

Title of Session: The Global Challenge

Moderator: David Gibson

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Room: After School Online

DavidCG: Greetings to all there is a movie showing on YouTube while we're waiting for people to gather

DavidCG: <http://www.youtube.com/watch?v=CfOldvMTKYM>

DavidCG: I'm also going to make a Voice Thread now too and share it that way

BJB2 nods

LaraO: I don't mean to interrupt but is there a component for middle school aged kiddos by any chance?

LaraO: I teach middle school pre engineering and have some kids that would love this

DavidCG: Yes...we are just getting that off the ground

LaraO: COOL!!

BridgetBa joined the room.

BJB2: Sorry, Lara...we're starting a little slowly today

DavidCG: the project is called MSOSW - Middle Schoolers Out to Save the World

BJB2: welcome, Bridget

BridgetBa: hello

DavidCG: It's centered at Univ of North Texas

LaraO: no problem didn't mean to be pushy

DavidCG: and is built on the Global Challenge model

DavidCG: and is thought of as a lead-in

DavidCG: which brings up a question I have for you and other middle grades teachers

DavidCG: how much self-direction can a middle school student have?

DavidCG: The HS version leaves the entire engagement up to the student

LaraO: depends on the student - probably pretty much like many high schoolers

DavidCG: and we mentor students in their small team

DavidCG: they can go any direction they want on the challenge

LaraO: they as a whole can not do entire self management

DavidCG: what I wonder is how far would a middle schooler go on their own?

LaraO: have you heard of first lego league?

DavidCG: nope

DavidCG: tell me

LaraO: first lego poses a big problem

LaraO: then the kids have to decide within that big issue how to go about addressing it

LaraO: it is self directed with the teachers and mentors and guides

BridgetBa: what is it?

BridgetBa: how do you do that

DavidCG: Sounds promising - that is what I'd like to have for MSOSW

LaraO: first lego league - this year the theme is climate change

LaraO: they then develop a presentation and use programmable legos to build robots that have to perform tasks

LaraO: that simulate issues in the big scheme

LaraO: have you heard of the project lead the way program gateway to technology?

LaraO: I know it is big in Texas

DavidCG: OK I have a web site address for my slides tonight:

<http://voicethread.com/share/221026/>

LaraO: It is the program that I teach in my class - I try to make it as self directed as I can and then bring it down to more constructed for those that need it

DavidCG: using a new technology called Voice Thread

BJB2: thanks, David

DavidCG: Thanks Lara I will look that (and you) up to find out more...and I'd love to have you consult with us on how to launch the middle school level

LaraO: I would LOVE that!!

DavidCG: OK do you all have the VoiceThread?

LaraO: y

DavidCG: You will be in control of the slides...and if you want to leave me a comment (you can type or use your voice if you have a mic)

DavidCG: feel free to

DavidCG: You have to register for free and then you can come back to this and leave a comment and everyone who sees the slides in the future will see your comments or hear your voice, or see your video etc.

BJB2: cool application for voice thread, David

DavidCG: You can see from slide 2 that our goals are to help with self-direction (thus my question to Lara)

BJB2 . o O (I'd heard of it, but haven't really tried it out)

SergioV joined the room.

DavidCG: Yep Voice Thread is a great way to share media and gather comments about it

DavidCG: A second goal is to use games and sims to teach complexity

DavidCG: and finally to have students use a LOT of tools to create global teams and get work done

DavidCG: the tools range quite a bit (VoiceThread being one of many, many)

DavidCG: slide 3

DavidCG: games and sims are cool, fun and powerful

DavidCG: powerful because at their heart is an unknown engine

BridgetBa: that is interesting

DavidCG: and as the student plays and masters the sim or game, that engine transmits knowledge of a system

DavidCG: I think of games and sims on a continuum

DavidCG: they both have a logic engine

DavidCG: sims emphasize reality

DavidCG: games emphasize challenge

DavidCG: in Global Challenges we have a good dose of both

SergioV: Hi all, I am wondering if you're reviewing a certain webpage?

DavidCG: <http://voicethread.com/#q.b221026.i1153493>

BJB2: welcome, Sergio

DavidCG: on to <http://voicethread.com/#q.b221026.i1153494>

DavidCG: What is it?

DavidCG: It starts when any student finds the web site

DavidCG: they form a 2-person team with a friend (or find a friend from their country using our map)

DavidCG: and they get an adult advisor

DavidCG: (we're thinking of dropping the adult requirement because it holds kids back)

DavidCG: Then, that team finds a similar team from outside their country

DavidCG: 2 US kids MUST be on each 4-person team

DavidCG: then they work on their own for up to 9 months on a big solution

DavidCG: and a big business plan to solve global warming

LaraO: how are you promoting it internationally?

DavidCG: Google - we have 1700 kids now from 58 countries

DavidCG: those 1700 signed up since July 22

DavidCG: signups will end on Dec 15

DavidCG: we'll have over 3000 easily

DavidCG: We use Google ads

DavidCG: under a grant from Google

DavidCG: (worth about \$10,000 per month)

LaraO: sounds great

DavidCG: We are learning how to target highly specific teens - such as rural Hispanic girls

DavidCG: <http://voicethread.com/#q.b221026.i1153496>

DavidCG: The message to the kids is - on this page

DavidCG: earn money by studying and be in control of your learning

DavidCG: <http://voicethread.com/#q.b221026.i1153497>

DavidCG: These are our main tool resources

DavidCG: our map is a social networking application

DavidCG: we use any free games and sims we can find that fit into our "STEM Explorations"

DavidCG: the rules of the competition and rubrics do most of the "teaching"

DavidCG: We have past year's winners (now college kids at very good colleges) to help each team with process, ideas, connections, linkages, rule-understanding

DavidCG: and each step is up to them to take

DavidCG: <http://voicethread.com/#q.b221026.i1153498>

DavidCG: The STEM Explorations cover essentially a full high school year of earth science - with related chem, bio and complex systems content

DavidCG: ...ah yes...also econ, and social systems

DavidCG: the kids have to understand and read the "World is Flat" and their innovation has to be good for 3 countries in a supply chain relationship

DavidCG: (get materials from x, move to y, sell and control in z)

DavidCG: The STEM Explorations are where most of the games and sims reside

DavidCG: <http://voicethread.com/#q.b221026.i1153499>

DavidCG: For example

DavidCG: This one is a sim- game about evolution, showing its mechanics

DavidCG: we look for tools that have data inputs, dynamic representation, new data generation in response to what the student does

DavidCG: etc.

DavidCG: <http://voicethread.com/#q.b221026.i1153500>

DavidCG: Here is another one...this one is the famous model of a scientist who first thought of the earth as a living system and showed that it hung in a balance

DavidCG: ...a balance that is now off-course

DavidCG: If we reach and go by a tipping point, then there will be nothing much we can do

DavidCG: so the time is now to invent, work together and solve some of the things that are moving us toward those tipping points

DavidCG: The graphic on this one shows two points - over cooling and over heating

DavidCG: see the red dots that look like "outliers"?

DavidCG: Those would be earths where nobody could live

DavidCG: <http://voicethread.com/#q.b221026.i1153501>

DavidCG: We introduce new computational tools

DavidCG: and some students teach themselves these tools and use them in their solutions

DavidCG: This page is showing STELLA and GIS maps

DavidCG: Do you know about those?

BJB2: can you tell us more, please, David?

DavidCG: STELLA lets you draw a picture of a process (A qualitative description - a flow chart)...

DavidCG: and then it requires you to specify exactly what you meant by each item in the drawing

DavidCG: it creates a system of equations in the back ground that then allow that drawing to be "simulated"

DavidCG: In effect, it is a game engine or simulation engine tool

DavidCG: and can be used to make visible what you understand about a process

DavidCG: and it creates a rigorous way of thinking about the process that you think you understand

DavidCG: so that you learn even more by drawing and "fixing" the drawing

DavidCG: GIS is a data mapping technique

DavidCG: where the data points have a spatial meaning

DavidCG: Here we are looking at Madison Wis

DavidCG: all the dots are the schools

DavidCG: and the colors of the dots show which students go to which high school

DavidCG: we can overlay other student data on this and begin to see if there are patterns

DavidCG: (there almost always are!)

DavidCG: for example, are kids in one part of town more likely than others to be in special education?

DavidCG: (yep) but why?

DavidCG: The kids use GIS to show where earths resources are

DavidCG: or to track how ice has been changing at the poles

DavidCG: many uses

DavidCG: and they have to get the data, massage it, clean it

DavidCG: etc in order to make the maps work

DavidCG: so its a tool and process of dealing with large complex data sets

BJB2 wonders if anyone has any questions?

DavidCG: I'll stop for a sec

DavidCG: (thanks BJ)

DavidCG: <http://voicethread.com/#q.b221026.i1153502>

DavidCG: jump in at any time

DavidCG: This page shows our electronic portfolio

BJB2: sorry to interrupt the discussion, David ;-)

DavidCG: each team works together in a team space and creates a portfolio

DavidCG: We also survey them in here to get pre-post info

DavidCG: and we score their final products here too

DavidCG: <http://voicethread.com/#q.b221026.i1153504>

DavidCG: oops the graphics aren't good.

DavidCG: (I uploaded too quickly)

DavidCG: This one is showing the ethnicity mix of the 60%

DavidCG: the 40% big yellow is all other countries

DavidCG: in the US, our students mirror the country race mix

DavidCG: <http://voicethread.com/#q.b221026.i1153505>

DavidCG: Here is a team from 2 years ago

DavidCG: (how time flies)

DavidCG: Two girls from CA and two boys from China

DavidCG: They worked for about 6 months. One girl has come back two other years.

DavidCG: The other one went into college the next year - at Stanford

DavidCG: Our kids are in very good schools - and they come from all SES...and we have about 60% girls

DavidCG: Oh This teams' core idea was cool

DavidCG: put quantum dots on thin film

DavidCG: the dots make solar more efficient

DavidCG: and the thin film lets you wear it, make a tent, flags etc.

DavidCG: so this material (like at the Denver airport) could be producing electricity for the airport

DavidCG: <http://voicethread.com/#q.b221026.i1153506>

BJB2: wow!

DavidCG: Here is a page of several other cool ideas

DavidCG: the passive refrigerator was made from salt water in left over soda bottles

DavidCG: the Algae solution showed that coal plants would not have to sequester the CO₂, they could run it through tubes to recover more fuel, then burn the Algae...and get better air while doing it

BJB2: and these are all the result of your groups, David?

DavidCG: right

DavidCG: We have a "Patent office"

BJB2 wonders how everyone can be so passiveI'm jumping up and down!

DavidCG: and teams submit to that before they submit their solutions for judging

DavidCG: haha

BJB2 pokes Sergio and Lara...any comments?

DavidCG: it's a fun project - and the strange thing is that we get kids from the whole spectrum of GPA

DavidCG: (well no F's)

DavidCG: but really every other level

DavidCG: The teams seem to be able to mine the best of each kid without much help

DavidCG: (from us)

DavidCG: <http://voicethread.com/#q.b221026.i1153507>

DavidCG: We do have challenges however

DavidCG: this page shows that we can reach very large numbers, but only small numbers persist

BJB2: about what percent do you think?

DavidCG: The IT team level involves over 150 hours

DavidCG: This is our 4th year and we have 170 returning students

DavidCG: we've registered 1700 so far

DavidCG: so all these numbers are going to go way up

DavidCG: (that is the Google difference)

DavidCG: and we're paying a lot more attention to the mentors and how they are doing with the teams

BJB2 nods. You said that the groups work outside of school?

DavidCG: completely

BJB2 . o O (the mentors are the most important element)

DavidCG: a few schools form after school clubs

DavidCG: no school that we are aware of uses this within the day

DavidCG: (too bad)

DavidCG: we may try to work on that soon

DavidCG: we

DavidCG: We'd like to reach 2 million kids in 4 years

BJB2 nods...so that in part accounts for the drop out rate. Does the challenge extend beyond the school year?

BJB2 . o O (northern hemisphere)

DavidCG: We've given about \$150,000 in scholarships to about 150 kids

DavidCG: yes the challenge is a year around activity

DavidCG: The drop off happens most of the time when a team falls apart

DavidCG: and that discourages a key student or two

DavidCG: when teams stick together, they always complete something and win something

DavidCG: so we're concentrating on making sure that good teams form

DavidCG: the kids do not always check each other out before forming a team

BJB2: learning to work together as a team is an important skill to acquire also

DavidCG: (and then they are sorry when it cracks up)

LaraO: I could easily see this on the middle school level as an after school club

DavidCG: Great!

LaraO: especially if it is year around

DavidCG: I'd love to help that happen

LaraO: lego is just from Sept to Dec

BJB2 cheers for Lara

LaraO: then the kids kind of fall off from Jan through May

DavidCG: maybe we could go for Jan to June

DavidCG: to not interfere

DavidCG: <http://voicethread.com/#q.b221026.i1153508>

LaraO: I wouldn't even worry about that really

DavidCG: This page shows that the race mix stays good even as the project gets harder to do (after drop outs)

DavidCG: The blue bars are girls

DavidCG: and the histogram is the races

LaraO: lego is expensive and can only have 10 people on a team

DavidCG: whites are on bottom

DavidCG: Ah this is free

LaraO: yes, and could easily reach more students

DavidCG: the middle school program will have some equipment that we will give away in the next 3 years and then try to figure out how to have it raised by the class or school

DavidCG: ...instead of selling cookies - sell home energy audits that save people money and save energy

DavidCG: Yes we expect to really reach the 2 million mark

LaraO: that would be great

DavidCG: <http://voicethread.com/#q.b221026.i1153512>

DavidCG: I'm skipping over some slides

LaraO: not to be partial but what are the statistics on males versus females in participation

DavidCG: about 40% males 60% females

LaraO: there are huge drop offs in girls within stem in the middle school grades

DavidCG: Yeah, we're surprised

LaraO: AWESOME! Love to hear that

DavidCG: I think it's the global team, social contact, holistic problem

DavidCG: all these things appeal to girls and they are the best team leaders

DavidCG: and also the best communicators

LaraO: ahhh shucks :-)

DavidCG: all skills needed by the whole team

LaraO: do you push a build in for team building?

DavidCG: (you know it's true - at least for this age group - haha)

DavidCG: Everything is points based and earns prizes

DavidCG: and the first few exercises are "team building"

DavidCG: they would get 3 points for each person posting a short bio

DavidCG: or telling why they signed up and what they hope to get out of this

DavidCG: the final produce has individual reflections

DavidCG: and team reflections

LaraO: ok sorry if I am asking what you already answered but I was trying to look around as you were speaking

DavidCG: no prob...NOW the future...<http://voicethread.com/#q.b221026.i1153513>

LaraO: does the program match the US kids with the international kids?

DavidCG: We want to build a Second Life-like space - but safe and for teens and STEM education

DavidCG: The kids can choose to find their own or have the app randomly match them

DavidCG: most find their own

DavidCG: We have a more in-depth article on this concept of the game world space.

DavidCG: I'll get that address.

DavidCG:

<http://www.microsoft.com/education/highered/whitepapers/simulation/SimulationPlatfor>

[m.aspx](#)

DavidCG: Microsoft went public with this last Fall

DavidCG: We've been working with them for about 2.5 years

DavidCG: the platform is called "esp"

DavidCG: <http://www.microsoft.com/esp/>

DavidCG: There are a lot of unanswered questions, but what got our attention is that the earth if fully rendered with live data feeds

DavidCG: You can land anywhere on earth and experience the time of day and weather of that location

LaraO: would you mind if I forward this information to a few colleagues?

DavidCG: so we want kids to be able to play around with alternative futures as well as learning about real physics and science by being in a realist (but virtual) space

DavidCG: please do!

LaraO: we are working on some virtual space things

DavidCG: I'd love to collab

DavidCG: share

DavidCG: and co-develop

BJB2 wishes Lara had invited her colleagues to participate in this discussion!

DavidCG: We are still looking for the major funding that would light the fire on this part

DavidCG: (we have the funding for the other things we're doing)

LaraO: actually sorry to say but was tuning in for middle school portal that was cancelled

DavidCG: I can re-do for you and them at another time if you like

DavidCG: <http://voicethread.com/#q.b221026.i1153514>

DavidCG: This slide is my shorthand rationale for the games, sims and learning...and it borrows from Clark Aldrich (who co-edited a book with me)

LaraO: I have a voice thread account also, but haven't played with it yet - I'll show them the slides

DavidCG: <http://voicethread.com/#q.b221026.i1153515>

DavidCG: This is a screen shot from inside the esp-flight sim

DavidCG: The first thing I'd like to build is a non-airplane way of getting around the world and conducting "experiments" on the world

DavidCG: <http://voicethread.com/#q.b221026.i1153517>

BJB2: Lara, if you wanted, you could also get together with David and do a demo via Tapped In for your colleagues...using your office or a Tapped In conference room

DavidCG: The agenda for kid missions or explorations would be this

DavidCG: I think that a series of games as part of a grand game design could be developed for each of these themes

DavidCG: explore - experiment - observe - build models - compare perspectives - lead a team in research

DavidCG: Here are a few of our partners:

DavidCG: <http://voicethread.com/#q.b221026.i1153519>

DavidCG: ...and proposed partners (they've all said "let's play" but we have to get something to play with...to start)

DavidCG: <http://voicethread.com/#q.b221026.i1153521>

DavidCG: This is my last slide

DavidCG: The elephants walk around on the parts of the earth where you'd expect to find them

DavidCG: and the same goes true for an increasingly large array of the living world

DavidCG: I hope that you'll all leave a comment on the Voice Thread spot!

DavidCG: I've enjoyed presenting - I know I've gone a little long

DavidCG: Thanks BJB for inviting me again

BJB2: Thanks for sharing this wonderful project again with the Tapped In community, David!

DavidCG: My pleasure - tell some high school kids about it.

DavidCG: Sendthem to www.globalchallengeaward.org

BJB2: I'll put a mention in the newsletter

BJB2 . o O (which will go out soon)

DavidCG: Lara (and anyone else interested) email me at david.gibson@globalchallengeaward.org

LaraO: I would enjoy speaking to you further about this - oneilteaches@yahoo.com

BJB2 waves goodnight to David. Thanks for participating in the discussion, Lara and Sergio

LaraO: thanks David!

DavidCG: It was fun!

DavidCG: (I'm going to go edit that Voice Thread now so the slides with bad pictures are deleted or repaired)

BJB2: great...thanks, David

LaraO: David, do you have a ms site yet?

DavidCG: no that is not up yet

DavidCG: but I'll put you in touch with the whole team

LaraO: would you be willing to allow a team to "test" out the high school program?

DavidCG: absolutely

DavidCG: any age can join

DavidCG: we have just created the materials with the hs kid in mind

DavidCG: We have had some 13 year olds

DavidCG: but they did not last even with a parent helping them

DavidCG: due to not being able to form a team

LaraO: I'm thinking just having maybe four of my kids trying it out just on one end to see how well they could handle the self direction - kind of guinea pigs

DavidCG: sure - I'll be glad to help them in any way I can

DavidCG: They might surprise us all

LaraO: give data if nothing else

DavidCG: I bet they might have great ideas too

LaraO: oh middle schoolers are all about ideas

DavidCG: and the kids from China - even through they are 14-15...are innocent in many ways

DavidCG: and I think if the kids remain serious, then they will make good friends and do well

LaraO: cool - I have time the next few days, I will get on the site and get a better idea and then present it to them on Monday

DavidCG: great - be in touch at any time

LaraO: thanks! - well better get back to work - conferences the next three days

LaraO: thank you and I will be in touch!

DavidCG: ok bye for now!