21 YEARS
DANUBE
INTERNATIONAL SCHOOL
VIENNA

SCHOOL ASSESSMENT: IDENTIFYING DATA, ANALYSING RESULTS, IMPROVING LEARNING AND TEACHING

A look at the complicated view of the assessment universe

Sharing with you

- Why we chose to focus on Assessment
- The various assessment views
- How we gather, analyse, interpret and use assessment data
- Some thoughts about additional assessment tools for an internationally-minded school?

Contributions

- Matthew Savage (former Secondary Principal)

- Gil Bierman (Secondary Principal) and Sarah Ford (IB PYP Leader) & their Assessment Team

- GL Assessment

Background

- Danube International School Vienna
  - IB World School (IB PYP, IB MYP and IB Diploma)
  - 21 Years Old
  - 510 students
  - 60+ nationalities of students
  - 27 nationalities of staff

Background

- Director since 2009
- My 18th year in International Education and 4th IB World School
- BSc Hons in Mathematics, Operational Research and Economics
- PGCE in Secondary Mathematics
- MSc in Management Sciences
  - Dissertation - Use of Data Envelopment Analysis in UK Primary Schools
- MEd in Educational Management
  - Dissertation – Development of an Educational Possibility Model for an internationally-minded school

Why a presentation on Assessment?

- Four years ago we collaboratively created a new vision

- Three years ago (led by principals) we collaboratively created an aspirational strategy for learning and teaching.
  - At the heart were
    - Assessment
    - Language
    - Physical and Emotional Learning Environments

DISV Learning and Teaching Strategy

To synthesise the SCIENCE of LEARNING with the ART of TEACHING within the EYU to Grade 12 classroom

CLIMATE FOR LEARNING

At DISV, we create and sustain an effective CLIMATE for learning, because we believe that the fruits of lifelong learning grow best in the most fertile soil. This climate can be divided into EMOTIONAL and PHYSICAL learning environments.

Embracing and fostering the attributes of the IB Learner Profile, the EMOTIONAL environment will:

| safeguard emotional SAFETY, with self-esteem increased, and risk-taking encouraged and attractive | demonstrate mutual RESPECT, with the views, strengths and needs of learners valued by all | maximise PRAISE, with achievement celebrated and rewarded, a positive experience for all | create FUN and EXCITEMENT, with learning shared, purposeful and open to every learner | celebrate DIVERSITY, with internationalism embraced, and learning made relevant to all |

Consistently adopting best practice, the PHYSICAL environment will:

| exhibit creative, informative and interactive DISPLAY, which enables Assessment for Learning | be efficiently ORGANISED, giving full access to relevant resources, in an attractive classroom of which learners are proud | provide a flexible, learning-centred LAYOUT, which encourages groupwork | recognise that SEATING PLANS should be dynamic, learner-centred and strategic | stimulate the SENSES, using natural light, plants, music and scent to enhance learning |

STRUCTURE FOR LEARNING

At DISV, we use the following STRUCTURE for learning. We believe this scaffolded structure accelerates learning.

Each lesson or group of lessons will creatively follow a 4-part structure, consisting of:

| CONNECTING the learning, to prior/future lessons and to each learner themselves; selling the benefits and agreeing the Learning Objective, success criteria and the "Big Picture" of content/ process | ACTIVATING the learning by stimulating interest, prompting enquiry, engaging critical thinking, and providing a rich, interactive experience | DEMONSTRATING the learning; giving learners opportunities to 'show they know', through action, experimentation and in multiple modes; and ensuring educative feedback in or near the authentic experience | CONSOLIDATING the learning; enabling learners to evaluate and reflect collaboratively; linking learning to previous and future connections |

Why a presentation on Assessment?

- Two years ago, our Secondary Principal and PYP Leader collaboratively led and created a whole school assessment policy.

- We are not *"boldly going where no man has gone before"* but we need to go there.

- ... as we are passionate about improving student learning.

Why a presentation on Assessment?

- John Hattie in "Visible Thinking" states that we need to have high student expectations, develop assessment capable students and use the power of critique and feedback.

- Grant Wiggins "Backward Design – The need for Assessment to drive curriculum planning"

- In short in its various forms *Assessment* is one of the most cost-effective and important drivers of improvement in student learning

What is Assessment?

- *Assessment is the process of gathering, analysing, interpreting and using information about students' progress and achievement to improve teaching and learning.* *Visible Learning Plus*

Types of Assessment?

- work samples (writing, drawing, concept map, model);
- tests (verbal, essay, multiple-choice, matching);
- interviews and conferences (taped, verbal, peer assessment, group discussion);
- portfolios (diaries, sketches, journals, digital files, notes);
- performance (problem-solving, roleplay, structured discussions, debates);
- major work (exhibition, invention, investigative project, recital).

Data Points

- School wide
- Programme wide
- Subject wide
- Grade wide
- Teacher specific
- Student specific

- Task (knowledge)
- Task (skills)
- Task (understanding)

- Abilities
- Achievements
- Engagement
- *Targets (Predictions)*

- External (paper/computer) generated
- Teacher generated
- Student (self/peer) generated

Can Assessment Data help us?

Yes .. But you have to choose the right data/ information for the right purpose.

You need to be aware of its potential and its limitations.

Assessment Analysis

- Boring

- Takes time

- Good quality assessment data can enable ...

- Poor quality assessment data can muddy ...
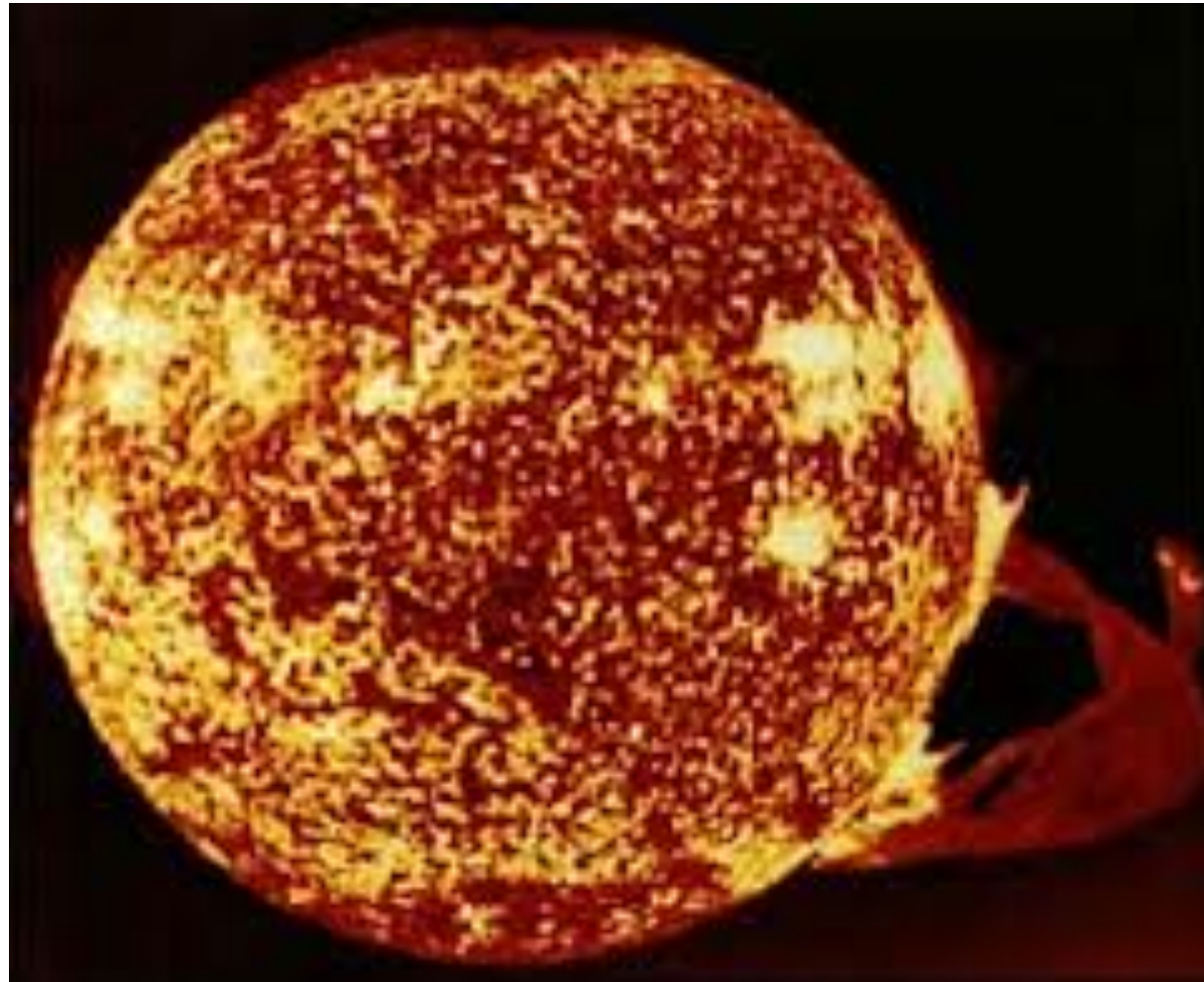

- Vital if a school wants to improve student learning
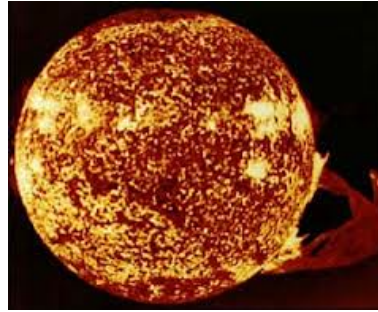
Assessment the BIG picture

- Is the sun shining today?

- The end of semester grade in Mathematics for Jane is an A

Assessment the BIGGER picture

- The sun is hot and looks to be complex.

- A breakdown of Jane's grade in Mathematics
  - various pieces of summative and formative assessment, which use a variety of assessment tools on a range of tasks and using different assessment rubrics

Assessment THE BIG picture

The assessment universe

- Where is our sun amongst all of that

- The overall level of achievement for all students in end of year internal assessments for all subjects.

- The overall level of achievement for all students external assessments

- All ongoing formative and summative school assessment data

# Assessment a BEAUTIFUL picture

An assessment cluster

- A beautiful formation when seen clearly

- Students results across all their subjects during a year after you have stripped away any 'institutional biases' (A STEM school, a Bi-lingual school, a Music school)

- An individual students results after you have factored in additional factors (ELD, dyslexia, divorce, major illness, ability)

Assessment the INVISIBLE picture
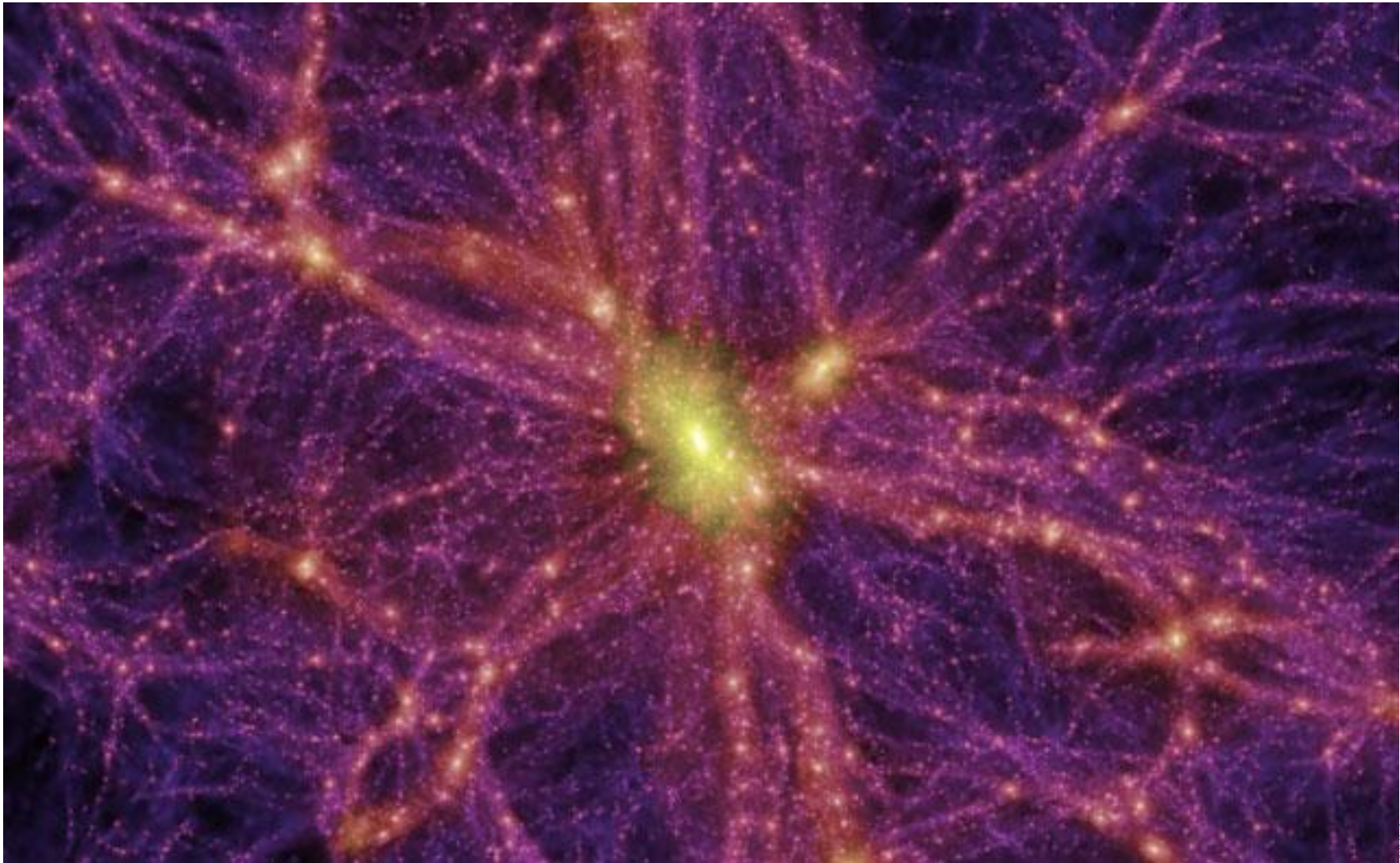
Dark Assessment Matter
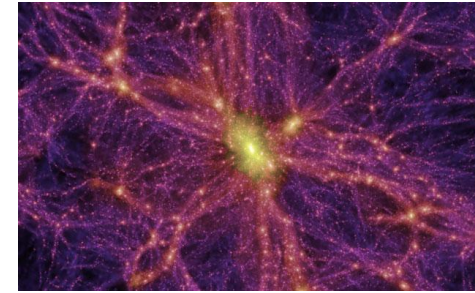
- We know something is out there having a massive effect on the assessment universe but we can't see it.

- We know students have different talents, attitudes and abilities that indicate their current potential.

- We need to look for them!

Assessment – The Force!

Dark Assessment Energy

- Drives and accelerates expansion of universe

- What can drive and accelerate the expansion of a student's potential (brain plasticity)

  - Developing Learning styles?

  - Enhancing their Learning 'skills' toolbox?
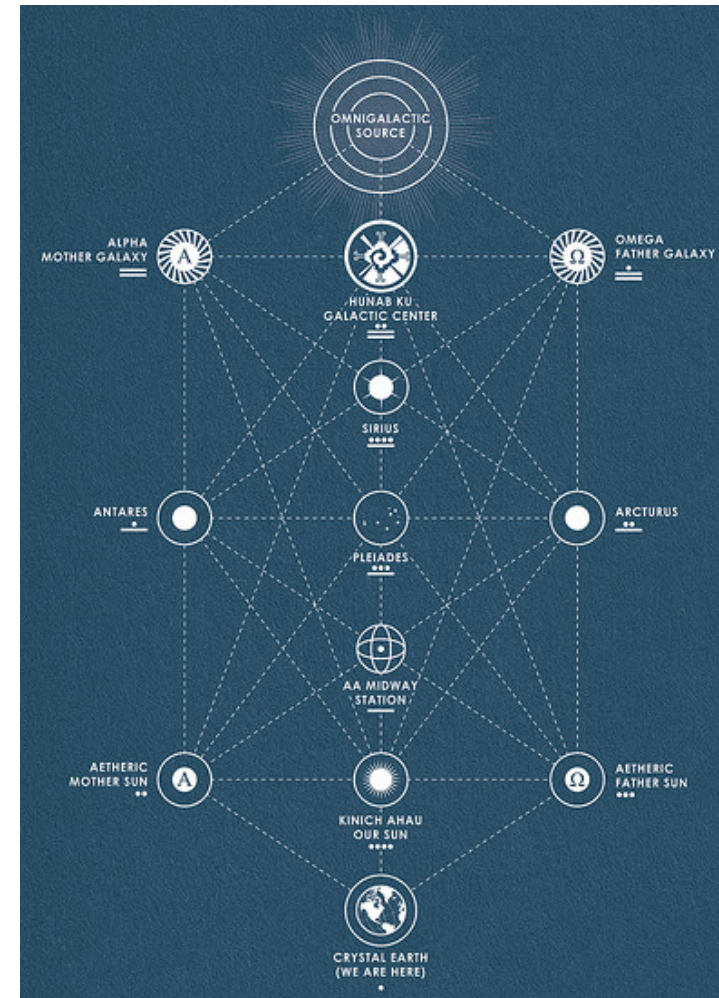
  - Engaging them in their learning?

We have found all life forms in the galaxy are capable of superior development.
-- Kirk in 'The Gamesters of Triskelion'
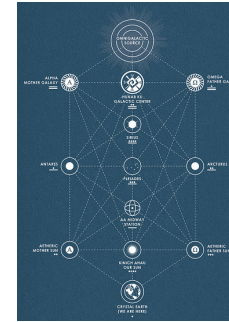
Assessment – Is there a Map?
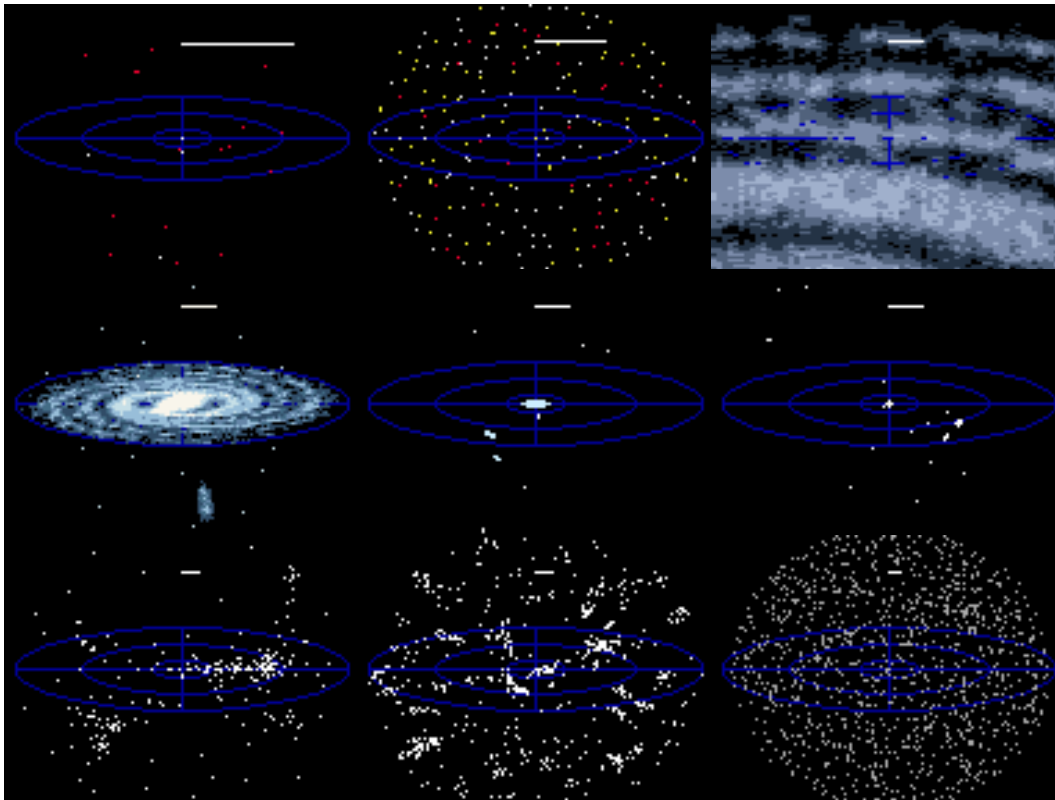
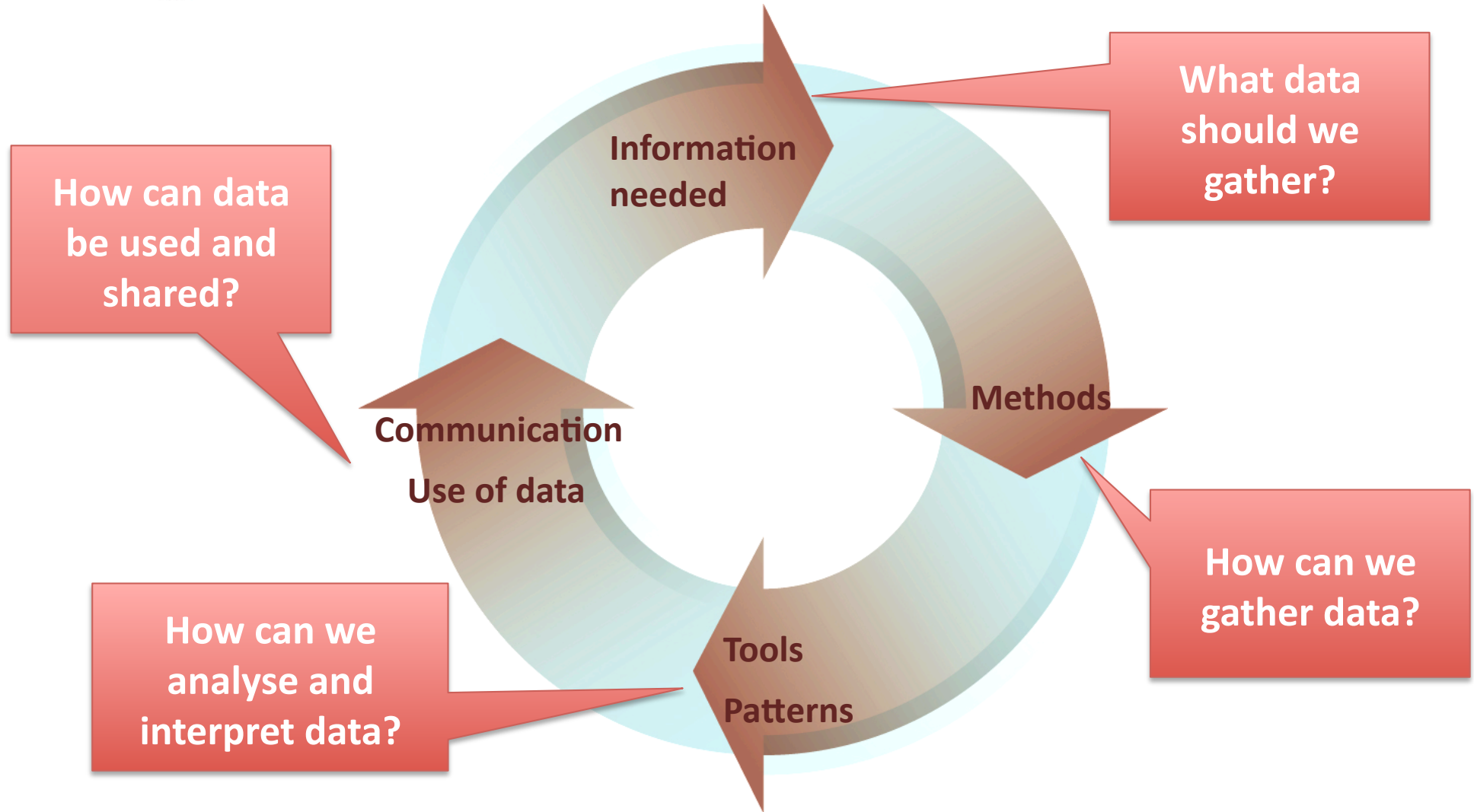12.5 to 14 billion light years from our sun
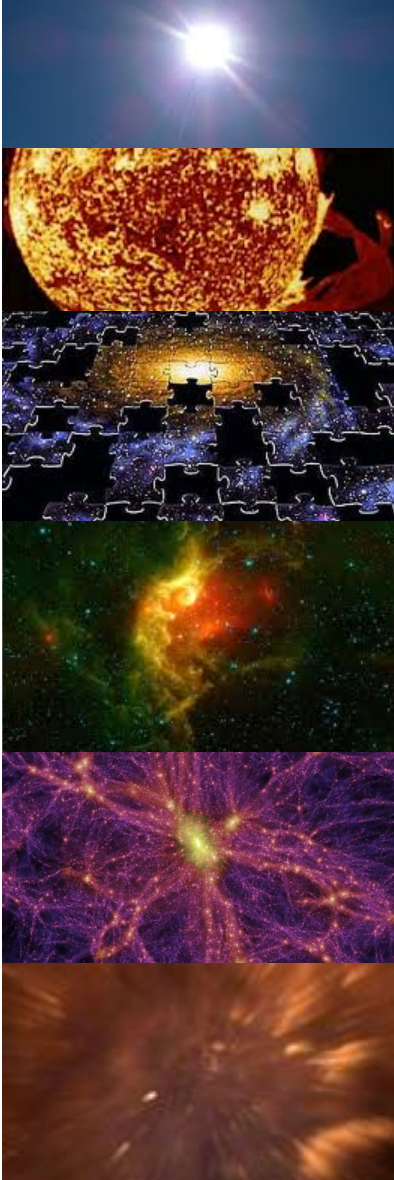

Mayan Star Map

- Daunting or Mysterious

  1. Ensure you have the overall Vision

  2. Be Aspirational

  3. Be Collaborative and Communicate every step of the way

  4. Follow a process

Assessment Circle

Assessment Views

- An individual student's subject results from a distance
- An individual student's subject results close up

- The school, the various phases, the range subjects, the assessments within the subjects

- An individual student or group of students after 'stripping out' the background assessment noise

- An individual students talents and abilities

- An individual students learning styles, approaches to learning 'skills' toolbox, level of engagement

Gathering the Data
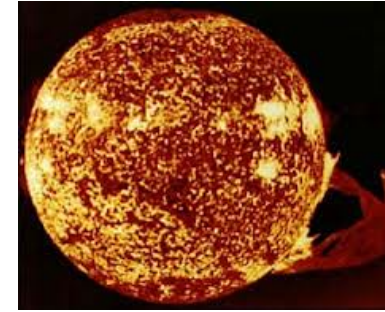
- Student self-assessment and peer-assessment results …

- Teachers records assessment tasks and the feedback for both formative and summative is on 'Managebac'

  – Other gradebook systems are stand alone (mygradebook, gradekeeper) or in integrated school databases (SIMS, Serco, Blackbaud, etc)

  – Transparent

Gathering - Managebac

Summary of Achievement

1st Semester 2012-2013

Subject	Final Grade	Effort Grade
erature (Grade 11)	7	A
ade 11)	6	A
itio (Grade 11)	6	B
Grade 11)	6	A
e 11)	6	B
(Grade 11)	5	N/A
edge (Grade 11)	6	A

Attendance

Absent	Present	Late	Dismissed	Fieldtrip	Other
1	40	4	2	4	5

Gathering - Managebac
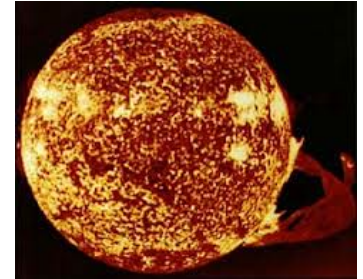
Danube International School Vienna
IB DP Economics (Grade 11)

Dashboard | Profile | DP MYP & PYP | Classes | Groups | Users

Overview | Assignments | Attendance | Messages | Calendar | Files | Students

Gradebook — 1st Semester 2012-2013   Term: 1st Semester 2012-2013 (current)

Assignments | Submit Term Grades

	24 Sep 2012	03 Oct 2012	05 Nov 2012	09 Nov 2012	
	exam Q. Demand. p-33	Demanad, supply, equili...	Price elasticity of supply	Elasticity test	stu
	Homework	Test	Homework	Test	
	7/7 – 7	5/7 – 5		5/7 – 5	
	6/7 – 6	5/7 – 5		7/7 – 7	
	5/7 – 5	4/7 – 4		6/7 – 6	
	7/7 – 7	6/7 – 6		5/7 – 5	
	7/7 – 7	6/7 – 6		7/7 – 7	

Analysing Internal Assessment

Name	English		German		3rd Lang
	S1	S2	S1	S2	S1
	6 A		4 B		4 B
	5 C		4 D		3 D
	6 A		6 A		4 B
	4 B		5 D		5 D
	5 C		5 B		5 C
	5 B		5 B		C (ESL)
	5 A		4 A		A (ESL)
	B		3 D		B (ESL)
	4 B		4 A		4 C
	5 B		6 A		4 B
	5 B		5 B		4 B
	3 D		4 C		5 C

7	6	5	4	3	2	1	INC	Av	A	B	C	D	E	Av
0	4	5	3	0	0	0	0	5.1	5	8	0	0	0	4.4
0	2	2	4	2	0	0	2	3.7	0	2	6	3	0	2.5
1	5	4	2	0	0	0	0	5.4	7	6	0	0	0	4.5
0	1	3	5	2	1	0	0	4.1	1	3	2	7	0	2.8
0	5	7	0	0	0	0	0	5.4	4	6	3	0	0	4.1
0	1	8	2	0	0	0	0	4.9	1	10	1	0	0	4.0
0	1	4	4	0	0	0	0	4.7	7	2	2	0	0	4.5
0	0	1	3	2	0	0	1	3.3	2	2	4	1	0	3.2
0	2	3	6	1	0	0	0	4.5	4	4	5	0	0	3.9
1	6	3	2	0	0	0	0	5.5	6	7	0	0	0	4.5
1	4	3	3	0	0	0	1	4.8	2	8	2	0	0	3.7
1	3	5	2	1	0	0	0	5.1	2	5	5	1	0	3.6

- Individual Student results (achievement and engagement) per subject and average

Analysing

Average assessment level & engagement result per Subject per grade

	English				German				3rd Language (ESL if not noted)				PTL				Science							
	7	1	A	11	7	0	A	15	7	0	A	1	7	1	A	2	7	0	A	6	7	0	A	4
	6	9	B	13	6	9	B	9	6	6	B	9	6	2	B	2	6	3	B	15	6	3	B	13
	5	10	C	9	5	13	C	7	5	7	C	12	5	1	C	1	5	11	C	12	5	8	C	13
	4	14	D	6	4	14	D	7	4	9	D	3	4	1	D	0	4	12	D	5	4	14	D	4
	3	4	E	0	3	2	E	0	3	3	E	0	3	0	E	0	3	9	E	0	3	9	E	0
	2	0	IN	0	2	0	IN	1	2	0	IN	1	2	0	INC	0	2	1	IN	1	2	0	IN	5
	1	0			1	0			1	0			1	0			1	0			1	0		
Total Students	38		39		39		39		26		26		5		5		37		39		39		39	
Average Grades	4.7		3.7		4.6		3.7		4.5		3.2		5.6		4.2		4.1		3.5		3.6		3.1	

Average assessment level & engagement result in the same grade

7	6	5	4	3	2	1	INC	Av	A	B	C	D	E	Av
34	67	89	49	24	8	0	3	5.0	110	108	70	20	2	3.9

Analysing

- IB PYP internal reports
  - Exceeding, Meeting, Developing, Beginning for each Unit of Inquiry

	UoI 1	UoI 2	UoI 3	UoI 4	UoI 5	UoI 6
Class D	5Es 17Ms 20Ds 12Bs			14Es 21Ms 15Ds 4Bs		
Class V	12Es 18Ms 17Ds 7Bs			14Es 18Ms 17Ds 5Bs		

- Benchmarked against the expectation of what they should do by the end of the grade vs expectation of what the should be able to do now

Intrepreting and Using

- Interventions with students
  - Have they passed the mid-semester, semester in achievement and engagement – why did this not occur, can they be supported to do so.
- Opportunities to celebrate
  - We have an honor roll on a stairwell
    - Average Grade of 5.5
- Most improved ELD student
- Interventions with staff
  - A teacher-generated engagement/effort results are out of sync with every other teacher
    - Learn how this teacher got students really engaged in the subject?
    - Is the teacher applying the assessment levels too strictly?
- Greater consistency across subjects and grades
  - Standardisation achieved as a product of data analysis
    - New staff alignment

- IB Diploma Students
  - Write extended essays, lab reports, world literature essays, complete orals, answer multiple choice, interpret data, write a timed essay in a final exam .....
  - Predictions by teachers

- They produce a lot of data

Gathering

Category	DIPLOMÁ
Birth Date	01 JUL 1992

Subject Details

Grade	Subject
5	MAY 2010 - ENGLISH A1 HL in ENGLISH
7	MAY 2010 - GERMAN B SL in GERMAN
D	MAY 2010 - HISTORY EE in ENGLISH
6	MAY 2010 - HIST.EUROPE/ME HL in ENGLISH
5	MAY 2010 - PHYSICS SL in ENGLISH
5	MAY 2010 - MATHEMATICS SL in ENGLISH
5	MAY 2010 - VISUAL ARTS OPTION A HL in ENGLISH
B	MAY 2010 - THEORY KNOWL. TK in ENGLISH

EE/TOK points:	1
Total Points:	34
Result:	Diploma awarded

Analysing and Interpreting

- Did this student achieve as highly as possible?

- Why did this student gain a 34 points, a 6 in History, a B in TOK but a D in extended essay?

- Compare to a measure of the students abilities

Subject Results

Predicted grade	Grade	Scaled total	ENGLISH A1 HL in
7	6	73	00068
6	6	72	00068
6	5	56	00068
5	5	64	00068
6	5	60	00068
5	5	60	00068
4	4	49	00068
4	4	51	00068 (DIPL

Analysing and Interpreting

- Calculate the average difference between the predicted grade and actual grade for each class.

- i.e. Under-predictions: Biology 10%, German B 9%, Economics 7%
  - Why?
    - Does this raise a concern about a student being under-predicted for a university application?

Gathering

Subject results

Subject results – grade distribution

Subject	Number of Candidates	Grade									Average grade (school)	Average grade (World-Wide)	Highest grade	Lowest grade
		7	6	5	4	3	2	1	P	N				
Subject Group 1														
ALBANIAN A1 SL	1	1	0	0	0	0	0	0	0	0	7.00	7.00	7	7
BULGARIAN A1 HL	1	1	0	0	0	0	0	0	0	0	7.00	6.38	7	7
CHINESE A1 HL	1	0	0	1	0	0	0	0	0	0	5.00	5.23	5	5
CROATIAN A1 SL	1	0	0	1	0	0	0	0	0	0	5.00	4.57	5	5
DUTCH A1 HL	1	0	0	0	1	0	0	0	0	0	4.00	4.97	4	4
ENGLISH A1 HL	8	0	2	4	2	0	0	0	0	0	5.00	4.72	6	4
ENGLISH A1 SL	6	0	3	3	0	0	0	0	0	0	5.50	4.97	6	5
GERMAN A1 HL	12	1	4	7	0	0	0	0	0	0	5.50	5.51	7	5
GERMAN A1 SL	6	0	1	4	1	0	0	0	0	0	5.00	5.41	6	4
POLISH A1 self taught SL	1	0	0	1	0	0	0	0	0	0	5.00	4.18	5	5

Gathering
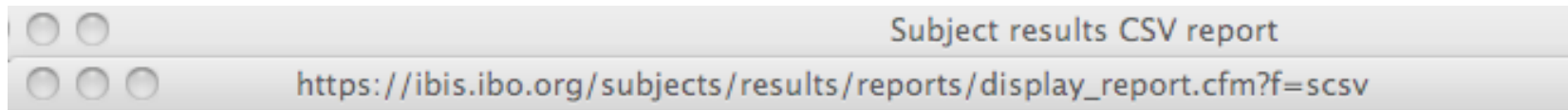
Subject results CSV report

https://ibis.ibo.org/subjects/results/reports/display_report.cfm?f=scsv

"Year","Month","Subject","Level","Language","School","Registration number","Personal
code","Name","Category","Predicted grade","Grade"
"2010","MAY","ALBANIAN A1","SL","ALBANIAN","00   PLOMA","7","7"
"2010","MAY","BULGARIAN A1","EE","BULGARIAN"   a","DIPLOMA","A","A"
"2010","MAY","BULGARIAN A1","HL","BULGARIAN"   a","DIPLOMA","7","7"
"2010","MAY","CHINESE A1","EE","CHINESE","00068   LOMA","A","B"
"2010","MAY","CHINESE A1","HL","CHINESE","00068   LOMA","7","5"
"2010","MAY","CROATIAN A1","SL","CROATIAN","0   CERTIFICATE","7","5"
"2010","MAY","DUTCH A1","HL","DUTCH","000684",   A","5","4"
"2010","MAY","ENGLISH A1","EE","ENGLISH","00068   LOMA","B","C"
"2010","MAY","ENGLISH A1","EE","ENGLISH","00068   ,"DIPLOMA","B","C"
"2010","MAY","ENGLISH A1","EE","ENGLISH","00068   DIPLOMA","C","C"
"2010","MAY","ENGLISH A1","EE","ENGLISH","00068   ,"DIPLOMA","F","N"
"2010","MAY","ENGLISH A1","HL","ENGLISH","00068   LOMA","7","6"
"2010","MAY","ENGLISH A1","HL","ENGLISH","00068   OMA","6","6"
"2010","MAY","ENGLISH A1","HL","ENGLISH","00068   "DIPLOMA","6","5"
"2010","MAY","ENGLISH A1","HL","ENGLISH","00068   ,"DIPLOMA","5","5"
"2010","MAY","ENGLISH A1","HL","ENGLISH","00068   ,"DIPLOMA","6","5"
"2010","MAY","ENGLISH A1","HL","ENGLISH","00068   halia","DIPLOMA","5","5
"2010","MAY","ENGLISH A1","HL","ENGLISH","00068   aré","DIPLOMA","4","4"
"2010","MAY","ENGLISH A1","HL","ENGLISH","00068
                              DIPLOMA","4","4"
"2010","MAY","ENGLISH A1","SL","ENGLISH","000684   PLOMA","6","6"
"2010","MAY","ENGLISH A1","SL","ENGLISH","000684   LOMA","6","6"
"2010","MAY","ENGLISH A1","SL","ENGLISH","000684   y","DIPLOMA","6","6"
"2010","MAY","ENGLISH A1","SL","ENGLISH","00068   PLOMA","5","5"

- Accounting for different ability levels in different classes
- Find the average grade per student
- Student's Grade in each subject – average Grade of the student
- Further Discount IB average subject score (IB average subject score – (IB average subject scores * number of students in subject)/total number of subject candidates)).
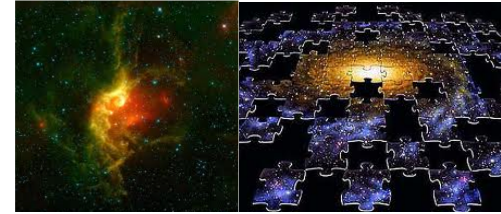
Subjects: Analysing & Interpreting
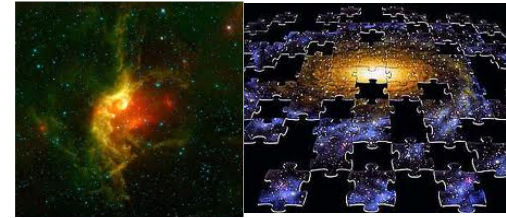
- Which subjects appear to have a better value-added grade than the average grade of the class of student and the IB worldwide exam)?

2012		ARABIC A1 HL		BULGARIAN A1 HL		CHINESE A1 SL			ENGLISH A1 HL	ENGLISH A1 SL
Number of Student in Class		1.00		5.00		1.00			5.00	7.00
Average Class deviation from student average grade		0.80		1.06		0.20			0.72	-0.46
Worldwide average		4.97		5.95		5.44			4.69	5.05
DISV student average		5.00		6.00		6.00			5.40	4.43
world av * students		4.97		29.75		5.44			23.45	35.35
world deviation from overall average		0.08		1.06		0.55			-0.20	0.16
Individual Subject Deviation (factoring in deviation from worldwide average)		0.72		0.00		-0.35			0.92	-0.62

Analysing and Interpreting

2012

	ARABIC A1 HL	BULGARIAN A1 HL	CHINESE A1 SL	ENGLISH A1 HL	ENGLISH A1 SL
Number of Student in Class	1.00	5.00	1.00	5.00	7.00
Average Class deviation from student average grade	0.80	1.06	0.20	0.72	-0.46
Worldwide average	4.97	5.95	5.44	4.69	5.05
DISV student average	5.00	6.00	6.00	5.40	4.43
world av * students	4.97	29.75	5.44	23.45	35.35
world deviation from overall average	0.08	1.06	0.55	-0.20	0.16
Individual Subject Deviation (factoring in deviation from worldwide average)	0.72	0.00	-0.35	0.92	-0.62

2011

	ARABIC A1 HL	BULGARIAN A1 HL	ENGLISH A1 HL	ENGLISH A1 SL
Number of Student in Class	1.00	1.00	9.00	6.00
Average Class deviation from student average grade	-0.80	1.30	0.52	-0.15
Worldwide average	5.05	6.14	4.74	5.06
DISV student average	3.00	6.00	5.44	4.67
world av * students	5.05	6.14	42.66	30.36
world deviation from overall average	0.18	1.27	-0.13	0.19
Individual Subject Deviation (factoring in deviation from worldwide average)	-0.98	0.03	0.65	-0.34

2010

	ALBANIAN A1 SL	BULGARIAN A1 HL	CHINESE A1 HL	CROATIAN A1 SL	DUTCH A1 HL	ENGLISH A1 HL	ENGLISH A1 SL
Number of Student in Class	2.00	2.00	2.00	2.00	2.00	9.00	7.00
Average Class deviation from student average grade	0.80	1.30	1.00	1.60	-1.00	0.38	-0.32
Worldwide average	7.00	6.38	5.23	4.57	4.97	4.72	4.97
DISV student average	7.00	7.00	5.00	5.00	4.00	5.00	5.50
world av * students	14.00	12.76	10.46	9.14	9.94	42.48	34.79
world deviation from overall average	2.15	1.53	0.38	-0.28	0.12	-0.13	0.12
Individual Subject Deviation (factoring in deviation from worldwide average)	-1.35	-0.23	0.62	1.88	-1.12	0.51	-0.44

Gathering
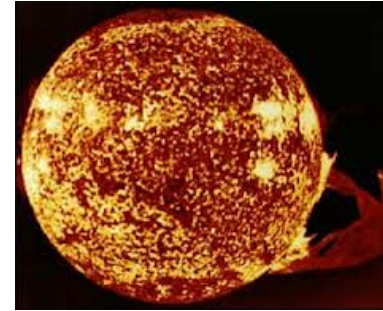
International Baccalaureate

Component results

Session	MAY 2010
School	Danube International School

ENGLISH A1 SL WORLD LITERATURE

Grade boundaries

Grade	Minimum	Maximum
1	0	2
2	3	5
3	6	7
4	8	10
5	11	13
6	14	16
7	17	20

		Raw mark	Moderated mark	Grade
00068	OMA)		18	7
00068	y (DIPLOMA)		16	6
00068	LOMA)		12	5
00068	OMA)		12	5
00068	PLOMA)		12	5
00068	(DIPLOMA)		12	5

Analysing and Interpreting
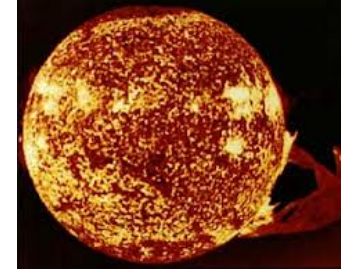
	IA	P1	P2	P3	World Lit
English AHL	4.6	5.4	5.2		4.4
English ASL	5.4	2.9	4.6		5

Why did English A SL students perform less effectively in Paper 1?

Interpreting
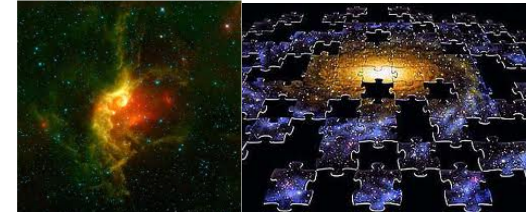
- English A1 HL students were mainly native English speakers

- English A1 SL students were mainly non-native English speakers
  - Look for strategies to further support this group

Programme Wide:
Analysing & Interpreting

School statistics	
Number of candidates registered in the session:	45
Number of diploma and retake candidates registered in the session:	39
Number of subject entries in the session:	346
Number of candidates who passed the diploma:	37
Average points obtained by candidates who passed the diploma:	33
Highest diploma points awarded to a candidate:	43
Average grade obtained at the school by candidates who passed the diploma:	5.30
Total number of candidates excluded from statistics:	3

- Find percentage of students with Bi-lingual Diploma
- Compare with IB averages (available later that year)

Using

- Celebrate!!
- Inform the board/governance
- Use to reinforce high expectations
- Use for marketing purposes
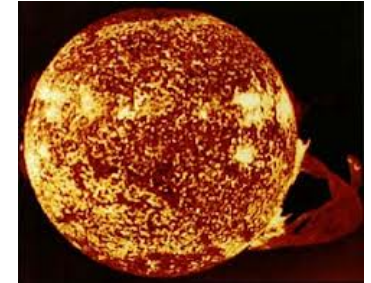
- International Schools' Assessment
  - ACER (Australian Council for Educational Research)
- Test Grades 3, 5, 7 & 9 in October
- Measures Reading, Mathematical Literacy, Writing (Narrative and Exposition)
- Results End of December – can distribute use in January
- OECD uses the PISA to compare countries

Other schools may use MAP Northwest Evaluation Association.
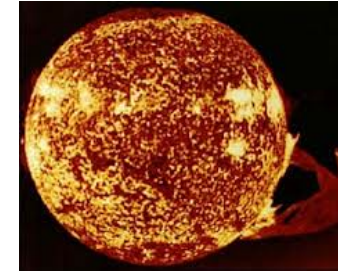
Just in time!

Write a story with these words in it.

You may use these words at the beginning, in the middle or at the end of your writing.

Or you could use 'Just in time' as the title of your story.

Should lions be kept in cages?

I think lions are lucky to live in a zoo. They never have to worry about anything.

I don't think so. It is cruel to lock them up. They should be free.

Should lions be kept in cages

Write about what you think and give your reasons why.

Do not write a story for this piece of writing

Math Literacy

Brick Wall

Mortar mix is placed between the bricks to form the joints
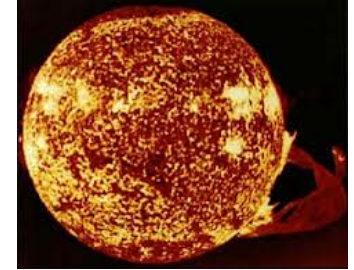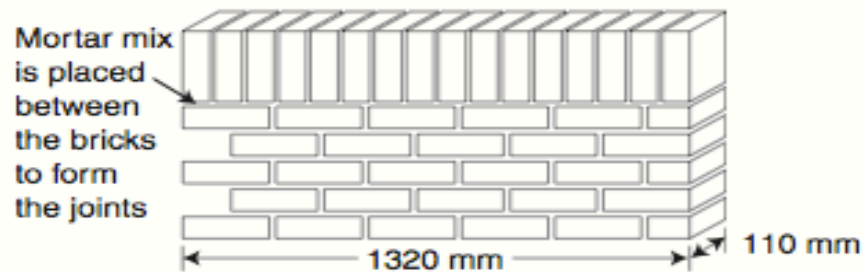
1320 mm

110 mm

When the 10 mm joints are added, each brick is 240 mm in length, 86 mm in height and 110 mm wide.

240 mm (includes joint)

110 mm

86 mm (includes joint)
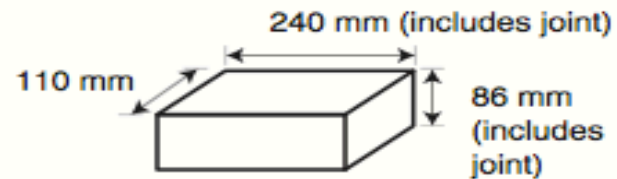
6 The thickness of the brick wall shown above is 110 mm and its length is 1320 mm.

The height of the wall is closest to

- ❏ 380 mm
- ❏ 430 mm
- ❏ 540 mm
- ❏ 610 mm
- ❏ 670 mm
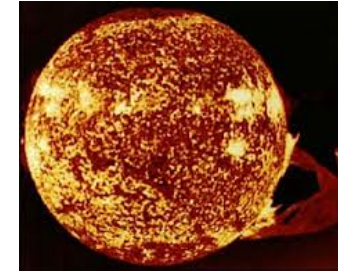
'Good morning, Grandfather.'

'Ah… Tan Yali. You are awake. Do you know what tomorrow is?'

'Yes, Grandfather. Spring Dragon Day.'

Grandfather sat heavily on his chair and helped himself to a ladle of rice porridge. Wisps of steam curled upwards from his bowl.

'Tomorrow,' began Grandfather, 'is the day dragons raise their heads. When they wake from hibernation, they begin to growl and shake their tails, causing thunderclaps.'

Tan Yali's mother cleared her throat.

'What do dragons look like?' asked Tan Yali.

Every year he asked this question, and every year Grandfather answered it as though it was the first time.

'The dragon has the body of a snake, antlers of a deer, talons of an eagle and the face of a horse.'

'Father,' interrupted Tan Yali's mother, 'you know dragons are a myth from the old days. You should not fill the boy's head with such nonsense. It would be better to help him with his lessons.'

Grandfather bowed his head and slurped his porridge. Tan Yali tried not to grin. He knew his mother hated it when Grandfather slurped. And he suspected Grandfather did it for that very reason.

Spring Dragon

SPRING DRAGON on the opposite page is from a novel.
Use SPRING DRAGON to answer the questions below.

1 Grandfather says that when dragons shake their tails

❑ spring begins.
❑ it is time for them to sleep.
❑ you hear thunder.
❑ the dragons start fighting.

2 Why does Tan Yali think Grandfather slurps his porridge?

_____

_____

3 Why does Tan Yali's mother 'clear her throat'?

❑ She is trying not to laugh at the story.
❑ She does not approve of Grandfather telling the story.
❑ She has noticed a mistake in the story.
❑ She is worried that Tan Yali will be frightened by the story.

Analysing

ISA October 2010–2011 School Report

Danube International School Vienna

Grade 3

Domain		Mathematical Literacy				Reading				Writing Task A				Writing Task B			
		n^3	mean[4]	S.D.[5]	significance[6]	n	mean	S.D.	significance	n	mean	S.D.	significance	n	mean	S.D.	significance
All	This school [1]	22	285	(101)		23	192	(105)		22	339	(57)		23	375	(46)	
	All other schools	4291	294	(89)	N	4256	244	(93)	Y	4260	362	(58)	N	4247	388	(52)	N
	Other like schools [2]	1073	291	(83)	N	1060	217	(91)	N	1058	351	(54)	N	1054	377	(52)	N
Males	This school	10	n/a	n/a		10	n/a	n/a		10	n/a	n/a		10	n/a	n/a	
	All other schools	2272	299	(91)	n/a	2251	236	(94)	n/a	2254	353	(57)	n/a	2250	380	(51)	n/a
	Other like schools	557	293	(83)	n/a	552	209	(90)	n/a	548	341	(52)	n/a	549	369	(51)	n/a
Females	This school	12	319	(53)		13	210	(108)		12	341	(72)		13	378	(48)	
	All other schools	2019	288	(86)	N	2005	254	(92)	N	2006	373	(58)	N	1997	397	(51)	N
	Other like schools	516	289	(82)	N	508	226	(92)	N	510	361	(55)	N	505	386	(51)	N
English speaking background	This school	2	n/a	n/a		2	n/a	n/a		2	n/a	n/a		2	n/a	n/a	
	All other schools	1611	299	(86)	n/a	1598	271	(90)	n/a	1606	370	(60)	n/a	1595	393	(51)	n/a
	Other like schools	87	n/a	n/a	n/a	87	n/a	n/a	n/a	87	n/a	n/a	n/a	87	n/a	n/a	n/a
Non-English speaking background	This school	20	284	(104)		21	182	(99)		20	335	(57)		21	372	(47)	
	All other schools	2675	291	(90)	N	2653	229	(92)	Y	2649	357	(57)	N	2647	384	(52)	N
	Other like schools	986	291	(83)	N	973	213	(89)	N	971	349	(54)	N	967	377	(51)	N

Note: Mean and standard deviation are reported only where the group number is greater than 10. Comparitive data is not provided if the comparison group has less than 100 students. In general, summary statistics of this kind should be interpreted with caution. Results showing a trend should be collected for a minimum of three years before conclusions about school-level performance are drawn.

1. Group 1: 25% of students or less in the school from an English speaking background.
2. "Other like schools" are those with a similar ratio of English speaking background students to non-English speaking background students.
3. n = Number of students
4. Means are expressed as ISA scale scores.
5. S.D. = standard deviation (expressed in ISA scale score points)
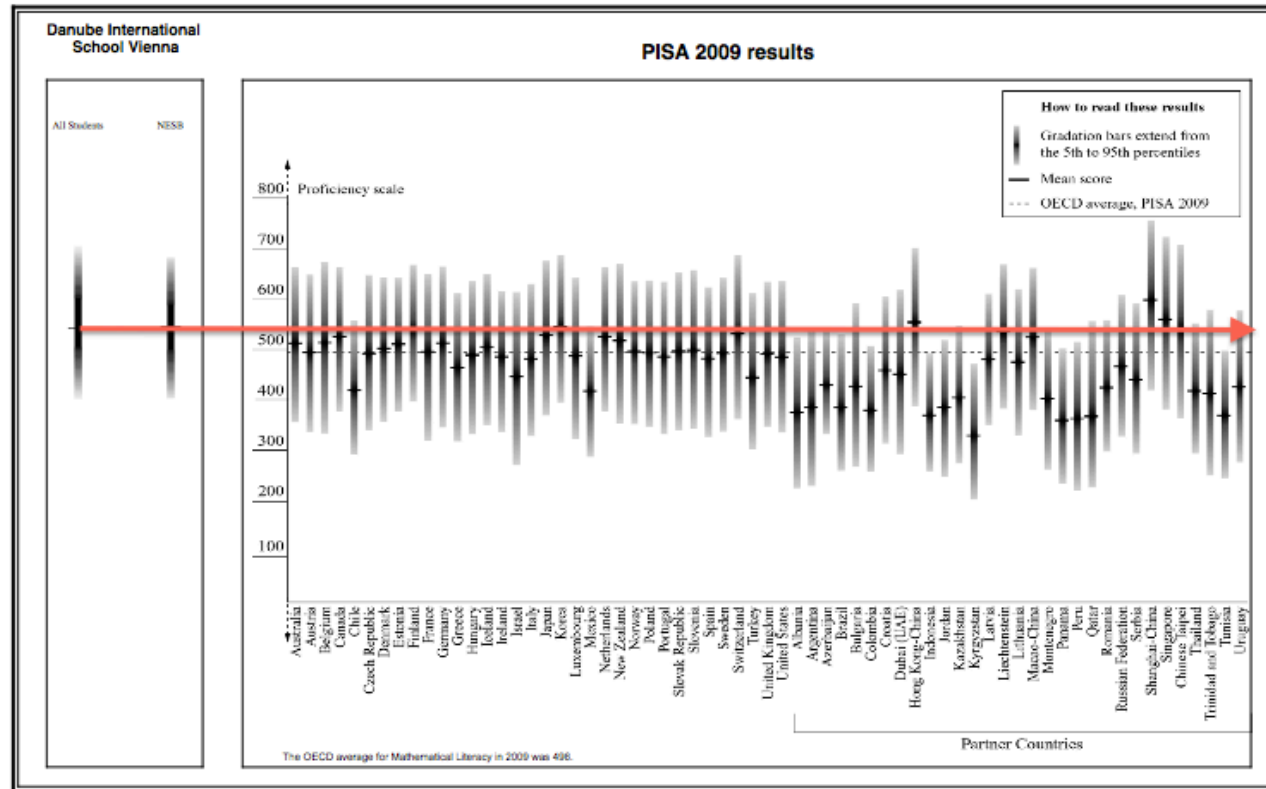6. significance is calculated with a t-test.

Interpreting and Using
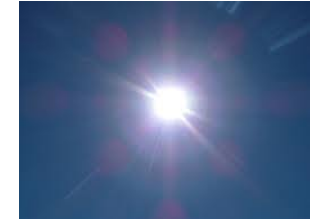
ISA October 2011–12 Mathematical Literacy
Danube International School Vienna, Grade 9
compared with national results from PISA 2009
(15-year-olds)

Marketing Purposes, Reassure Parents

Interpreting

2011/12		Mathematical Literacy		Reading		Writing Task A		Writing Task B	
		Like Schools	**DISV**	Like Schools	**DISV**	Like Schools	**DISV**	Like Schools	**DISV**
	3	**301**	**253**	232	221	353	363	**378**	**405**
	5	**416**	**376**	362	350	441	435	452	474
	7	493	478	439	448	497	490	502	487
	9	558	540	508	485	557	539	562	543

Grade 7 to 9 Value Added Scores

2009/10 to	Like Schools	**DISV**	Like Schools	**DISV**	Like Schools	**DISV**	Like Schools	**DISV**
2011/12	*78*	***103***	*82*	***103***	*69*	*61*	*59*	*65*

Grade 5 to 7 Value Added Scores

2009/10 to	Like Schools	**DISV**	Like Schools	**DISV**	Like Schools	**DISV**	Like Schools	**DISV**
2011/12	*73*	86	*105*	***183***	*69*	***120***	*52*	69

Using

- Our ISA reading scores were not as strong as we would have liked.

- Introduced a more structured reading support programme in the Elementary and now the Secondary School.

- Adapted our new to English programme and increased the number and improved the skills level of English Language Development assistants for the School.
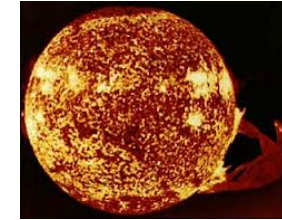
Danube International School Vienna

ISA 2010–11 Mathematical Literacy   Grade 3

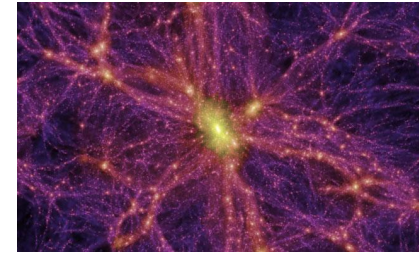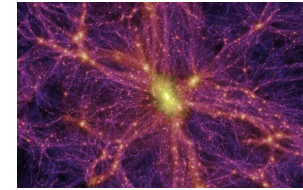| Uncertainty	Quantity	Space and Shape	Change and Relationships	
Students at this level typically:	*Students at this level typically:*	*Students at this level typically:*	*Students at this level typically:*	800
Level 9: Use high level thinking and reasoning skills, insight and reflection to solve problems in statistics or probability. Clearly explain and justify results.	Level 9: Use advanced reasoning skills to devise strategies for solving problems involving multiple contexts. Use sequential calculation processes. Clearly explain and justify results.	Level 9: Solve complex problems involving multiple representations and sequential calculation processes. Use reasoning, insight and reflection to generalise results and findings.	Level 9: Use significant insights, abstract reasoning and technical knowledge to solve problems. Generalise mathematical solutions to complex real-world problems.	700
Level 8: Apply knowledge of probability and statistics to analyse given information and solve structured problems showing clear explanations of methods used.	Level 8: Work effectively with models of more complex situations to solve problems. Use and communicate well-developed reasoning skills.	Level 8: Solve problems that require appropriate assumptions to be made. Use spatial reasoning, argument and insight to interpret and link different representations.	Level 8: Solve problems by making advanced use of algebraic expressions and other models. Use complex and multi-step problem-solving skills.	
Level 7: Use basic statistical and probabilistic concepts to solve multi-step problems.	Level 7: Work effectively with simple models of complex situations. Interpret different representations of the same situation. Use a variety of calculation skills to solve problems.	Level 7: Solve problems that involve visual and spatial reasoning in unfamiliar contexts. Carry out sequential processes. Apply well-developed skills in spatial interpretation.	Level 7: Understand and work with multiple representations, including mathematical models of real-world situations to solve practical problems.	600
Level 6: Interpret statistical information and data, and link different information sources. Use simple probability concepts, symbols and conventions.	Level 6: Use simple problem-solving strategies. Interpret tables to locate information. Carry out explicitly described calculations.	Level 6: Solve problems that involve elementary visual and spatial reasoning in familiar contexts. Link different representations of familiar objects.	Level 6: Solve problems that involve working with multiple related representations (a text, a graph, a table, a formula).	500
Level 5: Locate statistical information presented in a variety of forms. Understand basic statistical concepts. Solve probability problems in familiar contexts.	Level 5: Interpret simple tables to identify and extract relevant information. Carry out basic arithmetic calculations. Interpret and work with simple quantitative relationships.	Level 5: Solve problems involving a single mathematical representation where the mathematical content is direct and clearly presented.	Level 5: Work with simple algorithms, patterns and procedures to solve problems and link text with a single representation (a graph, a table, a simple formula).	●
Level 4: Solve problems using data presented in simple graphs or tables. Understand and use basic ideas in probability in familiar experimental contexts.	Level 4: Solve problems where the information is explicitly presented, the context is straightforward and the computation required is simple.	Level 4: Solve simple problems in a familiar context, using pictures or drawings of geometric objects or using position and direction on formal maps and grids.	Level 4: Follow instructions to read information directly from a simple table or graph. Perform simple calculations involving patterns and relationships.	400
Level 3: Locate information presented in simple graphs or tables. Investigate and order chance events.	Level 3: Write, compare and order numbers, including parts of a whole, in simple contexts. Solve problems involving repeated addition or sharing.	Level 3: Recognise the connection between 2-D and 3-D representations of familiar geometric objects. Describe geometric objects and symmetrical designs.	Level 3: Identify, describe and analyse the repetitive features of a variety of patterns.	300
Level 2: Sort and order data to create graphs in a variety of forms. Use the language of chance to order the possible outcomes of familiar events.	Level 2: Solve simple problems using basic arithmetic operations in familiar contexts such as money or time. Use mathematical language to describe parts of a whole.	Level 2: Sort two-dimensional shapes by their attributes. Use the everyday language of position and direction.	Level 2: Perform simple calculations using the repetitive features of patterns in familiar contexts.	
Level 1: Sort and order information from the immediate environment to compare quantities and create simple graphs. Use the everyday language of chance.	Level 1: Write, compare and order numbers and solve simple problems using contexts in the immediate environment. Tell the time on a variety of clocks.	Level 1: Recognise and name two-dimensional shapes. Use the everyday language of position in the immediate environment.	Level 1: Find, describe and create simple patterns in the immediate environment.	200
Level 0: Locate information presented in a simple pictograph.	Level 0: Tell time to the half hour. Count and compare numbers less than twenty.	Level 0: Complete a pattern of repeating shapes.	Level 0: Identify a simple counting pattern.	
				100

- GL Assessment
  - British based
- Assess Grades 4 (in September) 5, 7 & 9 last week of school year.
- All new students to Grades 6-12
- Measures Verbal, Quantitative, Non-Verbal and Spatial reasoning abilities
- Results are immediate as is digital
- Some predictive ability re: British exams and this Sept 2013 even IB results
- Very little change over the 2 years of students taking the data even for ELD students (verbal increased by 4 points and quantitative/non-verbal by 2 points)
- The only major changes came from Learning Support students.

- School also uses NGRT (New Group Reading Test) which will is an adaptive digital assessment

Other schools may use MidSyS (Durham) but only tests 11-14

21 YEARS
DANUBE
INTERNATIONAL SCHOOL
VIENNA

GL assessment
the measure of potential

Gathering

- # NGRT – New Group Reading Test

Age in Months   **Standard Age Score**
116   117

We measure in October and in June to check progress in reading from Grade 2 to Grade 10.

The NGRT results will help us target students in need of further support.

21 YEARS
DANUBE INTERNATIONAL SCHOOL VIENNA

GL assessment
the measure of potential
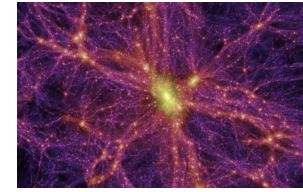
CAT4

Directions

In each question the first three figures are similar in some way. Decide how they are the same and choose the figure from the answer choices that goes with them. Look at this example:

Example
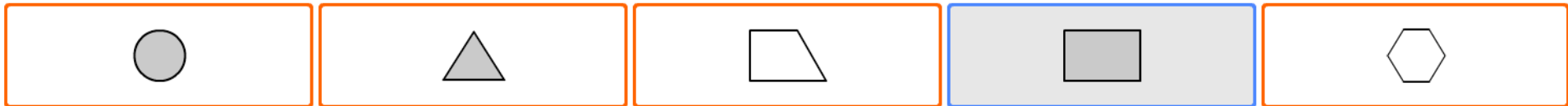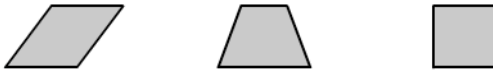
A	B	C	D	E

Each of the first three figures is shaded and has four sides. Look for an answer choice that is also shaded and has four sides. The correct answer is D.

Click on 'next' to try some practice questions.
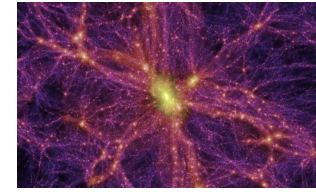
Directions

Each question starts with two numbers that are linked together in some way. Next there are two more numbers that are linked in exactly the same way. You have to work out how the numbers are linked and complete the third pair. Look at this example.

Example

[2 → 3] [9 → 10] [6 → ?]

3	4	5	6	7

To get from 2 to 3 and also from 9 to 10 you have to add 1. So 6 changes to 7. This is just one example. In the test you might have to add, subtract, multiply or divide to get to the second half of each pair. Click on 'next' to try some practice questions.
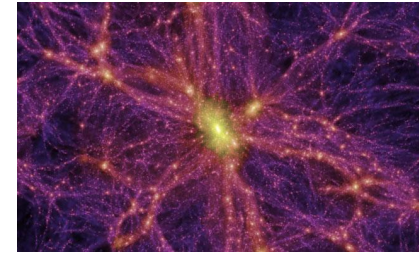
Directions

In each question there are three words in bold. These three words are similar in some way. Decide how they are the same. Then choose the word from the answer choices that goes with the first three words. Look at this example.

Example

green   blue   red

colour	crayon	paint	yellow	rainbow

The first three words are green, blue and red. Green, blue and red are all colours. Look for an answer choice that is also a colour. The correct answer is yellow.

Click on 'next' to try some practice questions.
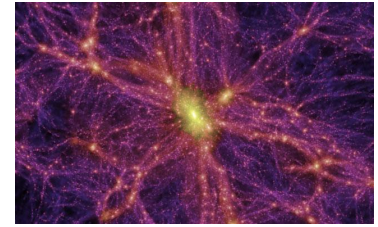
Directions

This test is about hidden shapes. Each question has a target shape. The target is hidden in one of the five designs. Look at this example.

Example
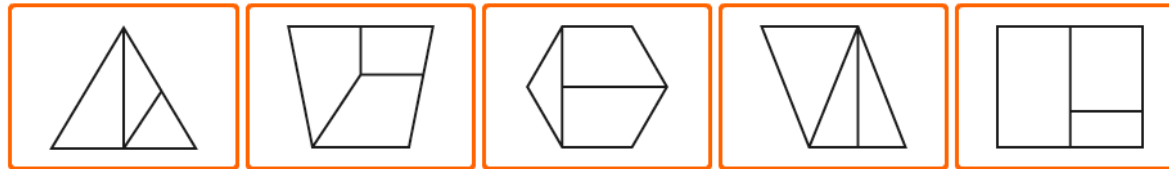
A   B   C   D   E
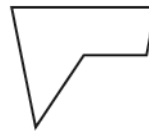
Click on 'next' to continue.

Analysing
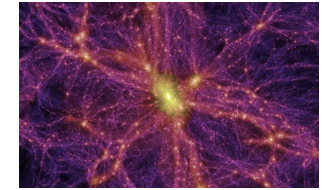
CAT CAT Quantitative Reasoning Test - Mean score and Stanine distribution Section B

School: Danube International School **CAT Level:** F
Group: **Number of Pupils:** 41

Quantitative
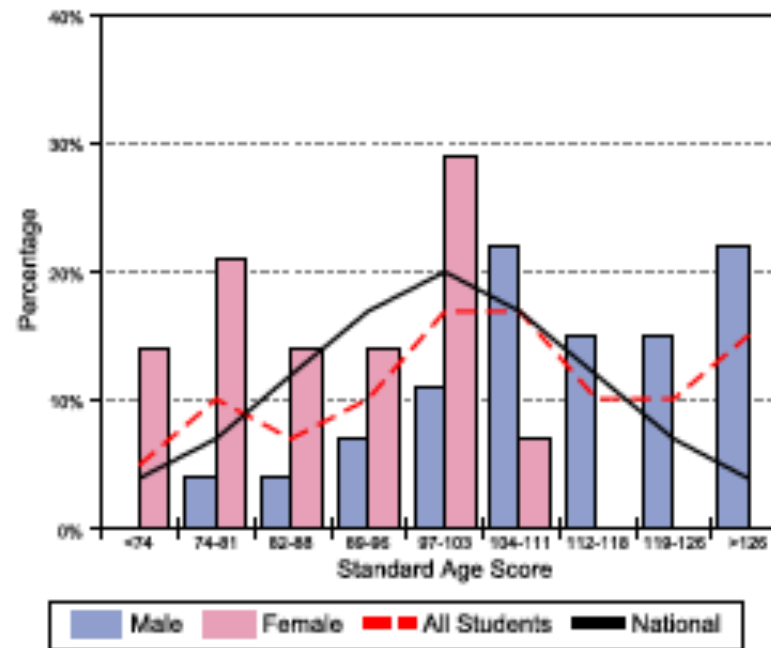
	Stand. Age Scores			Percentage of pupils in each Stanine								
				<74	74-81	82-88	89-96	97-103	104-111	112-118	119-126	>126
	Mean	SD	N	1	2	3	4	5	6	7	8	9
National	100.0	15.0		4	7	12	17	20	17	12	7	4
All Students	104.8	18.8	41	5	10	7	10	17	17	10	10	15
Gender Females	88.5	12.5	14	14	21	14	14	29	7	0	0	0
Males	112.9	16.0	27	0	4	4	7	11	22	15	15	22

Analysing & Interpreting
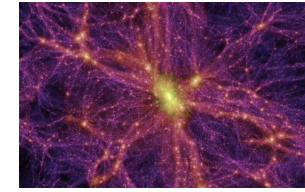
CAT Visual-Verbal Profile Chart Section B

School: Danube International School Cat Level: F
Group: Number of Pupils: 41
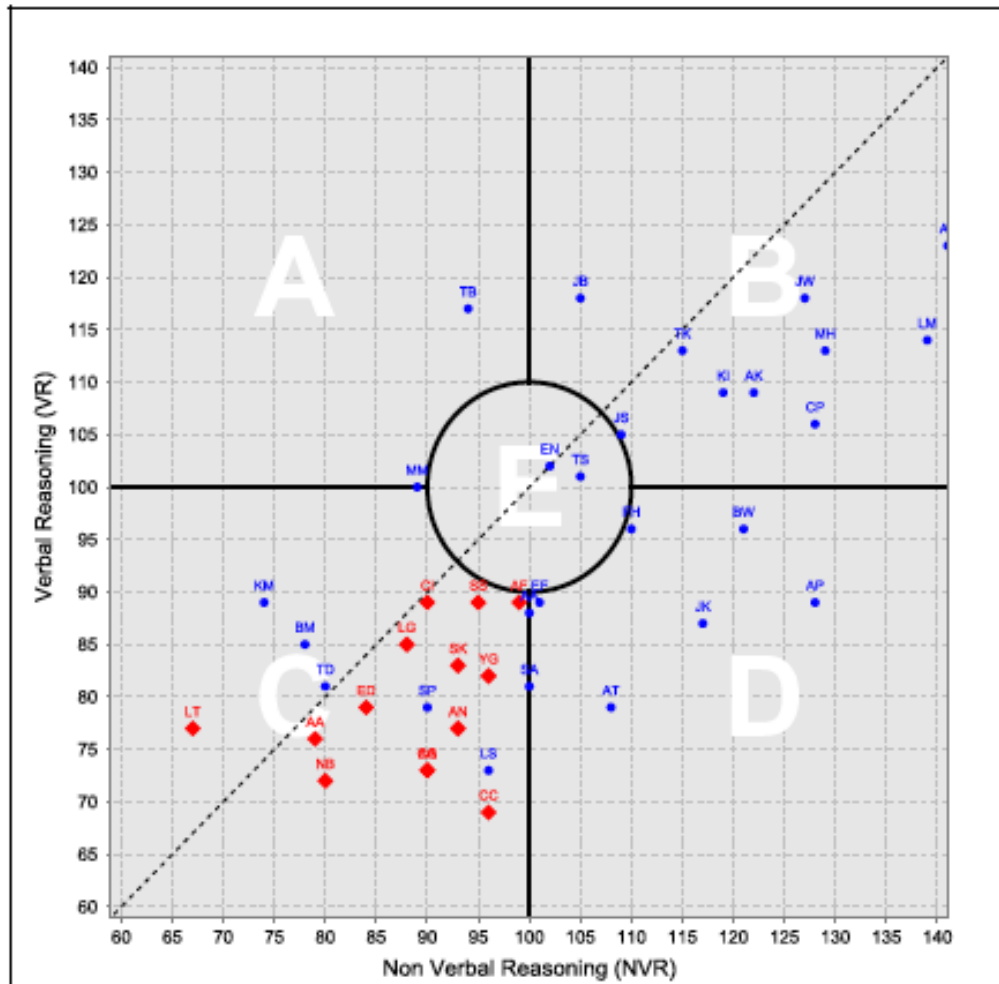
The chart shows the verbal and non-verbal scores plotted against each other for each student in the class or group. This gives an at-a-glance picture of the characteristics of the group, according to where they congregate on the plot. This has been divided into five areas: four quadrants: A, B, C and D and a central circle E. Pupils in each of these areas may be characterised briefly as follows:

E: average pupils in terms of both verbal and visual abilities.

A: pupils who are good with spoken and written words, but who may be weaker with materials such as charts, figures and diagrams.

B: balanced and strong in ability all round.

C: pupils who struggle with both texts and abstract concepts.

D: pupils who are good at visualisation but may lack facility in dealing with verbal and written material.

Note that these are mere thumbnail sketches of broad learning types and should not be taken as classifying individual pupils. The intention is to form an impression of the abilities of a whole group, to assist in planning programmes of teaching and learning for the group. Useful conclusions can be reached about how best to approach classes of pupils that fall largely into each of these areas. For a full discussion of implications for teaching and learning , see "Getting the Best from CAT" by Dr Steve Strand, published by GL Assessment.

Gender key:

- Boys
- Girls

GL assessment
the measure of potential
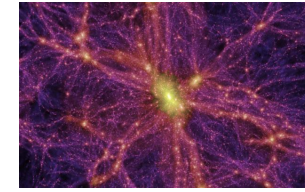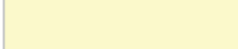
CAT4 Individual report for parents

CAT4

Name: Sandeep Sharma			
School: Test School			
Group: Year 5			
Date of test: 13/03/2012	Level: B	Age: 9:11	Sex: Female

Scores

|	Below average	Average	Above average
Verbal			
Quantitative			
Non-verbal			
Spatial			

Summary

Sandeep's profile of scores from *CAT4* shows a very marked preference for learning in visual, tactile ways with a weakness in verbal skills that may lead to difficulties in literacy. Sandeep may find some of her schoolwork difficult.

- Does Sandeep find reading difficult? If so, she may need some extra help with reading at home under guidance from school.

- When you are helping with homework, make sure that Sandeep understands each step of the task before moving on. It is important that Sandeep learns at a pace that is right for her.

- Sandeep may see the solution to a problem quickly but be unable to talk through the steps needed to reach the answer: make sure she is helped to explain how she worked this out.

- Tell Sandeep to ask the teacher to explain anything that is not clear.

- Although you should encourage Sandeep to use a range of ways to learn and revise, focus on making mind maps, using pictures, charts and diagrams and using visual clues to help remember key information. This is where her strength lies and should be used as much as possible.

Analysing & Interpreting
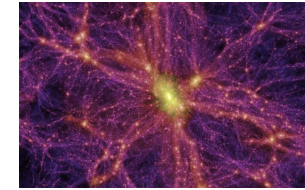
|	GAT	Learning Support	Reading Programme	ELD
2	Blue mean score incl. 2+ blue individual scores	Red mean score and 2+ red individual scores	Red RA discrepancy	Red V-NV discrepancy
1	Blue NV and/or blue RA Discrepancy and/or 2+ blue individual scores	Amber mean score and 2+ amber individual scores	Amber RA discrepancy	Amber V-NV discrepancy
	CATS	V-NV Discrepancy	RA Discrepancy	
Blue	111+	n/a	More than 12mths above chronological age	
Green	95-110	n/a	12mths below to 12mths above chronological age	
Amber	85-94	11+	More than 12mths below chronological age	
Red	84 or less	21+	More than 24mths below chronological age	

Analysing & Interpreting
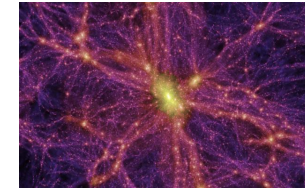
Verbal CATs	Quantitative CATS	Non Verbal CATS	Mean CATS	NV-V Score
118	125	124	122	-6
81	86	80	82	1
114	98	104	105	10
99	91	95	95	4
83	104	104	97	-21
92	87	89	89	3
113	114	123	117	-10
98	99	121	106	-23
102	122	123	121	-21
124	119	127	123	-3
114	113	106	121	8
89	97	99	95	-10
96	124	135	118	-39
83	130	139	117	-56

GAT	Learning Support	ELD
2		
	2	
		2
	1	
2		
1		2
2		2
2		
2		
2		2
2		2

Using
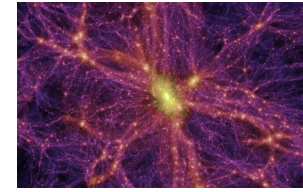
- <u>Admissions</u>
- Inform teachers
- The placement of students (8D vs 8V)
- The placement in Mathematics (Extended/Standard)
- Need for ELD lessons?
- Use of ELD assistants
- Need for Learning Support?
- Need for differentiation for G & T?
- Approach in various subjects (verbally strong, quantitatively weak class in Science)

Using Learning Scorecard

Focus Area	Indicator	2011-12	2012-13	2013-14	Expectation	Timing	Explanation
		Improving/Exceeding	**Sustaining**		**Needs Improvement**		**Immediate Action**
IB Diploma	What percentage of candidates earn IB diplomas?	88.20%	97.90%	98.00%	≥90	July	IB diploma candidates need a total score for exams, CAS, and Extended Essay of at least 24 points. The mean pass rate was 93 percent from 05-08.
	What percentage of 12th graders earn the IB diploma program?	68.20%	88.70%	92.30%	≥80	May	This percentage reflects the proportion of students taking the most academically challenging program in Grade 11 and 12
Focus Area	**Indicator**	**2011-12**	**2012-13**		**Expectation**	**Timing**	**Explanation**
CATs 10th	What is the mean verbal score of all DISV 10th graders compared to the CATs norms? Base average = 100	90	94	96	≥100	Sept	CAT is a cognitive ability test administered by GL Assessment in the UK.
	What is the mean quantitative score of all DISV 10th graders compared to the CATs norms? Base average = 100	101	108	106	≥105	Sept	

IB Diploma Results   CATS Assessments   NGRT results   ISA results

Surveys on Service Engagement   Surveys on Activities Participations

Future University Placement   Survey of Parent satisfaction

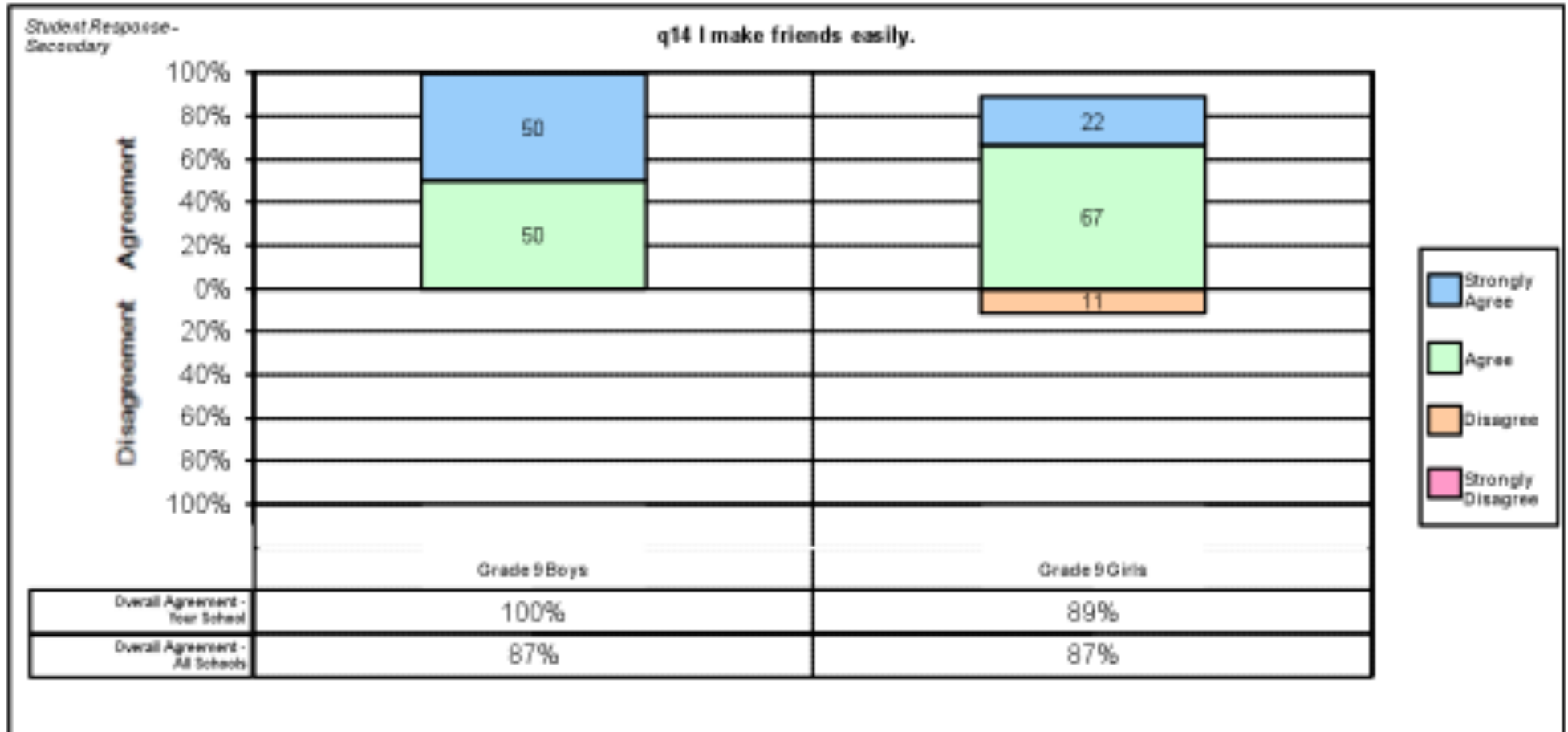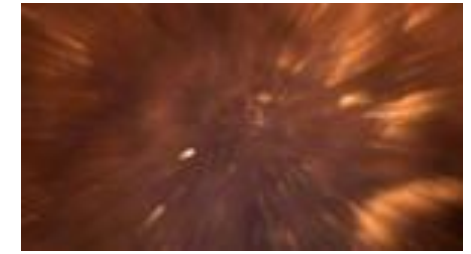Bill Gerritz, Head of School, International School Bangkok

- Grade Z: consistently has more students engaged in a variety of Community and Service activities than other grades
  - Learn and share the factors that have caused this

Collect Data on Attitudes Survey

Learning Skills

Middle Years Programme curriculum
Areas of interaction

Approaches to learning

- How do I learn best?
- How do I know?
- How do I communicate my understanding?

Through approaches to learning, students are provided with the tools to enable them to take responsibility for their own learning. Central to this is "learning how to learn" and developing in individuals an awareness of how they learn best, of thought processes and of learning strategies.

Approaches to learning also include:

- organizational skills and attitudes towards work
- collaborative skills
- communication
- information literacy
- reflection
- problem-solving and thinking skills
- subject-specific and interdisciplinary conceptual understanding.

Recognizing and helping students develop the range of their capacities, positive attitudes and effective habits of mind is the shared responsibility of teachers, and is at the core of all curriculum development and delivery.

## Learning & Study Skills Inventories

- **Concentration Inventory**
- **Learning & Study Skills**
- **Listening & Note-Taking**
- **Math Study Skills**
- **Memory Skills**
- **Reading Rate**
- **Science Study Skills**
- **Test Preparation & Test-Taking**
- **Test Reaction**
- **Textbook Reading**
- **Time Management**
- **Vocabulary**

Gathering

Ian Piper
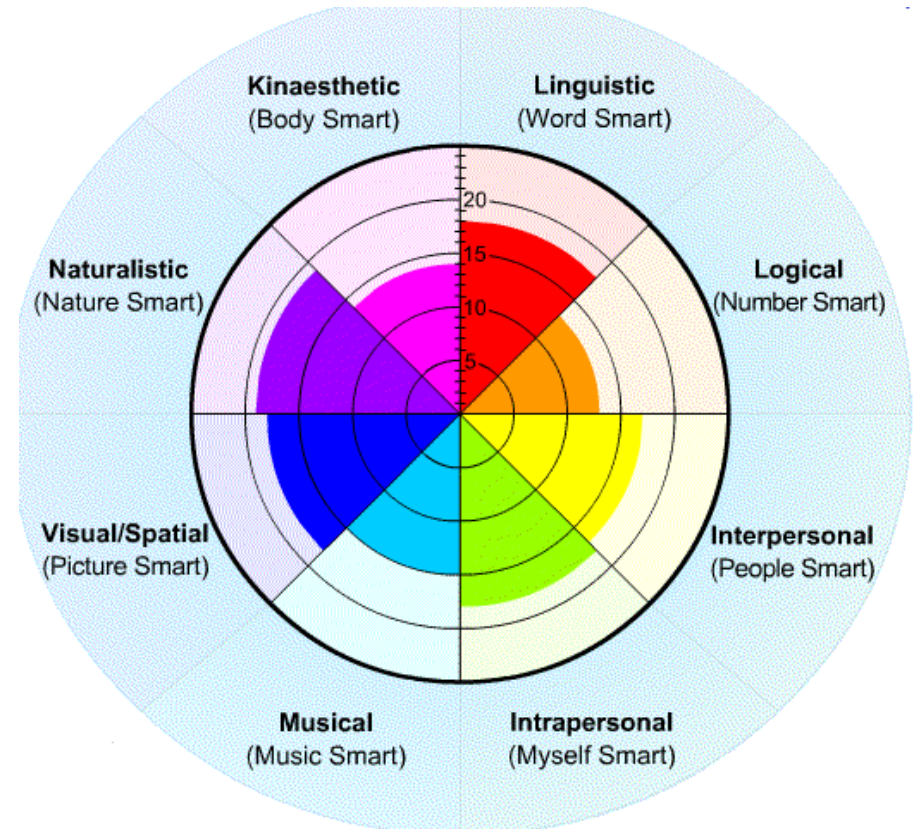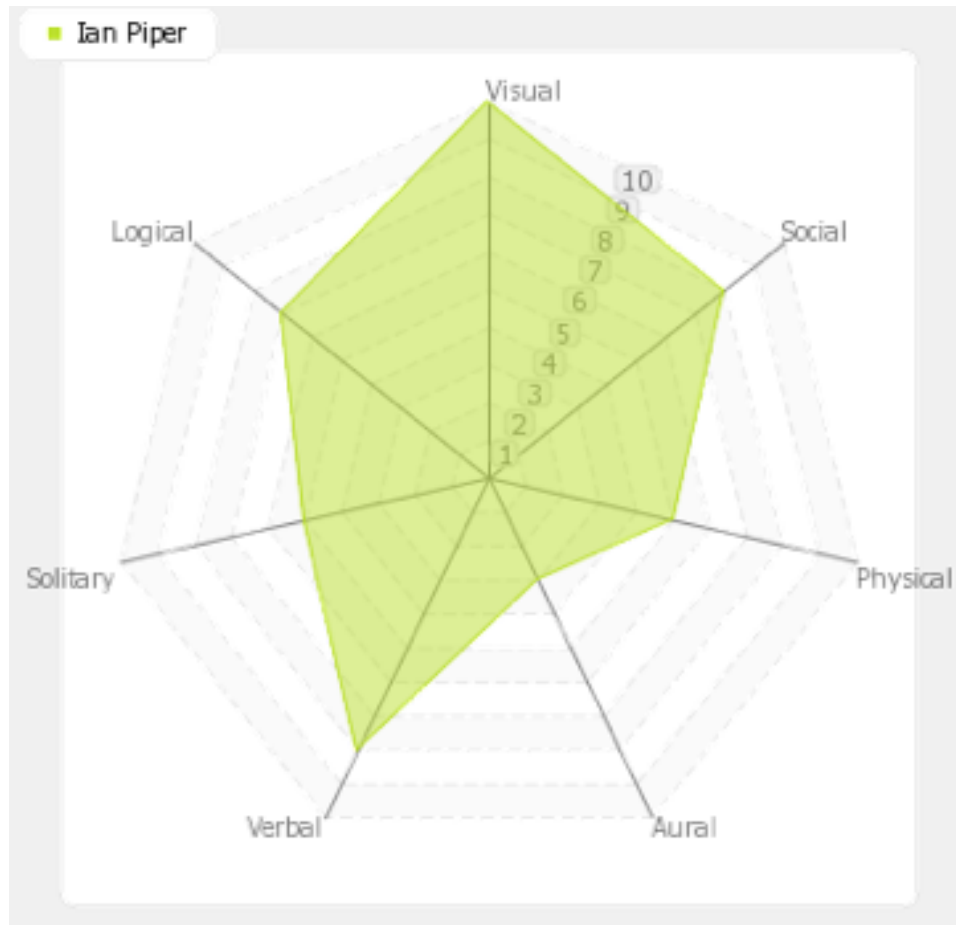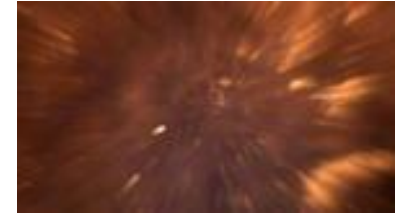
Learning styles and pedagogy in post-16 learning
A systematic and critical review
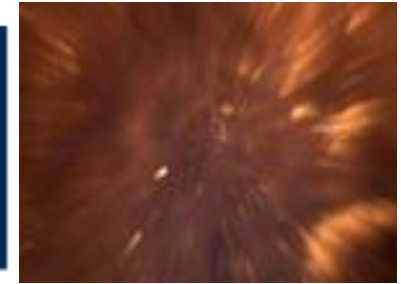
Table 44
13 learning-styles models matched against minimal criteria

✓
criterion met

✗
criterion not met

—
no evidence either way or issue still to be settled

Note
The evaluation is in all cases 'external', meaning an evaluation which explored the theory or instruments associated with a model and which was not managed or supervised by the originator(s) of that model.

|		Internal consistency	Test–retest reliability	Construct validity	Predictive validity
1	Jackson	—	—	—	—
2	Riding	✗	✗	✗	✗
3	Sternberg	✗	✗	✗	✗
4	Dunn and Dunn	✗	✗	✗	✓
5	Gregorc	✗	✗	✗	✓
6	Honey and Mumford	✗	✓	✗	✗
7	Kolb	—	✓	✗	✗
8	Entwistle	✓	—	✓	✗
9	Herrmann	—	✓	✓	—
10	Myers-Briggs	✓	✓	✗	✗
11	Apter	✓	✓	—	✓
12	Vermunt	✓	✓	✓	✗
13	Allinson and Hayes	✓	✓	✓	✓

Plasticity

- Stretching their potential
  - Jo Ann Deak – stretching the elasticity of ability (visual learners, auditory learners, kinesthetic learners)
  - Enhancing the students 'skills' toolbox

- It's not just wanting students to be the best that they can be, it is supporting students to strive to be better than their best

For the future
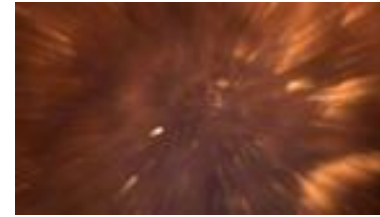
- ## Assessments of Emotional Intelligences
  - MSCEIT
- ## Assessment on Physical Attributes

Using Data

- Every child is a wonderful mass of energy
- Students "don't care how much we know until the know how much we care"
- Filter out the "assessment" background noise and find something to celebrate
  - Honor Roll, Most improved ELD students, Commitment to Community and Service, Athletic excellence
  - Praise from teacher, peers, leaders. Smileys

Where to go now …

- According to James T Kirk, the best place to get help with assessment analysis is a planet called Vulcan.

- "*Mr. Spock, the women on your planet are logical. That's the only planet in the galaxy that can make that claim.*" -- Kirk

- Queensland Department of Education
  - http://education.qld.gov.au/staff/learning/diversity/teaching/assessment.html
- http://www.learning-styles-online.com
- http://www.gp-training.net/training/educational_theory/multint/multint.htm

- www.ibo.org

- ISA

- GL Assessments http://www.atlasoftheuniverse.com/

- www.bbc.co.uk

- Star Trek

PDF

ipiper@danubeschool.com