

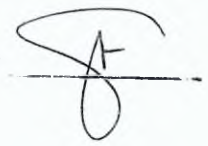
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**NINETEENTH CONGRESS OF THE
REPUBLIC OF THE PHILIPPINES**
First Regular Session



'22 JUL 13 AIO :46

SENATE
S.B. No. 476

RECEIVED BY: 

Introduced by SENATOR WIN GATCHALIAN

**AN ACT
PROMOTING THE ESTABLISHMENT OF PUBLIC MATH AND SCIENCE
HIGH SCHOOLS IN PREVIOUSLY UNDERSERVED AREAS, AND
APPROPRIATING FUNDS THEREFOR**

EXPLANATORY NOTE

A progressive and economically potent society must be built by a formidable army of scientific minds. Without a solid workforce of scientists, mathematicians, engineers, and other skilled professionals, the Philippines will continue with an economy perennially on the brink, yet never achieving, full industrialization and prosperity. Data from the UNESCO Institute of Statistics show that there are only 186 researchers per million inhabitants in the Philippines, one of the lowest among ASEAN countries.¹ Thailand and Malaysia, for example, have 963 and 2054 researchers per million inhabitants, respectively. To fulfill our collective goal to be the next Asian tiger economy, we must address this skills shortage through strategic human capital investments focused on the fields of Mathematics and Science.

¹ UNESCO Institute of Statistics. 2020. Research and Development (Data). (See <http://uis.unesco.org/apps/visualisations/research-and-development-spending/>)

Since the filing of this bill in the 17th Congress, new evidence of learners' dismal performance in Mathematics and Science has emerged. The latest results of the Programme for International Student Assessment show that our learners ranked second to the last in Mathematics and Science among the other learners in 79 countries.² The Philippines also came in last, out of 58 countries, in both Mathematics and Science in the 2019 Trends in International Mathematics and Science Study.³ In the Southeast Asia Primary Learning Metrics 2019, only 17% of Grade 5 learners met the minimum standards in Mathematics expected for 'end of primary'.⁴

The results of these international assessments also confirm prior insights from the National Achievement Test, the latest being in SY 2017-18, where the average performance of learners was 37% in Mathematics and 29% in Science, both falling within the low proficiency level.

A universal tenet of quality education, consistently reported by reputable education experts and enshrined in the 1987 Constitution, is ensuring equitable access to education. This entails ensuring access to all forms of education, including specialized Mathematics and Science curricula. However, this type of high-valued and essential education is only available to the few qualified learners that are admitted to either one of the 15 Philippine Science High School campuses, 17 Regional Science High Schools, or those who are fortunate enough to live near one of the other science high schools scattered across the country.

² OECD. 2019. Programme for International Student Assessment 2018 Results. (See <https://www.oecd.org/pisa/publications/pisa-2018-results.htm>)

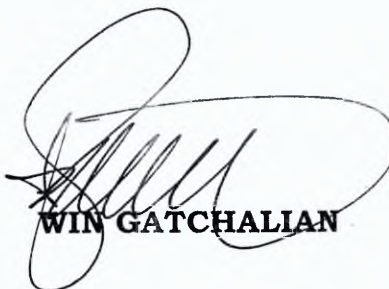
³ Mullis, I. V. S., Martin, M. O., Foy, P., Kelly, D. L., & Fishbein, B. 2020. TIMSS 2019 International Results in Mathematics and Science. Boston College, TIMSS & PIRLS International Study Center. (See <https://timssandpirls.bc.edu/timss2019/international-results/>)

⁴ UNICEF & SEAMEO. 2020. SEA-PLM 2019 Main Regional Report, Children's learning in 6 Southeast Asian countries. United Nations Children's Fund (UNICEF & Southeast Asian Ministers of Education Organization (SEAMEO) – SEA-PLM Secretariat. (See https://www.seaplms.org/index.php?option=com_k2&view=item&id=28:sea-plm-2019-main-regional-report-children-s-learning-in-6-southeast-asian-countries&lang=en)

This legislation seeks to reduce the gap in terms of access to specialized education in the aforementioned subject areas. The establishment of a new structure of accessible math and science high schools across the Philippines, particularly in all provinces that do not have at least one (1) public math and science high school currently operating within their respective geographical boundaries, will allow capable and willing students who have been hindered by geographic and economic barriers to pursue specialized education.

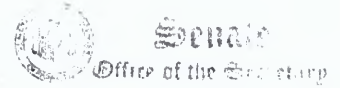
A robust research and development sector is essential to achieving high-income status. This specialized academic preparation opens doors to critical thinking, financial literacy, and evidence-based decision-making. These skills are highly critical to the improvement of the nation's economy, as it relies on a workforce proficient in math and science.

In time, this investment in human capital will pay dividends as these ambitious young students become the next science-related professionals of our country, equipped with the skills and competencies required to reach their full potential. Thus, support for the passage and approval of this legislation is earnestly sought.



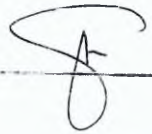
WIN GATCHALIAN

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**AN ACT
PROMOTING THE ESTABLISHMENT OF PUBLIC MATH AND SCIENCE
HIGH SCHOOLS IN PREVIOUSLY UNDERSERVED AREAS, AND
APPROPRIATING FUNDS THEREFOR**

Be it enacted by the Senate and House of Representatives of the Philippines in Congress assembled:

1 Section 1. *Short Title.* – This Act shall be known as the “*Equitable*
2 *Access to Math and Science Education Act*”.

3
4 Sec. 2. *Declaration of Policy.* – It is hereby declared a policy of the
5 State to provide equitable access to quality education in the pure and applied
6 sciences, mathematics, and technology for all Filipinos as a means to nurture
7 future generations of scientists, mathematicians, engineers, and other
8 professionals who will serve the nation as catalysts for scientific,
9 technological, and industrial progress.

10 Pursuant to this declaration, the State shall collaborate with local
11 government units (LGUs) to eliminate economic and geographical barriers
12 that restrict the access of otherwise willing and qualified students to said
13 education.

1 Sec. 3. *Coverage.* – All provinces which do not have at least one (1)
2 public math and science high school operating within their respective
3 geographical boundaries at the time this Act takes effect shall be required to
4 fulfill the establishment requirements under Section 4 of this Act.

5 For purposes of this Act, the term *public math and science high school*
6 shall refer to a school principally financed through national or local
7 government funds that implements an advanced curriculum focused on
8 science, mathematics, and technology subjects, for students from grades 7 to
9 12.

10
11 Sec. 4. *Establishment of Schools.* – All provinces covered by the
12 immediately preceding section are hereby mandated to work with the
13 Department of Education (DepEd) to establish at least one (1) public math
14 and science high school within their respective provincial capitals.

15 Schools may be established pursuant to this Act through construction
16 of new school facilities, conversion and/or reorganization of an existing
17 school, or renovation and re-opening of currently non-operational school
18 facilities or other idle government-owned properties: *Provided, That* these
19 schools must be fully operational by Academic Year 2023-2024: *Provided,*
20 *further,* That any utilization of idle government-owned assets shall follow
21 pertinent procedures as prescribed by law: *Provided, finally,* That schools
22 which have been designated by the DepEd as fully compliant under this Act
23 may start operations earlier than the prescribed deadline.

24
25 Sec. 5. *School Operations.* – Schools established in compliance with this
26 Act shall be operated by the DepEd, with the proper participation of the
27 applicable LGUs and other community shareholders as prescribed by law.
28 Said schools shall be funded in full under the budget of the DepEd and shall
29 be included in the annual General Appropriations Act (GAA).

30
31 Sec. 6. *Admissions.* – Schools established in compliance with this Act

1 shall accept applicants based on the results of a competitive entrance
2 examination. A student may be eligible to apply for admission to said school
3 only if he or she has established continuous residence within the establishing
4 province for at least one (1) year upon the date of examination.

5
6 Sec. 7. *Curriculum.* – Schools established in compliance with this Act
7 shall implement a six-year integrated junior-senior high school curriculum
8 that focuses on advanced science, mathematics, and technology subjects
9 under the guidance of the DepEd and the Department of Science and
10 Technology (DOST). The revised curriculum of the Philippine Science High
11 School System for Grades 7 to 12 shall be used as basis for the formulation
12 of said curriculum.

13
14 Sec. 8. *Higher Education Bond.* – A graduate of a school established in
15 compliance with this Act shall be required to enroll in a four- or five- year
16 Bachelor's Degree in Science program at an accredited college or university.
17 Said graduate must enroll in one of the following fields:
18 pure and applied sciences, mathematics, engineering, technology, or any
19 other field deemed appropriate by the Commission on Higher Education
20 (CHED). A graduate who shifts or transfers to a course in any unrelated field
21 prior to completion of the degree program shall pay a fine equivalent to the
22 total full cost incurred by the government in subsidizing the secondary
23 education program of said graduate, as calculated by the DepEd.
24 Any fine collected under the terms of this provision shall be allocated to any
25 government program that promotes the advancement of science,
26 mathematics, and technological education in the Philippines.

27
28 Sec. 9. *Appropriations.* – The amount of Five Hundred Million Pesos
29 (P500,000,000.00) is hereby initially appropriated to implement the
30 provisions of this Act. Thereafter, such amount necessary to effectively carry
31 out these provisions shall be included in the annual GAA.

1 Sec. 10. *Implementing Agencies.* – Within sixty (60) days from the
2 effectivity of this Act, the DepEd, in coordination with the DOST and the
3 CHED, shall issue the rules and regulations implementing its provisions. The
4 Implementing Rules and Regulations (IRR) issued pursuant to this section
5 shall take effect thirty (30) days after its publication in a newspaper of general
6 circulation.

7
8 Sec. 11. *Separability Clause.* – If any provision of this Act is held invalid
9 or unconstitutional, the other provisions not so declared shall remain in force
10 and effect.

11
12 Sec. 12. *Repealing Clause.* – All other laws, executive orders,
13 presidential decrees, administrative orders, rules and regulations, issuances,
14 or parts thereof contrary to or inconsistent with the provisions of this Act are
15 hereby repealed or amended accordingly.

16
17 Sec. 13. *Effectivity.* – Notwithstanding the non-issuance of the IRR, this
18 Act shall take effect fifteen (15) days after its publication in the Official Gazette
19 or in a newspaper of general circulation.

Approved,