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Center for Educational Research and Teaching Innovation

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Hello S&T instructors: Welcome back for the fall 2013 semester. In this issue, read about faculty member Petra DeWitt, who enjoys playing devil's advocate to help students learn critical thinking, as well as Ron Frank, winner of the 2013 Governor's Award for Excellence in Education. Also, we offer a tribute to someone we will miss greatly this fall, Dr. Kent Peaslee.



**CERTI
NEWSLETTER**
Center for Educational
Research and Teaching
Innovation at Missouri S&T

Making History With Petra DeWitt



Does history repeat itself? If not, then Petra DeWitt has a lot of explaining to do. As a historian, the assistant teaching professor insists that history *doesn't* repeat itself because context is always changing, yet DeWitt has received Outstanding Teaching Awards five of the six years she's been a full-time instructor at Missouri S&T. Her consistently high marks on end-of-course evaluations are even more noteworthy given the fact that she regularly teaches four, sometimes five, classes a semester with a new batch of diverse students each term.

While history is non-repetitive, she says, it is highly instructive for the present. "We do have to learn from the past to understand what is happening today." Which begs the question:

What can DeWitt share with us about her past successes?

She struggles a bit for an explanation. "Maybe it's that I'm not taking myself too seriously?" she ventures with a laugh. "I have very lively classrooms. I feel like I get a workout by the time I am done! I do have a lot of passion."

DeWitt found her passion for teaching somewhat serendipitously. She never expected to find herself teaching in a university classroom when she was growing

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Give Us Your Suggestions

Is there an instructor you would like to see featured in the CERTI newsletter? What about a teaching technique that you have found to be helpful? Email your ideas to [Diane Hagni](#) for consideration for future CERTI newsletter issues.

up in Germany. In fact, she couldn't be admitted into university because she didn't have the grades, so she became certified in technical drafting and worked as a civilian at a military installation. It was there that she met her husband-to-be, Melvin Clay DeWitt, an American originally from the Midwest.

Non-traditional student

When the couple relocated to Rolla in 1986 and her husband was looking at retirement, DeWitt considered trying on for size higher education as a non-traditional student. Missouri S&T turned out to be a perfect fit. She initially went through the teacher education program, training to be a high school teacher, but professors in her history classes noticed her writing talent and suggested that she pursue a career in academia.

She took their advice, got her bachelor's degree in history in 1996, then a master's from Truman State, and, in 2005, a Ph.D. from University of Missouri-Columbia. While still writing her dissertation in 2003, she applied for an open faculty position in the S&T history department, knowing that it was an impossible long shot.

John McManus got that appointment, but Larry Gragg, chair of the department, contacted DeWitt about coming on board as a part-time adjunct as she finished her program. That was the foot in the door that led to her becoming a full-time lecturer in 2007, then a teaching professor in 2010.

Gragg hasn't regretted that move for one minute. "Petra has been a remarkable contributor to our department," he says. "She is an extraordinary and dedicated award-winning teacher, but she is also an outstanding scholar."

DeWitt's book "Degrees of Allegiance," a regional perspective about German-Americans during World War I, won the State Historical Society of Missouri Best Book award last year. She continues her research when she can while maintaining her high teaching load.

"They (the students) never know from which field I'm coming – the right, the left, the top, the bottom ... I constantly keep them on their toes." – Petra DeWitt

DeWitt cites her personal teaching philosophy as challenging students to think for themselves "about anything, about everything! I want them to be engaged in life rather than have life happen to them."

Toward that end, one of DeWitt's favorite roles in the classroom is playing devil's advocate. Not only does her deliberate "contrariness" keep the discussion lively, she believes it also promotes critical thinking skills.

She asks her students questions constantly. "They never know from which field I'm coming – the right, the left, the top, the bottom," she says. "I ask them,

'Why did you say this? What do you mean by that? Does anybody else have a different opinion on this subject?' I constantly keep them on their toes."

Interpreting history

One assignment that she uses to promote critical thinking skills is to have individual students research and report on a single historical event, with different students using different primary documents. As each of them present their "piece of the puzzle," to the class, often with contradictory perspectives, students see how



Distance Teaching Award-Winners Announced

Fifteen Missouri S&T faculty were honored at the close of the spring semester for their excellence in distance education. The awards were presented by Henry Wiebe, vice provost of global learning.

Recipients of the Global Learning 2013 Outstanding Teaching Commendation Award were:

Victor Birman, professor of mechanical engineering and director of S&T's Engineering Education Center at UMSL;

Richard Bullock, professor emeritus of mining and nuclear engineering;

Randy Canis, adjunct professor of computer science;

Jeffrey Cawfield, professor of geological sciences and engineering and vice provost for undergraduate studies;

Elizabeth Cudney, assistant professor of engineering management and systems engineering;

Lokesh Dharani, Curators' Professor of mechanical and aerospace engineering and senior research investigator at S&T's Materials Research Center;

Maochen Ge, associate professor of mining and nuclear engineering;

Andrea Madigan, lecturer in civil, architectural and environmental engineering;

Norbert Maerz, associate professor of geological sciences and engineering and



historical events are incomplete without a breadth of sources. "History is about interpretation," she says. "Certain events happened at certain times, but why they happened includes interpretation."

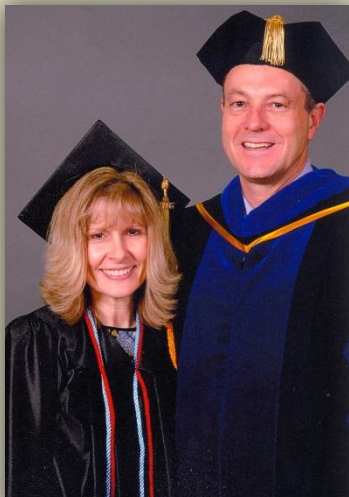
All of DeWitt's homework and tests are essay-based because she believes that in order to assess critical thinking skills, she must see students' written arguments. Her questions are posed in such a way that students have to express an opinion. They are not graded on their opinion, rather on how well they can formulate their arguments using evidence from the course readings.

"I can see the wheels move in their heads when they are writing down their arguments; how things fit together," she says, "cause and effect relationships." She also meets with her students after the first exam, in which they typically receive a grade lower than they expected, to discuss what they did to prepare for the test as well as what they could change next time.

DeWitt teaches American survey courses, Historiography (the history of the study of history), World Regional Geography, Making of Modern Germany, and European Migrations. Approximately 75 percent of her survey classes are made up of freshmen, with class size ranging from 25-40.

DeWitt admits that, in addition to her out-of-class duties -- including writing instructors' manuals for history textbooks and completing the accreditation assessment reports for her department -- her grading duties for multiple classes can be overwhelming.

Once in a while she gets tired and considers what else she could be doing with her time. "But I would be missing something," she says. "Every time I go into the classroom I am refreshed. It's the classroom atmosphere that I live for."



Mary Peaslee received her bachelor of arts in history with education certification from S&T, while Kent was awarded the Curators' Teaching Professor designation in December 2006.

In Honor of Dr. Kent Peaslee

(In a departure from the usual "objective" articles in this venue, I submit my thoughts about the passing of a friend and co-worker, as well as the comments of others who knew and worked closely with Kent Peaslee – D. Hagni, ed.)

I was sitting at my computer on a quiet Friday morning in May, the last day of finals on campus, when the email popped up. As I clicked it open, noting that the subject line had to do with the death of an S&T faculty member, I mechanically thought it would be about someone who had long since retired and whom I probably didn't know.

I wasn't the only person I heard gasping in disbelief in Norwood Hall as I read the cryptic communication. Kent Peaslee, an integral part of the S&T community and a

senior research investigator in rock mechanics;
Ruwen Qin, assistant professor of engineering management and systems engineering;

Sarah Stanley, assistant professor of business and information technology;

Paul Worsey, professor mining engineering and director of explosives education.

Recipients of the Global Learning 2013 Outstanding Teaching Award of Excellence were:

Bonnie Bachman, professor of economics;

Kenneth Ragsdell, professor emeritus of engineering management and systems engineering;

J. David Rogers, Karl F. Hasselmann Missouri Chair in Geological Engineering and associate professor of geological sciences and engineering.

To see a PowerPoint presentation of all of the 2012-2013 award-winning Missouri S&T teachers, go [here](#).

Calendar of Faculty Events

The Fall 2013 Calendar of Faculty development events is now available [online](#).

Events include those sponsored by Educational Technology, the Office of Sponsored Programs, CERTI, the Undergraduate Advising Office and New Faculty Programs.

a friend of our family's, had passed from this life, leaving many of us wondering, "What now?"

I first met Kent Peaslee about 20 years ago through programs geared for children at his church, Greentree Christian. He served as an AWANA leader for one of my daughters when she was just entering elementary school. (AWANA is similar to Scouting programs and was begun by Kent soon after he came to Rolla). I remember being glad that my daughter was under his leadership, confident of the value he placed on family and on a child's spiritual formation.

Later, my two older children got to know the two younger Peaslee children, Sarah and Matt, and I knew my teens were always welcome and would be well taken care of in the Peaslee home.

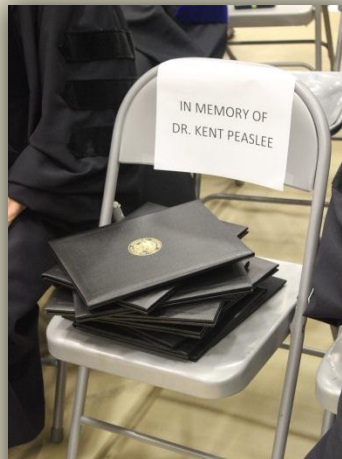
When I came to my current position at S&T four years ago, I was excited to work with Kent in his capacity of Curators' Teaching Professor for the annual Teaching Summits we coordinated. I could always count on him to give his frank opinion as well as helpful suggestions for the event. He tried his best to participate as much as his busy schedule allowed, and especially made it a point to come to the planning meetings as we decided on topics and formats. His commitment to assist other faculty in any way he could spoke volumes to me.

When I began thinking about compiling a tribute to him, I emailed Wayne Huebner, department chair of materials science and engineering, looking for his comments as well as recommendations of who I could talk to. He asked me how much space I had and warned me it would be impossible for people not to write hundreds of words of tribute. I have found that to be true, but I offer the following excerpts, edited for space, in tribute to a co-worker and friend that I will always remember with respect and appreciation:

Colin Welshymer, a former student of Kent Peaslee's, graduated in May 2013 and now works at California Steel Industries. He writes: *Dr. Peaslee is actually the one that changed the course of my life. He introduced me to the materials department and gave me the overview of metallurgy that originally got me interested in my major as a metallurgical engineer. He taught three of my classes with an unequalled passion for the subject.*

Dr. Peaslee was also the one that urged me to apply for an AIST scholarship that helped my financial situation as well as guaranteed me an internship, thus putting me onto a viable career track. I am convinced that without Dr. Peaslee's complimentary letter of recommendation, I would not have gotten this scholarship and, furthermore, I would not have received the valuable internship experience that helped me obtain my full time job...

Wayne Huebner calls Peaslee "a mighty giant in the world of steel" who used his talents to "selflessly and tirelessly ... elevate those around him." He writes: *As a professor, Kent had two simple goals – first, to make certain that when students sat at the table interviewing for their first job that they had all the tools and confidence*



Graduation May 2013

Curators' Teaching Summit, Other Fall 2013 Events

Upcoming professional development events sponsored by CERTI this fall include the 2013 Curators' Teaching Summit with discussions on **"Tackling Emerging Student Issues in the Classroom."** This is the fifth year for the lunch-hour series, featuring the campus' Curators' Teaching Professors. Sessions will be held at noon on Monday, Sept. 16; Wednesday, Oct. 16, and Monday, Nov. 11, at the Havener Center.

Possible topics to be explored with regard to today's students include:

- An increase of students needing disability and counseling services;
- Lack of coping (resiliency) and accountability;
- More parental involvement in students' lives;
- Lack of problem-solving skills, study skills and motivation.

Two Faculty Learning Communities will also be held this fall. On Friday, Sept. 27, at noon, the topic will be **"Capturing Lectures for Student Learning,"** and on Friday, Nov. 1, at noon, **"Pros & Cons of Traditional vs. Online Homework."**

To reserve a spot, contact [CERTI](#).

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they would need to succeed. Secondly, to instill in them a love of learning that would carry them through all their life. We will miss him as a mentor and friend ...

Gary Pennell, a former student, also described Kent Peaslee as a mentor and strong friend, and credits Kent with helping him get an internship which led to a job at Nucor-Yamato Steel. He is now the chief metallurgist there. He writes: *I first met Dr. Kent Peaslee in 1995 during my junior year ... where I first experienced Kent's unique teaching style. This style would prove to be one of the most effective that I had ever and would ever experience ...*

After I graduated and went to work at NYS, my relationship with Kent grew into a strong friendship. Kent was extremely passionate about the metallurgy program at S&T and the students ... (and) was always concerned with finding new ways of attracting students to metallurgy ...

In my lifetime, I have had many friends, mentors and teachers, but I can say Kent was more like family to me. Since his untimely passing, there is not a day that goes by that I don't think of him. The loss is great and I truly believe I will never meet another person like Kent. He was a true friend!

Von Richards, the Robert V. Wolf Professor of Metal Casting in the Materials Science and Engineering Department, and a close colleague, writes: *Kent was a good friend and someone we could go to for advice on the best way to handle any situation at work. He was a great team-builder. He could identify the positive aspects anyone could bring to a situation and cultivate that capacity.*

He served as mentor to many faculty members and was a natural leader. He had the respect of many colleagues, some of whom do not give respect to others easily. The students regarded him very highly as well, often awarding him outstanding teacher in the department over multiple years.

Kent Peaslee served as president of the Association for Iron & Steel Technology (AIST), a non-profit organization with more than 16,000 members in 70-plus countries, from 2012-2013. He also served on the executive committee since 2007. Colleagues from that organization offer these thoughts:

I came to know Kent Peaslee through his volunteer work with our student member program. He was the only faculty member to routinely call me before conferences to personally check and see if his students were all registered. He always managed to break away from a very busy schedule and come to watch our students present their research in our contests. Students always came first. – Chris McKelvey, board services advisor, AIST

I first started working for AIST right before AISTech'07. I was responsible for overseeing the student plant tour ...I was so nervous because I had never been in a steel mill before, and had no idea what to expect. Dr. Peaslee stayed by my side and answered every question I had. He welcomed me and made me feel so comfortable and at ease. The little bit of kindness he showed me that single day is something I've never forgotten. – Carolyn Trobaugh, graphic designer, AIST

I had the pleasure of working closely with Kent during his year as AIST president. Kent was always the epitome of professional, as well as one of the kindest, most

Nineteen New Instructors at S&T

Missouri S&T welcomes 19 new faculty members to campus. They are:

Ahmed Sobhy Sayad Ahmed, assistant teaching professor, mining & nuclear engineering;

B. Suha Aksoy, assistant teaching professor, mining & nuclear engineering;

Todd Brewer, associate teaching professor, civil, architectural & environmental engineering;

Alan Chapman, assistant professor, geological sciences & engineering;

Sajal Das, Daniel St. Clair Professor and chair, computer science

Kyle DeMars, assistant professor, mechanical & aerospace engineering;

Lian Duan, assistant professor, mechanical & aerospace engineering;

Dimitri Feys, assistant professor, civil, architectural & environmental engineering;

William Gillis III, lecturer, civil, architectural & environmental engineering;

Gary Grubbs, assistant professor, chemistry;

Steven Hilgedick, assistant research professor, geological sciences & engineering;

Zeshan Hyder, assistant teaching professor, mining & nuclear engineering;

Manoj Khandelwal, assistant teaching professor, mining & nuclear engineering;

Heng Pan, assistant professor, mechanical & aerospace engineering;

Pourya Shamsi, assistant



down-to-earth people I have ever known. He had a way of making everyone feel special and an important part of the common good. – Lori Boucher, assistant to the executive director, AIST

Dick Brow, Curators Professor in Ceramic Engineering, says that Kent Peaslee was “probably the most important steel research guy in U.S. academia and probably one of the top three in the world.” He further writes: *Kent was a role-model and inspiration for faculty members as well as students. I don’t think there is anyone in Materials Science and Engineering (or S&T) who had the collection of skills and accomplishments that Kent had.*

Kent was probably the best and most influential teacher in the department. His background in the steel industry gave him an authority that what he taught was actually important outside of the classroom ... He was demanding, but also a bit of a goof – a source of corny jokes and “Top Ten Lists” to lighten the mood and get the students engaged in the lecture...

We benefited greatly from his passion for everything he did. Kent was never afraid to tell you what he thought about something – but what set Kent apart ... was his willingness to reconsider a position. Kent listened to other opinions and used them to refine his arguments, and then was confident enough in his own judgments to change his mind.

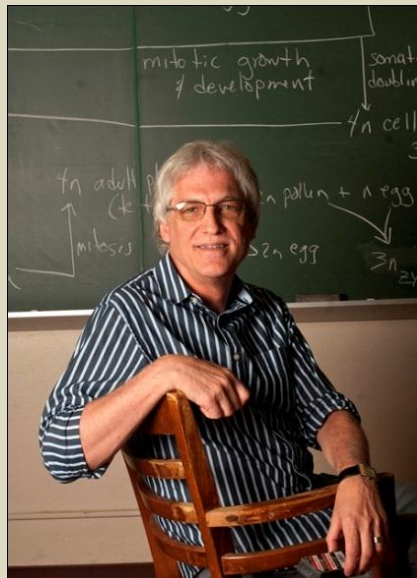
Kent’s passing was a terrible blow to his family ... For us, though, the loss is also great ... Our students will miss the chance to have “the best steel guy in the world” teach them what he knew best. We’ll muddle along – but S&T is a little dimmer, a little sadder place, without Kent Peaslee on campus.

To view the full text of the comments offered, go [here](#).

Ron Frank: Teaching With a Passion

It’s odd how passion can take you places you would never go otherwise.

Ron Frank, winner of the 2013 Governor’s Award for Excellence in Education and associate professor of biological sciences at Missouri S&T, started out with such a fear of public speaking that even high school speech classes alarmed him. He would never have pictured himself in front of myriads of students, spending a sizable amount of his time lecturing.



But a genetics class he took as a sophomore in college set the course of his life as his fascination of the subject led to a graduate program at Ohio State. It was there he discovered molecular genetics, which was even more stimulating to him and propelled him into a Ph.D. program. Along with doing his research, however, he was required to teach a full semester lecture class for non-majors in genetics.

“And that,” he says, “is where my enjoyment of teaching began.”

professor, electrical & computer engineering;
Syed Tariq, teaching professor and associate chair, mining & nuclear engineering;
Cheng Wang, assistant professor, mechanical & aerospace engineering;
Tansel Yucelen, assistant professor, mechanical & aerospace engineering;
Caizhi Zhou, assistant professor, materials science & engineering.

Information to Help With New Semester

[“Starting a New Semester”](#)

is a webpage on the CERTI site that gives ideas about tips for the first day of class, syllabus construction, academic integrity and other topics.

Join Educational Research Group

CERTI will sponsor a faculty learning community this fall for instructors interested in educational research projects in the classroom.

Faculty Learning Educational Research (FLER) is for those who are considering applying for educational research mini-grants next year, or for those who have already received grants or are doing other classroom research on teaching and learning.

Sessions will be scheduled depending on participants’ schedules. Please contact the [CERTI](#) office to indicate your interest or for more information.

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He apparently settled into a new level of comfort in helping others learn in no time at all. His 24-year teaching career at S&T has netted 16 teaching awards, three advising awards and a faculty service award. He currently teaches genetics, evolution, molecular genetics, and a genomics course, as well as serving as the primary freshman advisor in biological sciences and advising biology majors pursuing secondary education certification.

Additionally, Frank has supervised more than 80 undergraduate research projects and serves as the faculty advisor to the student chapter of Phi Sigma National Biological Honor Society.

Here are some of his thoughts on his roles as a teacher, researcher, advisor and mentor:

Q: How did you develop a passion for teaching?

A: I think the reason I put so much effort into teaching is partly because I was no genius myself when it came to learning. So I really appreciated when an instructor could present the concept in a way that I could say, "Oh, I got it!" That's what I try to do all the time -- make it so that students "get it."

It's that, combined with the fact that I think that the area that I'm teaching is fascinating. I always have this naïve belief that if I can make a student understand the subject matter, then they are going to be fascinated by it, too --which isn't always the case -- but I try to bring those two things together. Often students are not engaged or interested in a class simply because they really don't understand the material, and they are struggling with it. I try to make as many students as possible understand and master the concepts.

One of my biggest rewards is when students come to me and say, "I've had this before and I never understood it. Now I do."

Q: How do you balance the teaching and research load?

A: It's a very difficult thing. I probably spend the same amount of time on both, but the teaching is something that has daily deadlines. You've got to be prepared for class at 11. Whereas in research, deadlines are softer, "I need to get that paper submitted," but ... sometimes that get pushed back. It shouldn't, but it does.

Being active in research is critical to good teaching. If I was at a university where I was only asked to teach, I don't think I would be as enthusiastic in the classroom. So much of my enthusiasm now comes from the fact that I'm doing some of the things in the lab that we're talking about in the classroom. So a critical part of really enjoying teaching is being involved in the research as well.

We (the biological sciences department) don't have a big graduate program. There are a few graduate students in a master's program, enough for each faculty member to have one graduate student. So we have to rely on our undergraduate students as well.

Q: Do you use your student evaluations to improve your teaching?

A: Yes, I look at my evaluations and filter out things like -- not enough material, too much material; goes too fast, goes too slow. Those cancel out. Often there are some good tips that come along. Tegrity recordings came about that way (a software that records classroom lectures). It's one of the latest things I've added that students seem to really appreciate. They can go back and listen to the portions of lectures where I was going too fast.

Accent Modification Program Has Openings for Fall

Faculty are invited to learn more about the fall 2013 Accent Modification Program (AMP), which is offered on an individual basis for 13 weeks with campus speech and language pathologist Vicki Hopgood.

Topics covered include listening skills, voice projection, American intonation, pronunciation of difficult English vowels and consonants, classroom management, and effective electronic communication. The classes are free.

Interested ranked tenured or tenure-track faculty should obtain a referral from their department chair and enroll directly by emailing hopgoodv@mst.edu.



Go [here](#) for more information about the program.

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I have a sense of duty to my students that requires me to give them a full semester's worth of teaching and learning, so there's a lot of information to assimilate in my courses. I know that if I were sitting in class taking notes from slides, I would have trouble. Some students, if they had the material available in other ways, can learn it just as well as some other students that only need to take notes. This is not a contest to see who can get all the information down during the 50 minutes of class. But you must master the concepts by exam time.

Q: So the ways students access the course material has changed, but your basic M.O. has not changed?

A: Right. On the first day of class I tell students that even though I may speak nonstop for 50 minutes -- unless a hand goes up -- it's not really a lecture; it's a series of explanations. I try to explain concepts with illustrations, metaphors and analogies.

Sometimes this creates a false sense of security in students. They neglect to reinforce their understanding and master the concept before the exam. "But I understood it completely when you were explaining it," they say. "Yes I know. But you don't really know it, unless you can explain it to someone else, and that's the point of an exam."

I also use clickers, which tells me immediately whether I'm getting through to students. I like very much having that immediate feedback on concepts that I have just explained.

Q: What is your philosophy on advising students?

A: I like to empower my advisees. I feel it's my responsibility to know the resources and protocols at the university. I try to make sure that for any question or need that a student brings to me, I can tell them if a form is necessary, what the procedure is, what signatures are required, or at least point them to an office that can help them, even giving them directions, a phone number, a person's name or an email. But, I don't do it for them.

Q: What advice would you offer to new faculty or those who want to improve their teaching?

A: If a faculty member wants to improve their teaching and that desire comes from within, not because they were told they need to, that means they care about whether the students learn. Those instructors will eventually find their own methods to be successful. Sometimes young faculty members are dejected that their students performed so poorly on the first exam. One piece of advice that I have is, don't water things down because students say it's too hard. Keep your standards high. And when they complain, always smile. Be encouraging and say, "I know you can do it."

I don't get defensive like I used to. I remember when I was a young faculty member and a student would come up to me and say it was my fault that they weren't learning the material. It bothered me. I still get that complaint sometimes, but now I can say, "I have evidence to the contrary." Then I follow up with, "I think you can do it. Here are some things to try."

It usually winds up being just fine.

Six Tips for Keeping Students Engaged

(Excerpted from Faculty Focus online newsletter, 6/7/13):

1. **Make explanations clear, and don't talk too fast:** Students report that one of the top reasons they attend class and one of the top instructor behaviors to hold their attention is the pacing of the instructor's explanations.
2. **Employ backward design to make course work relevant:** Start by figuring out the learning outcomes you want students to achieve, and then let those goals help you decide on your teaching methods and assessment practices.
3. **Use humor to your advantage:** When students were asked about instructor behaviors that increase their attention in class, they named the use of humor and the avoidance of a monotone presentation style as two of the top behaviors.

Go [here](#) for the other three tips and the full article.

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