Should Universities Rely on Internships to Increase Student Employment Rates and How Can Universities Maintain Their Sustainable Competitiveness?

Lung-Sheng Lee

Ministry of Examination, Taiwan

Author Note

This paper is presented at the National United University 50th Anniversary Celebration Forum, October 12, 2022, Howard Civil Service International House, Taipei, Taiwan. The theme of the Forum is “Cultivate profound and real influence for the industry.” The author was the president of National United University from August 1, 2005 to July 31, 2012.

Abstract

The colleges and universities in Taiwan are confronted with the following two problems: (1) The average youth (aged 15-29) unemployment rate is more than double the overall unemployment rate; and (2) Mainly affected by the low birth rate, the admission and vacancy rates of colleges and universities have increased, and fierce competition exists among colleges and universities. This paper aims to answer the following two questions raised in Taiwan: (1) Does students' participation in the study opportunities created by university-industry cooperation really help the success rate of future employment? (2) In addition to cultivating cross-discipline talents, how can universities maintain their sustainable competitiveness? Based on a literature review and working experience, the author positively states that internship experience can improve students' employment rates, earnings, and job satisfaction after graduation. After that, several successful internship experiences and governmental promoting measures in Taiwan are mentioned. Four key success factors of internship are also described as follows: a clear structure, meaningful roles, paid internship, and a supportive environment. In terms of the second question, the author argues that the following measures should be taken: (1) Frequent inventory and analysis of the sources and quality distribution of students recruited by every academic unit; (2) Timely analysis of the resource allocation, financial revenue, and expenditure of academic units; (3) Appoint teachers based on expertise, and promote 360-degree feedback in the evaluation of teaching ; (4) Strengthen the cultivation of STEM professionals; (5) Develop students' core foundations and transformative competencies; and (6) Appropriately manage world university rankings as needed.

Keywords: higher education, internship, sustainable development, university–industry cooperation (UIC)

Should Universities Rely on Internships to Increase Student Employment Rates and How Can Universities Maintain Their Sustainable Competitiveness?

In Taiwan, the overall unemployment rate of the first seven months of 2022 reached 3.68% on average, while the average youth (aged 15-29) unemployment rate was 8.41% (CNA, 2022), more than double the overall rate. In addition, the admission and vacancy rates of colleges and universities both reached new highs in 2022. Mainly affected by the low birth rate, the admission rate is as high as 98.94%, and vacancies account for 36.83% of the total enrollment (Wang, 2022).

The author was requested to answer the following two questions at the National United University 50th Anniversary Celebration Forum: (1) Does students' participation in the study opportunities created by university-industry cooperation really help the success rate of future employment? (2) In addition to cultivating cross-discipline talents, how can universities maintain their sustainable competitiveness?

Should Universities Rely on Internships to Increase Student Employment Rates?

The author's answer is definitely yes. There are several types of study opportunities created by university-industry cooperation (UIC), such as participating in UIC research projects, receiving corporate scholarships or grants for study, and doing workplace internships in industry. In terms of the scale of student participation, the scale of internships in industry is the largest, so workplace internships are mainly mentioned here.

According to the "20+ compelling internship statistics [2022]" (Boskamp, 2022), the status of internships in the United States can be described as follows:

1. About 70% of interns are employed at the same company they interned with;

2. In the first few years after graduation, graduates with internship experience earn about 6% more than those without internship experience, and are about 15% less likely to be unemployed;
3. About 60% of internships are paid. Paid interns' national average hourly salary is about NT$650, which is higher than the minimum hourly salary of about NT$470;
4. Paid interns are 52% more likely to obtain full-time job opportunities than unpaid interns; and
5. About 30% of college graduates start their internship after graduation.

That is to say, internship experience can improve students' employment rates, earnings, and job satisfaction after graduation. Thus, U.S. colleges and universities continue to: (1) Actively provide students with industry workplace internship courses; (2) Arrange as many paid internships as possible; and (3) Use the increase and decrease of internship opportunities provided by companies as an important indicator of the talent cultivation prospects of the corresponding programs. Some programs will reduce the number of students admitted due to the reduction in internship opportunities.

There are industry-specific differences in the importance concerning internship experience in talent recruitment. In the United States, the congressional, legal, and accounting industries are the three most common fields that require internship, with more than 80% of employees in each having internship experience. Technology companies also like graduates with internship experience. For example, about 80% of recent Facebook/Meta employees had been interns, of whom nearly 80% had interned at Google and about 70% at IBM (Boskamp, 2022).

In Taiwan, the training of elementary and secondary school teachers, physicians, nurses

and other medical personnel strictly requires internship. Internships for prospective teachers and prospective physicians begin after graduation. Those with a college degree or above who have obtained a pre-service teacher education certificate and have passed the teacher certification can apply for the six-month and full-time student-teacher internship. The internship includes teaching practice, home-room teacher practice, administrative practice, and study activities. Medical students take school courses in the first four years and blend school courses with hospital clinical courses in the fifth and sixth years. After that, they graduate and have to pass the national examination to undertake two years of general medical training/PGY as an intern. Nursing students participate in at least 1,016 hours of internship before graduation. This internship is the experience of actual contact with case care in the clinic or the community. It does not include model classroom exercises or hours of institutional visits and clerkship. The successful experiences and need for further improvement of the student internship system in these fields are worthy of reference in other fields.

In general, there are at least four key success factors (KSFs) of internships (Career Edge Org, 2011) as follows:

1. A clear structure

There are clear plans for expected outcomes, compensation packages, mentorship arrangements, internship paths, performance evaluations, etc.

2. Meaningful roles

Employers offer interns challenging and engaging roles that allow the internship students to contribute to the progress of the organization. Sometimes these roles arise from job vacancies such as maternity leave, parental leave or turn-over.

3. Paid Internships

Unpaid internship is often stigmatized as exploitative or sloppy. Interns getting paid like other employees will have higher recognition and commitment to the organization and will be more successful in their internships.

4. A supportive environment

Enterprises must ensure a good fit between the organization and interns, for example by embracing the characteristics of Gen Z (aged 10 to 25 this year).

National United University (NUU) has valued students' off-campus internships and achieved good results. The author would like to give an example from his own experience to illustrate from when he was NUU's president from 2005 to 2012. Before the government started its "College Graduates to Corporate Workplace Internship Program" (the so-called 22K policy), he encouraged senior students at NUU to participate in a 4-day-per-week internship. During weekdays, interns had one day release to take on-campus courses. Employers must pay the interns a monthly salary of at least NT$ 26,000; however, they could not require that the interns work in the company after graduation. The results were fruitful. For example, when the author left NUU in 2012, the number of students who had interned in a semiconductor packaging and testing company, excluding those who were serving in the military, had reached a total of 61, and all of them worked in the company after graduation.

The author would like to talk a little about students' participation in the UIC research and development (R&D) projects. A study asked global research leaders why they value industry-university collaboration. Their top five answers were: better potential for societal impact, better student opportunities and outcomes, increased funding, economic development potential, and

to utilize government programs for funding (University-industry collaboration, 2021). In particular, student internships can also be integrated with UIC R&D projects. For example, a department in a university in Taiwan sends students who have completed their third year of study to industry for summer internships every year. The department faculty members are also very involved in the university-industry coordination. After the students complete their summer internships, many companies which the students interned with entrust the department faculty and students to do graduation projects to solve the problems which companies are confronted with and/or which students found during their internships.

In Taiwan, in addition to the fact that universities have been encouraged to directly create UIC R&D projects with industry, government agencies are also promoting them. For example, the National Science and Technology Council (NSTC) promotes various types of UIC R&D projects to link universities and industries to collaboratively cultivate talents, technologies, and products. For another example, in order to establish a mechanism for linking university-industry practices, the Industrial Development Bureau, Ministry of Economic Affairs invites representative companies or groups in various fields to use the Young Designers' Exhibition (YODEX) as a platform to provide post-secondary and tertiary design-related programs with UIC subjects and opportunities. This design platform for UIC centers around the idea that "enterprises raise problems and students solve problems." In addition, the National Key Fields Industry-University Cooperation and Skilled Personnel Training, which just passed as legislation in May 2022, will also promote innovation in UIC and talent cultivation in key fields. These are all worthy of everyone's further involvement, and can obtain a multi-pronged effect.

How Can Universities Maintain Their Sustainable Competitiveness?

The more competitive universities are, the more they meet the needs of internal and external stakeholders. The author thinks the key points regarding what can be done by universities in Taiwan to maintain their sustainable competitiveness are as follows:

1. Frequent inventory and analysis of the sources and quality distribution of students recruited by every academic unit

When there are students, there is a school. The university should take a comprehensive inventory and analysis of each program, department, graduate institute, and college (i.e., academic unit) to understand the source, the distribution of quality, the background of learning ability, and the possible enrollment reasons of recruited students. Then these understandings should be used to adjust the enrollment strategy, academic units as well as update the curriculum, etc. in a timely manner. For example, this kind of analysis can help to know which academic unit will face the earliest abolishment, how the main source of students is transferred among senior high schools, how to align senior high-school and university curricula, how to conduct differential curricula and instruction to benefit top and bottom performers, etc.

2. Timely analysis of the resource allocation, financial revenue, and expenditure of academic units

The price of almost all things is rising, but it is difficult to raise university tuition and miscellaneous fees. Running a university is becoming increasingly difficult, and university finances need to be properly controlled. The university has to regularly analyze the financial revenue and expenditure of every academic unit within a certain period of time. The space used, the depreciation of buildings, etc. should be included in the expenditure and calculated to the

average per student. This information should be used as a basis for subsequent resource allocation, academic unit positioning, recognition of excellence, etc. For example, this analysis can highlight which academic units should put more effort into the revenue from UIC, and which academic units use much space but their productivity is not satisfactory.

3. Appoint teachers based on expertise and promote 360-degree feedback in the evaluation of teaching

A highly competitive university recruits and teaches students well and its graduates have good career paths. Teachers' teaching must be aligned with their expertise. The expertise can be supported by five aspects: major area of focus, professional certificate, work experience, academic publications, and research projects. The more aspects that match, the greater the expertise. The university can implement alignment between teaching appointment and expertise while encouraging teachers to enrich and/or expand their expertise along the five aspects. The evaluation of teaching should not be limited to the feedback of students. It should be extended to the 360-degree feedback which has been widespread in U.S. colleges and universities. Feedback should be obtained from at least three of the four aspects: teacher’s themselves, students, peers and supervisors/heads.

4. Strengthen the cultivation of STEM professionals

STEM professionals are those who work in science, engineering, technology or mathematics and have at least a bachelor's degree in those fields. Many countries recognize that STEM talent is critical to the country's future economic strength and competitiveness. The National Development Council in Taiwan estimated in 2021 that the demand for STEM talents in Taiwan will increase by 136,000 every year. The number of students cultivated by STEM programs of all

colleges and universities every year is only 97,000. There are two obstacles: insufficient supply of fresh graduates and mismatched skills or quality of in-service personnel. The estimate said that in the past three years, talents in AI, offshore wind power, IC design, enterprise information security and smart medical care are the most lacking. At present, the Ministry of Education has subsidized the STEM field and female R&D talent training programs for colleges and universities. The National Key Fields Industry-University Cooperation and Skilled Personnel Training, passed by legislation in May 2022, also provides a more flexible regulatory environment in the form of innovative special laws, to assist national universities in establishing research colleges for key fields, increasing the resource investment willingness of industries, and benefiting UIC and talent cultivation in key fields such as chip design and semiconductors. The relevant universities have to value the pre-service and in-service education of these STEM professionals to seize the opportunities.

5. Develop students' core foundations and transformative competencies

Some people predict that 85% of the jobs in 2030 have not yet appeared. Cross-discipline skills are usually like T-shaped skills (having one vertical/specialized skill and horizontal/general knowledge in other disciplines) and π-shaped skills (having two deep functions or domains of expertise and broad/general knowledge in other areas). The author believes that universities have to develop students' core foundations and transformative competencies in addition to cross-discipline skills, although core foundations, transformative competencies and cross-discipline skills have some overlaps. The OECD's 2030 learning compass (OECD, 2019) identified the following three core foundations:

(1) Cognitive foundations, which include literacy and numeracy, upon which digital literacy and

data literacy can be built;

(2) health foundations, including physical and mental health, and well-being; and

(3) social and emotional foundations, including morality and ethics.

The OECD (2019) also identified three transformative competencies as follows: creating new value, reconciling tensions and dilemmas, and taking responsibility. These foundations and competencies, combined with both Mandarin Chinese and English promoted by the Bilingual Nation 2030 policy in Taiwan, are very important skills/competencies that can be transferred to various fields and to the future. Therefore, both liberal courses and professional courses should focus on cultivating students' such skills/competencies.

6. Appropriately manage world university rankings as needed

If a university in Taiwan wants to recruit international students, in addition to passing its institutional and program accreditation evaluation, it should moderately manage its world university rankings such as Times Higher Education (THE) to increase its global visibility.

References

Boskamp, E. (2022). 20+ compelling internship statistics [2022]: Data, pay, and trends. *ZIPPIA*. https://www.zippia.com/advice/internship-statistics/

CNA. (2022, August 23). *Ministry of Labor: Youth unemployment rate hits 5-year low in July*. https://www.cna.com.tw/news/ahel/202208230340.aspx

Career Edge Org. (2011, September 21). *What makes an internship a success? 4 things employers should know*. https://www.careeredge.ca/blog/makes-internship-success-4-things-employers-know/

OECD. (2019). *OECD future of education and skills 2030*. https://www.oecd.org/education/2030-project/teaching-and-learning/learning/learning-compass-2030/OECD_Learning_Compass_2030_Concept_Note_Series.pdf

University-industry collaboration: A closer look for research leaders. (2021, January 27). https://www.elsevier.com/__data/assets/pdf_file/0008/1115396/university-industry-collaboration.pdf

Wang, Y. L. (2022, August 18). In 2011, the admission rate 98.94% and more than 30% of the vacancy rate of colleges and universities both reached new highs. *Flipped Education.* https://flipedu.parenting.com.tw/article/007546