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TABULA DIGITA'S DIMENSIONM™ EDUCATIONAL VIDEO GAMES FOUND TO HAVE SIGNIFICANT, POSITIVE EFFECT ON STUDENT MATH ACHIEVEMENT

*University Of Central Florida Research Shows Considerable Improvement in
Achievement Scores and Student Motivation When Using Algebra Video Game Software*

New York, June 13, 2008 – Immersive educational video games can improve students' mathematics understanding and skills, and significantly raise scores on district-wide math benchmark exams. These new research findings, using [Tabula Digita's DimensionM™](#) simulation software, come from scholars at the [University of Central Florida](#) who investigated the effects of modern math computer games on learners' math achievement and math course motivation in public high school settings.

“These research results are remarkable and support previous studies which have concluded that interactive games are more effective on learners' cognitive gains than traditional classroom instruction alone,” said Ntiedo Etuk, CEO and co-founder of Tabula Digita. “We are teaching a new generation of students, which requires unconventional teaching strategies be put into practice in the classroom. And when schools use our games, the student benefits speak for themselves – a greater desire to learn and higher test scores.”

The studies included all three interactive titles from the DimensionM series. In the games, key objectives are covered through a series of highly immersive action adventure missions. The educational video games contain three dimensional graphics, sound, animation and storylines comparable to those in popular video games.

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The Study

The study, conducted by a team of faculty and graduate students at the University of Central Florida led by Atsusi Hirumi, Ph.D., sought to answer the questions: What effects does game play have on the student academic achievement; in mathematics what effects does game play have on student math course motivation, and do differences in prior knowledge, computer experience and language background affect student math attitudes and achievement.

The qualitative and quantitative research used experimental and control groups to test their hypotheses. The findings, which yielded statistically valid results, were based on a sample size of 193 algebra and pre-algebra students and 10 math teachers from Orange County, Florida. Evaluations included pre- and post-district benchmark exams, game preparation tests, motivational surveys, classroom observations and personal interviews.

Results

Students in the experimental group who played the Tabula Digita video games over an 18 week period scored significantly higher on district math benchmark tests than students in the control group who did not play the video games ($p < .001$). In fact, the increase in scores for the test group was more than double the increase in score for the control group.

Students in both the experimental and control groups demonstrated gains from pre-test and post-test on the district benchmark exams. However, students who played the games demonstrated greater gains – 8.07 points versus 3.74 – compared to the control group. The higher achievement scores and greater gain scores on the district benchmark tests by students who played the games are particularly significant because there is a high correlation between the district's math benchmark tests and the statewide math component of Florida's Comprehensive Assessment Test (FCAT).

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Participants Comments

Teacher and student interviews supported the quantitative findings. The majority of the interviewed teachers (4 of 5) and students (15 of 15) reported that the participants' mathematics understandings and skills improved as a result of playing the educational video games.

According to the teachers, the games were effective teaching and learning tools because they were experiential in nature, offered an alternative way of teaching and learning, gave the students reasons to learn mathematics to solve the game problems and progress in the games. The teachers also commented that the games help to address student's math phobias and increased time on task. As one teacher states, "It [the games] makes them want to learn [math]."

According to the students, the games were effective because they combined learning and fun, offered mathematics in adventurous and exploratory context and challenged students to learn math.

"The traditional view of video games has been that they are distractions from the task of learning," said Etuk. "But this research clearly shows the opposite is true. These wonderful new learning tools are opening a whole new world for students and the education market at large."

Additional Findings

A number of important issues regarding the integration of games in school settings also emerged from the findings. To use the games effectively, the researchers found that teacher training and focusing on the integration of the games is essential for enhancing student learning. However, teachers do not necessarily need to know how to play each game. The research showed that students are very adept at figuring out how to play the

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game on their own and even go one step further by helping each other master the game mechanics. Additionally, access to the games from home, at community centers and libraries, as well as in classrooms and computer labs before and after school may optimize use.

For more information about Tabula Digita and its DimensionM educational video games, please go to www.DimensionM.com. For the complete research report, visit www.DimensionM.com/research

About Tabula Digita

Tabula Digita is an educational video game company focused on delivering innovative and effective educational games to students and institutions. Through its fusion of education and technology-based immersive learning systems, Tabula Digita successfully offers standards-based, high impact educational tools that engage middle and high school students in learning and applying Pre-Algebra and Algebra I concepts. For more information, please call 1-888-9-Tabula or 1-888-982-2852, or visit www.DimensionM.com.

Media Contacts:

Tabula Digita
Charlotte Andrist, Eicher Communications Inc.
Charlotte@EicherCommunications.com
770.578.8007

University of Central Florida
Atsusi Hirumi, Ph.D
Associate Professor & Co Chair
Instructional Technology
hirumi@mail.ucf.edu
407.823.1760

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