Brief History of the IB

- IB was founded in Geneva in 1978 as a non-profit educational foundation with the following iniltial schools:
  - UWC of the Atlantic – Wales
  - ISG – Geneva, Switzerland
  - UNIS – New York, USA
  - International College – Beirut, Lebanon
  - Copenhagen IS – Denmark
  - Iranzamin International School – Teheran, Iran
  - North Manchester School for Girls – England
- MYP and PYP originated in 1994
- Now 4000 schools in 150 countries. (Austria has 9 schools doing the IB program.)

IB Diploma Requirements

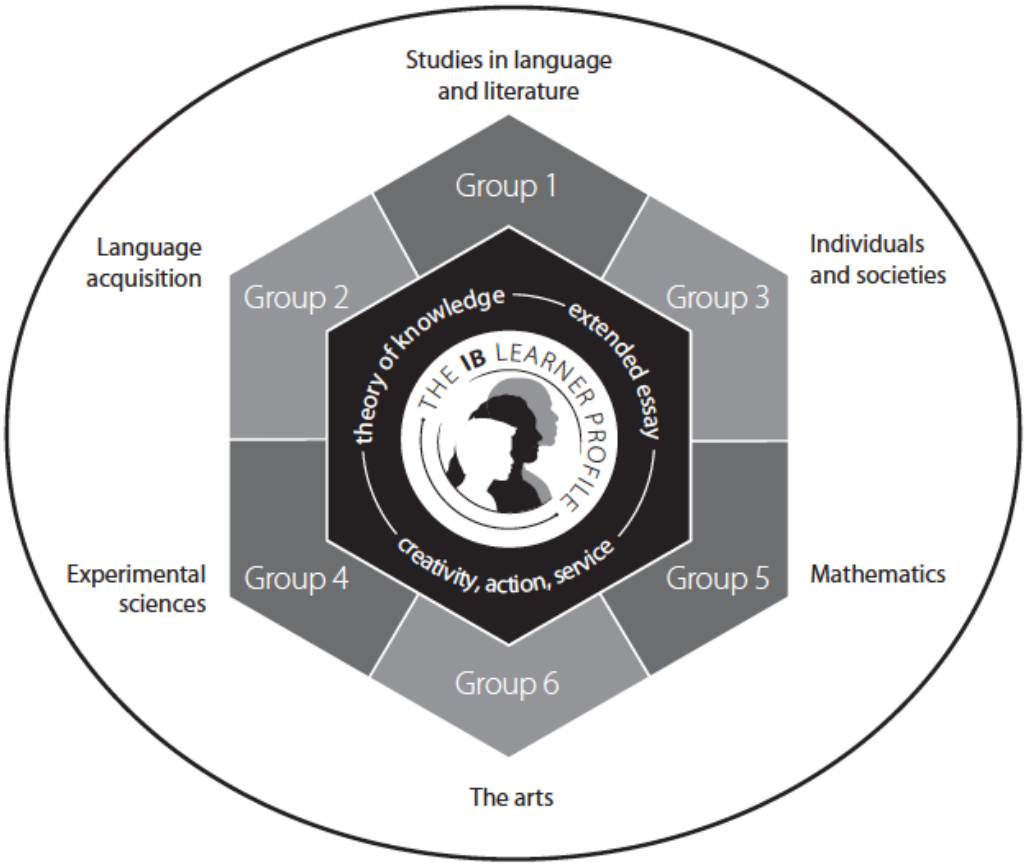

Figure 1
Diploma Programme model

IB Mathematics Courses

Higher Level – 240 teaching hours

- Mathematics Higher Level
- Further Mathematics

Standard Level – 150 teaching hours

- Mathematics Standard Level
- Mathematical Studies

IB Mathematics Assessment

Externally Assessed 80%

Paper 1 – Short and Long answer

- HL and SL: No GDC allowed
- FM and MS: GDC allowed

Paper 2 – Short and Long answer

- All courses GDC required

Paper 3 (HL only) – Long answer

- GDC allowed

Internally Assessed 20%
(externally moderated)

Mathematical Exploration

Criteria – total marks 20

- Communication (3)
- Mathematical presentation (4)
- Personal engagement (4)
- Reflection (3)
- Use of mathematics (6)

Some countries with EEs

- USA (AP system)
- Countries in both north and south Africa
- Far-East: Japan, China, Hong Kong, Korea, Singapore
- Mid-East: Lebanon, Iran, Egypt, Israel
- Europe: Poland, Spain, France, UK (A-levels), Bulgaria, Hungary, the Netherlands, Slovenia, Rumania, Slovakia Denmark, Czech Republic
- South America: Columbia
- Other: Russia, Australia, New Zealand, Thailand, Canada

What is an external exam system?

- **Achievement**: Defined relative to an external standard, rather than to other students or other schools.

- **Accountability**: Encompasses all secondary school students, so that the system as a whole (school boards, school management, parents, teachers, etc.) is responsible for student success, rather than just an individual teacher or school.

- **Assessment**: It aims to assess a major portion of the subject matter, rather than a selection of the curricula, i.e., maximum competency signaling higher levels of performance rather then minimum competency.

What do the Stats say?

Students from countries with medium to high stakes EEs

- Outperform their high school counterparts from countries with similar GNP by 1 to 2 grade level equivalents. – *CPRE Research Report Series, USA*

- Outperform their middle school counterparts between 35% and 47% of an international sd in test scores – *TIMSS-Repeat*

Why is student achievement increased?

- Higher minimum standards for entry teachers
- 30%-40% higher salaries than systems with non-EEs
- Teachers are specialists in their fields
- Teachers more likely to offer help gratuitously
- Teachers and students become allies, us against “the system”.
- Parental involvement is more informed, hence more effective.
- Opportunistic behavior of students, teachers, and parents are curbed.

How do external exams increase achievement?

- EEs change the signaling of student achievement, e.g., increases university acceptance, job opportunities, etc.
- EEs change the incentives faced by students, parents, teachers, and school administrators
- EEs change the available resources made available to schools
- EES change the priorities of school administsrators, teacher pedagogy, parental encouragement, and student effort

What are benefits of EEs for teachers?

- Well-designed external examination systems should induce improvements in instructional practices by providing ongoing **professional development** opportunities. (IBO ongoing curricula reviews)
- Personal and **professional requirements** for all professionals increase, e.g., degrees required previous experience, etc.
- **Improved resources** for teachers, e.g., science labs modernized, etc.
- **Increased wages** due to increased demands.
- **Pressure** to inflate grades **disappears**

What are the benefits of EEs for students?

- Students from countries with medium to high stake systems outperformed (in university performance, career performance, etc.) students from other countries of a comparable economic development.
- Improves the signaling of academic achievement, i.e., shift toward objective rather than subjective measures, such as rank, teacher grades, etc.
- It aims to assess a major portion of the subject matter, rather than a selection of the curricula, i.e., maximum competency signaling higher levels of performance rather then minimum competency.

What are possible pitfalls of EEs?

- High stake exams emphasize memorization, ‘drill and practice’ methods, cramming, etc. over understanding and processes, i.e., ‘teaching to the test’
- Aiming assessment to the lowest cognitive achievement levels in order to inflate outcomes
- The exam dictates what’s worth knowing, i.e., if it’s not on the exam, then we don’t have to learn it.

IB exam writing and administration

- Chief examiner and deputies
- Separation of hemispheres and time zones
- Written 2 years in advance
- Paper writing in teams of 3
- Translation into IB 3 official languages
- Given on same day worldwide
- Teachers see exam 24 hours later
- Teachers can respond to the paper within a month
- Grade award criteria based, not stats based
- Students receive grades two months later

IB Curriculum Cycles

- A curriculum cycle is 5-7 years
- Curriculum review teams directly involve practitioners
- Recommendations made to diploma review committee
- New guides and workshops one year before implementation