



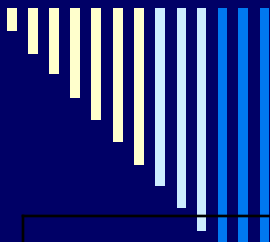
COMPARATIVE ANALYSIS OF ECHA COUNTRIES IN INTERNATIONAL TESTING

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ECHA 2010 CONFERENCE

Paris, France

July 7-9, 2010



EUROPE 50 (EU European Union 27)

Albania	Denmark	Liechtenstein	Romania
Andorra	England/UK	Lithuania	<i>Russian Fed.</i>
Armenia	Estonia	Luxembourg	San Marino
Austria	Finland	Macedonia	<i>Scotland/U.K.</i>
Azerbaijan	France	Malta	Serbia
Belarus	Georgia	Moldova	Slovakia
Belgium	Germany	Monaco	Slovenia
Bosnia & Herzegovina	Greece	Montenegro	Spain
Bulgaria	Hungary	Netherlands	Sweden
Croatia	Iceland	Norway	Switzerland
Cyprus	Ireland	Poland	<i>Turkey</i>
Czech Republic	Italy	Portugal	Ukraine
	Latvia		Vatican City



PARLIAMENTARY ASSEMBLY OF THE COUNCIL OF EUROPE
Recommendation 1248 (1994) on
Education for Gifted Children

Education **fundamental human right**, appropriate to each individual.

Will always be **children with special needs** – One group **highly gifted**.

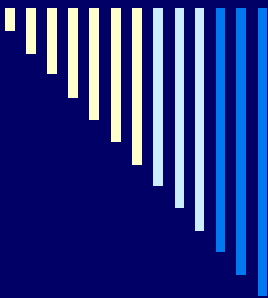
Appropriate educational conditions for benefit of self and society. Not afford to **waste talent as human resource**.

Special provision should **not privilege one group children** to detriment of others.

Recommend following considerations in educational policies:

- i. **Legislation** – individual differences - Develop full potential highly gifted children.
- ii. Basic and applied **research** “giftedness” and “talent” to improve **identification**.
- iii. In-Service **teacher training** – Information on gifted children made available to all.
- iv. Gifted provision in **subject area** in ordinary school system – Flexible Curricula, mobility, enrichment material, projects and techniques to **foster development of all**, gifted or not.
- v. Ordinary **school system flexible** enough to meet needs of high performing or talented students.
- vi. Special provision for highly gifted or talented should be administered with **discretion**, to **avoid innate danger of labeling**, with all its undesired consequences to society.

Need to **clarify notion of “giftedness”** by operational definition accepted and understandable in different languages. Set up ad hoc committee to include psychologists, sociologists, and educationalists.



PIRLS/06 - PR4 EUROPE 26

Progress in International Reading Literacy Study

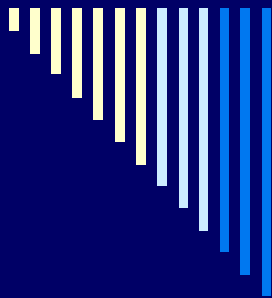
2002 2006 2010

- 2006 - 40 Jurisdictions
- Grade 4
- Combined Reading
- Sub-Scales:
**LITERARY &
INFORMATIONAL**
- IEA International Assn. for Evaluation of Educational Achievement

Minimum: 150 Schools, 1 Class, 1 Teacher
Total Number of students 4,000 – 4,500

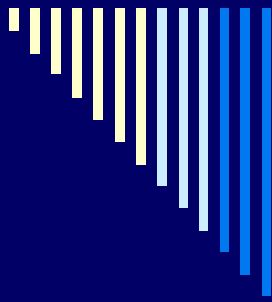
PIRLS: Germany – 405 Schools

- International Benchmarks
ADVANCED (625)
High (550)
- Gender (Higher Female)
- Race/Ethnicity
- Reading Literacy Questionnaires
- School Characteristics
- Instructional Practices
- Teacher Preparation
- Home Survey



TIMSS/07 Trends in International TM4-8 TS4-8 Math & Science Study EUROPE T4 (19) T8 (20)

- 1995 1999 2003 2007 2011
- 2007 – **58** Countries
- **Grades 4 & 8**
- 150+ Schools
- 4,000 – 4,500 Students
- **MATH & SCIENCE**
- **90+% Percentile Score**
- International **Benchmarks %**
Advanced (625) High (550)
- IEA Intl. Assn. for Evaluation of Educational Achievement
- Multiple Choice 50-54%
- Constructed Response 46-50%
- **CONTENT & COGNITIVE** Domains
- Grade 8 – Math
Includes **Algebra**
- **GENDER** – Higher Males
- Race/Ethnicity
Asian, White, Hisp. Black
- School **POVERTY** Level
Related to Achievement



PISA /06 SCI **PM15** **PS15** EUR 35

Program for International Student Assessment

2000 **Reading** 2009

2003 Math **2012**

2006 Science 2015

2006 – 57 Countries/

Jurisdictions

30 OECD & 27 Non-OECD Groups

OECD - Organization for Economic
Cooperation & Development

15 Year-Olds

Functional Skills At End of
Mandatory Schooling

Application of
Capabilities to
problems with real-life
context.

Scores: Combined
& **Sub-Scales**

90th Percentile Scores

Proficiency Levels

1 - 6

Gender Differences

Race/Ethnicity



Advanced Achievement Factors

- ❑ Varied **Number of Tests** Per Country - 1 to 7
- ❑ Varied **Years of Participation** in Testing
- ❑ Europe – **Asia** Comparison – Other
- ❑ **CONTENT Domain** - Math, Science, Reading
- ❑ **COGNITIVE Domain**: Knowing, Applying, Reasoning
- ❑ Grade **4**, Grade **8**, Age **15** (Application)
- ❑ **Gender**, **90+ Percentile**, **Advanced Benchmarks**
- ❑ **Levels of Proficiency (1 – 6)**
- ❑ **Trends** over Multiple Years of Testing
- ❑ Combined **AVERAGE Variance**

Rank 1 - 10	581 – 527	(Variance 52)
Rank 11 – 20	526 – 518	(Variance 8)
Rank 21 – 30	517 – 507	(Variance 10)

COUNTRIES Rank 1- 10

Combined Test Average

RANK	CONT	COUNTRY	TESTS	AVG.
1	AS	Singapore	5	581
2	AS	Hong Kong	7	559
3	AS	Chinese Taipei	7	558
4	EU	Finland	2	556
5	AS	Korea, Rep. of	4	555
6	AS	Japan	6	549
7	AS	Kazakhstan	2	541
8		Canada	3	540
9	EU	Netherlands	5	532
10	EU	England/U.K.	7	527



COUNTRIES Rank 11-20

Combined Test Average

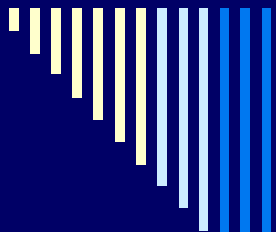
RANK	CONT.	COUNTRY	TESTS	AVG.
11	EU	Belgium	3	526
12	EU	Germany	5	524
12	EU	Liechtenstein	2	524
13	EU	Estonia	2	523
14	EU	Russian Federation	7	522
15	EU	Hungary	7	521
15	EU	Switzerland	2	521
16	EU	Latvia	5	519
16	EU	Denmark	5	519
17	AS	Macao-China	2	518



COUNTRIES Rank 21-30

Combined Test Average

RANK	CONT	COUNTRY	TESTS	AVG.
18	EU	Austria	5	517
18		Australia	6	517
19		New Zealand	5	516
20	EU	Slovenia	7	515
21		United States	7	514
22	EU	Sweden	7	512
23	EU	Lithuania	7	511
23	EU	Czech Rep.	6	511
23	EU	Luxembourg	3	511
24	EU	Slovakia	5	507

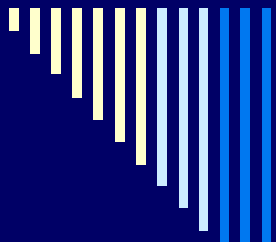


TOTAL EUROPE RANKINGS

EUROPE – Pg. 1

	PIRLS	TIMSS MATH		TIMSS SCI		PISA M	PISA S
	PR4	TM4	TM8	TS4	TS8	PM15	PS15
Albania							
Andorra							
Armenia		20	13	22	15		
Austria	14	17		13		15	15
Azerbaijan						25	50
Belarus							
Belgium	9					10	16
Bosnia & Herzegovina			27		23		
Bulgaria	9		23		20	37	37
Croatia						27	23
Cyprus			22		28		
Czech Republic		24	11	18	6	13	13 ¹¹

TOTAL EUROPE RANKINGS



PIRLS

TIMSS MATH

TIMSS SCI

PISA M

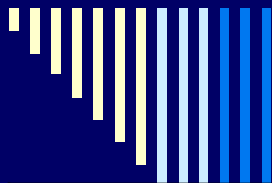
PISA S

EUROPE – Pg. 2	PR4	TM4	TM8	TS4	TS8	PM15	PS15
Denmark	10	13		17		12	21
England/UK	13	7	7	6	5	19	12
Estonia						11	5
Finland						2	1
France	20					19	22
Georgia	28	27	33	26	32		
Germany	8	12		11		16	11
Greece						30	33
Hungary	6	15	6	8	6	21	18
Iceland	24					14	24
Ireland						18	17
Italy	6	16	19	9	14	29	31



TOTAL EUROPE RANKINGS

	PIRLS	TIMSS MATH		TIMSS SCI		PISA M	PISA S
EUROPE – Pg. 3	PR4	TM4	TM8	TS4	TS8	PM15	PS15
Latvia	11	8		6		23	25
Liechtenstein						7	9
Lithuania	15	10	10	19	10	23	27
Luxembourg	5					22	29
Macedonia	29						
Malta			16		26		
Moldova	25						
Monaco							
Montenegro						40	43
Netherlands	9	9		15		4	8
Norway	26	25	21	23	16	22	28
Poland	21					19	20



TOTAL EUROPE RANKINGS

	PIRLS	TIMSS MATH		TIMSS SCI		PISA M	PISA S
EUROPE – Pg. 4	PR4	TM4	TM8	TS4	TS8	PM15	PS15
Portugal						28	32
Romania	27		26		24	36	42
Russian Fed.	1	6	8	5	8	25	30
San Marino							
Scotland	19	22	17	21	13		
Serbia			18		20	32	36
Slovak Rep.	18	21		13		20	27
Slovenia	20	19	12	16	7	16	10
Spain	22					24	27
Sweden	7	18	15	14	12	17	19
Switzerland						5	14
Turkey			30		27	34	39
Ukraine		26	25	24	17		
Vatican City							



Europe – HIGHER COMBINED AVERAGES

RANK	COUNTRY	AVG.	RANK	COUNTRY	AVG.
1	SINGAPORE	581	18	Austria	517
4	Finland	556	20	Slovenia	515
9	Netherlands	532	22	Sweden	512
10	England/UK	527	23	Czech Rep.	511
11	Belgium	526	23	Lithuania	511
12	Germany	524	23	Luxembourg	511
14	Russian Fed.	522	24	Slovak Rep.	507
15	Hungary	521	25	Ireland	505
15	Switzerland	521	26	France	504
16	Denmark	519	26	Poland	504

PIRLS – GRADE 4 – Europe - 20/26

RANK COUNTRY AVG. RANK COUNTRY AVG.

1	Russian Fed.	565	11	Latvia	541
5	Luxembourg	557	13	England/UK	539
6	Hungary	551	14	Austria	538
6	Italy	551	15	Lithuania	537
7	Sweden	549	18	Slovak Rep	531
8	Germany	548	19	Scotland	527
9	Bulgaria	547	20	Slovenia	522
9	Netherlands	547	20	France	522
9	Belgium	547	21	Poland	519
10	Denmark	546	22	Spain	513

PIRLS Gr. 4 READING — FEMALE Variance

COUNTRY	HIGHER AVG. FEMALE +	COUNTRY	HIGHER AVG. FEMALE +
Latvia	23	Georgia	17
Scotland	22	Poland	17
Bulgaria	21	Russian Fed.	15
Macedonia	21	Denmark	14
England/UK	19	Moldova	14
Iceland	19	Romania	14
Norway	19	France	11
Slovenia	19	Slovak Rep.	11
Lithuania	18	Austria	10
Sweden	18	USA	10

TIMSS Math - Gr. 4 Europe 19

Rank 1 - Hong Kong 607 (90% 691)

Rank	COUNTRY	AVG	90%
6	Russian Fed.	544	647
7	England/UK	541	647
8	Latvia	537	628
9	Netherlands	535	612
10	Lithuania	530	624
12	Germany	525	607
13	Denmark	523	611
15	Hungary	510	620
16	Italy	507	601
17	Austria	505	590

Rank	COUNTRY	AVG	90+ %
18	Sweden	503	586
19	Slovenia	502	589
20	Armenia	500	617
21	Slovak Rep	496	597
22	Scotland	494	592
24	Czech Rep.	486	578
25	Norway	473	566
26	Ukraine	469	573
27	Georgia	438	549

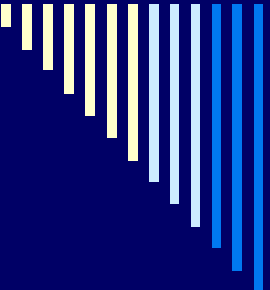


TIMSS Math - Gr. 8 Europe 20

Rank 1 – Chinese Taipei 598 (90% 663)

Rank	COUNTRY	AVG	90+ %
6	Hungary	517	624
7	England/UK	513	618
8	Russian Fed.	512	617
10	Lithuania	506	609
11	Czech Rep.	504	599
12	Slovenia	501	594
13	Armenia	499	601
15	Sweden	491	582
16	Malta	488	597
17	Scotland	487	590

Rank	COUNTRY	AVG	90+ %
18	Serbia, Rep.	486	597
19	Italy	480	574
21	Norway	469	552
22	Cyprus	465	575
23	Bulgaria	464	586
25	Ukraine	462	572
26	Romania	461	587
27	Bosnia & Herzegovina	456	552
30	Turkey	432	581
33	Georgia	410	532

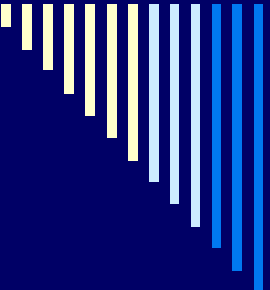


TIMSS Science - Gr. 4 Europe 19

Rank 1 - Singapore 587 (90% 701)

Rank	COUNTRY	AVG	90%
5	Russian Fed.	546	646
6	England/UK	542	641
6	Latvia	542	625
8	Hungary	536	637
9	Italy	535	636
11	Germany	528	623
13	Austria	526	620
13	Slovak Rep	526	627
14	Sweden	525	617
15	Netherlands	523	598

Rank	COUNTRY	AVG	90%
16	Slovenia	518	610
17	Denmark	517	610
18	Czech Rep.	515	610
19	Lithuania	514	595
21	Scotland	500	593
22	Armenia	484	640
23	Norway	477	570
24	Ukraine	474	576
26	Georgia	418	524

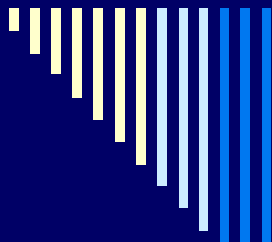


TIMSS Science - Gr. 8 Europe 20

Rank 1 - Singapore 567 (90% 694)

Rank	COUNTRY	AVG	90 %
5	England/UK	542	649
6	Hungary	539	635
6	Czech Rep.	539	630
7	Slovenia	538	628
8	Russian Fed.	530	627
10	Lithuania	519	616
12	Sweden	511	608
13	Scotland	496	597
14	Italy	495	590
15	Armenia	488	612

Rank	COUNTRY	AVG	90 %
16	Norway	487	578
17	Ukraine	485	588
20	Serbia, Rep.	470	571
20	Bulgaria	470	595
23	Bosnia & Herzegovina	466	565
24	Romania	462	572
26	Malta	457	595
27	Turkey	454	577
28	Cyprus	452	556
32	Georgia	421	527



TIMSS – MATH/SCIENCE – 90+%

TIMSS 4/8 MATH = T4/8M

TIMSS 4/8 SCIENCE = T4/8S

COUNTRY	TESTS	T4M	T4S	T8M	T8S	High 4	High 8	Avg MS
1. SINGAPORE	4	702	701	706	694	M +1	M +12	700
England/UK	4	647	641	618	649	M +6	S +31	638
Russian Fed.	4	647	646	617	627	M +1	S +10	634
Hungary	4	620	637	624	635	S +17	S +11	629
Latvia	2	628	625	-	-	M +3	-	626
Germany	2	607	623	-	-	S +16	-	615
Denmark	2	611	610	-	-	M +1	-	610
Slovenia	4	589	610	594	628	S +21	S +34	605
Netherlands	2	612	598	-	-	M +14	-	605
Austria	2	590	620	-	-	S +30	-	605

PISA Math Age 15 — Europe 1-20

Rank 1: Chinese Taipei 549 90th 677

Rank	COUNTRY	Avg.	90th
2	Finland	548	652
4	Netherlands	531	645
5	Switzerland	530	652
7	Liechtenstein	525	643
10	Belgium	520	650
11	Estonia	515	618
12	Denmark	513	621
13	Czech Rep.	510	644
14	Iceland	506	618
15	Austria	505	630

Rank	COUNTRY	Avg.	90th
16	Slovenia	504	623
16	Germany	504	632
17	Sweden	502	617
18	Ireland	501	608
19	England/UK	495	612
19	Poland	495	610
19	France	495	617
20	Slovak Rep	492	611
21	Hungary	491	609
22	Norway	490	609



PISA Math Age 15 Europe 21-35

Rank 1: Chinese Taipei 549 90th 677

Rank	COUNTRY	Avg.	90th
22	Luxembourg	490	610
23	Lithuania	486	602
23	Latvia	486	590
24	Spain	480	593
25	Russian Fed.	476	592
25	Azerbaijan	476	536
27	Croatia	467	576
28	Portugal	466	583
29	Italy	462	584
30	Greece	459	575

Rank	COUNTRY	AVG	90th
32	Serbia, Rep.	435	553
34	Turkey	424	550
36	Romania	415	523
37	Bulgaria	413	543
40	Montenegro, Rep	399	510

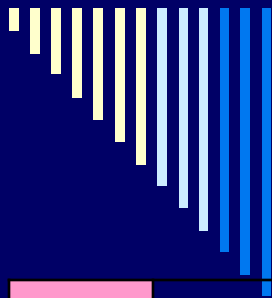
VARIANCE N=35

90th v/s Average

Below 109 8

110 – 119 17

120 – 134 10



PISA Science Age 15 — Europe 20/35

Rank 1: Finland 563 90th 673

Rank	COUNTRY	Avg	90th
1	Finland	563	673
5	Estonia	531	640
8	Netherlands	525	646
9	Liechtenstein	522	643
10	Slovenia	519	647
11	Germany	516	642
12	England/UK	515	652
13	Czech Rep.	513	641
14	Switzerland	512	636
15	Austria	511	633

Rank	COUNTRY	Avg.	90th
16	Belgium	510	634
17	Ireland	508	630
18	Hungary	504	617
19	Sweden	503	622
20	Poland	498	615
21	Denmark	496	615
22	France	495	623
23	Croatia	493	604
24	Iceland	491	614
25	Latvia	490	597

PISA Science Age 15

Advanced Proficiency Levels 5 & 6

Rank COUNTRY AVG. Lv.5/6 % RANK COUNTRY AVG Lv.5/6 %

1	Finland	563	41.8
2	Hong Kong	542	31.8
3	Canada	534	28.9
4	Chin. Taipei	532	28.3
5	Japan	531	30.2
5	Estonia	531	23.0
6	N. Zealand	530	35.3
7	Australia	527	29.2
8	Netherlands	525	26.2
9	Korea Rep.	522	20.7
10	Slovenia	519	25.7

11	Germany	516	23.5
12	U. K.	515	27.5
13	Czech Rep.	513	23.1
14	Switzerland	512	20.9
15	Austria	511	20.0
15	Macau China	511	10.5
16	Belgium	510	20.1
17	Ireland	508	18.8
18	Hungary	504	13.6
19	Sweden	503	15.7
20	**USA	489	18.2



PISA Science – Sub-Scales

	Combined Science	Identifying Scientific Issues	Explaining Phenomena Scientifically	Using Scientific Evidence
Finland	563	555	566	567
Estonia	531	516	541	531
Netherlands	525	533	522	526
Slovenia	519	519	523	516
Germany	516	510	519	515
U. K.	515	514	517	514
Czech Rep.	513	500	527	501
Switzerland	512	515	508	519
Austria	511	505	516	505 ²⁷



PISA Science - GENDER

Percent Proficiency Levels 5 & 6 – Gender Distribution

COUNTRY	SCI LIT	Lv. 5 Male	Lv. 5 Fem	Lv. 6 Male	Lv. 6 Fem	Lev. 5+6 %
Finland	563	17.0	16.9	4.6	3.3	41.8
Estonia	531	10.2	10.0	1.6	1.2	23.0
Netherlands	525	13.0	9.9	2.0	1.3	26.2
Slovenia	519	10.2	<u>11.2</u>	2.4	1.9	25.7
Germany	516	11.5	8.4	2.2	1.4	23.5
U.K.	515	12.3	9.4	3.7	2.1	27.5
Czech Rep.	513	9.9	9.6	2.0	1.6	23.1
Switzerland	512	9.7	8.4	<u>1.4</u>	<u>1.4</u>	20.9
Austria	511	9.7	7.9	1.6	0.8	20.0
Belgium	510	9.9	8.3	1.3	0.6	20.1
Ireland	508	8.9	7.6	1.4	0.9	18.8
Hungary	504	7.6	4.8	0.8	0.4	13.6 ₈



GENDER Variance Math/Science

TMATH4 Male	+	TSCI 4 Male	+	PISA 15 SCI		PISA 15 SCI	+
				MALE Higher	+	FEMALE Higher	+
Italy	15	Germany	15	U.K.	10	Bulgaria	17
Austria	14	Austria	13	Luxembourg	9	Turkey	12
Germany	12	Italy	13	Denmark	9	Greece	11
Scotland	9	Netherlands	11	Austria	8	Liechtenstein	11
Norway	7	Slovak Rep.	8	Netherlands	7	Lithuania	9
Slovak Rep.	6	Czech Rep.	7	Germany	7	Slovenia	8
Czech Rep.	6	TSCI 8 Male	+			Azerbaijan	8
Slovenia	5	Hungary	12				
TMATH8 Male		Czech Rep.	9				
Europe - None	0	Italy	8				

EUROPEAN RANK OVERVIEW

AVG RANK	COUNTRY	PR 06 G4	TM 07 G4	TS 07 G4	TM 07 G8	TS 07 G8	PM 06 15	PS 06 15
4	Finland						<u>2</u>	<u>1</u>
9	Netherlands	<u>9</u>	<u>9</u>	15			<u>4</u>	<u>8</u>
10	England/UK	13	<u>7</u>	<u>6</u>	<u>7</u>	<u>5</u>	19	12
11	Belgium	<u>9</u>					<u>10</u>	16
12	Germany	<u>8</u>	12	11			16	11
12	Liechtenstein						<u>7</u>	<u>9</u>
13	Estonia						11	<u>5</u>
14	Russian Fed.	<u>1</u>	<u>6</u>	<u>5</u>	<u>8</u>	<u>8</u>	25	30
15	Hungary	<u>6</u>	15	<u>8</u>	<u>6</u>	<u>6</u>	21	18
15	Switzerland						<u>5</u>	14
16	Latvia	11	<u>8</u>	<u>6</u>			23	25
16	Denmark	<u>10</u>	13	17			12	21
18	Austria	14	17	13			15	15

EUROPEAN RANK OVERVIEW – CONTINUED THRU RANK 30

AVG RANK	COUNTRY	PR 06 G4	TM 07 G4	TS 07 G4	TM 07 G8	TS 07 G8	PM 06 15	PS 06 15
20	Slovenia	20	19	16	12	<u>7</u>	16	<u>10</u>
22	Sweden	<u>7</u>	18	14	15	12	17	19
23	Lithuania	15	10	19	10	10	23	27
23	Czech Rep.		24	18	11	<u>6</u>	13	13
23	Luxembourg	<u>5</u>					22	29
24	Slovak Rep	18	21	13			20	27
25	Ireland						18	17
26	Poland	21					19	20
26	France	20					19	22
27	Iceland	24					14	24
28	Scotland	19	22	21	17	13		
28	Italy	<u>6</u>	16	<u>9</u>	19	14	29	31
29	Moldova	25						
30	Spain	22					24	27

RANK BY MEAN	CONTINENT	REGION	COUNTRY	INTL TESTING T	TIMSS GR 4 MATH 2007	RANK TIMSS 4 MATH 2007	TIMSS GR 4 SCI 2007	RANK TIMSS 4 SCI 2007	TIMSS GR 8 MATH 2007	RANK TIMSS 8 MATH 07	TIMSS GR 8 SCI 2007	RANK TIMSS 8 SCI 07	PIRLS AVG 2006	RANK PIRLS 2006	PISA SCI 2006	RANK PISA SCI 2006	PISA MATH 2006	RANK PISA MATH 2006	TOTAL SCORES	TOTAL RANKINGS
1	AS	E	Singapore	T	599	2	587	1	593	3	567	1	558	4					2904	11
2	AS	E	Hong Kong	T	607	1	554	3	572	4	530	8	564	2	542	2	547	3	3916	23
3	AS	E	Chinese Taipei	T	576	3	557	2	598	1	561	2	535	16	532	4	549	1	3908	29
4	EU	N	Finland	T											563	1	548	2	1111	3
5	AS	E	Korea, Rep. Of	T					597	2	553	4			522	9	547	3	2219	18
6	AS	E	Japan	T	568	4	548	4	570	5	554	3			531	5	523	8	3294	29
7	AS	C	Kazakhstan	T	549	5	533	10											1082	15
8	NA	N	Canada	T									560	3	534	3	527	6	1621	12
9	EU	W	Netherlands	T	535	9	523	15					547	9	525	8	531	4	2661	45
10	EU	N	England/UK	T	541	7	542	6	513	7	542	5	539	13	515	12	495	19	3687	69
11	EU	W	Belgium	T									547	9	510	16	520	10	1577	35
12	EU	W	Germany	T	525	12	528	11					548	8	516	11	504	16	2621	58
12	EU	W	Liechtenstein	T											522	9	525	7	1047	16
13	EU	N	Estonia	T											531	5	515	11	1046	16
14	EU	ENC	Russian Fed.	T	544	6	546	5	512	8	530	8	565	1	479	30	476	25	3652	83
15	EU	CSE	Hungary	T	510	15	536	8	517	6	539	6	551	6	504	18	491	21	3648	80
15	EU	W	Switzerland	T											512	14	530	5	1042	19
16	EU	N	Latvia	T	537	8	542	6					541	11	490	25	486	23	2596	73
16	EU	N	Denmark	T	523	13	517	17					546	10	496	21	513	12	2595	73
17	AS	SE	Macao-China	T											511	15	525	7	1036	22
18	EU	W	Austria	T	505	17	526	13					538	14	511	15	505	15	2585	74
18	OC		Australia	T	516	14	527	12	496	14	515	11			527	7	520	10	3101	68
19	OC		New Zealand	T	492	23	504	20					532	17	530	6	522	9	2580	75
20	EU	CSE	Slovenia	T	502	19	518	16	501	12	538	7	522	20	519	10	504	16	3604	100
21	NA	N	United States	T	529	11	539	7	508	9	520	9	540	12	489	26	474	26	3599	100

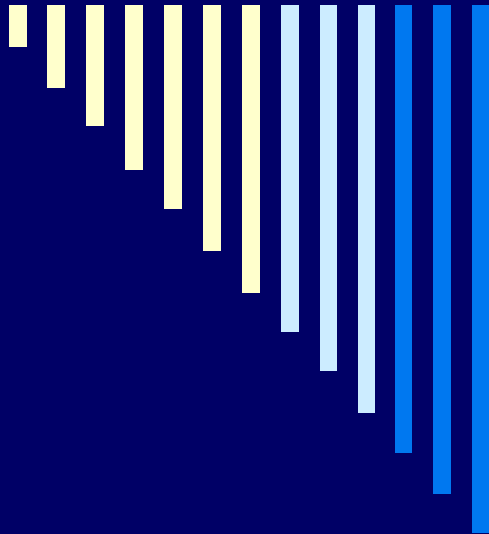


CONCLUSIONS

- There are a number of **VARIABLES** that can be used in analysis of International Test Scores
- Most comparisons of international test scores relate to **AVERAGE** scores of the country's test sample. Analysis of **Sub-Scores** provides excellent data relating to **ADVANCED** achievement.
- **GENDER** comparisons can provide support for policy and equal opportunity for advanced curriculum for males and females.
- PISA **PROFICIENCY LEVELS 1-6** are useful guides in development of curriculum for advanced students.
- **CONTENT DOMAIN** sub-scores provide valuable data related to high achievement in Math, Science and Reading Literacy
- **COGNITIVE DOMAIN** Sub-Scores provide valuable data related to higher order **REASONING**.
- **90 Percentile** Comparisons are a useful tool for analyzing achievement of top 10 percent.
- **ADVANCED INTERNATIONAL BENCHMARKS** are an excellent resource for curriculum development for high ability.

I.N.S.T.E.A.D. International

International Network Supporting Transnational Exchange & Diversity



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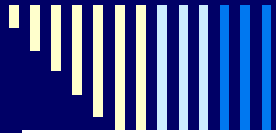


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COUNTRY	POLICY YEAR	SPEC SCH	ACCE L	INCLU - SION	PULL OUT CLASS	EXTRA-CURR.	COMPE TITION	TRAIN- ING	UNIV Re- search	ORG MEMB CONF
U.S.A.	Local Sch. Bd.	+ 3	+ 3	+ 5	+ 4	+ 5	+ 5	+ 5	+ 5	WCGTC

DEMO- GRAPHIC DATA	POPU - LATION 000,000	AREA SQ MI 000	LITER- ACY %	LIFE EXPE C	GNP Per Capita	COMPU L AGE SCHOOL	REL 1 %	REL 2 %	NATL CURR	NATL TESTS
	307.2	3719	97%	77	36300	17	Christ 52	R Cath 24	NO	NO

INTL. TESTS Yr., Gr., Subj.	TIMSS0 7 G4 MATH	TIMSS 07 G4 SCI	TIMSS 07 G8 MATH	TIMS S07 G8 SCI	PIRLS 06 G4 RDG	PISA 06 Y15 SCI	PISA 06 Y15 MATH	No. of Tests N = 7	AVG Mean	Avg. Rank
TEST Mean Rank	529 11	539 7	508 9	520 9	540 12	489 26	474 26	7	514	14.3
MEAN – 90+ % Rank	625	643	607	623	No 90%					39



RESEARCH FOR THE ADVANCEMENT OF EDUCATION

COMPARATIVE AND INTERNATIONAL EDUCATION

- ➔ Transnational Research
- ➔ CIECAP
- ➔ Global Gifted Database

GIFTED AND TALENTED EDUCATION

- ➔ Identification
- ➔ Policy
- ➔ Differentiation
- ➔ Learning Styles
- ➔ Curriculum

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Educational Leadership



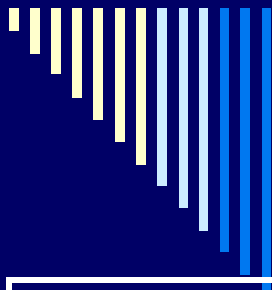
Kathy Stone, Ph.D. is an Educational Psychologist and an International Researcher in the field of Comparative and International Education. As a researcher and professional in the field of Education of the Gifted and Talented, Kathy continues...

Publications

- Reflections from the Matterhorn
- Duck 'Til Carcinoma
- Foot in the Ocean
- Standard Deviation

DIFFERENTIATION Diamond

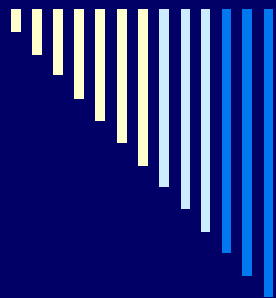
STANINE	1	2	3	4	5	6	7	8	9
Percentile	0-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99
Example: CLASS OF 20 Students	5%	5%	15%	15%	20%	15%	10%	10%	5%
	1	1	3	3	4	3	2	2	1
GREEN = GO!	Renew Review		B	A	S	I	C	G.A. T.E.	
BLUE = BASIC	R.T.I.	Respond To Intervene	Belongs	Every	Student	In	Class	TALENT	GIFTED
RED = REVIEW	Construc- tivist	Skill Groups	Multiple Intell.	Co-op Learn.	Learning Styles	Choice	Inter- est & Z.P.D.	Pre-Test	Com- pact



EUROPEAN UNION - 27 Members

1957 Founding Country

Country		Country		Country	
Austria	'95	GERMANY	'57	NETHERLANDS	'57
BELGIUM	'57	Greece	'81	Poland	'04
Bulgaria	'07	Hungary	'04	Portugal	'86
Cyprus	'04	Ireland	'73	Romania	'07
Czech Rep.	'04	ITALY	'57	Slovakia	'04
Denmark	'73	Latvia	'04	Slovenia	'04
Estonia	'04	Lithuania	'04	Spain	'86
Finland	'95	LUXEMBOURG	'57	Sweden	'86
FRANCE	'57	Malta	'04	Un. Kingdom	'73



ECHA – National Correspondents

European Council of High Ability

<http://www.ECHA.ws>

Year = ECHA Conference

Australia	Denmark	Ireland	Russia
Austria '96	England '98	Jordan	Slovenia
Belgium	Finland '06	Netherlands '94	Spain '04
Brazil	France	Peru / Latin Am.	Switzerland '88
Canada	Germany '92	Poland	25 Nations ECHA Journal: <i>High Ability Studies</i>
Croatia	Greece '02	Portugal	
Czech Rep. Slovakia '08	Hungary '00, '90	Romania	



INTL. DATABASE FIELDS

- CONTINENT
- REGION
- COUNTRY
- AREA Sq. Miles
(000)
- POPULATION
(000,000)

OTHER DEMOGRAPHIC FACTORS

- GNP/CAPITA (Poverty)
- LITERACY
80%+ Shaded
- GENDER
- LIFE EXPECTANCY
(Health: Malaria, HIV)
- RELIGION %



10 Factors Contributing to Level of Gifted Participation

- Government **POLICY** –
Policy Year – National Tests
National or De-Centralized
- Special Schools
- **Acceleration**
- Inclusion
- Pullout Classes
- Extra-Curricular
- **Competitions**
- **Teacher Training**
- University
Research
- Gifted
Organizations/
Conferences