Title of Session: Problem Based Curriculum
Moderator: Chris Aguirre
Title of File: 20061016pbc
Date: October 16, 2006

Room: Problem Based Curriculum Group

ChrisA: How is everyone this Evening

BJB2: Welcome to today's Problem Based Curriculum discussion

BJB2: we usually start the Tapped In discussions with introductions

BJB2: please let Chris, the leader of the discussion, know where you are located and what you teach or hope to teach

AlexesR: I am located in Houston Texas and I am a student teacher for a third grade classroom.

FrankLa: What a good looking group today.

ChrisA: aspiring principal in NY City

ShannanB: I am in Fredericksburg, VA and I teach ninth grade Earth Science

BJB2: remedial communication teacher in central Pennsylvania

FrankLa: Milwaukee, WI. I am a fifth grade teacher in a German immersion school

ChrisA: Frank does that mean all of the subjects are taught in German?

FrankLa: Yes. All subjects are taught in German except English

ChrisA smiles and thinks that makes sense

AlexesR: wow

ChrisA: Alex how about you?

ChrisA: ok so let's get started

ChrisA: what is a problem based curriculum?

ChrisA: I love a good question

ChrisA: what does that term mean

BJB2 ponders the problem

ShannanB: Isn't it where kids are given real world problems and use their prior knowledge to work towards their own solutions (or something like that?)

AlexesR: a curriculum that does not teach what it is intended to teach or a curriculum that leaves out important aspects of the learning process

ChrisA: ya that is a great definition Shannon I agree that any problem that brings in prior knowledge and causes students to think deeply about a solution is working toward your goal of learning

ChrisA: but how does the word curriculum fit into the definition?

ChrisA: How so Alex? why would it leave out important aspects of the learning process? think of it like this do you use problems in your curriculum currently?

ShannanB: I think in problem based curriculum the idea is to base everything you teach around these "problems"

ShannanB: so instead of books and tests, students are guided into constructing knowledge

ChrisA: It could mean that Shannon or it could be used on a smaller scale. Where the confusion comes in is that It can mean different things to different people.

ChrisA: let me ask you this what was the last really good problem you used in your classroom?

ShannanB: I have to say that I'm new to problem based learning. I haven't done much of it in my classroom yet.

ChrisA: Ok the last really good problem I saw in a classroom was for student to build their own forbidden city

BJB2 listens closely

ChrisA: OK let me ask you this how do you create High order thinking in your classroom?

AlexesR: open ended questions

ChrisA: how do you ensure that you provide your students with a rigorous curriculum?

AlexesR: by getting them to think outside the nine dots

ChrisA: sure I think open ended questions play a part in that

ShannanB: I like to make them come up with their own procedures for labs. that way I can check to see if they know what we're trying to figure out

ChrisA: Giving kids the ability to use analysis and synthesis level questions allows them to put the facts we provide them with to use

ShannanB: I use a lot of higher level questions on classwork assignments. That way they can work together and share ideas

ChrisA: That sounds like a great assessment tool but how do you ensure that you are maintaining academic rigor in your classroom instruction?

ChrisA: so you use collaboration. Does anyone else use collaboration? if so what kind of things do you have your students collaborating on?

ChrisA: Do students construct things? Do they answer questions? What kind of things are they doing?

ShannanB: I use at least a little every day. I teach in a school that uses block scheduling, so I have 90 minutes to divide up into sections

ChrisA: cool I love block scheduling so what did you do today in class?

ShannanB: Often, I have an activity or lab they work on together, that has questions associated with it

ChrisA: great what was the last activity you did?

AlexesR: We are constructing a rain forest in our classroom. Everyday the students work in groups and make things that they might see in a rainforest. The ideas they come up with must be their own

ShannanB: Today we did a brainstorming activity about the solar system (I started a new unit), explored a website about the solar system using a Smart Board, and then took some notes, and started homework

ChrisA: Hey that sounds great

AlexesR: the students are required to research the item they want to make before they can begin so that they know exactly what it is and what it does and what it is used for and finally what it looks like

ChrisA: See a problem based curriculum doesn't Necessarily mean you have one large problem everyone is working on. It could take the form of several small problems that a student may encounter in their activity or class project.

AlexesR: The students can use books, the library, the internet, etc...

ChrisA: its is not the size of the project that matters as much as what the problem does

ChrisA: does the problem require students to use previous knowledge because if it does then students are synthesizing their knowledge and applying it in new ways

ChrisA: Does the problem call for students to construct explanations and justify their findings because if it does then you have given students the ability to apply their knowledge in a new way

ShannanB: I do that all the time with worksheets I make up. I always thought there had to be more to problem based learning though

ChrisA: Does the problem they face allow them to use the core knowledge you have given them? because if it does that then the problem then becomes the relevance for the knowledge you are passing along and that will allow them find new uses for that knowledge

ChrisA: no all you need is a problem that will accomplish the point I just posted, but I am curious what modalities do you see yourself hitting when you use a worksheet?

ChrisA: problems become real when you can actually do them. That is why chemistry class is way more fun than in than in lecture

ChrisA: I am curious Alex with your rain forest project what do you want students to take away from that activity?

ShannanB: I just try to get them to think a little more outside the box. I also require a lot more interpretation of data than some of my colleagues

ChrisA: that's great Shannon so where does this data come from?

AlexesR: I want them to appreciate the world around them and to take care of it

ChrisA: those are great goals how did you come to gain those things?

ShannanB: For example, when we teach weather everyone else teaches the various definitions and parts. I make my kids interpret data (mostly from the internet) to actually predict what the weather will be like in various cities

ShannanB: Then, a few days later, we see if we were right

ChrisA: that sounds great so let's turn that into a problem

ChrisA: how would they attempt to predict tomorrows weather?

AlexesR: through my collaboration at my college I took this awesome science class that taught us lots of good stuff to use with our students

ChrisA: I would assume we would start by taking barometer readings on a daily basis to get a history started so you can look at trends

ShannanB: Based on where fronts are, what the barometric readings are, etc

ChrisA: maybe measure wind speed and possibly precipitation

ChrisA: not to mention the time honored tradition of looking out the window

ChrisA: The question then becomes could a student gather enough data to attempt a forecast of their own

AlexesR: sure with the right tools

ChrisA: Alex you came to your appreciation of the world from a science class that you took right?

ChrisA: have you gone to any of the places you studied?

AlexesR: no just how to teach it to my students. I think I learned an appreciation many years ago

ChrisA: cool so we have young minds and we want them to experience the world around them from the classroom

AlexesR: I like to travel. Someday I will go to the rainforest. I have been to 43 of these United States and also to England, Holland, Canada, and Mexico.

ChrisA: wow that's great

ShannanB: that is great

ChrisA: so let's talk about how we get kids to appreciate the world around them and take care of it

ChrisA: How does one come to appreciate something?

AlexesR: first we must give them a feel for how what they do effects the world around them

AlexesR: I think a good place to start is with recyclables

ChrisA: Alex how would you do that?

ChrisA: ok so let's step back for a second

AlexesR: I think that I would start by making them aware of the trash they see at their school

ChrisA: I agree recycling is a great place to start but how does a young student understand the impact of recycling on the world?

AlexesR: Next I would have them observe the places they go when they are not in school and write in a journal what they see

AlexesR: Next I would have them comment in their journal how the trash they saw around them made them feel and why

ChrisA: ya great point so if we were to do this we would have a great entry point for introducing the concept of biodegradable products and it would give you a chance to work on vocabulary as well

AlexesR: next we would work on what happens to all the trash and have them come up with ways to eliminate some of their own trash

ChrisA: That is another great point and it brings up a natural problem: what would happen if all of the garbage that was produced in your classroom for a week stayed in your classroom for a week? what would their environment look like then

AlexesR: by now you have the students interested (personally) in the subject at hand. Once you have them hooked you just keep on working on it until you get to the root of everything, the rain forest

AlexesR: I love teaching the rain forest because it makes your students think and feel. The students want and do make a difference in the world around them.

ChrisA: Great point: That lends itself to the idea of where does trash go when you throw it away. What happens to it when you bury it in the ground. an old fishtank some burger king boxes and a couple of pounds of dirt and you have an instant biodegradable lab that people can watch in real time and with a little creativity with a web cam you could wrap that into a nice little time laps movie that your third graders would be proud to say they made

AlexesR: yes

ChrisA: And I would argue Alex that the thing that makes them think and feel is the problem

AlexesR: yes

ChrisA: the problem of growing and maintaining a rainforest and that makes everything that lives there a problem in the sense that the world is dependent on the rain forests to stabilize its climate and what that means for them. A problem in the sense that so many things they take for granted were created from things found in the worlds rainforests

AlexesR: once it is gone it is gone forever

ChrisA: Shannon I am curious can you give us a question found on one of your worksheets

ChrisA: yes you're right but what is really cool is that the person who has the answer to save them could be sitting in your classroom right now

AlexesR: how true

ShannanB: um....I'm trying to think. The last one I gave out had a weather map and they had to answer higher level questions about what was going on

ChrisA: cool so they needed to interpret wind flow and pressure zones and establish fronts right?

ShannanB: yes

ChrisA: I was a geography major in another life

ChrisA: all of those things take place right out side your classroom windows

ShannanB: yes. we also collect daily weather data for two weeks

ChrisA: one of the best exams I ever heard about came to me from a prof who told me about his climate finale

ChrisA: he was asked to step outside and explain what was happening and why

ChrisA: from that day forward I got the connection between topography and weather and I understood why the wind moved

ShannanB: that's great. I had my kids create their own continents for climate. They had to have six cities and explain what the climate was like and why

ChrisA: There are problems embedded in every question you asked them Shannon and you have access to the world's greatest weather lab. The great outdoors

ShannanB: The cities had to be situated at different altitudes, on different sides on mountains, near the coast, etc.

ChrisA: yes exactly

ChrisA: so what is unique to Vicksburg?

ChrisA: terrain wise

ChrisA: isn't Vicksburg on a river

ShannanB: I'm in Fredericksburg, and we are on the Rappahannock

ChrisA: OH my mistake I am sorry

ShannanB: that's okay, all those battles are the same to me

ChrisA: Where is that in relation to the center of Virginia?

ShannanB: We have very complicated geology.....under the ground. the surface is flat and boring

ChrisA) thanks for giving an aging geographer a break

ShannanB: we're between Richmond and DC

BJB2: Our time is about up, Chris. The next PBC discussion will take place on November 20

ChrisA: so you are insolated to some degree and if I do not miss my guess you get a fair share of your weather out of the Gulf right

ShannanB: pretty much. We don't get much in the way of weather. The mountains stop the rain and the hurricanes don't get far enough up

ShannanB: well, it is 10:00 here in VA and I have to get up at 5:30 for school tomorrow. Thank you guys for the conversation

ChrisA: The mountains stop the rain. So right there we have a great what if. What if that range were lower and it didn't stop the rain what would your city look like then

ChrisA: no problem thanks everyone

ChrisA: good night