學生的國際跨域學習、同理心和全球意識。第二，本計畫也透過保護文化遺產，促進合作的全球化價值觀。

本計畫目標第一是創造有意義的跨文化交流，包括食、衣、育樂、文化傳統、語言交流，以加深台灣學生對印尼峇里島的理解和尊重，提供沉浸式文化體驗的活動來，包括語言交換、傳統峇里島美食製作、手工藝品製作和傳統舞蹈課程。透過提供這些體驗，創造讓台灣學生了解和欣賞文化差異的翻轉教室。

第二，發展一可持續的文化交流模式，可複製或擴展到其他文化群體，加強台灣在全球的文化外交和軟實力。

透過這些交流，希望可讓明志校園定位為跨文化教育的領導者，並建立更具包容性和互聯性的校園社區，體現同理心、寬容和全球公民的價值。

二、計畫執行重點

1. 舉辦展覽提高學生的跨文化理解

- 展示峇里島傳統文化的文化博覽會/展覽

在學生可輕鬆接觸和觀看展示的 7-10 件巴厘島傳統服裝。確保展覽內容豐富，解釋每件物品的文化意義。

- 展覽資訊

為學生提供講義或數位指南，以了解峇里島文化和所展示服裝的象徵意義。



2. 峇里傳統舞蹈教學之文化交流工作坊

- 峇里島舞蹈工作坊

每週舉辦一次峇里島舞蹈教學，每次課程的學生人數為 10-15 人，由峇里島傳統舞蹈合格教練帶領課程並教授傳統舞蹈動作。

- 邀請學生記錄他們的經歷

鼓勵學生創作簡短的反思或照片來記錄他們在舞蹈工作坊期間的學習過程。

- 舞蹈表演

在特定場合上台表演，讓學生展現學習成果。



3. 透過手工藝品增加對峇里島文化的接觸

- 舉辦DIY手作活動

設計教案讓中小學生學習製作多種峇里島手工藝品：TriDatu 手鍊、Canang 和 Tipat。提供所有必要的材料並安排講師演示傳統製作方法。

- 逐步指導與文化背景

確保學生收到逐步說明以及每種手工藝品的文化意義的解釋。強調峇里島儀式和日常生活中每件物品的重要性。

- 收集學生對手工製作的感想

收集學生關於製作峇里島手工藝品的經驗的反思回饋，以了解他們的參與程度和文化欣賞程度。

三、計畫成果亮點



A. 峇里島舞蹈工作坊

- 峇里島舞蹈工作坊，重點是手勢、姿勢和步法，舞蹈學習使學生了解峇里島舞蹈的紀律和表演本質。
- 表演與驗收：學生展示所學內容，成果驗收讓學生們慶祝其學習成就，增強信心，並為學習加上具有意義的里程碑。

B. 手工藝促進文化的觸擊

- 向國中小高中學校推廣：在 2 所高中職、1 所小學和大學東南亞博覽會舉辦 DIY 課程，共 18 場次，校外 234 人次參與，校內 120 人次。吸引不同年齡層的學生並提高學習與欣賞不同國家文化的意識。
- 手工藝實作工作坊(DIY)：引導學生逐步完成傳統峇里島工藝品的製作，例如Canang（供神花托盤）和 Tipat（編織米包）。此經歷讓學生加深對峇里島文化的記憶與提供有意義的學習體驗。
- 學生反思回饋：參與學生表達對DIY活動熱情，反思創作文化意義，參與學生培養對峇里島傳統的尊重，並鼓勵學生欣賞傳統工藝的技能和創造力。

C. 豐富文化體驗的與國際行銷

- 穿搭峇里島傳統服飾：學生穿戴峇里島傳統服飾，並以舞蹈姿勢拍照，提供學生接觸峇里島時尚。
- 印尼傳統小吃品嘗：為豐富文化體驗，體驗課程供印尼傳統小吃，讓學生探索印尼風味，加深他們的文化沉浸。
- 行銷和品牌管理應用：融入行銷和品牌管理課程中的大學課堂，大學生學習語言、服裝和烹飪等文化元素，如何有助於品牌故事敘述和國際行銷。



-113 年 -

觀音山環境與生態教育年報



如何在校園落實環境教育？

新北市泰山區義學國中衛生組長 蘇隆章 撰稿

擔任學校衛生組長第 6 年，除了每天的校園環境維護之外，擔負起「環境教育」的責任，也是一直以來我認為是衛生組的另一項重要業務之一；而對我來說，最重視的環境教育議題，就是落實校園「資源回收分類」與「妥善處理垃圾」的「基礎教育」。校園通常是學生一天中停留時間最長的地方，在校做好正確資源回收分類，讓學生覺得自己是環境保護的一份子，並透過實際行動，對環境保護的重要性有更深刻的體會。因此，若能有效落實資源回收，並導入學生的日常生活，「學校」就是一個能培養環境意識的最佳場域。

一、資源回收教育的重要性

資源回收和正確處理垃圾是環境教育最基礎的一環。不管是寶特瓶、紙杯、紙碗等一次性餐具，這些回收資源如果未能正確處理，就會成為地球沈重的負擔。

此外，資源回收不僅能減少垃圾處理成本，也能減輕環境污染。在教育層面上，通過教導學生認識資源回收的價值，可以促進他們思考如何在生活中減少浪費，進一步培養負責任的生活態度。

二、校園資源回收實踐作為

1. 訂定全校性資源回收類別：

從全校各班做起，設立校園常見五大類回收桶：紙類、塑膠類、紙



餐具、紙容器、金屬類，確保各類回收資源能在最大範圍內被正確處分類與理；並在校園資源回收場設置明確標示的回收桶，引導學生進行正確分類。

2. 招募各班環保小尖兵：

透過招募學生，成立環保小尖兵。小組成員每週兩次負責全校的資源回收工作，並協助清理、分類和記錄回收成果。這不僅能讓學生學習實際操作技巧，還能在團隊合作中培養責任感和領導力，服務學習，學習服務。此外，針對環保小尖兵，本校設有獎勵制度，表揚表現優異的小組或個人，激勵學生積極參與。同時，透過這些活動也能讓學生自發地成為環保理念的傳遞者，將正確的資源回收觀念帶回家中。

3. 在學科中融入環境教育內容：

當然，環境教育並非只有活動執行，亦可將其與課程內容緊密結

合。例如，數學課可以讓學生計算回收材料的數量與重量，進一步了解回收對環境的影響；自然課則可以講解回收材料的分解過程和再利用技術；藝文課則能讓學生以環保為主題創作，提升對環境議題的關注度。透過將環境教育融入學科內容，學生不僅能在課堂上學習知識，更能將這些知識應用於實際生活中，從而更全面地理解環保的重要性。

三、資源回收帶來的正面影響

透過上述實踐，校園資源回收已經不僅僅是一種管理手段，而是一種深遠的教育模式。我認為可以帶來以下明顯的正面影響：

1. 學生環境意識的提升：

隨著資源回收的普及，越來越多的學生開始自發關注環保議題。他們不僅能夠分辨不同類型的回收物，還能認識到資源有限的事實，進一步減少浪費。

2. 校園環境的改善：

透過有效的資源回收分類和妥善處理校園垃圾，校園變得更加整潔有序。同時，學生的參與感也使他們更加珍惜公共環境，主動維護校園的乾淨。

3. 家庭影響力的擴大：

許多學生會將在學校學到的資源回收知識帶回家中，影響家人的環保行為。例如，教導家人如何正確分類垃圾，或者減少使用一次性用品。這種從校園延伸到家庭的影響，進一步擴大了環境教育的範圍。

四、未來的期許

資源回收和環境教育是長期的工作，只有不斷進步和創新，才能讓這項工作持續發揮影響力。在未來，期許自己希望能夠將校園環境

肆、淡水河流域夥伴年度成果

維護的範圍更加擴大：

與地方社區合作，開展更大規模的環保活動，讓校園成為社區環境教育的中心。

開發更多創新的教學資源，例如運用數位技術製作資源回收的互動課程，讓學生能夠透過遊戲和模擬進一步學習。

建立環保行為的追蹤機制，例如設置每班的環保積分系統，定期公布數據，讓學生和老師都能清楚看到自己的努力成果。

資源回收不僅是校園管理的一部分，更是一個教育與行動相結合的平台。透過不斷的努力，我相信我們能夠培養出更多具有環境責任感的下一代，並讓資源回收的理念在社會中更加深入人心，讓人人都能為環境盡一份心力，一起讓生活環境變得更好！



氣候與自然共好——山川 海守護行動

南亞科技股份有限公司 陳乙萱 撰稿

自然資源的利用與變遷，影響著生態系統穩定、企業經營與當地社區的福祉，南亞科技於 2024 年實踐管理自然風險，並正式發佈第一本「氣候暨自然與財務揭露報告書」，將保護生物多樣性、減緩自然風險納入企業策略，確保業務發展與自然共生。我們深知，企業的永續成長不僅依賴資源利用效率，更需要與共享同一片自然資源的社區共同努力，保護我們的環境。

基於這樣的理念，南亞科技發起了一系列生態保育行動，透過員工自發性的參與，攜手供應商、非營利組織、地方政府及當地學校，共同發起系列活動，期能增加公司對於自然生態議題的保護意識。

一、世界綠行動：環保從日常做起

1. 植樹節：南亞科技與桃園市政府合作，員工親手種植原生樹種，推廣森林保育理念。
2. 紀錄一餐垃圾量活動：鼓勵員工記錄並反思日常垃圾產出，以實際行動減少浪費。
3. **Eco** 智多星：舉辦環境知識競賽，透過互動學習了解資源回收與垃圾減量知識。



4. 物種大調查：號召員工藉由 **iNaturalist** 公民科學平台記錄公司周邊生物，提升生態保育意識。

二、生物多樣性保護：守護自然環境

1. 環保淨山：號召員工及眷屬清除山林垃圾，維持登山步道的整潔。
2. 五股溼地復育：與荒野保護協會合作，移除世界百大入侵種——小花蔓澤蘭，維護濕地生態。
3. 川廢調查：參與大窠溪環境監測，記錄河川廢棄物種類，為政策制定提供數據支持。
4. 淨灘行動：在金山中角灣舉辦低碳減塑淨灘活動，減少海洋廢棄物，守護海岸環境。

三、環境倡議與教育：提升環保意識

1. 海廢環保講座「龜心塑不見」：邀請講師分享海洋垃圾對生態的影響，強化員工對海洋保育的認識。

肆、淡水河流域夥伴年度成果

2. 川廢調查講座：與明志科技大學合作，講解河川污染成因，培養公民科學家精神。

3. 志工環保生態日：與台灣蝴蝶保育學會合作，藉由認識蝶類生態，讓員工與眷屬了解生物多樣性的重要性。

四、員工愛鏈結提案：企業與社會共好

1. 淨海活動：潛水社社員基於對於海洋的熱愛，於日常社員潛水活動外，自 **2023** 年起連續兩年參與「淨海合作社」相關的淨海洋垃圾活動，將潛水愛好與海洋環保結合，為地球盡心力。

2. 鯨豚協會動物救援志工：邀集公司內部對環保議題特別關注之志工們參與鯨豚協會動物救援志工培訓課程。藉由課程更加認識海洋生態及環境基礎教育，更進一步學習照護野生動物擱淺時所需之技能，以解決值勤志工人力之不足。

3. 環保大使志力淨灘：攜手台灣環保協會，清除海岸垃圾，促進親子環保教育。

五、結語

南亞科技透過多元環保行動，展現企業對環境永續的承諾。從員工參與到社會倡議，南亞科技將持續深化影響力，並藉由 **TNFD** 的框架，將自然相關風險納入企業決策，確保企業在成長的同時，也能守護我們賴以生存的地球，共同打造更永續的未來。