

# Senior Secondary Education



Senior secondary education is designed to cultivate physically and mentally sound citizens, laying the foundation for academic research and the acquisition of professional knowledge in later years. Senior secondary schools can be divided into “general senior secondary schools,” “skill-based senior secondary schools,” “comprehensive senior secondary schools,” and “specialized senior secondary schools.”

Students who graduate from junior high school or have an equivalent education level can gain admission to senior secondary school through methods such as exam-free entrance, specialty enrollment. 160 credits are required for graduation.

## A

### Promote Science Education and Cultivation of Science Talent:

#### 1 Organize and participate in domestic and international mathematics and science competitions

- 1 Organize national senior secondary school mathematics, science and information technology competitions and science exhibitions for elementary and junior high schools.
- 2 Participate in international Math and Science Olympiads and in the Intel International Science and Engineering Fair.
- 3 Establish an incentives mechanism.

**2** Subsidize science education projects for elementary and junior high schools.

**3** Plan the training of senior secondary school science talent.

**1** Subsidies for training projects for senior secondary school scientific research talent.

**2** Plan senior secondary school science classes.

**4** Organize a selection process for France's "Classes Préparatoires aux Grandes Ecoles."

**5** Plan a science education tour for girl schools and students.

**6** Key objectives for the year 2017:

**1** Continue training students for the Math and Science Olympiads and for the Intel International Science and Engineering Fair, and organize similar domestic competitions in mathematics and information technology for senior secondary schools, and national science exhibitions for elementary and junior high schools.

**2** Continue supporting secondary and elementary education projects in science and cultivation programs for scientific talent.

**3** Draw up a "Ministry of Education Plan for the Realization of Senior Secondary School Science Classes."

**4** Set up the "2018 Classes Préparatoires aux Grandes Ecoles" selective exams.

**5** Continue science education tours for girl schools and students in order to raise the interest and confidence of girl students to study science and later engage in a science career.

## B

## Bring Second Foreign Language Education into Practice and Improve Students' International Awareness:

**1** The main goals of the fourth phase 5-year plan is to "Improve Second Foreign Language Education at Senior Secondary Schools" include the following:

- 1** Encouraging senior secondary schools to adopt the plan and offering them support.
- 2** Strengthening the promotion mechanism for the second foreign language education system
- 3** Creating a second foreign language learning environment.
- 4** Promote the education of a second foreign language at rural schools.

**2** In SY 1999, a total of 22,623 students enrolled in 648 second foreign language classes. Comparing the 11,500 students who were enrolled in the first semester of SY 1999 with the 56,732 students enrolled in the first semester of SY 2016, an increase



of 393 percent can be noted. In SY 2016, sixteen universities, colleges and junior colleges were granted subsidies to offer 35 "Advanced Placement Foreign Second Language Classes for Senior Secondary School Students."

**3** Key points for the year 2017:

**1** Continue subsidizing senior secondary schools to organize second foreign language classes.

**2** Promote the diversity of languages for the second foreign language classes and promote the launch of classes in Southeast Asian languages in order to root second foreign language education in our nation's senior secondary schools.

**3** Continue encouraging universities to organize the advanced placement second foreign language classes in order to cultivate even more excellent second foreign language talent for our country and boost our international competitiveness.



**4** Continue subsidizing the organization of second foreign language camps for senior secondary schools in order to encourage students to study and use a second foreign language.

**5** Continue planning the improvement of the effectiveness of second foreign language education at rural schools and promote second foreign language classes to improve the second foreign language ability of students at rural schools.

## C

## Practical Technical Program and Cooperative Education

### Practical Technical Program

These programs impart practical skills to students who choose the technical arts curriculum in junior high school, providing them with the means to enter the job market and secure employment. Instruction is provided via day classes or evening classes, and students are eligible for graduation after completing 150 credits in 3 years.

### Cooperative Education (Alternative Classes)

These classes were first implemented in 1969. Students study general subjects and theory at school while receiving hands-on training in the workplace. This approach was extremely

popular in past decades. Now, in response to the changing environment, the Ministry of Education has published "Implementation Guidelines for Cooperative Education in Vocational High Schools," in 2004, changing the hour-based system into a credit-based system. Students can graduate after completing 150 credits in 3 years.

In order to enhance cooperative education and ensure the rights and privileges of students in the cooperative education programs, the Ministry of Education established "the Act of the Cooperative Education Implementation in Senior High Schools and the Protection of Student Participants' Right," which was approved, promulgated and enacted by the President on January 2, 2013.

## Steadily Promote 12-Year Basic Education

The Ministry of Education has long been planning for the launch of 12-year Basic Education, and since 2008 has been implementing the 12-Year Basic Education Precursor Program (13 plans, 23 items) in order to lay the foundation for the realization of 12-Year Basic Education. Following the 8<sup>th</sup> National Education Conference, the Executive Yuan formed an interdepartmental “12-Year Basic Education Promotion Taskforce” as a response to national development needs and to public expectations. The Ministry of Education also formed a “12-Year Basic Education Taskforce” and a “12-Year Basic Education Working Circle,” inviting experts and academics, representatives of schools and relevant departments to actively research and discuss related plans, expenses and timetables.

On September 20, 2011, the Executive Yuan approved the “Implementation Plan for 12-Year Basic Education” and its accompanying “Establishing Plan for a 12-Year Basic Education Curriculum System.” The implementation plan includes the three main vision of “improving the quality of elementary and junior high school education,” “accomplishments for each child,” and “strengthen national competitiveness,” the five major principles of “teach regardless of distinction,” “teaching according to the intellect,” “adaptive growing of talent,” “multichannel admission,” “excellent connection,” and seven major work subjects (10 items), and 11 accompanying measures (19 items), or a total of 29 items. The Ministry of Education and the governments of the municipalities, cities and counties cooperate to implement each element of 12-year Basic Education and use each kind of promotional channel to let each part of society thoroughly understand the project. The core principle of the accompanying plan is to establish “the student as subject,” “courses link up vertically and horizontally,” “cultivate national core competencies” as the central principle of the



unified lesson system for 12-year Basic Education. According to these principles, the Ministry of Education has launched the second wave of the 12-Year Basic Education project, with the National Academy for Educational Research discussing each proposal and passing it on to the Ministry of Education for review. The National Academy for Educational Research completed the core competencies of each educational level in 2013. On February 17, 2014, it completed the “12-Year Basic Education Curriculum Development and Guidance” and the “Suggestions for the Development of the 12-Year Basic Education Curriculum.”

On the subject of admissions, from SY 2014, exam-free admission has become the mainstream for students moving up from junior high school to senior secondary school and to 5-year junior college. Each area offers at least 75 percent of places for enrollment, and keep 0 to 25 percent



to organize specialized enrollment, in order to offer some students the opportunity of admission through academic or practical examinations, so students have the opportunity to show their different talents. No matter whether with or without examinations, we all hope to attract students to develop according to their talents, interests and abilities.

On October 27, 2014, the Ministry of Education’s “Under Senior Secondary School Curriculum Review Commission” reviewed and approved the “Curriculum Guidelines of 12-Year Basic Education (General Curriculum Guidelines),” and on November 11, 2014 it proclaimed the curriculum guidelines, ruling that from August 2018, the program should be implemented gradually according to the different levels of education (elementary school, junior high school and senior secondary school from the first grade of each). The first wave of the Ministry of Education’s push to introduce the unified curriculum of 12-year Basic Education was completed in 2006. In order to establish a unified curriculum system for elementary and junior high schools, the Ministry of Education published the “Unified Curriculum Guide for Elementary and Junior High Schools” in October 2006 for consideration to review the curriculum for elementary and junior high schools. In 2008, the Ministry of Education completed the “9-Year Unified Curriculum Outline for Elementary and Junior High Schools” and implemented it year by year from SY 2011. In 2008, the “General Senior Secondary School Curriculum Outline” and “Vocational School Curriculum Outline” were

completed and introduced from SY 2010, while in 2010 the “Comprehensive Senior Secondary School Curriculum Outline” was completed to be year by year introduced from SY 2011.

In 2014, 12-year Basic Education was fully implemented and the first results have been seen. Taking the first nationwide exam-free admission for senior secondary schools in SY 2014 as an example, the number of students who listed vocational schools as their first choice rose to over 60 percent, with 62.86 percent gaining admission to their first choice (in other words, out of every three students, two gained admission to the school of their first choice), showing the results of adaptive counseling and adaptive admission policies.

In a diverse democratic society, there will be some doubts and different suggestions about 12-year Basic Education policies, so in order to plan through mid- and long-term policy, and gradually implement each kind of measure in an even more stable manner, the Ministry of Education already formed a “12-Year Basic Education 5-Year Progress Plan” working group in October 2014 to put the focus on five topics – the admission system, nearby enrollment, the development of schools’ characteristics, balanced development of education in the cities and the countryside, and remedial education. The launch was considered of relevant intensive action from 2015 to 2019 for progress and supplementary measures in order to implement the promotion of each kind of policy to achieve 12-Year Basic Education in a stable way. ■



## Interviewee /

## Lin Juei-Yin

Taipei First Girls' High  
School“It’s What I’m Really  
Interested In”

“I’ve always been interested in math,” said Lin Rui-yin, 17, a student from Taipei First Girls’ High School who just won the third award in the 2017 Intel International Science & Engineering Fair.

Lin won the prize with her research on the 4-choosable planar graph, which in the past was limited to be 5-choosable. Her research has extended the idea and brought new possibility to the application of the result.

Lin attended the math and science class in her high school and chose to focus on math among six subjects, including biology, chemistry, physics, math, earth science and computer science.

She has started to research on the topic since the winter vacation of her first semester into high school. After more than six months of research, it had developed into a more complete work and her teacher encouraged her to compete in the science fair.

“I wanted to share the result and also participate in competition,” said Lin.



To her, the research project has become part of her life. Besides the four project-based classes every week, she stayed at school for additional meetings with her teacher after class. During the research process, the hardest time, she said, was when she was working on an argument that she found difficulty proving.

“I was stuck there for almost a month and my teacher introduced me to a professor,” said Lin. She discussed her problem with the professor and later came up with a way to solve it.

Lin’s research is not only valued academically but can also be applied to numerous aspects of everyday life. Using production line in factories as an example, she explained that the result can be used in allocating resources to make machines operate more effectively.

But what really interests her is still the research part. The math.

“Now I’m still working on further research about the planar graph,” added Lin. “I figure that it’s what I’m really interested in.” ■

