

Title of Session: Nuts About Nature - Environmental Education  
Moderator: Bill Hilton Jr.  
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Room: Tree House Conference

**BjB:** Welcome to tonight's Nuts About Nature discussion

**BjB:** We usually start all Tapped In discussions with introductions

**BjB:** please tell Bill where you are located and what you teach.

**BjB:** Bill Hilton Jr. is the discussion leader

**AndreaBix:** I teach biology at Clarke College in Dubuque, Iowa.

**FredK:** I live on 120 acres in SE Oklahoma

**BjB:** I'm an art teacher in Pennsylvania and a helpdesk volunteer for Tapped In

**BjB:** wow, that must be amazing, Fred

**FredK:** We are at the end of the road

**AndreaBix:** Do you ranch, Fred?

**FredK:** Lots of wild life

**BjB** wonders what exciting topic Bill has for us tonight?

**BillHi:** So, Fred, what's your interest in "Nuts About Nature?"

**FredK:** I am a tutor in the literacy program here

**BillHi:** And Joann, please tell us where you are and what you teach.

**FredK:** Love of nature and animals

**DavidWe:** I'm David Weksler, a HelpDesk volunteer - I lead a discussion in TappedIn on math education and technology - I'm in New Jersey, near New York City

**BillHi:** And I'm Bill Hilton Jr., executive director of Hilton Pond Center for Piedmont Natural History in York, South Carolina.

**BillHi:** I taught high school and college biology for about 20 years and also travel the country giving talks about natural history topics and doing inservice and preservice teacher training.

**BillHi:** "Nuts About Nature" is a discussion aimed at helping teachers (and future teachers) use the out-of-doors--either for real or virtually--to excite students about learning science and other disciplines.

**BillHi:** Each month I select a topic for discussion that is intended to make you think and, in the end, to give you some ideas for implementing activities with your current (or future) students.

**BillHi:** Three ground rules: 1) Please hold the conversational chatter. This is, after all, an on-line classroom.

**BillHi:** 2) Try to stay on-topic during the discussion so we can get to a meaningful end-point during our hour together.

**BillHi:** 3) Don't use Google to search for answers to my questions. I want to know what's in your head, not what's on the Web.

**BillHi:** Thanks, first, to BJ for facilitating as always. BJ has been crowned the "Queen of Multitasking."

**BjB** bows deeply

**BillHi:** Andrea, I see from your profile that you work with preservice college students.

**AndreaBix:** Yes, some of the general education classes I teach are taken by them and

**AndreaBix:** I do some summer programs aimed at teachers

**BillHi:** So what's your actual background in biology?

**AndreaBix:** I majored in college and have a PhD in ethology (animal behavior).

**BillHi:** From?

**AndreaBix:** U Tennessee, Knoxville

**BillHi:** Interesting. I have an M.S. in ecology and behavior from U of Minnesota. (-:

**AndreaBix:** cool

**BillHi:** So, Fred, bear with me and Andrea here for a minute.

**FredK:** OK

**BillHi:** Andrea, what's the biggest shortcoming you see in the way the U.S. trains college students to become biology teachers?

**AndreaBix:** hmmm. . .

**AndreaBix:** a lot of the pre-service teachers I work with are going into ed

**BillHi:** Okay, you have 20 seconds of think time. (-:

**AndreaBix:** and they definitely are not interested in science

**AndreaBix:** To me that's the worst--they think it's dumb that they have to take a really basic bio course

**BillHi:** And why are they not interested in science?

**AndreaBix:** I think it scares them, and

**AndreaBix:** they've probably had bad experiences in the past, like

**AndreaBix:** learning straight out of a textbook and not doing hands-on stuff.

**BillHi:** So Fred's an engineering type with a degree in math, right?

**FredK:** right

**BillHi:** But you're also interested in the sciences?

**FredK:** I worked for the Navy as an engineer

**FredK:** Our family is science oriented

**BillHi:** And how about the folks in your literacy program. Are they at all interested in science?

**DavidWe** hopes everyone is interested in science, at some level

**BillHi:** I'm asking Fred.

**FredK:** a few. When school kids want mentoring

**BillHi:** What ages are you working with?

**FredK:** We focus on adults but don't keep younger school children out

**BillHi:** Well, David's right that EVERYone should be interested in science (and history and math and . . .)

**BillHi:** But often they're not.

**BillHi:** Andrea brings up some interesting points.

**FredK:** So our students span the wider range including some with learning disabilities

**BillHi:** Okay, that's interesting.

**BillHi:** Andrea made some interesting observations. That her students didn't like science because . . .

**BillHi:** They had had bad experiences,

**BillHi:** They were afraid of the subject matter,

**BillHi:** They hadn't had "hands-on" experiences,

**BillHi:** etc.

**FredK:** I have used the Tramline virtual field trips, like the desert trip

**AndreaBix:** don't know about those

**BillHi:** Let us come back to those, Fred.

**FredK:** OK

**BillHi:** The big question I have is when is it that kids first get turned off to science?

**AndreaBix:** I'm told: middle school.

**BillHi:** Whatcha think, Fred?

**FredK:** Depends upon their upbringing

**BillHi:** Explain.

**FredK:** I grew up in the desert and the Boy Scouts sparked my interest in nature and Science

**BillHi:** Good. And in your case your family was interested in science.

**FredK:** for sure

**BillHi:** Andrea, I agree that many kids get turned off in Middle School, but I think it often happens well before that.

**BillHi:** In some cases, they're turned off by parents who have no interest, so it happens before they even get to school.

**FredK:** We kept a large library of science books

**BillHi:** Then some get turned off in elementary school, even in the primary grades.

**AndreaBix:** most 4th and 5th graders I see are so excited about science

**AndreaBix:** but I'm sure you're right about family attitudes

**BillHi:** I should mention that some of those kids turned OFF at home get turned on about science when they start school.

**BillHi:** Then some get turned off by primary teachers--such as some that you teach--who have absolutely no interest in science.

**BillHi:** Then they can get turned back on again by middle school.

**BillHi:** And then they hit junior high and the bottom falls out of their science interest.

**AndreaBix:** why, do you think?

**BillHi:** Two words: Earth Science.

**AndreaBix:** huh?

**BillHi:** Right about at the time when kids are at their peak of curiosity about the world around them we start teaching them about rocks and minerals and have them build Styrofoam ball models of the solar system and paper mache replicas of volcanoes . . . .

**AndreaBix:** and these are too abstract??

**AndreaBix:** or not exciting enough?

**BillHi:** The way most folks teach the topics, they're just plain boring.

**FredK:** Sometimes a dysfunctional family inhibits all learning. It takes a really motivated student to overcome the family problems.

**BillHi:** Of course. But I'm looking at the educational system in this case.

**AndreaBix:** so the model-building you described is hands-on, but

**AndreaBix:** very "cookbook"--follow the steps to a predictable outcome--

**AndreaBix:** do you see that as part of what makes it boring and loses the students' interest?

**BillHi:** Absolutely.

**BillHi:** It's hard to teach earth science using a "discovery learning" methodology.

**BillHi:** It CAN be done, but it's HARD.

**AndreaBix:** so what's the solution?

**BillHi:** Well, one solution would be to replace Earth Science with Ecology.

**BillHi:** Include the Earth Science, but relate it to the rest of the world.

**BillHi:** Including plants and animals and processes.

**AndreaBix:** does "enough" earth science get included that way?

**AndreaBix:** we need folks trained to go to Mars.

**BillHi:** If it's taught correctly, it's included.

**AndreaBix:** does any school do it that way?

**BillHi:** Of course not. It makes too much sense. (-:

**BillHi:** The way to train people to go to Mars is to train them to think like scientists.

**BillHi:** The subject matter isn't as important as the process.

**BillHi:** Middle school kids are intrinsically interested in animals.

**BillHi:** Look, for example, at how many middle school girls like horses.

**BillHi:** We should capitalize on that interest and build a curriculum that dovetails with where they are in life.

**AndreaBix:** difficult!

**BillHi:** Then we can use animals to hook kids on science and mix in the earth science and ecology along the way.

**BillHi:** yes, difficult, which is why nobody is doing it! (-:

**AndreaBix:** plus, to dovetail with their interests, there'd have to be decades where everything is related to sex!

**BillHi:** Yes, lifelong learning about that topic. (-:

**BillHi:** Don't take it personally, but as I see it the problem lies in college preservice education courses.

**AndreaBix:** not offended.

**BillHi:** We have to fix those kids who come to you afraid of science before we can fix anything else.

**AndreaBix:** again, easier said than done.

**BillHi:** And those elementary teachers you train have to be made to understand how truly powerful they will become as soon as they set foot in the classroom.

**BillHi:** They have the power to turn kids ON to science, rather than turning them OFF.

**BillHi:** And they have the OBLIGATION to do so.

**AndreaBix:** but they're not going to listen to me telling them that it's important to turn kids on

**AndreaBix:** or that they have any such obligation

**BillHi:** I just don't believe that message gets through to those preservice teachers.

**AndreaBix:** I agree.

**BillHi:** I bet if you start hammering them with the concept on Day One they'll sooner or later start to listen. (-:

**AndreaBix:** maybe if they heard it from their education profs, not me

**AndreaBix:** maybe I'm being too negative

**BillHi:** Yes, you are being negative. My job is to jack you up and encourage a new approach. (-:

**BjB** . o O ( whew! )

**BillHi**: Which might include a long conversation with those education profs.

**AndreaBix**: hmm. . .

**BillHi**: As an educator-naturalist, I have an obligation to share what I know about nature.

**BillHi**: But I also have an obligation to help students be better students, and that includes encouraging them in math and literature and spelling and expository writing.

**BillHi**: The reading teacher has the same obligations, so what he/she should do is have kids read books about science.

**BillHi**: The math teacher can use science examples in working out problems.

**BillHi**: the history teacher can talk about history of science.

**BillHi**: Etc.

**BillHi**: Which brings us back to "ecology."

**FredK** . o O ( our milieu includes us )

**BillHi**: Which you know as the study of natural relationships.

**BillHi**: All this stuff is tied together, so EVERY teacher should be teaching EVERY subject.

**BillHi**: Which mans those elementary teachers are indeed obligated to be interested in and share their knowledge about science.

**BillHi**: Those teachers don't have to be experts in science because . . .

**BillHi**: You only have to know one more thing than your students to teach them something new. (-:

**BillHi**: So, I think I'll be quiet and let Fred tell us about those tools he has used to teach science.

**FredK**: Sorry

**BillHi**: No, Fred, tell us about those thing you used to teach science.

**FredK**: I like the internet with all its resources



**FredK:** Like the Tramline I mentioned earlier

**BillHi:** Tell us about Tramline, pls.

**FredK:** <http://www.tramline.com/tramline>

**BillHi:** Andrea, just click on that link.

**BjB:** [www.field-trips.org](http://www.field-trips.org)

**BillHi:** And then you might want to look at  
<http://www.hiltonpond.org/ThisWeek060501.html>

**BillHi:** Fred, you too. (-:

**BillHi:** This is a page on my Web site for Hilton Pond Center for Piedmont Natural History at <http://www.hiltonpond.org>

**FredK** looking

**BillHi:** Each week I post a new original photo essay about nature.

**BillHi:** This week I wrote about DYCs (AKA "Damned Yellow Composites.")

**BillHi:** Some of your bio students might be interested in these photo essays, and I hope you and Fred will take a look at them.

**BillHi:** many K-16 teachers are using them as resources for their students.

**BjB:** Bill's photos are extraordinary

**AndreaBix:** I will. I've seen some before.

**BillHi:** And for themselves.

**BillHi:** Oh, goody. (-:

**FredK** I agree

**BillHi:** BJ, we're past our time limit.

**BjB** nods sadly to Bill

**BjB** . o O ( my pillow is calling to me )

**BillHi:** Any closing questions from anyone?

**AndreaBix:** nope, thanks!

**FredK:** thanks

**BillHi:** Same time same place next month.

**AndreaBix:** OK!

**BillHi:** Meanwhile, I'll see you at <http://www.hiltonpond.org>

**FredK:** OK

**BjB:** June 20

**BillHi:** Thanks, everyone.

**AndreaBix:** bye.

**BjB** hugs Bill goodnight. Thanks

**FredK:** Bye