

AN ANALYSIS OF THE NEW CURRICULUM OF TAIWAN'S HIGH SCHOOLS INTEGRATED WITH THE INTERNATIONAL EDUCATION CURRICULUM

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ABSTRACT. *The new syllabus for high schools in Taiwan was formally implemented in 2019. The concept and goal of the new syllabus is “core competence” as the main axis. The integration of themes into various fields is an important feature of the new syllabus. The leading high schools were assigned to propose a review of curriculum planning and implementation problems and suggestions for strategies for the trial implementation of the new curriculum syllabus. This study aimed at evaluating the planning of the integration of international education in 13 leading high schools in Taiwan, using bootstrapping research methods to analyze the five types of courses in the new syllabus planning, to ascertain whether the international education curriculum of Taiwan’s high schools meets the core competence-oriented planning of the new syllabus. The results of the research show that the international education curriculum planning in the new curriculum syllabus of the leading high school is more consistent with the connotation of the international literacy orientation in the “White Paper on International Education in Primary and Secondary Schools”. General Elective Courses (History, Culture and Economics) in addition to deepening the learners’ understanding of foreign cultures, are also in line with the goal of cultivating international literacy, multiculturalism, and international understanding; the curriculum is also diversified. Alternative Learning Sessions were also favored by schools. The above two groups of courses are more able to show the characteristics of the new syllabus. General Elective Courses (Language), like School-Developed Required General Courses cannot highlight the characteristics of the new syllabus of international education but can be regarded as laying a foundation for foreign language learning.*

Keywords: New curriculum, High schools, International education, Core competency

1. Introduction. In Taiwan’s “White Paper on International Education in Primary and Secondary Schools”, Taiwan’s international education plan for primary and secondary schools aimed to implement various action plans in two phases from 2012 to 2021, hoping to lay the foundation for international education in primary and secondary schools to achieve the goal of cultivating international talents. Among them, “multiculturalism and international understanding” is an important project for promoting international education, and it is also the core learning goal of international education. The new curriculum

syllabus for Taiwan high schools was officially implemented in 2019. Its philosophy and goals are “core competence” as the main axis of the new curriculum development. The integration of topics into various fields is an important feature of the new syllabus. The leading high school in Taiwan was assigned to propose a review of curriculum planning and implementation problems and to make suggestions for solution strategies for the trial implementation of the new curriculum syllabus. This research aimed at the planning of the integration of international education in 13 leading high schools in Taiwan, using bootstrapping research methods [1] to analyze the following groups of courses “School-Developed Required General Courses”, “General Elective Courses (Deep and Broad)”, “General Elective Courses (Language)”, “General Elective Courses (History, Culture and Economics)” and “Alternative Learning Sessions” to ascertain whether Taiwan’s high school international education curriculum complies with the core competence of the new syllabus. The analysis results of this research will allow the education authorities to review the implementation status of the leading high schools in planning the international education integration curriculum, which will serve as a reference for the implementation of policies. The limitation of this study is that the sample is limited to first-class high schools. In the future, it is hoped that there will be an opportunity to conduct surveys across the whole Taiwan. The organization of this article is as follows. Section 2 outlines the origin of Taiwan’s new curriculum and leading high schools with international education as the core ability to integrate into the curriculum. Section 3 introduces the research design, data collection methods, and analytical tools used to interpret the data. Section 4 introduces the test results of Analysis of Variance (ANOVA). Finally, Section 5 makes the conclusions and gives suggestions for future research.

2. Literature Review. Education must be far-sighted and able to respond to future needs. Therefore, the curriculum must keep pace with the times. Advanced countries tend to reflect on the curriculum structure and carry out a curriculum reform every five to ten years [2]. Maintaining consistency within the curriculum elements and between the curriculum and the reform process is considered to be the key to the success of reform [3]. In order to adapt to the new technological lifestyle of the 21st century, the core literacy curriculum concept must be implemented in the successful teaching process. Including knowledge, skills, understanding of meaning, communication skills, correct attitudes and values [4], the core literacy of Taiwan’s new curriculum is the main axis of curriculum development. Among them, integrating the theme into the curriculum is a specific method to implement core literacy education [5]. International education aims to provide students with a complete immersive experience during one semester or one year of study, through courses that cultivate international literacy. Such education can enhance national identity and national competitiveness [6]. All students can cross national borders in some form and become unique, whether through learning, obtaining a degree, immersing themselves in the language environment, or simply growing [7]. As Byker and Marquardt said, “Government leaders and education policy makers are increasingly concerned about how to better prepare teachers for children’s lives in a globalized society [8]. High schools need to improve the level of international education. It is necessary to systematically organize international education courses, activities and exchanges. Compared with the old courses, the new courses include more goals related to international education. Under the guidance of the new courses, the school may have more flexible space to develop school-based characteristics [9]. Strategies for the development of international education can include broadening and deepening the development of second foreign language courses, developing interdisciplinary or cross-field school-based international education courses, deepening the connection between international exchange activities and courses, adopting flexible learning, carrying out training and preparations for international exchange activities, and developing international vocational guidance courses for high school students

[10]. Before the new syllabus was implemented, the “leading school” project was implemented in elementary and senior middle schools in 2015 [11]. The revised curriculum and multiple electives of the new syllabus were trialed. The results of the trial were used as a reference for the relevant authorities to revise related supporting measures in order to promote the successful experience of other schools. This study investigated the planning of the integration of international education into the curriculum of the leading schools. On the one hand, it can examine the current implementation status of the curriculum, and on the other hand, it can explore whether the curriculum planned by the leading schools is suitable to be extended to other schools.

3. Materials and Research Methods.

3.1. **Materials.** In this study, we collected the international education curriculum planning of the new syllabus of 13 leading high schools in Taichung City and organized them into preliminary data. These 13 leading high schools were classified as “urban public high schools”, “urban private high schools”, and “township public high schools” based on the scale of the school from large to small and the order in which students volunteered to take part in the study. The weights are 3, 2, and 1 point. According to the Curriculum Guidelines of 12-Year Basic Education General Guidelines of the Ministry of Education, courses are classified into three categories: “School-Developed Required General Courses”, “General Elective Courses” and “Alternative Learning Sessions”, with weights of 0.3, 0.2, and 0.1 point. After removing some unreasonable values in the preliminary data, we added a reference to integrate the weighted proportion. The original weighted state is shown in Table 1.

TABLE 1. Primary weight information

2019 International Education Issues Integration Course for General High Schools in the Taichung Area					
School/Categories	S	E1	E2	E3	A
1 score1	1	3	5	2	1
2 score2	2	3	4	6	0
3 score2	0	3	2	5	1
4 score3	0	3	5	5	0
5 score2	1	4	3	7	2
6 score3	0	4	7	10	0
7 score1	0	4	8	5	2
8 score2	1	4	4	5	1
9 score3	1	4	3	7	3
10 score1	0	4	5	7	2
11 score1	0	4	4	1	1
12 score3	2	3	3	5	4
13 score1	1	3	1	6	0
Total	9	46	54	71	17
Weighted	0.3	0.2	0.2	0.2	0.1
Schools = 13 S: School-Developed Required General Courses E1: General Elective Courses (Deep and Broad) E2: General Elective Courses (Language) E3: General Elective Courses (History, Culture and Economics) A: Alternative Learning Sessions					

3.2. Research methods. Because the sample was small, the bootstrapping method was adopted. The bootstrapping method is for use with limited sample data to re-establish a new sample that is sufficient to represent the distribution of the maternal sample through repeated sampling. Bootstrapping describes the characteristics by sample data with estimated value characteristics. It continuously samples from real data to replace previously generated samples. The larger the number of samples in this method, the better, and it is more beneficial for the accuracy of the estimation results. This method is commonly used in sociology research.

4. Research Results.

4.1. Regression statistics. The basic values generated by regression statistics are shown in Table 2. R squared as the coefficient of determination is a measure of regression model performance. The R-squared value of this study is still a reasonable value in social sciences. The Analysis of Variance (ANOVA) values are shown in Table 3.

TABLE 2. Regression statistics

Regression statistics	
Multiples of R	0.87976
R squared	0.77397
Adjusted R squared	0.61252
Standard error	3.61043
Number of observations	13

TABLE 3. ANOVA results

	DF	SS	MS	F	Significant value
Regression coefficient	5	312.446	62.4892	4.79389	0.03191
residual	7	91.2463	13.0352		
SUM	12	403.692			

$p < 0.5$, DF: degree freedom, SS: Stdev Square, MS: Mean Square, F: F test

After four rounds of bootstrapping, the regression equation was obtained as follows:

$$\text{Regression equation: } Y = 9.48 + 1.26S - 1.01E1 + 1.11E2 + 1.87E3 + 1.7A \quad (1)$$

In the fifth round, the bootstrapping method did not reach the significant standard, so the bootstrapping method took the order value of the four rounds of analysis.

The value of the statistics $F = 4.79389$, $p = 0.03191 < 0.05$, reaching a significant level of 0.05, indicating that the difference in the value of the difference between the courses offered by each school has reached a significant level.

4.2. Regression numerical analysis. The regression analysis results show that the negatively correlated item is E1. The correlation coefficients from high to low are E3, A, S, and E2. The concept represented by A is particularly prominent.

TABLE 4. Regression numerical coefficient

	Coefficient	<i>SD</i>	<i>t</i>	<i>p</i> -value	Lower 95%	Upper 95%
Intercept	9.48445	8.67793	1.09294	0.3106	-11.036	30.0045
S	1.26122	1.75269	0.71959	0.49509	-2.8832	5.40567
E1	-1.0131	2.62616	-0.3858	0.71111	-7.223	5.19674
E2	1.11419	0.636	1.75187	0.12326	-0.3897	2.61808
E3	1.87167	0.48824	3.83352	0.00643	0.71717	3.02616
A	1.70006	0.96374	1.76402	0.12109	-0.5788	3.97895

4.3. Discussion.

4.3.1. *General Elective Courses (History, Culture and Economics) (E3) is in line with the international education “multicultural and international understanding” learning goal.* The “E3” data show that the international education courses of each school are rich in the General Elective Courses (History, Culture and Economy). These courses can strengthen learners’ understanding of international culture, so that they do not just think that learning foreign languages is international education. Each school focuses on offering relevant courses, in line with the goal of the new syllabus to cultivate international literacy, multiculturalism, and international understanding.

4.3.2. *Alternative Learning Sessions (A) are more popular with schools.* Generally speaking, curriculum activities make students feel that learning is interesting; especially, learning foreign cultures through activities can increase interest in the curriculum and reduce cultural barriers. Therefore, schools have a better effect in promoting international education through learning activities. Compared with other courses, the data of the Alternative Learning Sessions showed a greater correlation with international literacy goals, showing that schools agreed that the opening of activity courses is helpful for students to learn international education.

4.3.3. *School-Developed Required General Courses (S) are not fully appreciated.* According to the curriculum planning, all schools should plan their own School-Developed Required General Courses, but from Table 1, it can be seen that there are six schools that did not plan these courses. School-developed Required General Courses can attract the attention of teachers and students and can be promoted more effectively. It may be that these courses overlap with the required courses of the ministries and commissions, so there is no separate plan. However, 46% of leading schools did not incorporate international education into the School-Developed Required General Courses, indicating that international education is not generally valued.

4.3.4. *General Elective Courses (Language) (E2) are the norm.* The results presented by E2 show that the planning of foreign language courses is already the universal connotation of international education and the easiest way to understand international education. Therefore, the design of General Elective Courses (Language) in various schools is mostly based on language education.

4.3.5. *Compared with other courses, General Elective Courses (Deep and Broad) (E1) cannot present the characteristics of international courses.* E1 shows a negative correlation, which shows that schools generally offer “General Elective Courses (Deep and Broad)” that are not relevant to international education. These courses mostly focus on the deeper learning of foreign languages. This finding shows that schools may only treat these types of courses as a general subject, and they do not necessarily have the characteristics of international education.

5. **Conclusions.** In conclusion, the international education curriculum planning in the new syllabus of the leading high schools is more consistent with the international literacy-oriented connotation in the “White Paper on International Education for Primary and Secondary Schools”. In addition to providing an understanding of foreign cultures, General Elective Courses (History, Culture and Economics) are also in line with the goal of cultivating international literacy, multiculturalism, and international understanding; the curriculum is also diversified. Alternative Learning Sessions are also favored by schools. The above two sets of courses are more able to show the characteristics of the new syllabus. In comparison, General Elective Courses (Language), like School-Developed Required General Courses, cannot highlight the characteristics of the new syllabus of international

education, but can be regarded as laying the foundation for foreign language learning. The analysis results of this research will allow the education authority to review the implementation status of the leading high schools in planning the international education integration curriculum, which will serve as a reference for the implementation of policies. The limitation of this study is that the sample is limited to first-class high schools. In the future, it is hoped that there will be an opportunity to conduct surveys across the whole Taiwan.

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