

3D Lessons Deliver Higher Levels Of Understanding And Increased Focus To Students Across Europe

European research highlights significant improvements in test scores as a result of learning with 3D content

LONDON – September 29, 2011, 8 a.m. GMT: Texas Instruments (TI) (NYSE:TXN) DLP® Products presents data that shows 3D, when used as a teaching tool in classrooms, has a widespread positive impact on how students learn. The independent study is announced today at the UK launch event in Claridges, London and hosted in collaboration with The Company of Educators. Conducted in classrooms across seven European countries, the research compares the difference in comprehension, information retention and overall behaviour between students learning via traditional 2D methods versus learning via 3D projection.

A long-time partner in providing technology for education, TI DLP commissioned the study as a way to gather information and feedback on teaching with content displayed using 3D projectors. The research team, led by Professor Anne Bamford, Director of the International Research Agency, commissioned pre- and post-testing on control and variable student groups to track information retention and understanding, as well as collected observational data during classroom visits to measure student attentiveness and behaviour.

Highlights from the survey include:

- On average, **86% of pupils improved from the pre-test to the post-test** in the 3D classes, compared to 52% who improved in the 2D classes.
- **Individuals improved test scores by an average of 17% in the 3D classes**, compared to an 8% improvement in the 2D classes between pre-test and post-test.
- **92% of students on average were attentive during 3D lessons**, while only 46% were actively paying attention during non-3D lessons.

“Teaching in 3D is a remarkable educational tool that enables students to enhance their learning capabilities by truly engaging and interacting with the subject criteria in a highly effective way, explained Kathryn Macaulay, Deputy Head (Data, Operations and Communications) at The Abbey School, Reading, UK. “This research clearly demonstrates the ‘real’ results that high quality teaching in 3D generates and further reinforces the need for wider appreciation of how 3D technology can be adopted in the classroom to allow students of today (and tomorrow) to fulfill their potential.”

The research project involved 740 students (ages 10-13), 47 teachers and 15 schools across France, Germany, Italy, Netherlands, Turkey, United Kingdom and Sweden between December 2010 and May 2011. Students were tested before and after the lessons, with one control group learning with 2D methods only, and the other receiving the same instruction, but with 3D content added into the lessons. Students were also tested on their

ability to recall the information four weeks later, and researchers collected observational data on the engagement level of students at set intervals during each of the lessons.

Bamford said, “Across all of the schools involved in the study, 3D shortened the time it took for students to learn concepts, increased their attention spans and resulted in overall deeper thinking from the students. The findings indicate that 3D projection should be considered now and into the future when looking for ways to improve their students learning and engagement.”

Adoption of 3D-Ready projectors looks to have no signs of stopping. According to the Pacific Media Associates (PMA) 2011 Q1 Census Report, 1.7 million 3D-Ready units were available globally at the end of 2010 and 4.1 million units are expected on the market by the end of this year. This comes as no surprise with the lifelike images that 3D projection can provide which not only keep students’ attentions, but also provide an immersive, 360-degree view of content that previously could only be taught using flat, 2D images and videos, or rudimentary models and figurines.

“We are delighted for the opportunity to jointly host the UK launch event with TI DLP Products,” said Peter Briggs, Master of The Company of Educators.

“At TI DLP, we work to provide technology that improves people’s lives and the results of this study shows that we’re putting our resources in the right place,” said Roger Carver, Manager of Front Projection, DLP Products. “As the technology powering the vast majority of 3D-Ready projectors around the world, from cinemas to classrooms to home theatres, TI DLP is focused on enabling teachers and students worldwide to experience the same kind of learning success that has been found through this project.”

To view the full report of the findings, and learn more about DLP 3D products, please visit DLP.com/3D.

You can also view videos of students learning in 3D on DLP’s YouTube page at YouTube.com/DLPTechnology.

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About The Company of Educators

The Company of Educators has been founded, within the philanthropic tradition of the City of London livery companies. It provides a forum through meetings and social occasions to bring together senior representatives of all the sectors of education to encourage discussion and the exchange of views.

The Company also operates a charitable fund to support individuals and projects in work that is intended to develop the process of learning and its management, and by encouraging and rewarding those individuals by means of appropriate grants, awards and medals.

In pursuit of these aims the Company seeks to be inclusive in its membership and activities,

transcending the traditional boundaries between the different sectors, and particularly between academe and business insofar as the latter concerns itself with education, training, and development. It believes that it is unique in providing this cross sector forum. Furthermore "Education" is lifelong learning - from cradle to grave - which is a dynamic process needing investment of money, time, energy and enthusiasm.

About Texas Instruments DLP Products

Since 1996, Texas Instruments' award-winning DLP display technology has powered the world's top projectors and displays, delivering pictures rich with color, contrast, clarity and brightness to screens of all sizes. DLP's technology spans movie theaters (DLP Cinema®) and large-scale, professional venues; in conference rooms, classrooms, and home theaters; and with DLP Pico™-enabled mobile devices, the ability to project images from the palm of your hand. Every DLP chip features an array of up to 2.2 million microscopic mirrors that switch at ultra high speeds – an innovative advantage that remains cutting edge and ideal for current and future applications alike. The results are high-resolution, highly reliable, razor-sharp images, that even work with fast motion video. To learn more about DLP technology, please visit www.DLP.com, or follow DLP on Twitter at www.Twitter.com/TI_DLP.

About Texas Instruments

Texas Instruments (NYSE: TXN) helps customers solve problems and develop new electronics that make the world smarter, healthier, safer, greener and more fun. A global semiconductor company, TI innovates through design, sales and manufacturing operations in more than 30 countries. For more information, go to www.TI.com.

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