

THIRTEENTH CONGRESS OF THE REPUBLIC)
OF THE PHILIPPINES)
Third Regular Session)

SENATE

S. B. No. 2447



Introduced by Senator Manuel "Lito" M. Lapid

EXPLANATORY NOTE

Our 1987 Constitution provides that *"the State shall protect and promote the right of all citizens to quality education at all levels and shall take appropriate steps to make such education accessible to all"*.

According to the human capital theory principle, the economic development of a nation is a function of the quality of its education. The modern world in which we live is often termed a "knowledge society" in the sense that education and information have become production factors. In this rapidly globalizing economy, mathematics and science are the bases for almost every technical competence in the modern marketplace, including fields as diverse as computer programming, physics, engineering and manufacturing. As a result, cultivating a workforce with strong mathematics and science skills is necessary to keep the country competitive in the global arena.

The Philippine Daily Inquirer, in its May 29, 2005 issue, stated that despite the Constitutional mandate for the government to spend the largest share of its national budget on education, the achievement test results on science and math reflect a low level of learning on the part of most Filipino public school children. In March 2004, all fourth year high school students were given a National Achievement Test (NAT) in Science and Math as a way of determining their levels of preparation for university or the world of work. Overall, the average score for Science was 36.8 percent and for Math was 46.2 percent, versus the benchmark passing grade of 75 percent. Clearly, these scores are not levels of learning that will help our children become productive and competitive adults.

Moreover, the current performance of our country's students in science and math lags behind their international peers and not enough students are pursuing careers in science and mathematics. Last 2003, in one international comparative survey test where the Philippines participated in the Trends in International Math and Science Survey (TIMSS), our Filipino school-children fared poorly in math and science. The Philippines ranked 36 out of 39 countries with an average significantly lower than the international average in Math. In Science, the results were similar. Furthermore, our country average was significantly lower than the international average in both tests. This data indicate an almost unchanged status from the 1999 TIMMS figures.

Indeed, the country is lagging behind its ASEAN counterparts in the fields of science and mathematics and faces serious challenges from highly educated foreign competitors. In the field of science, it has been shown that our students have not mastered the skills ranging from understanding or internalizing scientific data and information, to explaining specific scientific theory or laws, to being able to do the necessary calculations to solve scientific problems or to substantiate theory. In the field

of mathematics, high school seniors have the most difficulty in using formula to solve specific problems or to calculate certain results. The ability to manipulate numbers and equations (e.g. algebra) is weak. The ability to think conceptually and spatially (e.g. geometry and trigonometry) is even weaker. Problem solving using mathematical concepts and established logic and equations is poor.

While research studies have shown that teacher quality is the most important factor in determining high student achievement in mathematics and science and that highly-trained mathematics and science teachers are needed in all classrooms across the nation in order to move our country towards competitiveness in the global economy, the problem lies in the fact that college graduates with strong mathematics or science backgrounds have many career opportunities that are more financially attractive than teaching. Individuals who are strong in mathematics and science need financial incentives and professional development for proper recruitment and retainment in their teaching career.

We, as a country, has to do something if we are to build a foundation for development, growth and equity to deal with our many problems that range from eradicating poverty to being internationally competitive.

This proposed measure seeks to mainstream the need to develop a competitive and quality education program that will improve the teaching of science and mathematics in our country. Towards this end, this bill will provide scholarship and training programs for math and science teachers to pursue post-graduate studies in order to further equip them with skills and knowledge in their field of teaching.

Finally, this bill seeks to establish a Mathematics and Science Fellowship Trust Fund in order to fund the programs of DepEd in implementing the provisions of this measure.

In view of the foregoing, the passage of this measure is earnestly sought.


Manuel "Lito" M. Lapid
Senator

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RECEIVED BY: 

S. B. No. 2447

Introduced by Senator Manuel "Lito" M. Lapid

AN ACT
TO INSTITUTE A COMPETITIVE AND COMPREHENSIVE MATHEMATICS AND
SCIENCE FELLOWSHIP PROGRAM FOR TEACHERS FOR GLOBAL
COMPETITIVENESS AND FOR OTHER PURPOSES

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

SECTION 1. *Short Title.* This Act shall be known as the "***Math and Science
Teachers Competitiveness Act of 2006***".

SEC. 2. *Declaration of Policy.* – Science and technology are essential for national development progress. As such, it is the policy of the State to build up the competitiveness of the teaching pool in the country in the field of science and mathematics in order to improve the quality of education in the country. Pursuant to this, the State shall improve the Filipino student academic achievement in science and mathematics by establishing the mechanisms to recruit, prepare and train math and science teachers to improve the quality of math and science education given to our students.

SEC. 3. *Math and Science Fellowship Program for Teachers.* - There is hereby established a Mathematics and Science Fellowship Program for Teachers to be administered by the Department of Education (DepEd) to improve the competitiveness and teaching skills of our science and mathematics teachers all over the country. This program is being established to ensure that our primary and secondary school students are taught by well-trained mathematics and science teachers who are equipped with comprehensive knowledge in the subject area in order to significantly improve mathematics and science achievement scores of our students.

Towards this end, the DepEd shall carry out a program to award grants to eligible individuals with scholarships and to develop and implement academic programs designed to recruit and empower mathematics and science teachers in the country.

SEC. 4. *Distribution of Awards.* - The DepEd, in awarding said scholarship grants, shall consider the distribution of awards among eligible individuals of regions and geographic locations.

(a) *Merit Review.* - The Scholarship Grants to Mathematics and Science Teachers, as provided for under this Act, shall be given on a competitive and merit-reviewed basis. The criteria for an award under this Act shall include the impact of the award on the overall geographic distribution of the program with the objective of avoiding undue concentration of scholarship awards.

(b) *Use of Grants.* - The Scholarship Grants provided under this Act shall be used by the Department of Education to develop and implement a program to further train mathematics, science, and engineering teachers to become effective mathematics and science teachers, through developing and offering post-graduate academic degree programs in one or more fields of science, mathematics, and engineering that will prepare the teachers to become certified and licensed to teach in elementary schools and secondary schools; and by providing professional development programs and mentoring activities to scholarship recipients, both before and after they receive their degree, to enable the recipients to become better mathematics and science teachers.

(c) *Application Process.* - Any eligible individual who desires to be a recipient of the Mathematics and Science Fellowship Program for Teachers (MSFPT), as provided for under this Act, shall submit an application to any of the Regional and Provincial Offices of the Department of Education in such manner and accompanied by such information as the Department of Education may require.

(d) *Recruitment and Selection of Eligible Individuals for Math and Science Fellowship Program for Teachers (MSFPT).* - The DepEd shall recruit eligible individuals for the Math and Science Fellowship Program for Teachers (MSFPT). Scholarship Grants provided under this Act shall be available to teachers who are teaching in the field of science, mathematics, or engineering.

Eligible individuals shall be selected to receive scholarships primarily on the basis of academic merit, with consideration given to financial need and to the goal of promoting the participation of individuals in pursuing a teaching career in the field and science and mathematics.

In this line, the Department shall establish criteria to ensure that individuals who receive MSFPT under this Act shall —

(1) possess a comprehensive knowledge of the subject area to be taught as evidenced by a satisfactory rating on a standardized test;

(2) demonstrate mastery of mathematics or science pedagogy and have a strong record of positively affecting academic achievement, as demonstrated by observations from supervisors and student data;

(3) has been teaching mathematics or science in a public primary and secondary school for not less than 3 years;

(4) possess certification in the field and level in which the individual primarily taught during the 3 years preceding the year for which the determination is made;

(5) is employed as a full-time, primary and secondary mathematics or science teacher in an academic institution duly accredited by the Department; and

(6) possess other attributes that are linked to effective teaching, as defined by the Department.

(e) *Coverage of the Scholarship.* - The coverage of the scholarship to be awarded to mathematics and science teachers shall include tuition fees, book allowance, reasonable stipend and transportation allowance. The maximum years of scholarship grant shall be determined by DepEd based on the nature of the post-graduate academic degree.

(f) *Academic Performance of the Scholar.* - The Scholarship Grant for Mathematics and Science Teachers shall be terminated for individuals who fail to maintain an acceptable level of academic standing in the educational institution in which the individual is enrolled, as determined by the Department.

(g) *Appropriation.* - To implement the provisions of this section, there is hereby authorized to be appropriated to the Department of Education the amount of Php 100,000,000.00 to be used exclusively for the implementation of the Mathematics and Science Fellowship Program for Teachers, as defined under this Act.

SEC. 5. *Service Obligations of the Scholars.* - A recipient of the scholarship programs provided for in this Act shall be required after graduation from the post-graduate degree program for which the scholarship was awarded, to undertake a teaching-year-service as a mathematics or science teacher to his/her parent institution equivalent to two (2) years for every year of scholarship grant.

As a pre-condition of acceptance of the Mathematics and Science Fellowship Grant for Teachers, as provided for under this Act, a recipient shall enter into an agreement with the Department of Education —

(a) accepting the terms of the scholarship pursuant to guidelines set forth by the Department;

(b) agreeing to teach as a full-time science or math teacher to his/her parent institution equivalent to two (2) years for every year of the scholarship award after completing the course of study for which the applicant received a scholarship grant;

(c) agreeing to provide the Department with annual certification of employment and up to-date contact information and to participate in surveys provided by the Department of Education as part of an ongoing assessment program; and

(d) agreeing that in the event that the recipient is determined to have failed or refused to carry out such service obligation, the sum of the amounts of such fellowship grants will be treated as a loan and collected from the applicant in accordance with guidelines and regulations set forth by the Department.

SEC. 6. *Conditions to Determine Failure to Complete Service Obligation.* – The following conditions are herewith provided as benchmarks in determining whether the scholar has failed to complete the service obligation.

If an individual who has received a scholarship under this section:

(a) withdraws from the post-graduate degree program for which the award was made before the completion of such program;

(b) declares that the individual does not intend to fulfill the service obligation under this Act; or

(c) fails to fulfill the service obligation of the individual, as provided under this Act.

SEC. 7. *Required DepEd Clearance.* - An on-going Mathematics and Science Fellowship Grant for Teacher (MSFGT) scholar who has not completed her/his scholarship service obligation but will travel out of the country shall be required to secure a MSFGT Travel Clearance from the Department of Education. The scholar shall submit to DepEd pertinent travel plan, reason for travel, destination, duration of travel and a guarantee of her/his return. The scholar is likewise required to sign a document of his/her willingness to reimburse to the DepEd the amount equivalent to the period left unserved in case scholar fails to return to the country.

After having fully served the service obligations in relation to the MSFGT Scholarship, as provided for under this Act, the scholar shall secure a MSFGT Final Clearance from the Department of Education. The MSFGT Final Clearance shall be presented to the NBI, DFA, and BID to have her/his name cleared for issuance of NBI clearance for local employment or travel abroad and passport or clearance to travel out of the country.

SEC. 8. *Renewal of Math and Science Master Fellowships.* - A recipient of the Mathematics and Science Fellowship Program for Teachers who has completed the service requirement of his/her contract may be allowed to re-apply again and avail of the scholarship programs provided under the Mathematics and Science Fellowship Program for Teachers.

SEC. 9. *Creation of a Mathematics and Science Fellowship Trust Fund.*
- There is hereby established in the Department of Education (DepEd) a trust fund in the initial amount of Php 300,000,000.00 pesos to be known as the "Mathematics and Science Fellowship Trust Fund", hereafter referred to as the "MSFGT Fund" to be administered by the Department of Education (DepEd).

a) *Investment of Trust Fund.* - The Department shall direct the Treasurer of the Philippines of the Bureau of the Treasury to invest and reinvest funds in the *Mathematics and Science Fellowship Trust Fund in public debt securities with maturities* suitable for the needs of the Trust Fund, and bearing interest at rates determined by the Bureau of the Treasury, taking into consideration the current average market yield on outstanding marketable obligations of the country of comparable maturities. Interest earned shall be credited to the MSFGT Fund.

b) The income accruing from the MSFGT Fund principal shall be used to contribute to the funding of scholarships awarded pursuant to the provisions of this Act.

SEC. 10. *Annual Appropriation.* - The DepEd shall include in its annual programming and annual appropriation the amount necessary to fully implement the vision and objectives of this Act.

SEC. 11. *Review and Evaluation.* - Not later than 3 years after the date of enactment of this Act, the DepEd shall submit to both Houses of Congress a report that evaluates the effectiveness of the Science and Mathematics Fellowship Program for Teachers, as envisioned under this Act.

Towards this end, the DepEd shall convene an Annual Conference of Science and Math Teachers to foster collaboration and further disseminate information on the state of mathematics and science education in the country.

SEC. 12. *Implementing Rules and Regulations (IRR).* - Within three (3) months from the effectivity of this Act, the Department of Education (DepEd), in cooperation with the Department of Science and Technology (DOST) and Commission

on Higher Education (CHED), shall formulate the necessary Implementing Rules and Regulations (IRR) to carry out the provisions of this Act.

SEC. 13. *Repealing Clause.* – All laws, decrees, executive orders, rules and regulations or parts thereof not consistent with the provisions of this Act are hereby repealed or modified accordingly. --

SEC. 14. *Separability Clause.* – If any provision or part of this Act, or the application thereof to any person or circumstance, is held unconstitutional or invalid, the remainder of this Act shall not be affected thereby.

SEC. 15. *Effectivity Clause.* – This Act shall take effect fifteen (15) days from the date of its complete publication in the Official Gazette or in at least two (2) national newspapers of general circulation.

Approved,