



“The mind cannot forget what the hands have learned.”™

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FEATURED EDUCATOR

Jadee Lauer A Project Lead The Way Pioneer

In 2007, after teaching traditional high school biology, physiology, and physics for 19 years, Jadee Lauer of Hazelwood Central High School in Florissant, Missouri, was invited to participate in training for the Biomedical Science curriculum offered by Project Lead The Way (PLTW). Hazelwood School District was one of the original school systems involved with PLTW and among the first in the country to receive full certification.

It was during her own summer training where Jadee was originally introduced to the Anatomy in Clay® Learning System — a key curriculum supplier for the second year Human Bodies system course — during an intense, two-week summer session.



Photo courtesy of Project Lead The Way, © Zahourek Systems Inc. and affiliates. All Rights Reserved.

PROJECT LEAD THE WAY

Project Lead The Way is a 501(c)(3) charitable organization and the leading provider of rigorous and innovative STEM (Science, Technology, Engineering, and Mathematics) education programs used in U.S. schools.

PLTW’s comprehensive curriculum has been collaboratively designed by PLTW educators, university educators, engineering and biomedical professionals, and school administrators to promote critical thinking, creativity, innovation, and real-world problem solving skills in students. The hands-on, project-based curriculum engages students on multiple levels, exposes them to areas of study that they typically do not pursue, and provides them with a foundation and proven path to college and career success.

More than 4,200 schools in all 50 states and the District of Columbia currently offer PLTW courses to their students. For more information, visit

www.pltw.org

“I didn’t know anything about the Maniken® models, until I was trained by Project Lead The Way. Previously I taught the human body system by using diagrams and the disarticulated skeleton, but the students could never really see how muscle and tissue fit on the bones. With these dynamic Maniken models, the students are able to visualize everything

they are learning.”

She added that the key benefit of the Anatomy in Clay Learning System is the three dimensions that “come to life” as students build on the models. “They get a better understanding of how human body systems are connected and it sparks their interest, makes them more inquisitive, and gives them a desire to learn.

Students today are less apt

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to read and more apt “to do” — so hands-on learning increases their attentiveness and engagement.”

Further, Ms. Lauer describes how the system allows her to encourage self-motivation, be more innovative, and act as mentor to her students. She shows them the initial build and delivers a lecture on origin, insertion, and action, then allows the students to do their own research using human body atlases and other tools provided by the Anatomy in Clay® Learning System. They then have to build on the models themselves.

She adds that the curriculum and instruction provided by PLTW guides them well, “Project Lead The Way gives us extensive training on the use of the Maniken models. After two years, they do site certification visits to observe the teaching, see how students build, and determine exactly what the kids are learning. Students are actually interviewed as part of the certification process.”

And student enthusiasm is not hard to detect. “When students see the Maniken®



models up and ready to go in the classroom, they get excited. They actually get connected to and protective of their models. It’s a positive experience for them when creativity overcomes struggle, and they can actually understand how the structures of the body fit together”

When asked how educators share insights related to building on the Maniken model, Jadee answered, “There is some discussion among teachers and students who are involved. But the networking and sharing also occurs through online forums or at the Project Lead The Way summer training where a number of us teach other teachers.” She noted that most of the questions related to Anatomy in Clay models occur in the first year and related to issues such as storage, handling, cleaning, and labeling.

Once she establishes practical guidelines, Jadee’s main advise to other educators is to practice building themselves, so they can know what their students are experiencing. However, she adds, “if other teachers are like me, they won’t mind continuing to build — I still learn a ton and am always excited to work with the models. I find it a privilege to be able to build on them.”

SPRING 2012 EVENTS

- **Anatomy in Clay® Learning System**

Professional Development Workshop
Our Lady of the Lake University
March 23-24 San Antonio, TX

www.anatomyinclay.com



- **National Science Teachers Association**

March 29-April 1 Indianapolis, IN

www.nsta.org



- **ACTE Region V**

April 11-14 Jackson, WY

www.acteonline.org



- **ACTE Region IV**

April 19-21 Albuquerque, NM

www.acteonline.org



- **Experimental Biology / AAA**

April 21-25 San Diego, CA

www.experimentalbiology.org



- **NSTA / STEM**

May 17-19 Atlantic City, NJ

www.nsta.org

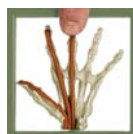


- **Anatomy in Clay Learning System**

Professional Development Workshop
Taft College

May 25-26 Taft, CA

www.anatomyinclay.com



TIPS AND TECHNIQUES: HEALTH AWARENESS

The Anatomy in Clay® Learning System has launched a new program based on national health awareness campaigns. We selected specific health issues that can be easily demonstrated using the Maniken® models; for each disease, one of our lead educators will prepare a lesson that will emphasize the critical health issue. We hope that teaching students about the disease will lead to its prevention. Our first lesson, written by Teri Fleming, was Heart Disease (February).



Heart Disease Awareness Month Lesson

Coming up: Arthritis (May), Breast Cancer (October) and Alzheimer’s Disease (November).

Look for the awareness-specific colored models when visiting our booth at upcoming conferences.



Eager, engaged educators at past professional development workshops at Anatomy in Clay® Centers Denver.

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For Professional Development workshop details and registration form, click [here](#).

Reignite your Health Science and Anatomy Instruction with Engaging, Interactive, Hands-on Teaching!

Program Description. Our Professional Development Workshops provide educators and administrators with practical strategies created to enhance the Anatomy in Clay® Learning System in your classroom. Key elements include hands-on overviews of terminology, muscle and bone identification, body systems, effective use of clay, and managing the classroom environment.

Who should attend. The Anatomy in Clay Professional Development workshops are intense, hands-on experiences oriented for educators in secondary schools, community colleges, and colleges/universities.

Registration Fees / Information

Fee for a 2-day workshop is \$300. Fee includes lunch and use of a Maniken® model and clay during the workshop.

March 23-26, 2012 8:00AM to 4:00PM

Our Lady of the Lake University
411 SW 24th Street
San Antonio, TX 78207

Presenter/Educator Liaison: Teri Fleming

May 25-26, 2012 8:00AM to 4:00PM

Taft College
29 Emmons Park Drive
Taft, CA 93268

Presenter/Educator Liaison Lynne Ross

JOIN OUR COMMUNITY ON FACEBOOK

Join our growing community of educators ... the first 50 new users to "like" us and mention the word "Extruder" in their posting will get a free EZ Squeeze Extruder (Retail value \$30.00).

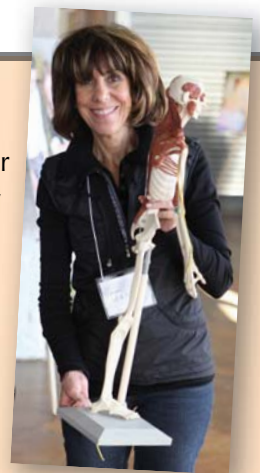


NEW AT THE CENTER

The Anatomy in Clay® Centers Denver welcomes Jane Fruchtman as the new Executive Director. Jane brings with her a background that targeted early childhood to adult populations in education, programming, and public relations. She previously worked at PBS at a national level on outreach programming and on a local level in Toledo. In addition, she facilitated USDOE grants at the University of Toledo. She has her Bachelor of Education from Boston University and her Masters in Education from Lesley University.

We are pleased to have Jane on board to help us launch our new center. If you have suggestions for classes and want more information you can contact her at

exec@anatomyinclaycenters.com





WHAT'S NEW? Research in Anatomy and Hands-on Education from Around the World

- Educators from high school through medical school have long realized that most students dread the study of anatomy — as taught with traditional formats, primarily textbooks, charts, and memorization. A recent study of medical students in Turkey is one of the few to offer objective analysis of this issue. Using a questionnaire allowing feedback about anatomy education, a large majority of students queried reported they felt lost and

involved in a hopeless struggle with the subject, or they felt the effort to learn anatomy was a waste of time or ineffectual. The researchers aptly report a need to “revise educational methods and instruments to provide more efficient anatomy education.”

["Discovering the 'Anatomy' in Students' Minds Through Metaphors." Mustafa Aktekin and Nafiye Cigdem Aktekin. *Surgical and Radiologic Anatomy*. August 2011]

GRANT OPPORTUNITIES

- State Farm Companies Foundation. Educational institutions are included among a three-focus system. “We support efforts to provide all children with an education that will allow them to reach their greatest potential and prepare them to participate in a nation and economy that continues as a global leader. We fund three types of grants for K-12 public schools: Teacher Development, Service-Learning, and Systemic Improvement.” Applications for 2013 available online from March 1 through May 31, 2012.

www.statefarm.com

- Toshiba America Foundation. Educators in public or private schools, grades 7-12, are eligible for grants for projects designed to improve instruction for students. “Many successful grantees have designed projects that tap into the natural curiosity of their students”

or “enable students to frame their own scientific questions.” Applications for grants of less than \$5,000 are reviewed throughout the year; larger grants are due August 1 or February 1.

www.toshiba.com/taf

CONGRATULATIONS!!!

Marie Antonioli, an educator at Hamilton High School in Hamilton, Montana, was recently awarded a grant of \$8,375 from Plum Creek Timber Company to purchase Anatomy in Clay® models.

DID YOU KNOW?

Richard Owen (1804–1892). An influential British doctor, Owen attended the University of Edinburgh with the intention of practicing medicine, but a fascination with comparative anatomy pulled him in another direction for most of his professional career. While lecturing on the subject in a popular series of public lectures in London in 1837, his theories and observations had an impact on Charles Darwin, who

had just returned from his expedition on the H.M.S. Beagle. Owen was instrumental during his lifetime in the organization and cataloging of natural history specimens in the British Museum and described and defined many vertebrate species, both contemporary and fossil versions (Dinosauria, for one). But his long term influence

comes from his introduction of key concepts in comparative anatomy.



One of these is homology (a term he coined), defined in 1843 as, “the same organ in different animals under every variety of form and function.” He also noted the common structural design of all vertebrates, introducing the concept of archetype.