MARC MYP Networking

Technology

Annapolis Middle School
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Level 1 Breakout:
- Handout includes selected pages from the current IB MYP Technology guide – subject guide was written in 2006 – in review stages for new publication in 2011. Integrated technology rather than discrete technology is being recognized. Little guidance right now on how to integrate technology, but this should be addressed in the new publication.
- Today's focus will be on the basics:
  - Aims and objectives from year 5
  - What is the difference between aim and objective? Aim is a goal and objective is how you will get there – can be measured
  - Objectives – investigate, design, plan, create, evaluate, attitudes in technology
  - New design cycle graphic available on occ – designed by a school

Five stages of design cycle are
- Investigate – use media center, use databases, use media specialist as your guide
- Design
- Plan
- Create
- Evaluate

In English, it matches the writing cycle
In Science, it matches the process of completing a science fair project

Sample project: Carbon dioxide car; students created a car and then made a poster reflecting on what they did in each of the stages in their poster

Brainstorm: How might you use the design cycle in your instruction?
- Grade 7 science: Endangered species: had to research endangered species and come up with an action plan on how to get them off list

- Science fair project
- Science – completing a lab; follows the scientific process; technology lessons can be giving the students the problem and have them design the solution
- For Tech Ed, the terminology would be different but it's the same process
- Technology folks, not content specific ideas: how to identify what a final project concept would be and identify what those pieces would be; use these as tools to accomplish small tasks so that when it comes time to put it all together, you don't have to focus on a huge task
- Sounds like nothing more than a reiteration than the concept of a web quest
- Started with backwards design – you know your objectives and develop your essential question; each person is given a role and they work on that real-life task
- You can do group work, but students must be able to justify what they have contributed
- Media specialist – big 6 information literacy model;

Technology assessment criteria
Do you have to evaluate students on all criteria on every project?
- Each criteria is work a maximum of 6 points
- There are interim objectives for years 1 and 3 – still worth 6 points
- There should be one project that is evaluated on every criteria
- You should modify the criteria for years 1, 2, 3 and 4
- Some schools use year 5 for grades 9 and 10
- For years 1, 2 and 3 – modify the rubric to make it specific to the task
- The tasks themselves should be age appropriate

Observations about the rubrics:
- In investigate, it talks about design, when criteria b is design; design is the essence of the project and integrated into each step of the design cycle
- Design specification: the idea of multiple designs is one of the things that kids struggle with; in English, they could design a graphic organizer; in 6th grade, maybe they only design one, but in 8th grade they design 2 or 3; is there time for them in class for them to have more than one design? It's necessary – they need this in order to competently problem solve
- Because we are so SOL/MSA driven, the students and teachers may enjoy having to think about something in this way; it is beyond "how does this prepare them for the SOLs/MSAs" – it teaches kids how to think
- The attitudes portion – this is against what we are many times told we can include in our grade book; this might help us justify being able to "reward" kids for doing the right thing

What does this rubric look like in 6th grade?

Things to have in mind when writing a rubric:
- Use the year 5 rubrics and interim objectives – what does IB expect them to be able to do?
- There should be vertical articulation so that teachers know what is expected of students at the end of the year so that they are prepared for the following academic year
- The rubric should be task specific
- Example: Investigation: to earn a grade of a 6 –
- Year five language: "student explains the problem and discusses its relevance"
    - Be specific: student explains the problem and gives 3 details about its relevance
- Year five language: "The student critically investigates the problem, evaluating information from a broad range of appropriate acknowledged sources"
    - Take them to the media center – they have to use one text, one internet and one database
- "The student describes detailed methods for appropriate testing to evaluate the product/solution against the design specification"
    - In 6th grade you GIVE them the design specification of what the problem needs to be able to do
    - Example: I need a robot that will wash my car
        - How are we going to test that car? There must be a scenario in which the student can test their product;
        - Clarify – example: 3 paragraphs on how you are going to test your product
        - Clear expectations are the leading factor in student achievement
- What you cannot do:
    - You can't truncate the rubric, you can't remove strands from the rubric and you cannot add strands
    - Example: Neatness – you can add criteria, but you can't add something to the rubric
    - If you want to grade neatness, add a "new" criteria" Criteria G: Neatness (develop your own rubric)

DESIGN FOLDER
- The design folder is a collection of evidence that accompanies the final product – evidence of student learning
- How can you use the design folder?
- Art teacher: using all these steps, but doesn't use the design folder; "*DON'T MIX THE ARTS DEVELOPMENTAL WORKBOOK WITH THE DESIGN FOLDER*"
    - Kids have to research an artist and they weren't doing their report – create a webpage instead
    - Kids would research an artist and have to create a 4 page webpage about their artist with specific criteria

- o Page 1 – title
    - o Page 2 – background of artist
    - o Page 3 – samples of work
    - o Page 4 – my opinion of the artist
- SCIENCE – investigate one of the seven wonders of the world; how would you protect it from physical or chemical weathering
- HISTORY DAY – investigate is an obvious connection – quantify the number of primary and secondary sources – can be different by grade level design – use thinking maps to show impact and change, cause and effect; use this to narrow down their topics
- TECH PROJECT – school is going to purchase e-readers; students had to research and decide which was the best choice for the school
- BAND – band teacher is working with a school somewhere else in the world (example in West Africa); students build instruments that uses resources from that area of the world; students from that country should be able to create and play that instrument; students research natural resource and culture, actually build the instrument and write directions and send the instrument
- GUITAR – students build a guitar; must construct based on the knowledge that they are learning; basic components of the guitar; students pluck a string and learn plucking, texture, amplification; students are learning how to play the guitar by building their own guitar
- TECH ED – land speed assault vehicle for 7th grade
- 6TH GRADERS – catapult – related to medieval times and they have to attack a castle by building a catapult

DIFFERENT TYPES OF TECHNOLOGY
- Computer technology
    - o Software and hardware of computers, such as creating a website, podcast, power point; interactive game, storybook or application; database or a model
- Design technology
    - o Student created products that represent students' authentic designs; allow students to explore working with different materials; example: healthy menu for school cafeteria, solution to recycling aluminum cans, a product to improve a young child's motor skills

ADDRESSING THE AREAS OF INTERACTION
- What do some of our ideas look like through the different areas of interaction?
    - o healthy menu for school cafeteria – health and social education
    - o solution to recycling aluminum cans – environments
    - o a product to improve a young child's motor skills – human ingenuity

Level 2 Breakout: Small Group Discussion
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Problem-solving common challenges
- We have to get teachers to start thinking that they are teaching MYP Technology using their subject areas as the vehicle.
- How can I use the design cycle with what I am teaching? *The big 6, inquiry, information literacy, etc., can all be used to implement the design cycle into any subject area.*
- There seems to be difficulty with creating units revolving around problems/issues.
- *Remember, any investigation can be turned into a problem solving opportunity.*
- Grading/grade reporting
- *What is the most efficient way to report technology grades in my subject area?*

Sharing successful unit plans
- Review of MYP Unit and corresponding unit overview for Advanced Academic Program written by Jennifer Hine from CPS
- Unit Title: Inventions and Innovations: Creative Problem Solving in Action!
- Grade 6
- AOI: Human Ingenuity and Environments
- Unit Question: How can we use the creative problem solving process to investigate, plan and create new designs for an improved student desk?

- Review of a student booklet, teacher support booklet titled "Guidance for Implementing the Design Cycle" and another student booklet taken from the OCC's socially useful quiz (for an example of the quiz, taken from Technology teacher support material, visit:) that outlines the steps of the design cycle. The resources were not subject specific and simply provided a template that could be used in any subject area for technology implementation. Presenter Mary Fee provided the resources.

Reviewing assessments
- By year 5, students should be completing 2 complete cycles of the design cycle
- Review the interim objectives and use them to modify assessment criteria

Ongoing Needs/ Unresolved Issues:
- Conflicting information is being conveyed in networking sessions and IB regional trainings
- We need to create a template for teachers and for students, regardless of subject area, where they can teach the design cycle in their subject area. This template could be equipped with a series of prompts for the students to reflect upon each stage of the design cycle.

Tech Resources:
Auto CAD
Google Sketch
Deep Dive
The OCC- about 9 technology units can be found/utilize the forum