MYP Design Networking Session

November 9, 2015

Facilitator: **Ray Leonard, Glasgow Middle School**
releonard@fcps.edu

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Before We Start

- Admin Items
  - Restrooms/Breaks/Lunch/etc.
- Our parking lot is set up on Padlet. Here is the link:

http://goo.gl/mJ8ztg

Case Sensitive

- Design and modifying rubrics
- Application of the design criteria in the Family and Consumer Science course.
- Application of the design criteria and preparing student portfolios integrated design with band, and orchestra and chorus.
- Unit planning
- Pacing
- I would love to see a lesson from start to finish.
- Overall, how to complete MYP goals and information about program.
- Projects, project scheduling and differentiation strategies
- How to develop Design and Family Consumer Science together
- Developing Design (and Technology) in Science curriculum
- IB-MYP Unit Plans
- Interdisciplinary Units
- Good examples of Design units and assessments
- How to embed Design at the middle school level
- How Design teachers who teach many different courses can work together
- Preparing design portfolios that demonstrate student achievement of the design criteria.
- need to have real world examples of how Math and IB work together.

Welcome and Schedule for our Networking Session

- 8:30 Meet and Greet
- 9:00 Introductions
- 9:20 Integrated vs. Standalone Design
- 10:00 Unit Planning
- 11:15 Assessment of Design

Objectives for this workshop

- ***Understand the Aims and Objectives for MYP Design***
- ***Develop ideas for standalone and/or integrated MYP Design models in our schools***
- ***Work on and share Design unit plans***
- ***Share and discuss how to assess Design successfully***

What do we Know and Want to Know about MYP Design?

KNOW

WANT TO KNOW

Each subject group is equally important for the integrity of the programme.

MYP Design is defined by the aims and objectives for this subject.

Aims for MYP Design

The aims of MYP design are to encourage and enable students to:

- enjoy the design process, develop an appreciation of its elegance and power
- develop knowledge, understanding and skills from different disciplines to design and create solutions to problems using the design cycle
- use and apply technology effectively as a means to access, process and communicate information, model and create solutions, and to solve problems
- develop an appreciation of the impact of design innovations for life, global society and environments
- appreciate past, present and emerging design within cultural, political, social, historical and environmental contexts
- develop respect for others' viewpoints and appreciate alternative solutions to problems
- act with integrity and honesty, and take responsibility for their own actions developing effective working practices.

Looking at the Aims of MYP Design a Different Way

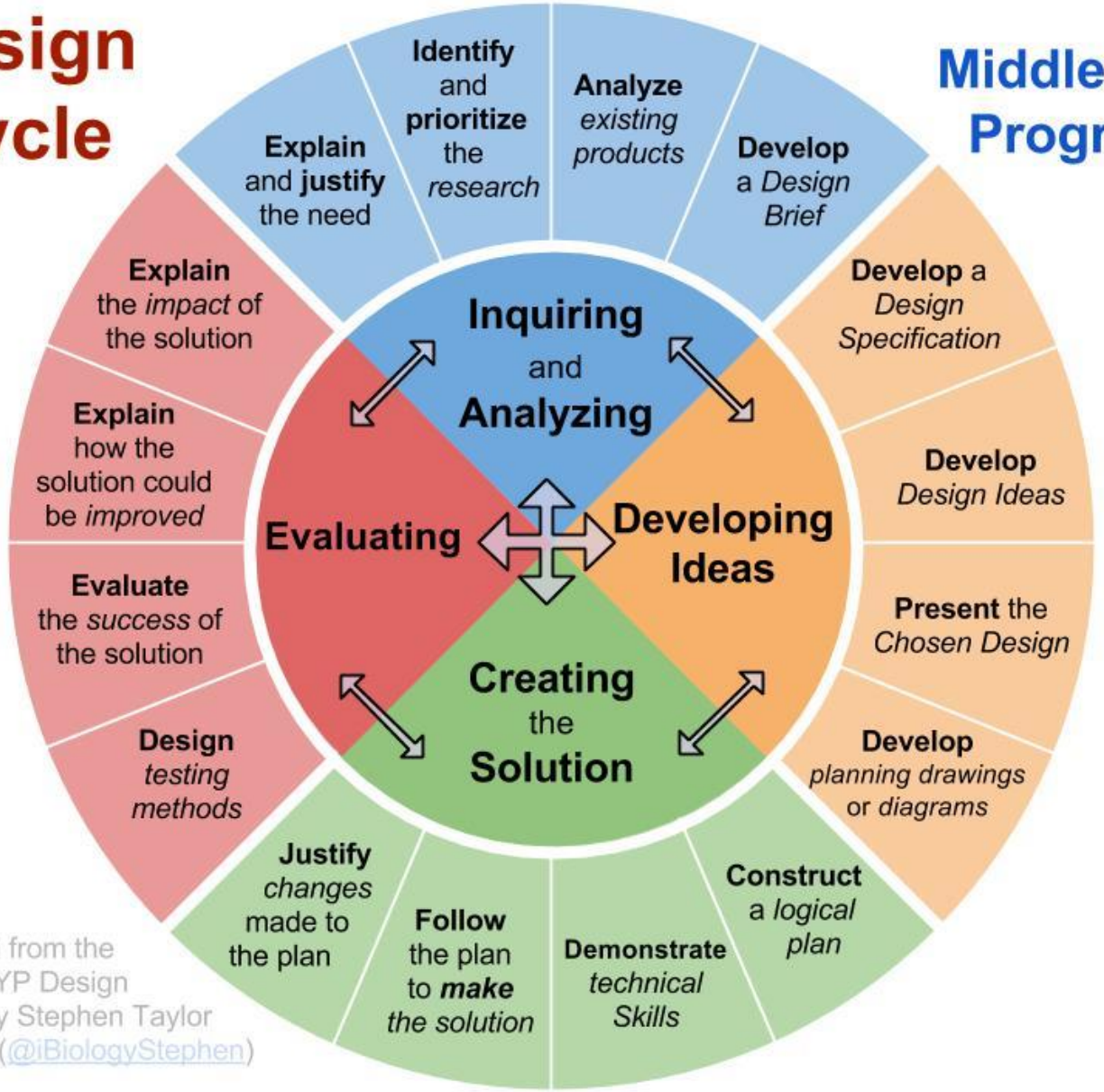
International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Objectives of MYP Design

- Inquiring and Analyzing
- Developing Ideas
- Creating the Solution
- Evaluating

Design Cycle

Middle Years Programme



Adapted from the IB MYP Design Guide by Stephen Taylor (@iBiologyStephen)

MYP Standards and Practices

- B2:10 - The **student schedule or timetable** allows for the requirements of the programme(s) to be met.
- C2:1- The curriculum **fulfills the aims and objectives** of each subject group offered **in each year** of the programme.
- C2:4a - The **written curriculum includes the prescribed key concepts and related concepts** in each subject group.
- C3b - Teaching and learning **allows students to meet the MYP objectives in each year** of the programme for each subject group studied.
- C4:1a - The school **uses the prescribed assessment criteria** for each subject group in each year of the programme.

Summarizing the requirements for MYP Design

All MYP design courses must ensure that students:

- use the design cycle to structure projects
- work toward meeting the aims and objectives of MYP Design
- Receive ≥ 50 hours of Design instruction each year

Reflection

Think-Pair-Share

How well does your school's implementation of MYP Design meet the requirements for this subject?

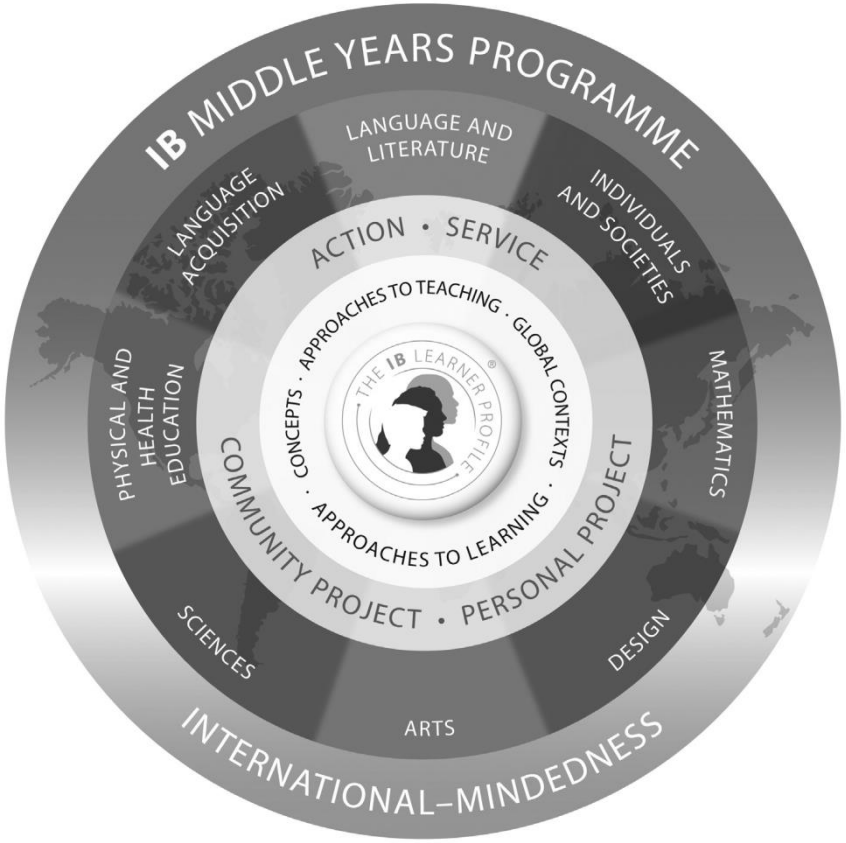
In the MYP, Design can be taught as a standalone course or it can be integrated into other courses.

Can Design be integrated? Yes, but…

All MYP Design courses should allow students to:

- meet the aims and objectives of MYP Design by the end of the program
- use the design cycle to develop intellectual and practical approaches to problem-solving
- inquire into design problems and establish the need for a solution
- establish design specifications for products/solutions through analysis of the problem and need
- generate feasible ideas and develop them into products/solutions of appropriate sophistication
- develop technical (practical) skills to manipulate digital and/or physical materials
- test and evaluate products/solutions to analyze their effectiveness at solving the problem or meeting the need.

Which subject(s)* could be a "home base" for integrated MYP Design courses?



* 1 or max 2 subjects

Consider courses taught at your school

Develop two lists:

- Courses that *by their nature* focus on process
- Courses that are *"content rich"*

Which of these would it be easiest to integrate Design into and why?

Wearing the Principal's Hat

What will your **design specifications** be for the next stage of development of your **MYP Design courses**?

Develop two lists:

- essential characteristics
- desirable characteristics

based on the requirements and your current situation.

Reflection: Think about where Design is in your school is right now

Use a 5- point scale. No need to share unless you want to.

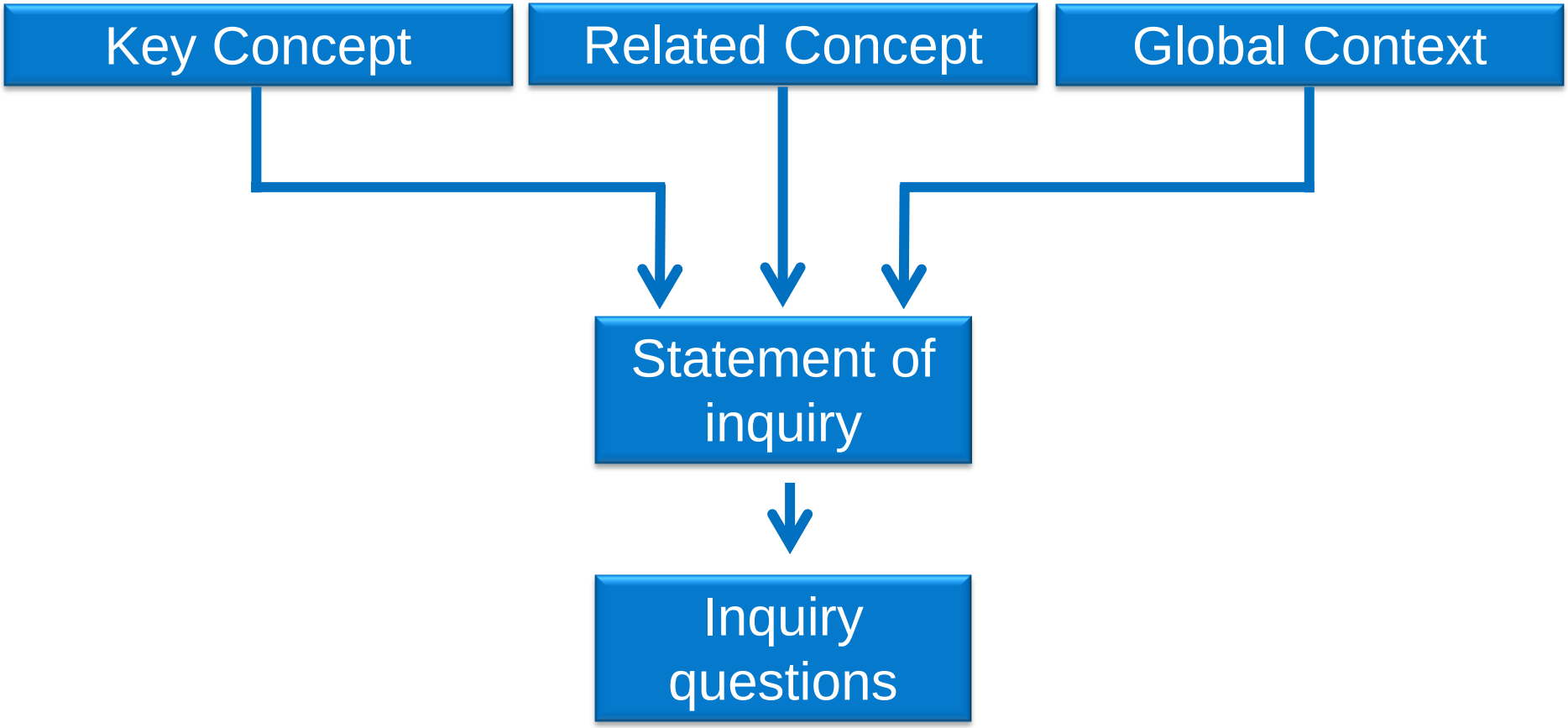
- 1 = beginning
- 2 = making some progress
- 3 = ground work firmly in place
- 4 = almost there
- 5 = confidently there !

MYP unit planners guide us to achieving the objectives for learning

Create or Revise a Design Unit

- We will be working on your own or with your school or table group to create or revise a Design unit (stand alone or integrated)
- We have blank planners for you to use, if needed.

Establishing the purpose of a unit



Global contexts

- IB programmes aim to develop international mindedness in a global context.
- Allow for relevance, engagement and a direct route for inquiry into next millennium perspectives. All effective learning is contextual. Helps answer the question: “Why are we learning this?”
- Global contexts make learning relevant and enable students to develop competencies and personal values necessary for global engagement.
- Students will do this through exploring personal, local, national and/or international issues and ideas of global significance.

The MYP global contexts

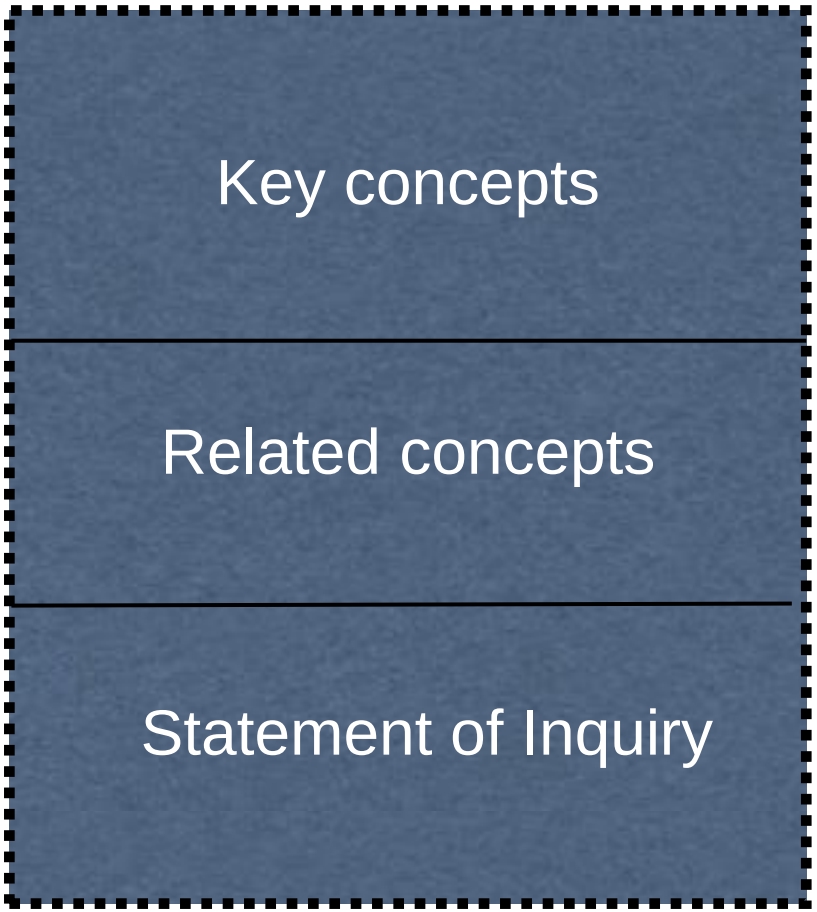
Global contexts

Globalization and sustainability

Global context

Students will explore the interconnectedness of human-made systems and communities; the relationship between local and global processes; how local experiences mediate the global; reflect on the opportunities and tensions provided by world-interconnectedness; the impact of decision-making on humankind and the environment.

Descriptor


Key concepts
Related concepts
Statement of Inquiry

Key concepts

- Timeless
- Universal
- Abstract
- Represented by one or two words or a short phrase
- Facilitate disciplinary, interdisciplinary learning, and connections with other subjects
- *Essential or enduring learning !*

Design Key concepts

- **Communication -** exchange or transfer of signals, facts, ideas and symbols
- **Communities -** groups that exist in proximity defined by space, time or relationship
- **Development -** the act or process of growth, progress or evolution, sometimes through iterative improvements
- **Systems** - sets of interacting or interdependent components

Related concepts

They become the vehicle for students' inquiry into essential, global, timeless ideas and the *means to explore the essence of the subject*

Adaptation	Adaptation involves incorporating ideas found in one product into the development of a new product.
Collaboration	Collaboration involves two or more people sharing expertise and experience, working together to solve a problem and realize shared goals.
Ergonomics	Ergonomics is the application of scientific information and understanding of how humans relate to products, systems, interfaces and environments.
Evaluation	In design, evaluation involves the gathering and processing of data to determine an action. Evaluation involves feedback, which can be used to control, revise or modify.
Form	Form concerns the overall shape and configuration of a product. It relates to aspects such as aesthetics, shape, colour and texture.
Function	The function of a solution refers to what it has been designed to do and how effective it is at enabling that action to be performed.
Innovation	Innovation is the successful diffusion of an invention into the marketplace.
Invention	An invention is an entirely novel product or a feature of a product that is unique.
Markets and trends	Markets can be considered as sectors and segments comprised of groups of individuals with similar needs. Trends involve short- and long-term patterns of consumer behaviour.
Perspective	Perspective relates to the point of view of various stakeholders involved in solving a problem. Stakeholders can have different perspectives and can include clients, target audiences, focus groups, consumers, manufacturers and experts.
Resources	Resources relate to the supply of a commodity. In MYP design, these commodities can be classified as information, materials and equipment.
Sustainability	Sustainability is the capacity to endure, which can have environmental, economic and social dimensions. In MYP design, sustainability can be considered in the following ways:

KEY and RELATED CONCEPTS

combined with a

GLOBAL CONTEXT

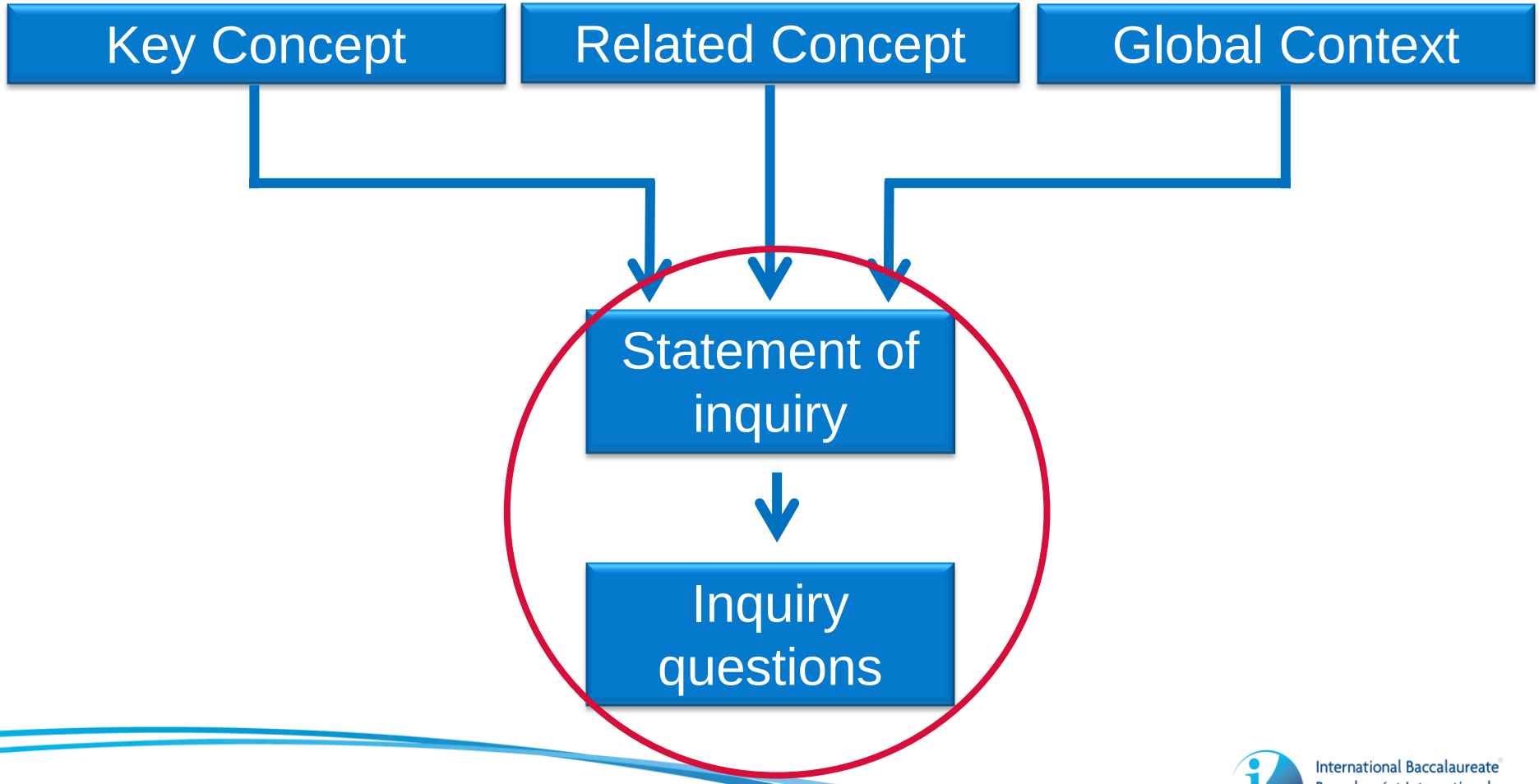
(exploration)

form

the STATEMENT OF INQUIRY

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

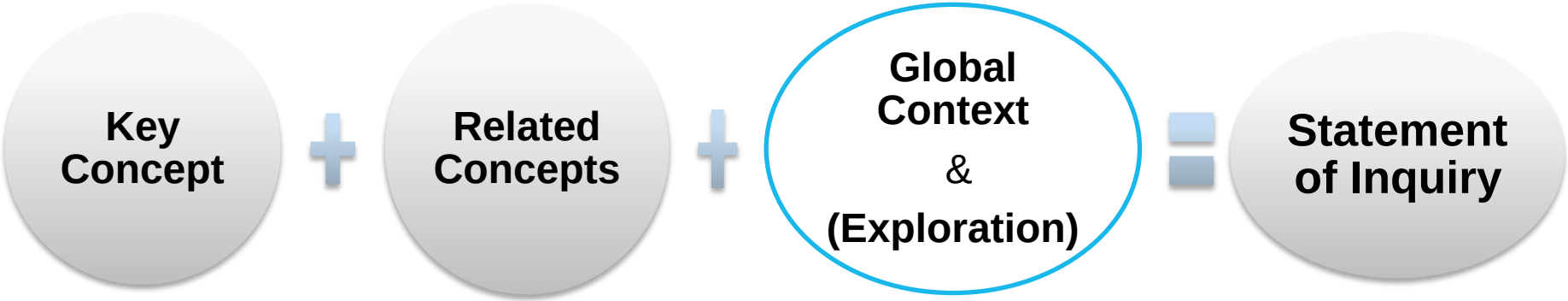
Establishing the purpose of the unit



The Statement of inquiry…

- is a sentence which synthesizes the key concept, one or more related concepts, and the global context
- facilitates synergistic thinking
- may provide for a universal understanding
- focuses the unit
- is directly tied to the summative assessment.

The Statement of inquiry



Some helpful hints:

The statement of inquiry:

- should not use proper or personal nouns, or pronouns
- should have a present tense verb and contain at least two concepts and make a reference to a global context and its exploration
- is a transferable idea
- may need a qualifier (often, may, can) if it is not true in all situations.

Putting it all together

The example shows how an Individuals and Societies teacher has used a global context and concepts for a unit on “World War I” to develop a statement of inquiry.

Your turn! Develop a statement of inquiry:

In your table groups:

1. Use your selected Key concept and Related concept(s) and your Global context
2. Follow the steps we just outlined
3. Write your unit's statement of inquiry on the chart paper

Voilà! You've just written a statement of inquiry!

To check if this statement is appropriate:

Ask : "So what? Why is this important to understand?"

Gallery walk

- Move from statement to statement and provide critical feedback
- Return to your table group to incorporate feedback as necesary.

Inquiry Questions

- Factual
- Conceptual
- Debatable

Factual – Conceptual - Debatable

- **Factual Line of Inquiry: "**Students will inquire into..." (include lots of content – be very specific)
- **Factual Question —** May begin with "What..." and there are multiple definitions when looked up.
- **Conceptual Line of Inquiry: "**Students will explore..." (include lots of content – be very specific)
- **Conceptual Question—** May begin with "How" or "Why" and cannot be looked up
- **Debatable Line of Inquiry: "**Students will investigate..." (include lots of content – be very specific)
- **Debatable Question—** May begin with "Does", "Could", "Should", "To what extent"…

Factual

- **Factual Line of Inquiry:** "Students will inquire into..." (include lots of content – be very specific)
- **Factual Question —** May begin with "What..." and there are multiple definitions when looked up.

Conceptual

- **Conceptual Line of Inquiry:** "Students will explore..." (include lots of content – be very specific)
- **Conceptual Question—** May begin with "How" or "Why" and cannot be looked up

Debatable

- **Debatable Line of Inquiry:** "Students will investigate..." (include lots of content – be very specific)
- **Debatable Question—** May begin with "Does", "Could", "Should", "To what extent"…

Share a Question

- Briefly describe your unit and share one of your questions.
- Do not identify the type of question.
- Once you have shared we will determine what type of question it is.

Continue working on your unit plans

- Work at your table to add to the plan you have started
- As questions arise, talk to other groups around you and get their thoughts and ideas
- Complete Stage 1 up to and including the ATL skills

In the MYP, assessment is closely aligned with the written and taught curriculum

MYP Design Assessment Criteria

Criterion A	**Inquiring and analyzing**	Maximum 8
Criterion B	**Developing ideas**	Maximum 8
Criterion C	**Creating the solution**	Maximum 8
Criterion D	**Evaluating**	Maximum 8

A. Inquiring and analyzing

- explain and justify the need for a solution to a problem for a specified client/target audience
- identify and prioritize primary and secondary research needed to develop a solution to the problem
- analyse a range of existing products that inspire a solution to the problem
- develop a detailed design brief, which summarizes the analysis of relevant research.

B. Developing ideas

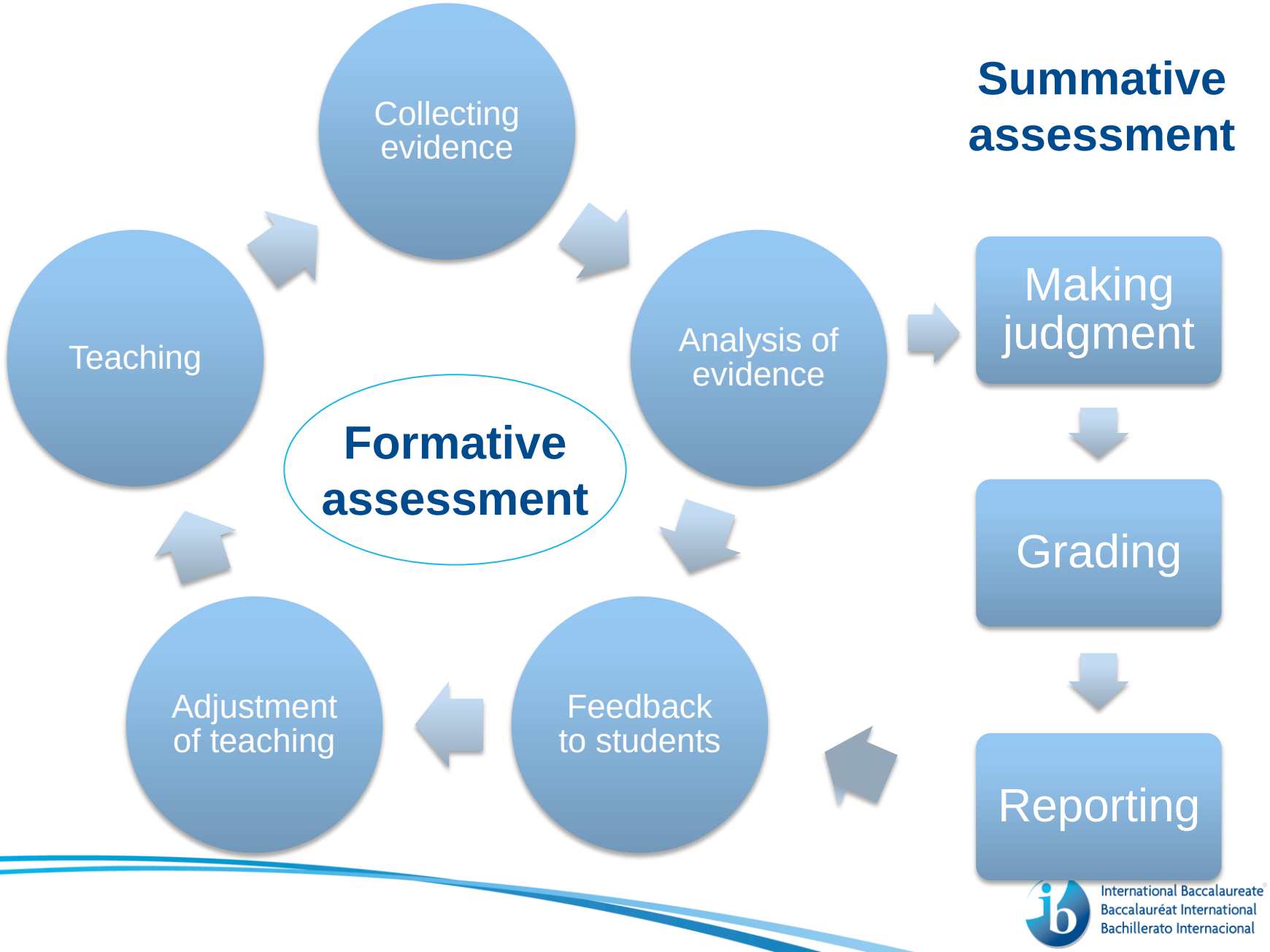
- develop design specifications, which clearly state the success criteria for the design of a solution
- develop a range of feasible design ideas, which can be correctly interpreted by others
- present the chosen design and justify its selection
- develop accurate and detailed planning drawings/diagrams and outline the requirements for the creation of the chosen solution.

C. Creating the solution

- construct a logical plan, which describes the efficient use of time and resources, sufficient for peers to be able to follow to create the solution
- demonstrate excellent technical skills when making the solution
- follow the plan to create the solution, which functions as intended
- fully justify changes made to the chosen design and plan when making the solution and present the solution as a whole

D. Evaluating

- design detailed and relevant testing methods, which generate data, to measure the success of the solution
- critically evaluate the success of the solution against the design specification
- explain how the solution could be improved
- explain the impact of the solution on the client/target audience



International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Formative assessment

- part of the learning process
- based on shared objectives
- applied to ongoing work
- regular feedback sessions

Validity of the assessment task

A task that does not allow students to reach all the levels of achievement within a criterion would be invalid, no matter how well designed a rubric might be.

Teachers must ensure that the task allows all students access to all the levels of achievement.

Think of multiple choice test. Which of the Design criteria would you use to assess a multiple choice test? Can a student reach the maximum level of achievement?

Expectations Years 1, 3, and 5

MYP year 1	MYP year 3	MYP year 5
Emphasis placed on individual strands of the objectives.	Emphasis placed on addressing individual objectives.	The objectives are fully addressed.
Students explore contrived, teacher-led design challenges set in familiar contexts.	Students explore identified, real-life problems set in familiar and unfamiliar contexts.	Students independently explore complex real-life problems set in unfamiliar contexts.
Students design for themselves.	Students design products for familiar groups of people.	Students design products for a client or an identified target audience.
Students focus on skill development through focused tasks.	Students focus on advanced skill development through projects and short, focused tasks.	Students utilize a wide range of skills, developed through the previous years and apply them to a wide range of design situations.
Students are guided through units using structured templates.	Students can manage their own work organizing their time and folio appropriately.	Students independently manage their own work.
Teacher as leader and trainer.	Teacher as guide and advisor.	Teacher as facilitator.

Assessment using the MYP command terms

Explain

Give a detailed account

Criterion B: Investigating

7–8	The student: i. **explains** the choice of a research question ii. **effectively** follows an action plan to explore a research question iii. **uses** methods to collect and record **consistently** relevant information iv. **thoroughly** reflects on the research process and results.

MYP Design command terms

Demonstrate · Present · Define · Evaluate · Identify · Create · Analyze · Describe · Explain · Identify · Justify · List · Summarize · Construct · Outline

What do they mean and how well do our students understand them?

Examples of Writing for Design from Stating to Justifying

To state

There is a small car.

To describe

There is a small car that is a bright red colour with four doors and round headlights.

To explain

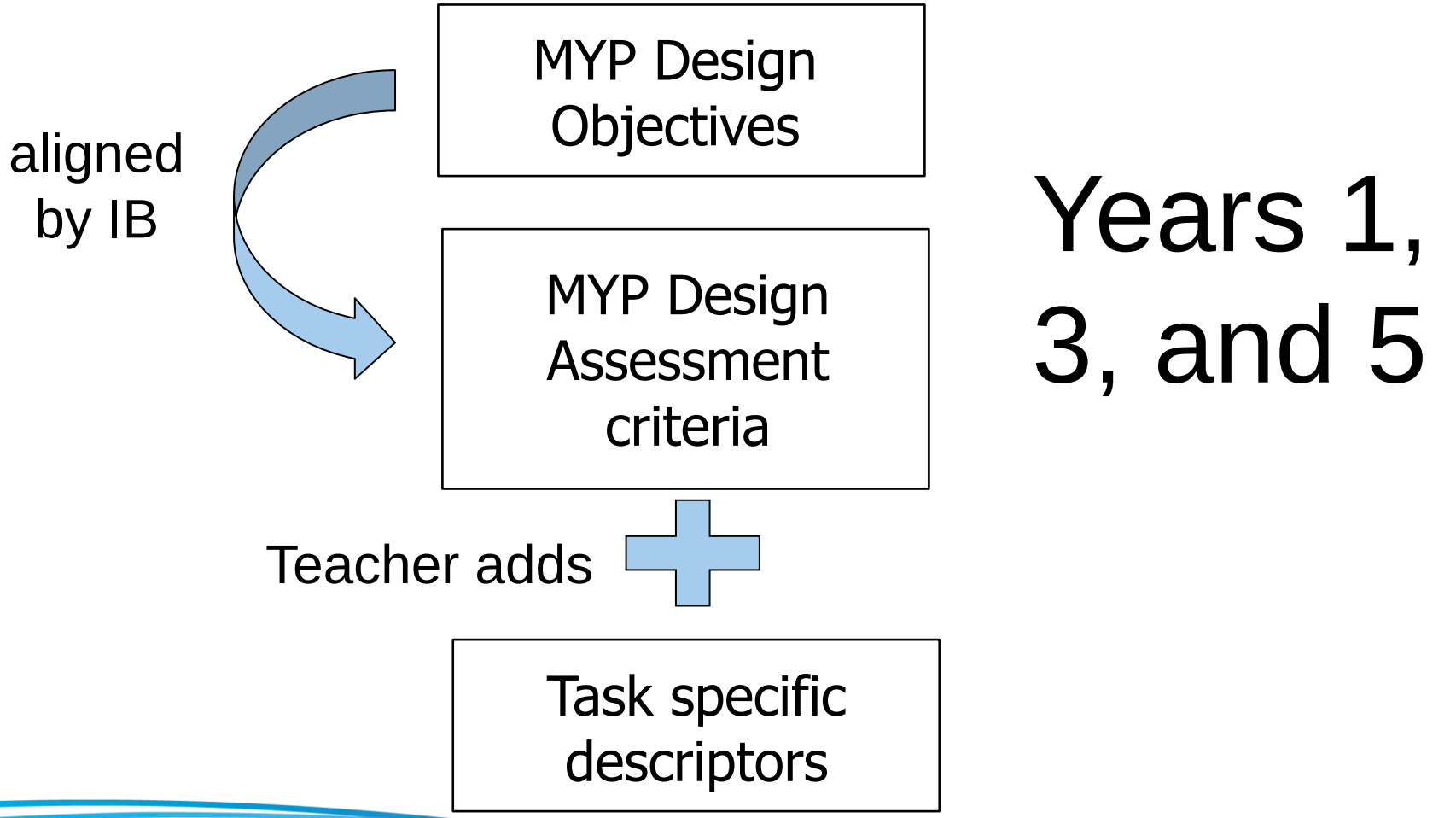
There is a small car that is a bright red colour with four doors and round headlights. The colour of the car means that it easier to see on the road and the round headlights give it an eye catching appearance.

To justify

There is a small bright red car with four doors and round headlights. The colour of the car means that it easier to see on the road and the round headlights give it an eye catching appearance. It is important to be able to see cars on the road as this improves safety, especially for people crossing roads and in poor weather conditions. Making the design of the head lights eye catching will help sell the car as more people will notice it in comparison to other brands on the market.

From OCC, Design Teacher Resource Exchange.
Posted by Richard Reynolds on 12/18/2014

Objectives and Assessment criteria



Years 1, 3, and 5

Task-specific clarifications

- The criterion descriptors provided in *all subject group guides* are generic. They describe holistic value judgments that measure student achievement.
- Teachers often find it helpful to specify how the objective strands will be assessed in the context of a specific task For example, with "investigation," specify "what type."
- Bring specificity to the criterion descriptor while keeping the "value" of the descriptor and the command terms.

Interim Objectives (Yr 1, 3) and Final Objectives (Yr 5)

Year 1	Year 3	Year 5
At the end of the first year, students should be able to:	At the end of the third year, students should be able to:	At the end of the course, students should be able to:
Students design the product/solution		
• create designs and communicate them using different forms and conventions	• generate a range of designs that attempt to meet the design specifications	• generate several feasible designs that meet the design specification
• compare the designs against the design specifications	• compare the designs against the design specifications and identify the pros and cons of each design	• evaluate the designs against the design specification
• select, with guidance, one design over the others.	• select one design and explain its choice.	• select one design and justify its choice.

A strand of clarity

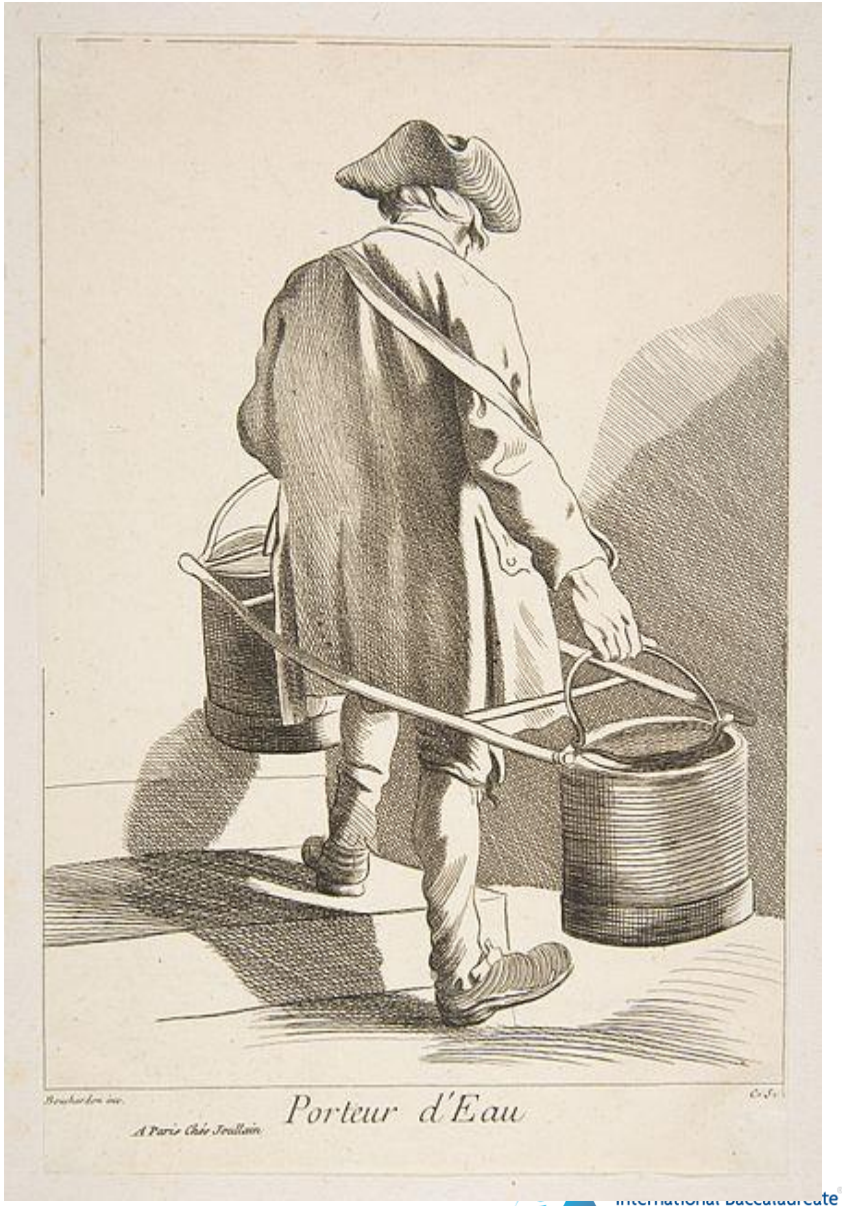
For the unit your table group has been working with:

- Choose one descriptor (strand) from the criterion that you selected and match it with the objective (strand) that you originally chose.
- What word or words might you change to make it more task specific?
- Consider using command terms in the clarification.

"Best Fit" approach

The criterion work like "buckets" that fill up as students reach different levels of achievement, from the **lowest to the highest.**

We should use the "best-fit" approach.



Baccalauréat International
Bachillerato Internacional

Keep in mind...

- Command terms
- Assessing each strand
- “Best fit”

International Baccalaureate
Baccalauréat International
Bachillerato Internacional

Determining a grade

- *All schools offering the MYP must use the published subject-specific criteria and achievement level descriptors to determine final internal grades.*
- *To arrive at a criterion levels total for each student, teachers will need to total the final achievement levels in each of the criteria.*
- Subject groups **must** address **all** strands of **all** four assessment criteria **at least twice** in each year of the MYP

When we evaluate we must guarantee:

VALIDITY

Task allows :

A. All students to access all levels of achievement
B. Measurement of what I want to measure

RELIABILITY

Likelihood of two different assessors producing the same judgment.

Internal standardization

Meeting to come to a understanding on the criteria how they are applied.

Must take place before final levels of achievement are awarded

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

Standardization and reliability

- The process involves teachers meeting to come to a common understanding on the criteria and achievement levels and how they are applied. In so doing, teachers are increasing the reliability of their judgments.

- The term “reliability” used here refers to the likelihood of two different assessors producing the same judgment.

Internal standardization, if correctly carried out, can significantly increase the reliability of assessment.

Group discussion

- How would you standardize assessments in integrated Design tasks?
- What processes and tools would you develop for collecting assessment data?
- What processes would you develop for reporting assessment data?
- **Reflection**: What are my recommendations to my school?

Through reflection we will continue to grow

Reflection

What are the big ideas that you can take from this workshop back to your classroom and your school?

Did we meet Your Goals for this networking session?

Did we answer your burning questions?

The Padlet will be available for you to refer back to and we will add answers and clarifications for the next week or two.