Implementation Results of the Higher Education Sprout Project, 2019

Sub-project 1: The "Five Step Model" Innovative Teaching Project

National Pingtung University is a high-quality university that integrates diverse modes of education, including higher education, vocational education, and teacher training. The programs promoted under Sub-project 1 encourage teachers and students to develop unique and innovative interdisciplinary teaching and learning programs, including initiatives that traverse industries, schools, colleges, and professional disciplines. Interdisciplinary initiatives help elevate the features and core aspects of teaching innovation programs. A special method we use to promote such programs is the ADDIE model – a systematic design process for teaching programs. **The ADDIE model spans the whole course-building process, from the initial analysis, design, development, and implementation stages, to the eventual evaluation phase**.

The ADDIE model was applied as follows: (1) Analysis: Conduct a needs analysis – comprising interviews, questionnaires, and background analyses of teachers and students – to understand the possibility of implementing interdisciplinary innovative teaching and learning programs; (2) Design: Draft regulations and programs for submissions, design course systems and devise course objectives; (3) Development: Includes, for each program, formal requirements for course performance, plans for teaching activities, and designs for gaining feedback from program results, etc.; (4) Implementation: Involves tracking and assisting with the implementation of each innovative teaching course, as well as problem-solving; (5) Evaluation: Includes feedback and opinions from teachers and students, comprehensive performance evaluations, etc., as well as the convening of review meetings during each stage to make timely amendments and record and retain relevant experiences.

The actual implementation of each program promoted under the Innovative Teaching Project – from the formulation of its implementation guidelines, to the design of submission rules generated from a needs analysis, and the promotion of interdisciplinary innovative projects – can be divided into the following six facets:

Innovative teaching courses: Include micro-credit courses, micro courses, "deep-bowl courses," curriculum tracking, capstone courses, flipped classrooms, MOOCs, distance learning, program design courses, and study abroad programs;

Social groups for student-teacher learning: Include a problem-based learning (PBL) group, camp organization-based group, competency-oriented group, student-teacher professional foreign languages group, guidance and coaching group (for license tests / competitions), international academic exchange group, and an outdoor education and course-based issues group;

Student-teacher collaboration in industry and academia: Includes collaborative teaching by industry practitioners, practical workshops for students and teachers, and other student-teacher initiatives.

Interdisciplinary teaching/competitions: Includes interdisciplinary credit programs, interdisciplinary common programs, regular and vocational senior high school special project competitions, and microfilm contests;

Student-teacher special project research: Includes research on innovative teaching, as well as supervision of regular and vocational senior high school students' special projects;

Unique feature development at the university level: Includes special courses on virtual and augmented reality (VAR) and "Pingtung Studies."

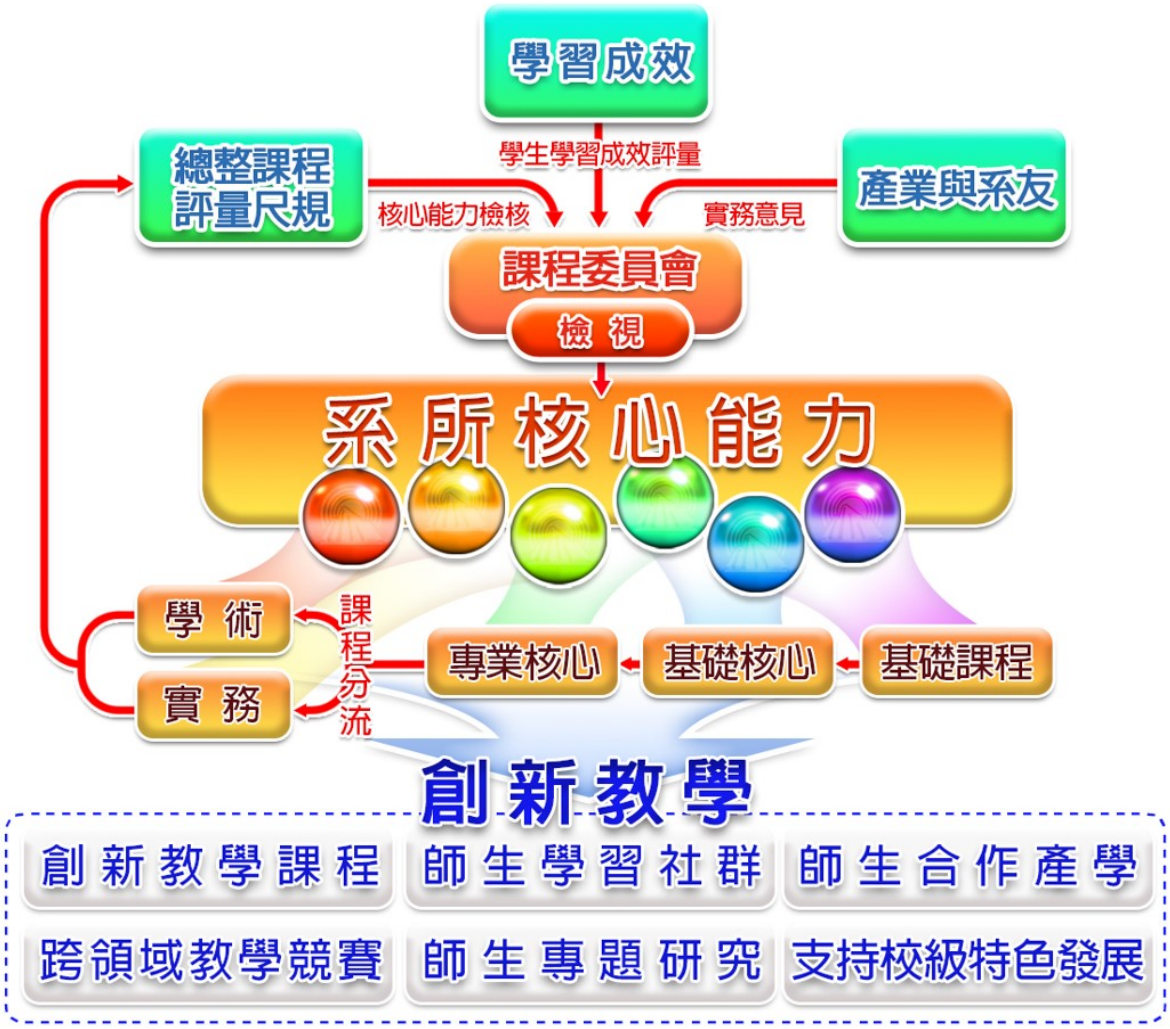


Figure 1: The six facets of innovative teaching programs

Performance results from the promotion of innovative teaching programs are outlined as follows:

1. University-wide Promotion of Program Design Courses

– Formulated relevant regulations
– Graduation requirements: Designated as compulsory courses for students starting their studies in the 2018-19 academic year
– Pushed for the incorporation of such courses into the department-based professional curriculum and college-based compulsory curriculum
– Available as university-wide general education elective courses
– Carried out external review work for program design courses

– Faculty participated in compiling program design teaching materials

– With regard to the promotion of program design courses at National Pingtung University (NPTU), by 2017 a total of **31.43%** of bachelor program students had taken a course on program design; this grew to **47.52% in 2018, and by 2019 had reached 72.22%**. It is estimated that **by 2022, 100% of NPTU graduates will have taken a course on logical and computational thinking**, as shown in Figure 2.

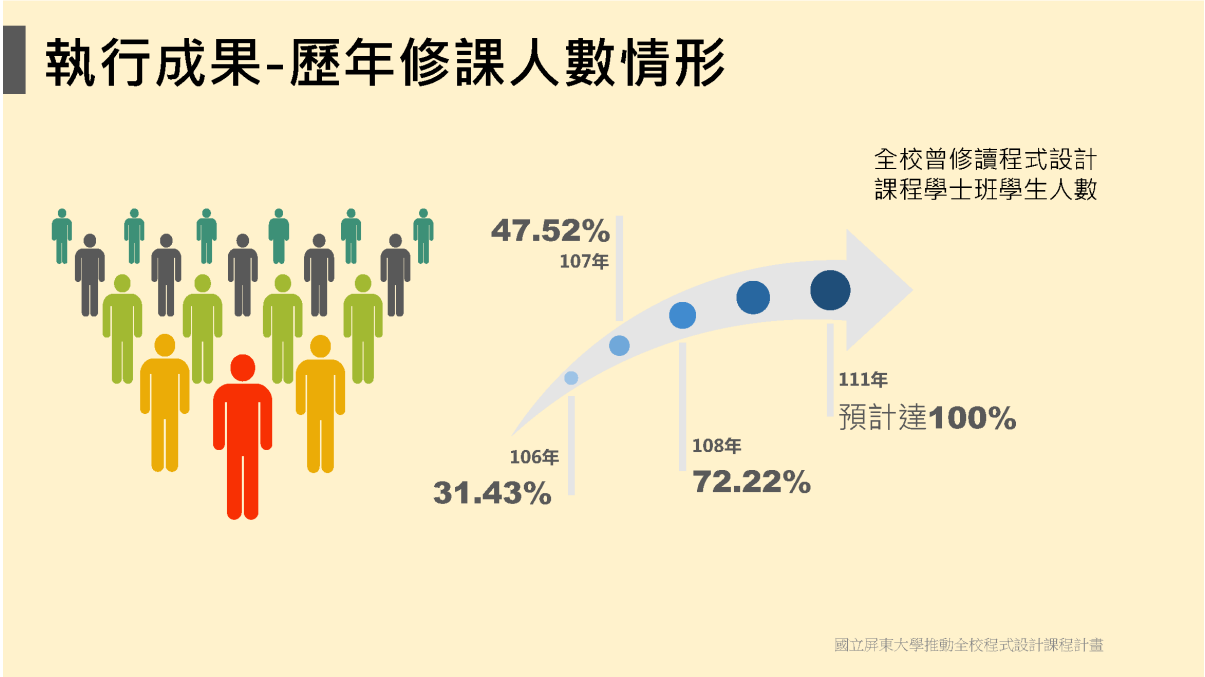


Figure 2: Course enrollment figures for courses on logical and computational thinking as well as program design in previous years

2. Comprehensive Implementation of Innovative Teaching

– The number of teachers participating in curriculum innovation efforts has increased annually, with the number of students benefitting also growing by the year. The total number of teachers taking part in curriculum innovation has now reached 92, while the number of students who have benefited from such efforts is 4327, as displayed in Figure 3.

– After taking NPTU's credit courses, students participated in a microfilm competition held by the National Science and Technology Museum and gained excellent results.

– The NPTU Special Indigenous Program collaborated with the Department of Anthropology, University of the Philippines, holding a month-long Sound and Landscape Immersion Exchange Program in which participants recorded local indigenous music and dances so as to preserve the precious artistic heritage of indigenous peoples.

– Hoping to rectify disparities in teaching effectiveness in rural areas caused by a paucity of resources, NPTU students and teachers set out for schools in Pingtung County's rural townships where they introduced program design courses through the medium of games. By playing games, they helped children develop the ability to solve problems on their own.

– The purpose of this project is to imbue in students an international outlook, expand their field of learning, and strengthen the nature of international academic exchange. The program comprises international components, allowing students to genuinely gain a taste of life and learning overseas, and to experience the differences that exist between disparate cultures.

3. Encourage Interdisciplinary Courses and Learning – As part of the University's "micro-credit courses," each college organizes theme-based lectures that incorporate professional expertise or emerging issues relevant to the specific college. The course mission statement is "Less theory and more practice make for happy leaning," and participating students are encouraged to choose elective courses across different colleges and disciplines. These courses enable students to obtain course credits in subjects that interest them, thereby laying down a path of autonomous learning that helps to boost learning motivation, while at the same time allowing for teaching resources to be shared.

4. Support the Development of Special-feature Courses at the University Level – Offer the course "Pingtung Studies" as well as interdisciplinary VAR courses

5. Built a VAR Interdisciplinary Teaching Space – Two advanced computer labs (117 computers)

	創新教學課程	師生學習社群	師生合作產學	跨領域教學/競賽	師生專題研究	校級特色發展	總計
子計畫1方案	微學分課程 微型課程 深碗課程 課程分流(系) 總整課程(系) 翻轉教室/磨課師 遠距教學 程式設計課程 境外移地教學	PBL問題導向社群 營隊組織導向社群 職能導向社群 師生專業外語社群 增能輔導社群(考照/競賽) 國際學術交流導向社群 戶外教育結合課程議題社群	業師協同教學 師生實務研習 師生深耕	跨領域學分學程 跨領域共授課程 高中職專題競賽 微電影競賽	創新教學研究 指導高中職專題	VAR特色課程 屏東學微學分	
課程數/件數(107)	117	7	23	58	5	-	210
課程數/件數(108)	140	57	26	131	12	3	369
參與教師人數(107+108)	**143**	**64**	**35**	**159**	**15**	**3**	-
參與教師人次(107+108)	262	100	52	194	19	3	630
參與學生人次	6754	1037	1914	1681	393	111	11890
學院參與比例	理學院28% 教育學院18.47% 資訊學院10.86% 管理學院25% 人文社會學院17.39%	理學院28.13% 教育學院10.93% 資訊學院1.5% 管理學院14.06% 人文社會學院45.31% 外校參與0.07%	理學院4% 教育學院24% 資訊學院8% 管理學院60% 人文社會學院4%	-	教育學院13.33% 資訊學院40% 管理學院26.67% 人文社會學院20%	資訊學院33.33% 人文社會學院33.33% 管理學院33.33%	

Figure 3: An analysis table of the six major categories of the Innovative Teaching Project

Sub-project 2: The "General Education In-Depth Learning" Project for the Enhancement of Students' Basic Abilities

1. English curriculum innovation (language learning in a multicultural linguistic context): Through intensive course training, as seen in Figure 4

(below), students learn practical English TOEIC skills and raise their TOEIC scores by an average of 43 points, or around 8%, from a mean score of 550.42 upon entering the course to 593.75 upon completion.

2. Conduct a diverse array of assessments: By the end of first year studies, all students have undertaken three realistic TOEIC simulation tests.

3. Design course concepts and materials: Based on student demand, a series of evening courses are offered on the topic “Conquering Workplace English.” A professional line-up of teachers also provides instruction on TOEIC. Teachers assist students to become familiar with the TOEIC licence test, to elevate their listening, speaking, reading, and writing abilities, and guide students on the new TOEIC format with classes featuring mock exams.

4. Teachers compile Chinese materials, students read written works: Students’ capacity for expression is enhanced by means of reading, listening to lectures, compiling reports and writing, with a comprehensive array of exercises to deepen their listening, speaking, reading, and writing skills, thereby constructing greater linguistic literacy. By collecting outstanding student works and compiling them into a set – as per Figure 5 (below) – students are able to observe and learn from each other. It is also a means of showcasing the fruits of students’ efforts, with the hope that is prompts students to display even greater diligence and more momentum in future creative efforts.

Figure 4 – Classroom instruction in the course “Practical TOEIC English”

Figure 5: Chinese learning materials to elevate students’ basic abilities

Sub-project 3: The VAR Interdisciplinary Teaching Innovation Project

1. Promote the Development of Smart IoT Skills and the Enhancement of Capabilities Held by Talented Personnel

–Earned second place in the 4th National Technology College and University Programming Competition, and first place in the “college” category of the 2019 Smart Humanoid Robot Competition; initiated two

smart IoT industry-academia collaboration projects, two smart IoT practical system development projects, and administered proficiency tests for program design.

– Designed the VR/AR Interactive Design Credit Program, as shown in Figure 6, and developed interdisciplinary VAR collaborative teaching across professional fields of different colleges, with two VAR cross-college / department courses offered each semester. Participating instructors and students come from a variety of different NPTU colleges and departments.

– Built an integrated testing center for electrical and mechanical licenses; in 2019, guided students to obtain over 20 types of licenses, and organized a national robotics competition with over 300 contestants. A high school teacher VAR workshop was also held and comprised over 30 participants, as shown in Figure 7.

– Students took part in the Collegiate Programming Examination (CPE) and obtained excellent results, gaining admission to computer science and information engineering master's programs at national universities.

2. Foster Innovation in VAR Virtual and Physical Integration

Gained second place in the category “virtual and augmented reality” for a VR shopping system; received a special prize in the “cross-disciplinary” category of the Vision Get Wild Award for a VR drone-generated panorama video of the NPTU campus; and earned an excellence award in the “multimedia and digital content” category for an AR smart chat system.

3. Promote Teaching Innovation through a Handheld App that Combines VR and AR

– Developed an earthquake protection VR app that provides the public with basic knowledge and skills in earthquake protection.

– Created a unique teaching format that blends practical, real-life results with professional knowledge from different domains; and developed a VR app, as shown in Figure 6.

– Industry practitioners from the field of VAR assist in collaborative teaching, help with VAR teacher training for regular and vocational high schools, and promote courses in the field of VAR.

4. Promote VAR Applications in Robotics

– Held camps allowing students to experience VAR technology, as well as virtual reality development seminars and a national innovation smart robot contest.

5. Developed the Pingtung University Innovative VR Learning System, Allowing the Physically and Intellectually Challenged to Shop for Themselves

– National Pingtung University has researched and developed a "Virtual Reality Convenience Store Learn-to-Shop System," allowing disabled people to practice shopping autonomously through the mode of virtual reality. The lack of convenience stores in remote areas limits opportunities to use store facilities, making it difficult for people with disabilities to learn how to live independently. By developing the VR convenience store system, the team has enabled such people to repeatedly practice shopping in simulated scenarios, thereby empowering them to live more autonomously.

– Related new reports:
https://news.cts.com.tw/unews/campus/201912/201912271985611.html
https://tw.news.appledaily.com/life/realtime/20191218/1679069/
https://news.ltn.com.tw/news/life/breakingnews/3012976

6. Designed a VR System for Underwater Interaction and a Hippotherapy System

– The National Pingtung University VAR Technology Center collaborated with Golden Hospital in Pingtung in an interdisciplinary project, combining virtual reality and interactive games to make the treatment process more interesting, boost patients' willingness to undertake rehabilitation, and increase return visit rates for rehabilitation.

Figure 6: VAR project achievements

Figure 7: License testing centers

Sub-project 4: Technology in Higher Education – Pingtung University Dives Deep

1. Viewing the College as a Core Unit for Instruction; Interdisciplinary and Diverse Learning; Setting Up Specialized Programs

– Organization: Convene meetings for the scheduling of college courses during the "course scheduling stage" so as to coordinate college and department level courses, enhance course scheduling efficiency, and prevent timetable clashes. Curriculum: **Design innovative teaching courses, offer courses that feature multiple styles of instruction, and provide college-based course offerings**. Courses should incorporate practical exploration, interdisciplinary elements, sandwich teaching models, industry practice, problem-based learning, international mobility, international participation, and the fulfillment of social responsibilities, thereby cultivating students' practical abilities in a wide range of fields. Faculty: Strengthen faculty exchange across colleges and departments, and provide incentives for the instruction of innovative teaching courses. Student admission: Adopt college-level joint admissions for master's programs, as well as for summer/winter break transfer and outstanding student selection in daytime bachelor's programs, with admissions quotas planned and allocated by the colleges. This system has already proved effective.

– Offer college-based common courses, as well as interdisciplinary and specialized programs that feature multiple styles of instruction, with a current total of six college-based course offerings. There have now been a total of 64 courses featuring various teaching formats, which have helped cultivate students' professional competencies, as well as their diverse and interdisciplinary abilities. Moreover, to date, a total of 21 students have fulfilled credit program requirements, obtained a credit program certificate and received a degree certificate annotated with "second specialization."

– Provide college-based course offerings that complement social employment trends and incorporate industry practice; increasingly promote sandwich teaching models that feature basic theoretical learning, instruction on industry practice and classes on problem-based learning, with a total of nine sandwich-style courses offered to date. Meanwhile, 30 industry practice lessons and industry practitioner collaborative teaching courses have been held, helping maintain an equal emphasis on theory and practice. The above-mentioned multi-format teaching courses are carried out in accordance with the innovative teaching curriculum outline (diagram) shown in Figure 8.

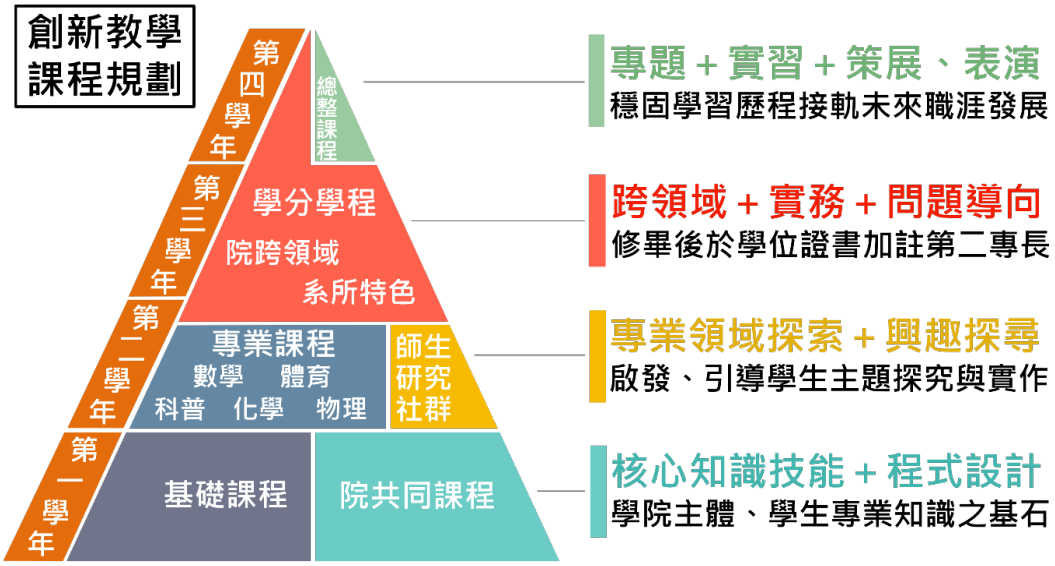


Figure 8: Innovative teaching curriculum outline

2. Local Efforts in Innovation – Flipping the Core of Instruction

– With a view to innovating traditional courses, administrators of existing courses are guided to carry out reforms and initiate courses with multiple teaching formats, such as those displayed in Figure 9, so as to uplift student learning autonomy and freedom. For example, three courses have been held featuring eight collaborative teaching sessions by industry practitioners, along with five keynote speeches delivered by external industry practitioners and experts.

– Drawing on the professional content of courses offered by each department, **activities are held (at schools) in remote locations to promote and spread popular science education, allowing students to experience the real-life applications of chemistry** or partake in hands-on science classes. A total of two hands-on "experiential camps" were held to promote popular science in everyday life.

– Held a **New Southbound borderless and transnational collaborative teaching program**, whereby students travelled to Thailand to partake in overseas learning. A total of 15 students took part. Through cross-border collaborative teaching, students gain professional field competencies in an English-only environment and participate in presentation events that showcase their English achievements in professional courses. This helps boost students' capacity for international mobility and participation.

– Held three science maker DIY workshops in which students from other countries took part, and which featured external industry experts who carried out practical DIY demonstrations and experience-sharing. This shed light on the competencies required to partake in DIY, and nurtured and enhanced students' desire to develop expertise in this field.

– In recent years, the government has actively touted the New Southbound Policy. To meet the requirements set forth in the Policy, regarding the exchange of talented personnel (talented personnel cultivation), three science art maker workshops were held. Students from NPTU's sister universities in Thailand, who came to the college on an internship, took part. During the process of performing hands-on tasks and exploring DIY, the students gleaned various scientific principles, and by applying scientific knowledge, created beautiful artwork. They also learned of the onus the college places on cultivating expertise and on hands-on, practical education, which has motivated them to return to the college's various departments in the future to pursue master's studies or partake in academic research. In this way, the college forges a strategic advantage in future admissions of international students.

– Ten student/teacher research-based social groups have been set up to inspire students to explore professional domains and cultivate an interest in the in-depth learning of relevant expertise. Through the holding of social group activities and guidance from teachers and senior students, junior-level students have been inspired to pursue in-depth knowledge in a number of domains, accrue greater levels of practical experience, and actively participate in competitions in professional domains. These research-based social groups have also invited external scholars and industry lecturers to share their practical experience and knowledge of industry trends, and to host hand-made DIY activities. In total, eight social groups have hosted 17 such sessions, while nine exhibitions have been held to showcase the results.

Figure 9: Achievements from courses featuring multiple teaching formats

Sub-project 5: Project for "Understanding Pingtung," Providing Local Care, Cultural and Creative Value-Adding, and Nurturing Diverse Languages

1. A special feature of the college is its focus on **developing "Pingtung Studies**." It offers the course "Introduction to Pingtung Studies," which adopts a multi-faceted humanities and social science perspective, examining elements such as the digital content industry, indigenous music, cultivation of citizenship, cultural development, diverse languages, and cultural and creative social groups. In doing so, it constructs the interdisciplinary, holistic field of Pingtung Studies.

2. Integrating the Kaohsiung and Pingtung digital content industries, the project connects community, industry and teaching to develop a unique field of instruction that contains features of local cultural industries and boasts international competitiveness.

3. Through the synthesis and integration of three major categories of courses – **"Social Issues," "Research Methods," and "Social Development in Practice"** – students gain practical, real-life experience working in the public sector and non-profit organizations. They enter the community in a practical way, drilling their skills through social practice and activities. This allows students from the Department of Social Development to deepen their already well-honed understanding of the local community, and cultivates students' sense of social responsibility, enabling them to better recognize and intervene in local issues, as shown in Figure 10.

4. The project utilizes culture and creativity to assist local government, strengthens partner relationships in cultural heritage spaces, and develops students' micro entrepreneurship skills through course offerings. NPTU has successfully lodged three project proposals with the local government. One such project entails collaboration with the Ministry of Culture (MOC): "Discussing the New Pingtung – Fangliao: A New Cultural Movement in Art, Industry, and Railway," which received the 2019 MOC Cultural Forum

Subsidy. The project helped to establish local network-based relationships. Moreover, by providing course instruction and collaborating with local businesses and government agencies, NPTU cultivated students' professional abilities and worked to further secure external resources.

5. Through practical courses on cultural product design, indigenous tribal board games and picture books based on the cultural heritage of the Austronesian people were developed. In 2019, a Bunun tribe board game was published, while faculty assisted a student band to release an official music album. This year the band "Ayam" was established, and music albums in the tribal language of its members, as well as Mandarin, were simultaneously released.

6. Compiled "**Pingtung Literary History**" and developed the Mobile Literature App to take the public on a literary journey and further bring story-based dramas, culture and creativity, and story-based digital images into the community.

7. Held a teaching materials design competition; encouraged students to take up practical college jobs, such as editing department publications, editing news interviews, broadcasts, and images, and post-production; expanded internship opportunities related to business tourism and hospitality, as well as English teaching; established a liaison mechanism for Japanese language internships or industry-academia collaboration; held an assortment of language courses, and offered teacher training classes and courses related to English proficiency exams, as shown in Figure 11.

8. Held several activities, including a lecture series and field study on "The Alangyi Trail – A Historic Trail that Traversed East and West," a forum on "Local Studies / Pedagogy from a Global Perspective," a lecture series entitled "The World Between Us and Placemaking," and the "2019 Taiwanese-Japanese Placemaking Forum," as displayed in Figure 12.

實地觀察水資源的使用及水岸地景的發展

阿禮部落牧師、蔡依倫老師及
蹲點實作學生於莫拉克風災影展

實地走訪琅嶠卑南道

「我們與地方創生的距離」講座

Figure 10: Images from courses on “Pingtung Studies” and local field trips

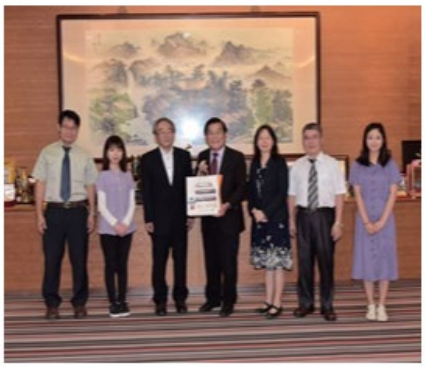
江逸萱同學榮獲
新北藝術祭精選展入選

英語系錄製Papaya News 新聞短片

Figure 11: Accomplishments achieved by students

文化資產保存與活用中心

海翁繪組曲的原民意象
與本土關懷工作坊



2019台日地方創生論壇

Figure 12: The Cultural Heritage Preservation Center and a forum on placemaking

Sub-project 6: Smart Education Innovation and Practices

1. To expand the international horizons of students in the Department of Early Childhood Education, the department holds exchange and cooperation activities with the **Helleum Learning and Research Center for Children and Youth, located in Berlin, Germany**, including seminars and workshops.

2. To better deal with new trends in digitalization, **VAR technology teaching materials were researched and developed**, and technologies such as digital learning and technology integration were incorporated into related courses or newly offered courses, so as to shape students in education programs into "smart teachers" (see Figure 13).

3. By means of "**learning assistance dogs,**" students are able to improve their ability to communicate and read, as well as their learning motivation and overall learning effectiveness. Such projects foster respect for all life and instill the importance of caring for all life forms. Learning assistance dogs have been incorporated into reading instruction programs in both remote areas and local communities, with dogs keeping humans company. Related news items: https://news.ltn.com.tw/news/Kaohsiung/breakingnews/3011843. Through training in communication drills and software R&D for functional

rehabilitation training platforms, these projects produce unique teaching models, which can be used to better assist special needs students, as shown in Figure 13.

4. A series of public performances in remote townships and outlying islands were held, allowing the university to do its part for society. The performances were held by the **STEAM Theater in Education** (TIE), a group comprised of faculty and students from the National Pingtung University Department of Early Childhood Education, as shown in Figure 14.

5. In terms of teaching, faculty will begin to introduce courses on educational leadership and innovative and creative operation. Moreover, by participating in international-style conferences, they enhance their research capability in the field of educational administration, apply educational policy leadership, and cultivate talented leaders, as displayed in Figure 15.

6. The **Computational Thinking Teaching Resource Center / Educational Base** nurtures student literacy in computational thinking. It has teamed up with the NPTU College of Science's Hands-on Science Learning Center to establish the nation's largest educational base for computational thinking. Together, they host computational thinking enhancement workshops and design teaching material projects so as to optimize learning effectiveness.

Figure 13: Examples of educational innovation and practical results

Figure 14: Students' theater performance and accompanying news report

新課綱師資生工作坊成果發表

第三屆正向導向心輔營

幼兒教育嘉年華盛會

啟動教育的夢想國度嘉年華會

Figure 15: The New Curriculum Workshop for education students and presentation of achievements for the Educational Carnival

□

Sub-project 7: The Local Innovation, Creativity, and Entrepreneurship (ICE) 4.0 Project

1. The project nurtures students' **innovative, creative, and entrepreneurial abilities**, recruiting on-campus entrepreneurial groups which are then stationed in the Research Center for Smart ICE Development. Regular presentation ceremonies for entrepreneurial achievements are held by the Center, with four student groups presently recruited under the project, including: the Internship Travel Agency, the "No Afternoon Classes" Leisure and Creativity Park group, the APlus E-Commerce Third Party Service group, and the E-Commerce Business Development Entrepreneurial group. Two of these entrepreneurial groups took part in the 4th National University B2B Cross-Border E-Commerce Competition.

2. The project seeks to build and improve professional spaces for unique instruction, holding EPR workshops and assisting students to partake in **overseas corporate internships**. A total of 19 students have travelled to Vietnam for internships, with four Vietnamese companies signing letters of cooperation intent, including PM Gloves Group Star Pacific International Co., Ltd., Kurim Vietnam Co., Ltd., Wei Dean Weaving Ind. Co., Ltd., and Lian Chang Co., Ltd. (See figure 16.)

Figure 16: Students participate in workshops and overseas corporate internships

□

Sub-project 8: R&D x Talented Personnel – The Project for Rapid Capability Growth through Personnel Training and R&D

1. Faculty and students jointly participated in industry-academia collaboration projects. Six students took part in corporate special project coaching, and eight students were involved in implementing the **Industry-Academia Collaboration on Teaching Materials (and Tools) Project**.

2. Four teachers carried out the **Innovative Teaching Materials (and Tools) Development Project**. The project served to stimulate creativity in R&D among faculty and students, and bridge the chasm between industry and academia.

3. Faculty groups from National Pingtung University visit enterprises stationed in local industrial parks, including the Pingtung Industrial Park, the Southern Pingtung Industrial Park, the Pingtung Processing and Export Zone, and the Southern Taiwan Science Park. They proactively work with local enterprises to secure a host of government subsidies, jointly promoting the development of **industrial clusters**. Moreover, they **push industry-academia collaborative projects that connect teachers with local businesses**, and assist enterprises in industrial parks in applying for government projects, with four such projects approved so far, resulting in funds of NTD 2.12 million. Additionally, under the Talented Personnel Training and Capability Growth Project, eight teachers assisted 14 enterprises to successfully gain approval for NTD 1.128 million in subsidy funding under the Ministry of Economic Affairs (MOEA) Integrated Project.

4. Discover and select **innovative groups** with potential. Through the holding of a series of lectures, the project continually promotes the loosening of rules and regulations governing the entry of spin-off companies into NPTU's incubation center. To date, six “dream-hatching” teams have been set up with a total of 26 students, as shown in Figure 17.

5. Effectively spur the development of industry clusters by applying concepts of UGSI (university, government, society, and industry). NPTU and Meiho University work together to implement the "Industrial Park Companies Competitiveness Enhancement Project," sponsored by the Industrial Development Bureau, MOEA, which features joint visits to companies in the Pingtung Industrial Park, Neipu Industrial Park, and Southern Pingtung Industrial Park, as displayed in Figure 18.

6. Promote the **evaluation and selection of faculty for the Dawu Mountain Scholar Flexible Salary Reward**. An evaluation system was formulated to select scholars who display exceptional performance in various areas – teaching, research, industry-academia cooperation, service, etc. – and award them with salary bonuses. The initiative aims to create a flexible salary system for outstanding teachers and foster a general atmosphere of positive competition. In 2019, a total of ten teachers were conferred this honor.

7. Members of National Pingtung University and local township offices signed a joint agreement to **promote placemaking**, as shown in Figure 19.

Figure 17: Assisting student entrepreneurial groups

Figure 18: Visiting companies housed in local industrial parks

Figure 19: Signing a joint agreement with local township offices to promote placemaking

□Sub-project 9: The Pingtung University Smart Campus 4.0 Project

1. Creating a Smart Campus App

– Connects to the university information system using radio frequency identification (RFID) technology architecture.

– Uses a university identification card to create and develop a smart campus environment, as shown in Figure 20.

2. Publicizing Administrative Information

– Built an open platform for information on university administration.

– Publish an e-newsletter for information on university administration, and establish interaction with students and faculty using various methods.

3. Enhancing Administrative Efficiency

– Built a university administration research system.

– Built an open platform for information on university administration.

– Use a university identification card to create and develop a smart campus environment.

4. Established the **Southern Taiwan Collegiate Alliance for Promotional Strategies on School Administration Research**, and signed a memorandum of understanding with 28 other schools to jointly promote the development of school administration research within colleges and universities in southern Taiwan. Drawing on issues related to the Ministry of Education's establishment of “evaluations for university student learning effectiveness and enhancement mechanisms,” the scheme integrates and utilizes resources from each participating institution, creates a collaborative mechanism and strategies, and holds numerous activities – talented personnel training, intercollegiate practical and academic experience exchange, etc – so as to implement professional management models of school administration. In November 2019, NPTU held the Southern Taiwan Collegiate Alliance Presentation of Results Ceremony for Promotional Strategies on School Administration Research, as featured in Figure 21.

屏東大學智慧校園行動APP　　屏東大學智慧校園WEB版本

Figure 20: Results of the promotion of the Smart Campus App

2019.9.27南區大專校院校務研究推動策略聯盟成果展全體合影　　28所南區策略聯盟夥伴學校代表合影

Figure 21: The Southern Taiwan Collegiate Alliance Presentation of Results Ceremony for Promotional Strategies on School Administration Research