

美國中小學數學教育的國際評估

勞工技術乃是各國經濟競爭力的基本要素。今日的學童即明日之勞動力，他們也將在未來全球的市場中角逐。為此，他們首先在未來十年內建立良好的數學的基礎，俾便在精密繁複的商業及技術環境中出人頭地。

根據美國第二次國際兒童數學程度調查顯示，以九歲學童而言，美國低於五個先進國家，我中華民國位居第二，僅次於南韓。以十三歲學童而言，我國則位居第一、南韓第二、美國第六。請參考下列圖表，以供進一步研究。

International Comparisons of Mathematics Performance Achievement, Attainment, and Curriculum

Source: 1. Educational Testing Service: *International Assessment of Educational Progress*, 1992
2. US Department of Education: *The Condition of Education*, 1996

- ◆ In the second International Assessment of Educational Progress (IAEP), 9-year-old students from the United States scored lower, on average, in mathematics performance than 9-year-olds from five other large countries.

The technical skills of a nation's workers are a crucial component of its economic competitiveness. The youth of today will be tomorrow's workers and will be competing in the global marketplace. They will depend on the mathematics learned in this decade to succeed in the complex business and technological environments of the future.

- ◆ Thirteen-year-olds from the United States scored lower, on average, than students of the same age in the other large countries, except Spain.
- ◆ Average mathematics proficiency among 13-year-old students in the United States was 48 scale points below that of their South Korean counterparts. This was more than half of the difference between 9- and 13-year-olds in the United States, suggesting that United States students at age 13 may be performing at levels similar to Korean students 2 to 3 years younger.
- ◆ There is far greater variation in the mathematics proficiency of students within each country than there are differences in averages among countries. For example, among 13-year-olds, the difference between the 10th and 90th percentile was 124 scale points in the United States, compared to a difference in average proficiency between the United States and Taiwan of 51 scale points.

Proficiency scores on mathematics assessment, by age and country: 1991

Larger countries ¹	Average proficiency score			Percentile score						
	Total	Male	Female	1st	5th	10th	Median	90th	95th	99th
Age 9										
South Korea	473	480	465	334	383	407	475	534	550	586
Taiwan	454	455	453	304	360	384	457	521	539	571
Soviet Union ²	447	448	446	310	349	374	450	514	532	579
Spain ⁴	432	432	432	287	330	353	437	499	518	551
Canada ⁴	430	430	431	296	337	363	435	490	506	537
United States	420	422	419	278	305	333	427	492	513	549
Age 13										
Taiwan	545	546	544	368	424	454	550	631	659	694
South Korea	542	546	537	390	445	470	545	609	629	665
Soviet Union ²	533	533	532	413	458	477	536	584	596	629
France	519	523	515	404	442	460	521	574	588	616
Canada ⁵	513	515	512	400	443	462	515	564	580	608
Spain ³	495	498	492	390	429	446	496	542	556	577
United States	494	494	494	366	407	430	495	554	574	616