Article

Review and Prospect of "Micro-Credit" Courses in Higher Education SPROUT Project (HESP)

Liza Lee [1], and Yi-Yi Liu [2,*]

[1] Department of Early Childhood Development and Education, Chaoyang University of Technology, Taichung 413310, Taiwan; lylee@gm.cyut.edu.tw

[2] Center of Teacher Education, Chaoyang University of Technology, Taichung 413310, Taiwan

* Correspondence: liuyiyi@gm.cyut.edu.tw; Tel.: 886-915580893

Abstract: We delved into the challenges encountered during the implementation of micro-credit courses, specifically "Application of the Multiple Intelligences Theory in Designing Teaching Aids" and "Children's Poetry and Song Creation" in 2020. The objective of this study was a meticulous analysis of course effectiveness, focusing on student satisfaction and feedback. In the "Application of the Multiple Intelligences Theory in Designing Teaching Aids" course, 42% of the 50 students rated satisfaction at 5, 44% at 4, and 14% at 3. In the "Children's Poetry and Song Creation" course, 53% of the 48 students rated satisfaction at 5, 33% at 4, and 14% at 3. Feedback from the students who attended "Application of the Multiple Intelligences Theory in Designing Teaching Aids" highlighted satisfaction with the course content and the instructor's conscientiousness. However, several students suggested reducing the volume of teaching aids. For "Children's Poetry and Song Creation", students acknowledged the instructor's diligence but recommended more emphasis on "teaching aid creation. Challenges included a disparity between student preferences and departmental focus, non-cross-disciplinary course restrictions, limited promotion leading to a narrow student pool, budget constraints affecting instructional materials, and short, sporadic course durations hindering effective assessment.

1. Introduction

To assist universities with teaching method innovation according to social trends and industrial needs, the Ministry of Education implemented the Higher Education SPROUT Project (HESP) to stimulate students' learning passion and increase their spontaneous learning capacity, thereby developing universities' distinct characteristics and cultivating the next generation of outstanding talents. In the first phase implemented from 2018 to 2022, the planning of medium- and long-term administrative affairs was made to set "implementing teaching innovation," "increasing the publicness of higher education," "developing university characteristics," and "fulfilling social responsibilities" as the four goals. In the second phase, which will be implemented from 2023 to 2027, the following five goals are set: improving teaching innovation, fulfilling social responsibilities, facilitating industry-academia collaboration, increasing public awareness of higher education, and promoting administrative affairs research, with funds allocated by universities. This project has been an important criterion for university performance in Taiwan, and micro-credit courses are one of the crucial performance indicators. Therefore, we investigated the challenges and outcomes of the two micro-credit courses taught by the researcher, namely "Multiple Intelligence-Based Teaching Aid Design and Application" and "Creation of Children's Poetry and Nursery Rhymes." The results serve as a reference for future on-site and follow-up research. Based on the aforementioned research motivation, the research objectives of this study were established as follows:

- To understand the meaning and importance of the HESP and micro-credit courses;
- To analyze the implementation of micro-credit courses in the selected university.

2. Definition of Terms

2.1. HESP

The Ministry of Education implemented the HESP with "connecting locally, following international trends, and embracing the future" as its core, and "developing universities' diverse characteristics and cultivating the next generation of outstanding talents" as its vision. The HESP is divided into two phases. The first phase is to "comprehensively improve university quality and facilitating

the diverse development of higher education," to protect students' equal rights to education. The second phase is to "help universities to pursue the first-class status globally and developing research centers," to enhance the global competitiveness of the universities. In the future, with a focus on the planning of medium- and long-term administrative affairs, the HESP will help universities to innovate teaching methods according to social trends and industrial needs, stimulate students' learning passion, enhance their spontaneous learning abilities, developing universities' distinct features, and cultivating the next generation of outstanding talents (Ministry of Education, 2023).

2.2. Micro-Credit Courses

The micro-credit courses refer to the courses where students earn less than 1 credit. The themes of the courses are designed by each department to encourage students from other departments to develop cross-disciplinary skills by taking the courses. Students can select the courses they are interested in and finish the courses within a short time to earn the credits. At the moment, universities in Taiwan typically allocate 0.1 credit for a 2-hour micro-credit course. Namely, the universities offer 2-hour optional courses, and students who finish one course can acquire 0.1 credit. As the Ministry of Education is now promoting cross-disciplinary thematic courses with colleges being the main teaching body, these micro-credit courses are usually categorized into different themes, and students can choose the courses according to their interested themes and accumulate the micro-credits into integer credits. The types of courses include industry professionals' sharing, internship and company visits, workshops, social practices, and cross-disciplinary practices.

3. Literature Review

Wang (2020) Observed a discernible shift in the structure of university courses, noting a heightened level of complexity compared to historical counterparts. This transformation is attributed not only to the integration of borderless online courses but also to an increased emphasis on practical internship programs and experiential learning initiatives. The spatial dynamics of educational delivery have concurrently transformed, departing from the traditional confines of a classroom setting. This evolution extends beyond campus boundaries, signifying a dynamic and adaptable approach aligned with the practical demands of diverse instructional stages (Hu, 2018). The allocation and conceptualization of micro-credits within Taiwanese universities exhibit variance, with certain institutions regarding them as platforms for preliminary interest exploration before the establishment of formal credit programs (Yang & Wang, 2023). They facilitate a collaborative learning environment by bringing together educators, students, industry professionals, and the community, promoting interdisciplinary interactions. This collaborative approach, as highlighted by Lin, Chen, Hsieh, and Lin (2023), involves dynamic engagement between teachers and students, industry experts, and practical applications. The method progressively exposes students to professional skills, encourages interdisciplinary collaboration, and addresses local issues effectively, as noted by Sung (2023). The objective of this pedagogical approach, according to Li and Chang (2023), is to develop sustainable and interdisciplinary courses specific to each school, establishing connections at both local and global levels. Micro-credits play a crucial role in this paradigm, offering targeted learning within a condensed timeframe. Moreover, they afford learners flexibility by eliminating the constraints of fixed weekly schedules, as emphasized by Her (2022). The institution, recognizing the value of university social responsibility, actively promotes collaboration with high schools nationwide, as part of the ongoing efforts by The Center for Teaching and Learning Development at National Chengchi University (2021). This initiative encourages students to autonomously select courses, fostering unrestricted learning and expanding their intellectual horizons, in alignment with the findings of Gong, Wang, and Fang (2020).

Several research studies conducted in Taiwan, such as those by Chen & Jai (2017), Chiu (2018), Wang (2019), Yen & Wang (2021), Hsu (2022), Shih (2022), Wang (2022), Tu (2023), among others, have explored the outcomes of implementing "Micro-Credit" Courses.

Moreover, certain studies propose that the cultivation of interdisciplinary competencies can commence by designing cross-departmental courses within a specific college and gradually expanding this approach to encompass various college levels across the entire campus (Zhang, 2018). However, despite the emphasis on interdisciplinary collaboration in real-world contexts through initiatives like "micro-credits" and "micro-courses" in cross-disciplinary planning, the actualized learning benefits are somewhat constrained (Tseng, 2020). For instance, Lin (2021) identifies five areas requiring improvement in this context: (a) Teachers' busy schedules in preparing instructional materials, leaving limited time for providing evidence; (b) Diverse styles among students from different departments necessitating attention to class order; (c) Insufficient storytelling skills and a need for enhanced marketing capabilities; (d) Lack of distinctiveness in dress and appearance; (e) Integration challenges in assessing micro-credential courses within the university's digital platform system, resulting in insufficient support for attendance tracking, teaching, and overall assessment.

Following the synthesis of pertinent research, it becomes evident that micro-credits are predominantly introduced as complementary courses with the objectives of facilitating flexible credit systems, fostering interdisciplinary talents, and augmenting students' autonomous learning, as well as integrating theory and practice. These courses are not confined to the existing curriculum categories of various academic units but can be delivered in various formats, including online courses, social practices, interdisciplinary projects, industry expert sharing sessions, internship visits, and workshops. This diverse array of course types is designed to motivate students to participate in interdisciplinary studies, expand their perspectives, and cultivate cross-disciplinary professional competencies.

4. Design and Approach

4.1. Research Methods

We first conducted document analysis on the policy papers and related documents of the micro-credit courses and then performed a questionnaire survey to understand students' level of satisfaction with the micro-credit courses run by the researcher. The challenges faced by the researcher when teaching the courses were subsequently examined, and concrete recommendations were proposed.

4.2. Research Object

We targeted the students of the Department of Early Childhood Development and Education (DECDE) enrolled in the academic year of 2019 at a private university in Northern Taiwan. For the course, Multiple Intelligence-Based Teaching Aid Design and Application, 50 questionnaires were distributed in the class, and all questionnaires were retrieved. The response rate was 100%. For the course Creation of Children's Poetry and Nursery Rhymes, 48 questionnaires were distributed in the class, and all questionnaires were retrieved. The response rate was also 100%.

4.3. Research Tools

The "Questionnaire on the Course and Activity Outcomes of the Higher Education SPROUT Project," developed by the targeted university, adopted the 5-point Likert scale, where the respondents specify their level of agreement with the statements, and a score of 5 to 1 was given to the five options from "very satisfied" to "very dissatisfied." Dividing the total score of the scale (5+4+3+2+1=15) by the 5 levels of agreement obtained an average score of 3, which was set as the assessment criterion. Whether the average score of the questionnaires for each question was higher or lower than the score of 3 was used to describe the student's level of satisfaction with the two courses. The survey utilized in this study employs the school's officially designed satisfaction questionnaire to understand students' level of satisfaction with these courses. Apart from serving as a basis for researchers to improve teaching methods, we also analyzed the implementation of micro-credit courses in the selected university to understand the specific aspects of student satisfaction that the study aimed to investigate.

5. Results

5.1. Students' Overall Satisfaction with Two Micro-Credit Courses

According to the statistical analysis result on the questionnaires for the two courses, all the questionnaire scores for the eight question items were higher than the average score of 3. These eight items included: "The theme was in line with the content (course theme);" "The content of the course met personal needs (course content);" "This course was helpful (the way the course was run);" "I was satisfied with the teacher's overall performance (teacher arrangement);" "I was satisfied with the process design of the course (how the course proceeded);" "I was satisfied with the time of the course (course time);" "I was satisfied with the venue and equipment (venue arrangement);" and "overall satisfaction (overall level of satisfaction)."

For the course, Application of the Multiple Intelligences Theory in Designing Teaching Aids, 86% of the respondents scored higher than 3 for the overall level of satisfaction, with venue arrangement having the highest score and course theme having the lowest score. Nevertheless, more than 80% of the respondents were satisfied with all eight items.

For the course Children's Poetry and Song Creation, there were also 86% of the respondents scored higher than 3 for the overall level of satisfaction. However, students were most satisfied with the teacher's arrangement and least satisfied with the course content. Nonetheless, more than 80% of the respondents were satisfied with all eight items.

5.2. Students' Feedback on Application of Multiple Intelligences Theory in Designing Teaching Aids

The questionnaire contained four open-ended questions to collect students' feedback, and the result Indicated the following findings: (a) Most students gave positive feedback on the teacher's teaching (e.g., rich content and handicraft skills of making teaching aids); (b) The topics the students wanted to learn in the future not only included handicraft (e.g., sewing, beading, knitting, etc.), but also professional certification (e.g., nanny certification), food and beverage (e.g., mocktail and latte art), magic, outdoor activities, and interpersonal communications; (c) The recommended teachers are primarily the teacher of the said course (i.e., the researcher); (d) The students suggested the teacher to offer related courses and to reduce the number of teaching aids made in the class.

5.3. Students' Feedback on Children's Poetry and Song Creation

The questionnaire had four open-ended questions to collect students' feedback. The following findings were obtained: (a) Most students gave positive feedback for the teacher's teaching (e.g., the teacher was earnest, the content was rich); (b) Apart from handicraft (sewing, hand-made cards, and hand-made soaps), the topics the students wanted to learn to include food and beverage (e.g., cooking and snack making), magic, physical activities (body movement and aboriginal dancing), and music; (c) The recommended teachers are primarily the teacher of the said course (i.e., the researcher); and (d) The students suggested the class to be more lively.

5.4. Challenge in Implementing the Micro-Credit Courses

We conducted document analysis on the policy papers and related documents of the micro-credit courses and then analyzed the result of the questionnaire survey to understand students' level of satisfaction with the micro-credit courses run by the researcher. The challenges faced by the researcher when teaching the courses were subsequently examined, and concrete recommendations were proposed.

(1) Expectation difference between students and department in terms of themes of micro-credit courses

Application of the Multiple Intelligences Theory in Designing Teaching Aids was the first micro-credit course taught by the researcher and was highly recognized by the students (5 (42%), 4 (44%), 3 (14%), 2 (0%), and 1 (0%)). Thus, we intended to use it as her long-term characteristic course. However, the DECDE designated children's literature as the key course for first-year students. Therefore, we decided to provide the course Children's Poetry and Song Creation as the micro-credit course in the second semester. However, according to the questionnaire responses, students were highly interested in handicraft classes, indicating that students' expectations were different from those of the department. Given such difference, for the Children's Poetry and Song Creation in the second semester, poster making for children's poetry and nursery rhymes was included as class activities, with children's literature theories as the teaching basis. In doing it, we tried to achieve the balance between students' expectations, the department's expectations, and the teacher's expertise.

(2) Number of students and Lack of teachers

Due to a large number of students interested in courses and a lack of teachers, the two micro-credit courses were not open to students from other departments. In principle, there is no requirement for the students who want to take the micro-credit courses, which means that any student can select these courses. However, if too many students select the course, the expenses of teaching materials might exceed the budget. Therefore, we set the maximum number of students at 50 and asked the willingness of students from the researcher's tutoring class if they were interested in taking these courses. The students expressed their intention to take the courses together, and the number of students in the tutoring class was exactly 50. Therefore, the two micro-credit courses were set as "non-cross-disciplinary" courses to ensure the learning quality. Although there were still two students from other departments coming to the class on the first day, they had to give up because they could not obtain the credit and the number of students taking the courses had reached the maximum.

(3) Multiple course selection

The students were recruited from a single source because these two courses were only promoted in the researcher's tutoring class. Because Application of the Multiple Intelligences Theory in Designing Teaching Aids was the first micro-credit course, we were not sure if the students would be interested in taking the course. Therefore, we asked about the willingness of the students in her tutoring class. The students expressed high intention to take the course, and eventually, 50 students took the course, reaching the upper limit. Thus, the course was not promoted in other classes. Children's Poetry and Song Creation was the researcher's second time running a micro-credit course. Similarly, we informed the tutoring class of the course information, and the maximum number of students was reached. However, because two students took a leave of absence in that semester, the number of students obtaining the credit was 48. Therefore, the questionnaire respondents in this research were all students from the tutoring class enrolled in the academic year of 2019.

(4) Budget problem

Due to the limited budget, it was difficult to provide sufficient and diverse materials for students. In the university where this research was conducted, all micro-credit courses received the same amount of budget. However, the targeted two micro-credit courses were practice-oriented. Students were provided with a large amount of materials to create their work. Hence, the material expense was the largest challenge when running micro-credit courses. Due to the limited budget, a small number of cheap materials (such as paper, fruits, branches, etc.) were provided. This might lead to a gap between reality and the teaching objective, which was to enable students to make teaching aids by using diverse materials.

(5) Class time

The class time was short and scattered, resulting in the difficulty in effectively assessing students' prior experience and learning outcomes. The class time of the micro-credit courses is usually decided by the teachers. Typically, students can receive 0.1 credit for 2 hours. We planned to teach 9 hours and provide 0.5 credits for the students. The course was taught once a week for a total of 9 weeks. The students' work of teaching aids or children's poems were scored (pass or fail) to assess their learning outcomes. However, although the two courses focused on student practices, professors usually had to spend one-third of the class hour on concept explanation and demonstration. Thus, it would be difficult for students to do their work within the class hour if they did not possess strong handicraft skills and creativity. There were also some students not satisfied with the materials provided in the class and wanted to find other materials after class. Hence, the students were allowed to finish their work at home and bring the finished work to the class next week for assessment. Thus, it was difficult to know whether the students did the work by themselves or with the assistance of other people.

In addition, students are usually encouraged to take micro-credit courses from other departments. This means students from different departments will take the course together. In this study, the two courses taught by the researcher contained professional practices. If students from the DECDE and other departments took the class together, the teacher would have difficulty identifying the entry behavior of the students from other departments within a short time. As the professor had to consider the prior experience possessed by most students (i.e., the DECDE students), it would be hard for her to immediately adjust the technique level of the course according to the knowledge level of the few students from other departments. In other words, the time arrangement and teaching methods of the micro-credit course are the key factors influencing teachers' capacity to understand students' prior experience and learning outcomes.

6. Discussion and Conclusions

6.1. Providing Adequate Funds According To Course Content

In the university, the funding for a micro-credit course only includes the teacher's hourly pay. However, as the two courses taught by the researcher contained teaching aid-making and off-campus visits, spending on materials, transportation, and insurance was inevitable. Lecture-based courses may only require teacher's hourly pay, but for practice-oriented courses, the budget must be increased for other spending to enable teachers to design diverse and interesting class activities, attracting students from other departments to attend.

6.2. Redefining Meaning Of Micro-Credit Courses By Both Professors And Students

The original purpose of offering micro-credit courses is to create a cross-disciplinary path for students to explore their interests and expand their horizons. Such purpose is of good intention and worthy of recognition. However, it is unclear whether the students taking the micro-credit courses are expected to develop professional abilities or to obtain cross-disciplinary experiences. The class time of the micro-credit courses is very short. If the goal is to develop students' professionalism, teachers cannot teach professional knowledge and skills and for students to absorb what they have learned within such a short time. If the goal is to provide cross-disciplinary experiences, there must be no difference between a micro-credit course and a general speech or lecture. In other words, the different purposes of the micro-credit courses may have different effects on both teachers and students and may influence the teaching effectiveness and learning outcomes. Thus, the meaning of the micro-credit courses needs to be redefined clearly.

6.3. Redefining Evaluation Methods For Students' Entry Behavior And Learning Outcomes

According to the micro-credit course lists currently offered by the universities in Taiwan, several micro-credit courses are only taught for 1−2 hours. Such a short time would be difficult for teachers to understand students' entry behavior before the start of the course. In addition, as the students are from different disciplines, it would also be hard for teachers to design a curriculum that meets the knowledge level of each student. Because the class time is short (and many are one-off course courses), teachers may

find it impossible to substantially adjust the curriculum according to the student's responses. However, students' entry behavior is a key indicator for evaluating their learning outcomes. Therefore, the current evaluation approach for micro-credit courses in Taiwan is only to identify whether a student "passes" or "fails" the course. Moreover, as the educational belief of the micro-credit courses is to encourage students to explore their interests, the teachers seldom fail their students. Thus, how to evaluate students' learning outcomes must be further explored and redefined.

Appendix

In the researcher's university, the funding for a micro-credit course only includes the teacher's hourly pay. However, as the two courses taught by the researcher contained teaching aid-making and off-campus visits, spending on materials, transportation, and insurance was inevitable. Lecture-based courses may only require teacher's hourly pay, but for practice-oriented courses, the budget coverage should be expanded for other spending purposes, to enable teachers to design diverse and interesting class activities, attracting students from other departments to attend.

Table A1. Course framework for the professional micro-credit course of multiple intelligence-based teaching aid design and application

Course name	Application of the Multiple Intelligences Theory in Designing Teaching Aids				
Instructor			Course category	□Cross-disciplinary ■Not cross-disciplinary	
Semester	108-2	Department	Early Childhood Development and Education	Location	Simulation classroom
Hours per week	9	Credits	0.5	Maximum number of students	50
Course outline	Through the theory of multiple intelligences, the teacher makes the connection between teaching aid making and different intelligence modalities. By adopting diverse materials, the course intends to strengthen students' ability and creativity in making teaching aids.				
Teaching objectives	1. To understand the teaching aid design and application based on the theory of multiple intelligences. 2. To establish the ability to make teaching aids with hands. 3. To develop the ability of creative thinking.				
Course contents planning	Class date	Class time	Course Contents		
	3/9	13:00-14:00	Theoretical basis and principles of multiple intelligences		
	3/26	13:00-14:00	Theoretical basis and principles of multiple intelligences		
	4/9	13:00-14:00	Appreciation of multiple intelligence-based teaching aids		
	4/16	13:00-14:00	Appreciation of multiple intelligence-based teaching aids		
	5/7	13:00-14:00	Designing and creating multiple intelligence-based teaching aids: Verbal-linguistic intelligence		
	5/14	13:00-14:00	Designing and creating multiple intelligence-based teaching aids: Logical-mathematical intelligence		
	5/21	13:00-14:00	Designing and creating multiple intelligence-based teaching aids: Intrapersonal intelligence		
	5/28	13:00-14:00	Designing and creating multiple intelligence-based teaching aids: Spatial-visual intelligence		
	6/4	13:00-14:00	Designing and creating multiple intelligence-based teaching aids: Naturalist intelligence		
Reference/Specifie	(Left blank if not applicable)				

d books	
Learning assessment methods	☐Worksheet ☑Other <u>Work presentation</u>
Remark	● (Example: The teacher will prepare the material or charge a fee) ● ※The teacher will prepare the materials by herself. ● The score sheet only indicates pass or fail; no numerical score will be given.

Note: This course was approved by the Department Curriculum Committee and College Curriculum Committee and has been closed.

Table A2. The outcome of the professional micro-credit course of Application of the Multiple Intelligences Theory in Designing Teaching Aids

Project No.	1-1-3 DIY		
Project Title	Based on Teaching Aid Design and Application		
Implementation unit	Early Childhood Development and Education		
Project leader		Co-teacher/Guest lecturer	
Implementation duration	2020/3/19/ 13：00 & 2020/6/04/ 14：00		
Corresponding course	Learning Environment for Young Children		
Adopt innovative teaching method		Item	Strengthen students' basic ability
Location	Simulation classroom		
Project content and features	1. Project content and features (outcomes)： This project enhanced students' professional knowledge and ability by using the theory of multiple intelligences. The hands-on activities helped students to connect their knowledge with on-site practices. The outcomes of the project were evaluated quantitatively and qualitatively, which are described as follows: (1) Quantitative outcomes: A. Course satisfaction survey (university version). (2) Qualitative outcomes: A: Presentation of the teaching aids made by the students. B: Presentation of the student's learning reflections.		
	2. Project implementation： In the 1st and 2nd classes, the teacher gave a lecture on the theory of multiple intelligences and its principles. The 3rd and 4th classes focused on the appreciation of multiple intelligence-based teaching aids, where pictures of the teaching aids were shared to stimulate students' interest in teaching aid design. From the 5th to the 9th classes, the teacher guided the students to make teaching aids based on the five intelligences (namely verbal-linguistic, logical-mathematical, intrapersonal, spatial-visual, and naturalist). The students were asked to take photos on their teaching aids and fill in the course satisfaction questionnaire.		
Implementation outcomes	1. Number of participants: Totally <u>51</u> participants, including <u>50</u> students and <u>1</u> teacher 2. Note: The level of satisfaction is indicated by a score of 1 (lowest) to 5 (highest)		

Item	Question	Level of satisfaction (%)
1	The theme was in line with the content (course theme).	5(32%)、4(52%)、3(16%)

2	The content of the course met personal needs (course content).	5(36%)、4(50%)、3(14%)
3	This course was helpful (how the course was run).	5(36%)、4(50%)、3(14%)
4	I was satisfied with the teacher's overall performance (teacher arrangement).	5(34%)、4(52%)、3(14%)
5	I was satisfied with the process design of the course (how the course proceeded).	5(34%)、4(52%)、3(14%)
6	I was satisfied with the time of the course (course time).	5(38%)、4(48%)、3(14%)
7	I was satisfied with the venue and equipment (venue arrangement).	5(36%)、4(52%)、3(12%)
8	Overall satisfaction (overall level of satisfaction)	5(42%)、4(44%)、3(14%)

Table A3. Course framework for the professional micro-credit course of Children's Poetry and Song Creation

Course name	Children's Poetry and Song Creation				
Instructor			Course category	□Cross-disciplinary ■Not cross-disciplinary	
Semester	109-2	Department	Early Childhood Development and Education	Location	Simulation classroom
Hours perweek	9	Credits	0.5	Maximum number of students	50
Course outline	Employing the foundational theories and content of children's literature facilitates students in understanding how to select quality children's poems and songs. The objective is to guide young children in reading, encourage literary creation, and seamlessly integrate literature into their everyday learning experiences.				
Teaching objectives	1. To understand the variety of text format 2. To appreciate the variety of literary works 3. To conduct literature creation				
Course contents planning	Class date		Class time	Course Contents	
	10/8		13:00-14:00	The meaning of children's literature	
	10/15		13:00-14:00	Children's poetry	
	10/22		13:00-14:00	Children's poetry	
	10/29		13:00-14:00	Nursery rhymes	
	11/5		13:00-14:00	Nursery rhymes	
	11/12		13:00-14:00	Animation and children's poetry	
	11/19		13:00-14:00	Animation and children's poetry	
	11/26		13:00-14:00	Literature creation (I)	
	12/3		13:00-14:00	Literature creation (II)	
Reference/Specified books	(Left blank if not applicable)				
Learning assessment methods	□Worksheet ☑Other　Work presentation				
Remark	● 　(Example: The teacher will prepare the material or charge a fee) ● 　※The teacher will prepare the materials by herself. ● 　The score sheet only indicates pass or fail; no numerical score will be given.				

Note: This course was approved by the Department Curriculum Committee and College Curriculum Committee and has been closed.

Table A4. The outcome of the professional micro-credit course of Children's Poetry and Song Creation

Project No.	1-1-3 DIY		
Project Title	Creating poems and songs for children		
Implementation unit	Early Childhood Development and Education		
Project leader		Co-teacher/Guest lecturer	
Implementation duration	2020/10/8/ 13：00　&　2020/12/3/ 14：00		
Corresponding course	Appreciation and Application of Literature for Young Children		
Adopt innovative teaching method		Item	Strengthen students' basic ability
Location	Simulation classroom		
Project content and features	This project strengthened students' professional knowledge and ability through the theory of children's literature, accompanied by hands-on activities, to enable the students to connect what they learned with on-site practices I will face in the future. The outcomes of this project were evaluated quantitatively and qualitatively, described as follows: From the 1st to 7th classes, the teacher guided the students to understand children's literature by lecturing on the meaning of children's literature, the design principles of children's poetry, and the design principles of nursery rhymes. In the 8th and 9th classes, the students created posters on children's poems and nursery rhymes. The students were asked to take pictures of their work and fill in the course satisfaction survey.		
Implementation outcomes	1.　Number of participants: Totally 51 participants, including 50 students and 1 teacher 2.　Note: The level of satisfaction is indicated by a score of 1 (lowest) to 5 (highest) (see table below)		

Item	Question	Level of satisfaction (%)
1	The theme was in line with the content (course theme).	5(43%)、4(41%)、3(16%)
2	The content of the course met personal needs (course content).	5(51%)、4(31%)、3(18%)
3	This course was helpful (how the course was run).	5(53%)、4(35%)、3(12%)
4	I was satisfied with the teacher's overall performance (teacher arrangement).	5(47%)、4(43%)、3(10 %)
5	I was satisfied with the process design of the course (how the course proceeded).	5(55%)、4(29%)、3(16%)
6	I was satisfied with the time of the course (course time).	5(49%)、4(35%)、3(16%)
7	I was satisfied with the venue and equipment (venue arrangement).	5(49%)、4(37%)、3(14%)
8	Overall satisfaction (overall level of satisfaction)	5(53%)、4(33%)、3(14%)

Table A5. Student works-Children's Poetry and Song Creation

Children's song poster	

Table A6. Student works-Application of the Multiple Intelligences Theory in Designing Teaching Aids

popsicle stick puzzle		
threading teaching aids		
creating patterns with natural objects		
paper doll		
creative name tag		

Professional micro-credit course questionnaire

Dear participants:

　　Thank you for participating in this course. To ensure our next course can meet your needs, please kindly help us fill in this questionnaire. Your feedback will be highly valued and will serve as a reference for improving our future courses. Please rest assured that your responses will remain completely anonymous; your feedback is only used for future improvement. Please feel free to share your honest opinions and suggestions. Thank you again for your participation.

　　　　　　Sincerely yours,

Center of Teaching and Learning Development

○○○○ University

Course Name:	Date:

Personal information	
separation:	How did you know this course?
□Freshman	□ Introduced by friends
□Sophomore	□ E-mail
□Junior	□ Website of the Center of Teaching and Learning Development
□Senior	□ LINE group
□Master's	□ Facebook
□Extension student	□ Facebook fan page of the Center of Teaching and Learning Development
□Teachers	□ Government official document
□Staff	□ Webpage of the Higher Education Sprout Project
□Outside the school	

Course content					
Questions	Very satisfied ->Very unsatisfied				
	5	4	3	2	1
The theme was in line with the content (course theme).					
The content of the course met personal needs (course content).					
This course was helpful (how the course was run).					
I was satisfied with the teacher's overall performance (teacher arrangement).					
I was satisfied with the process design of the course (how the course proceeded).					
I was satisfied with the time of the course (course time).					
I was satisfied with the venue and equipment (venue arrangement).					
Overall satisfaction (overall level of satisfaction)					

1. Words for the teacher:

2. Any courses and topics you are interested in:

3. You are welcome to recommend a lecturer and topic and provide his/her contact information (If you know the organization, please also provide the contact information, so we can contact them.):

4. Other suggestions:

References

1. Chen, S. H., & Jai, B. R. (2017). Innovative Elastic Design and Future Challenges of General Microcredit Courses. *Curriculum & Instruction Quarterly*, *20*(1), 25–44. https://doi.org/10.6384/CIQ.201701_20(1).0002

2. Chiu, H. H. (2018). Planning on Learner Autonomy and University Liberal Education System. *Shih Chien Journal of Liberal Arts*, *27*, 19–37. https://doi.org/10.7041/SCJLA.201801_(27).0002

3. Gong, R. W., W, Z. F., & Fang, M. Y. (2020). Chang Jung Christian University is promoting teaching innovation, providing students with an unrestricted learning environment. *Evaluation Bimonthly*, *85*, 21–24. https://www.airitilibrary.com/Article/Detail?DocID=a0000268-202005-202005120013-202005120013-21-24

4. Her, J. L. (2022). Practice Results of a New Interdisciplinary General Education Course. *Chang Gung Journal of Humanities and Social Sciences*, *15*(1), 59–82. https://www.airitilibrary.com/Article/Detail?DocID=20709455-202204-202210040011-202210040011-59-82

5. Hsu, H. N. (2022). *Promotion and Adaptation of Japanese Tea Ceremony Cultural Education in the Era of the Pandemic*. Proceedings of the Ming Chuan University International Academic Symposium: Conference Papers of the Department of Applied Japanese, Taoyuan, Taiwan, March 11, 2022. https://doi.org/10.6638/DAP-IS.202203.0016

6. Hu, W. L. (2018). Innovation and Activation—A Brief Analysis of General Calculus Education in Taiwan Mingxin University. *Tongling Vocational & Technical College*, *3*, 74–76. https://doi.org/10.16789/j.cnki.1671-752x.2018.03.021

7. Li, X. F., & Chang, C. H. (2023). Strategies, Difficulties and Resolving Approach in University Sustainable Development and Management. *Taiwan Education Studies*, *4*(1), 73–95. https://www.airitilibrary.com/Article/Detail?DocID=P20220316001-N202302230006-00005

8. Lin, C. H. (2021). *Planning and Implementation of 'Triple Innovation' Micro-Credential Courses—A Case Study of East-West Tea Culture*. Proceedings of the Ming Chuan University International Academic Symposium: Conference Papers of the Department of Applied Japanese, Taoyuan, Taiwan, March 12, 2021. https://doi.org/10.6638/DAP-IS.202103.0011

9. Lin, I. H., Chen, C. C., Hsieh, S. C., & Lin, C. H. (2023). Application of Sustainable Development Goals (SDGs) in Higher Education - Investigating the effects of interdisciplinary co-learning program. *Taiwan Education Review*, *743*, 65–83. https://www.airitilibrary.com/Article/Detail?DocID=18166482-N202310170012-00007

10. Ministry of Education (2023, October 30). Higher Education SPROUT Project. Available Online: https://sprout.moe.edu.tw/zh-tw/docdata.aspx?fid=66&id=5 (accessed on January 10, 2024)

11. Shih, Y. Y. (2022). Teaching Practice Research on the Integration of "Spoken Expression Training" into a "Classic Literature and Board Game Design" Microcredit Course. *National Taichung University: Humanities & Arts*, *36*(2), 33–58. https://www.airitilibrary.com/Article/Detail?DocID=18176429-202212-202212270012-202212270012-33-58

12. Sung, W. Y. (2023). Planning Process and Strategies of University Social Responsibility Interdisciplinary Curriculum – The Examples of USR Courses in Three Universities. *Curriculum & Instruction Quarterly*, *26*(2), 65–90. https://doi.org/10.6384/CIQ.202304_26(2).0003

13. The Center for Teaching and Learning Development at National Chengchi University (2021). Digital Learning in the Era of Pandemic – Promotion and Implementation of Humanities University Digital Programs. *Evaluation Bimonthly*, *93*, 14–19. https://www.airitilibrary.com/Article/Detail?DocID=a0000268-202109-202109020016-202109020016-14-19

14. Tseng, S. H. (2020). Development and Challenges of the Department Setting of TVE Higher Education Institutions under Environmental Changes. *Taiwan Education Studies*, *1*(1), 29–52. https://www.airitilibrary.com/Article/Detail?DocID=P20220316001-202003-202203210015-202203210015-29-51

15. Tu, M. F. (2023). University Social Responsibility as Practice: An Analysis of Actor-Network Theory in Exploring Fields with Objects. *Management and Business Research*, *40*(3), 299–334. https://doi.org/ 0.6504/JMBR.202309_40(3).0003

16. Wang, C. L. (2020). The Application of Curriculum Mapping: From Higher Education to 12-year Basic Education. *Taiwan Education Studies*, *1*(2), 163–182. https://www.airitilibrary.com/Article/Detail?DocID=P20220316001-202003-202203210015-202203210015-163-181

17. Wang, S. C. (2019). The Teaching Practice of the Micro-Credit Course "Visual Reading Ability". *Art Vision Journal*, *18*, 1–11. https://doi.org/10.6207/ART-VISION.201910_(18).045-053

18. Wang, S. C. (2022). Investigation of Effects on the Motivation of Caring and Service-Learning: A Case Study of Using Board Games in the General Education Course of Health Promotion. *Taiwan Journal of General Education*, *29*, 97–139. https://doi.org/10.6360/TJGE.202206_(29).0003

19. Yang, Y. Y., & Wang, Y. W. (2023). Analysis of the Development of Interdisciplinary Curriculum Under the Context of University Social Responsibility Policy: Take the Rural Interdisciplinary Curriculum as an Example. *Journal of Research in Education Sciences*, *68*(3), 209–238. https://doi.org/10.6209/JORIES.202309_68(3).0007

20. Yen, H. Y., & Wang, H. Y. (2021). An Exploratory Study of a Student-Centered Social Practice Course: A Microcredit Course. *Service Learning and Social Engagement*, *4*, 41–64. https://doi.org/10.6865/JSLSE.202104_(4).0003

21. Zhang, J. Y. (2018). The Trends and Responses in Human Resource Development in the Digital Era. *Taiwan Labor Quarterly*, *56*, 16–25. https://www.airitilibrary.com/Article/Detail/P20170803002-201812-201901070027-201901070027-16-25

Publisher's Note: IIKII remains neutral with regard to claims in published maps and institutional affiliations.