AN INDEPENDENT SUPPLEMENT BY MEDIAPLANET TO USA TODAY

August 2013

MEDIA PLANET

CLASSROOM TECHNOLOGY

Featuring

THE 21ST CENTURY CLASSROOM
Benefits of switching to the cloud

BRIDGING A DIGITAL GAP
Fueling the developing world

BACK TO SCHOOL

Through his Show Me Campaign, **Grammy-award winning artist John Legend** not only spreads awareness about the need for education reform, but also provides the technology that students need for a more blended learning experience.

PHOTO: JOHN KORPICS PHOTOGRAPHY

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CHALLENGES

Our students increasingly live and learn in a digital, connected world that is transformed by technology on a daily basis. Yet our schools don't always reflect this reality.

A great responsibility

Steve Paine
PRESIDENT, P21

"Sixty-five percent of students will have a job that hasn't been invented yet."

Preparing America's students with the skills they need to compete in the global economy, and be able to navigate our hyper-connected world as digital-savvy citizens means creating interactive, individualized learning experiences. More than anything, we need to engage students in authentic learning that develops 21st century skills, such as critical thinking, creativity, communication, and collaboration. The power of education technology can help make that happen.

21st century opportunity

Technology wisely and thoughtfully implemented can radically transform the learning experience and provide great opportunities for 21st century learning. That is why P21 and more than 50 national organizations have signed on to support the ConnectED initiative aiming to provide 99 percent of America's students access to high-speed broadband and wireless within five years. Given that less than 20 percent of American educators say their school's connection meets their teaching needs, it is high time we caught up.

System-wide support

However, our teachers and students need more than just high speed internet, they also need strong standards and challenging curricula, high-quality professional development and support from administrators in making sure new technologies are not only available but useable in the classroom. Support must be system-wide and go beyond just providing new gadgets. Students and teachers can do amazing things to create blended learning opportunities, collaborate in teams across oceans, take advantage of flipped learning, connect to experts in the field, track student progress, manage projects, and more. We can do all this with technology that students already have at home through Bring Your Own Device initiatives becoming increasingly popular with cash-strapped school districts unable to provide students 1:1 capabilities. And we can re-energize and transform where and how learning takes place — moving from a teacher centered classroom to a place where learning is a verb, a state of mind, and not just a building, where students and teachers work together to prepare for all the challenges our world has in store for them.

Fight for the future

We need to be cultivating the world's future creative problem solvers. We should be focused on teaching our students 21st century skills, enabling them to create innovative and surprising solutions to new problems. With so many amazing learning opportunities awaiting our children, we must continue to fight for them and demand innovation.

It's the only way forward.

STEVE PAINE
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EDITOR'S PICK

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Panel of Experts, 21st Century Leaders

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INSIGHT

DON'T MISS

Math, science, and...Hollywood?

"What do zombies and superheroes have to do with STEM Education? Hollywood relies on real-world science, engineering, and mathematics to bring magic to life on the big screen. I teamed up with Texas Instruments and the National Academy of Sciences to use these Hollywood concepts to illustrate exciting math and science concepts to students in middle and high school. Improving STEM Education is vital to the future and engaging students is the first step."

MAYIM BIALIK, ACTRESS, NEUROSCIENTIST AND TEXAS INSTRUMENTS BRAND AMBASSADOR

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The power of technology to organize and engage

Otha Thornton
NATIONAL PTA PRESIDENT

Technology is a wonderful thing. And across the country, PTAs are embracing it wholeheartedly, advocating for the use of a variety of tech tools to engage the entire family and improve education. For example, PTA has taken the lead on using the power of technology to improve the reading experience for our children.

In consultation with family engagement and literacy experts, National PTA recently developed a curriculum that includes activities with e-readers, such as the Kindle. Technology like this has made it possible for students to have a 1,000-book library in the palm of their hands. This has opened up possibilities that were unimaginable a decade ago.

Organize information

Books are the basis of knowledge. Technology like e-books (which can be borrowed for free from many local libraries) allow students to organize information in textbooks by keywords and themes and by characters and settings in fiction works. This school year, PTAs across the country will encourage the use of e-readers by the entire family through National PTA's Family Reading Experience, powered by Kindle.

We have made it our business at PTA to work with teachers and administrators to fully implement the latest technology to help our children compete globally. This means advocating for more funding, increased training for teachers, and better programs that engage families.

Technology helps organize the wealth of information available, but an engaged parent helps motivate children to learn. Research supports the idea that engaging both children and their parents in reading can increase the amount of learning a child takes away from a book, and the same holds true for e-books and other electronic media. Parents and caregivers have told us that by downloading the books that their children are reading, they are more organized, informed and engaged. Where parent engagement is high, classrooms score above the national average in reading.

Just think. Our schools are only beginning to tap into the true potential of technology. These are exciting times for our children.

OTHA THORNTON

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FEATURE

Closing the digital classroom divide

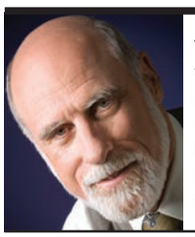
When one of my colleagues at Google was growing up in India, his school had four textbooks for an entire class.

At exam time, they would queue up outside the library, waiting for a classmate to return a textbook so the next student could check it out.

Now, we're able to give each child in that same school all the information contained in the Web via an Internet-connected device that is simple, manageable, secure and affordable.

For example, last month Malaysia announced it would be providing lightweight laptops to primary and secondary schools nationwide, and adopted free Web-based email, calendar and documents for 10 million students, teachers and parents.

The Internet and the World Wide Web are central parts of Malaysia's national plan to reform its educational system, and that's what makes it of interest to educators and governments worldwide.



Vint Cerf
VICE PRESIDENT & CHIEF INTERNET EVANGELIST, GOOGLE

Significant possibilities arise, especially in the developing world, when countries decide to put education online. The bottom line is that providing Web-based services to students and educators enables access to information and makes it possible for everyone — regardless of financial resources, location or influence — to become educated.

Governments will need to expand national infrastructure so students in densely packed urban areas and remote rural villages alike can get online. Once they are online, there's no limit to what students can do with the vast amount of information available to them — and beyond that, how they'll collaborate with and learn from one another.

Imagine students in Malaysia working with students around the world on a weather project. They can conduct virtual experiments, work simultaneously to update data in a spreadsheet or document, and create a shared final presentation.

When I was teaching at Stanford in the 1970s, my classes were broadcast around the San Francisco Bay Area. We also sent videotapes of lectures to other places further afield. Now with the Web, teachers can record their lectures, upload them, and students anywhere can watch them as many times as they want.

We should be excited about bringing the Web to the classroom. The technology is there, and if we work together, we can bring the Web to everyone.

Excerpted from an article, 10x for Education in the Developing World, by Vint Cerf.

VINT CERF
editorial@mediaplanet.com

NEWS IN BRIEF

Looking ahead

There's a big switch happening in education right now, with many schools choosing to move to The Cloud. Rather than having to worry about maintaining servers or purchasing software, The Cloud frees up schools to focus on what they're best at: education.

EXPERTS ESTIMATE THAT 50% OF HIGH SCHOOL COURSES WILL BE TAUGHT ONLINE BY 2019. THE CLOUD'S SECURITY, AFFORDABILITY, AND EASE OF COLLABORATION MAKE SENSE FOR ALL SCHOOLS.

JON MOSER, CEO, FINALSITE
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CLOUD IN THE CLASSROOM

Cloud computing has been exciting people with its implications and opportunities especially so over the past several years, as more and more of the public have been exposed to the potential of this technology.

While many people's first experiences with cloud computing have revolved primarily around the digital sharing of music and video media, these same applications for cloud computing carry significant implications outside of the entertainment field. The classroom has become a major test lab for cloud computing and its potential to revolutionize educational, social, and economic systems that exist in society today. As more and more urban school districts continue to search for answers to stagnant test scores and high drop-out rates, cloud computing-powered classrooms have become the Holy Grail of most principals' wish lists.

While the obvious costs associated with the technological infrastructure needed to accomplish making this technology widely available, cloud computing remains a hypothetical solution in the minds of many teachers.

Why would students need cloud-based workplace collaboration software? For the exact same reason professionals use it! From sharing documents and resources among each other during group projects, to being able to meet with a teacher and go over revisions remotely, to revision tracking and other important elements of teaching the editing process, the potential for cloud computing in the classroom is essentially limitless. And that's just an English classroom. From Google Forms being used for everything from daily homework and class surveys, to Google Earth being used as the framework and platform for opening unit lectures, new educational uses for cloud computing tools are emerging at an incredible rate.

ADAM HAUSMAN, CLOUDTWEAKS

editorial@mediaplanet.com

The Show Me Campaign focuses on education reform to ensure that every child has the opportunity to shine.
PHOTO: TODD WAWRYCHUK/IGLA

CAMPAIGNING FOR EDUCATION REFORM

John Legend discusses what he believes is the civil rights issue of our time — equal access to quality education.

Mediaplanet How have you seen the education system improve over the years? What actions still need to be taken?

John Legend In the long term, our education system has declined and not remained as competitive as it once was. We have dropped from first to 18th place in high school graduation rates compared to other countries and seen similar drops in math, reading and other subjects. In just the last few years, however, we have seen many encouraging projects and signs of progress which, if we adopt them at a bigger scale, could quickly yield great improvements. One example is Harlem Village Academies, a network of schools that works with kids who were on track to drop out and are now achieving academic results that were previously thought to be impossible. By eighth grade, 100 percent of their students score proficient on state math exams, compared to a 43 percent average in Harlem overall. They are disarming the lie that demography is destiny and proving that it IS possible to provide every U.S. student with a high quality education.

MP How will incorporating tech into the classroom help advance our education system and benefit students?

JL Classroom technology can be a great resource for students and teachers. Tablet computers provide students with individual lessons and extra practice when needed. Teachers can use technology to teach to smaller clusters or individual students while others work on individually-assigned lessons. Technology can also provide teachers with student-specific data about exactly where a child may need additional help in order to master material. Last year the Show Me Campaign was able to donate tablet computers to a low-income elementary school in Los Angeles. I'm excited to see how blended learning evolves in the years to come.

MP How did your own experiences with teachers and the education system influence the work you've done in the field?

JL I have seen firsthand how a good education changed my life and allowed me to get where I am today. I remember my English teacher, Mrs. Bodey. She saw potential in me and pushed me to excel. I write songs for a living now, but I didn't believe that writing was one of my strengths until I spent a year with her. She helped me unlock my creativity and gave me the courage to write with passion and clarity.

MP You're known to be so passionate about education equality. Talk to us about your mission with the Show Me Campaign. What do you hope to achieve?

JL I firmly believe that the single best way to help individuals break the cycle of poverty is through education. We have a fundamentally unequal education system in the U.S. — just 10 percent of our schools are responsible for 40 percent of drop out students, and those schools are concentrated in our poorest communities — the communities that are most in need of the transformative power of education. This is why the Show Me Campaign fights for every child to have access to a quality education, regardless of race, income or zip code.

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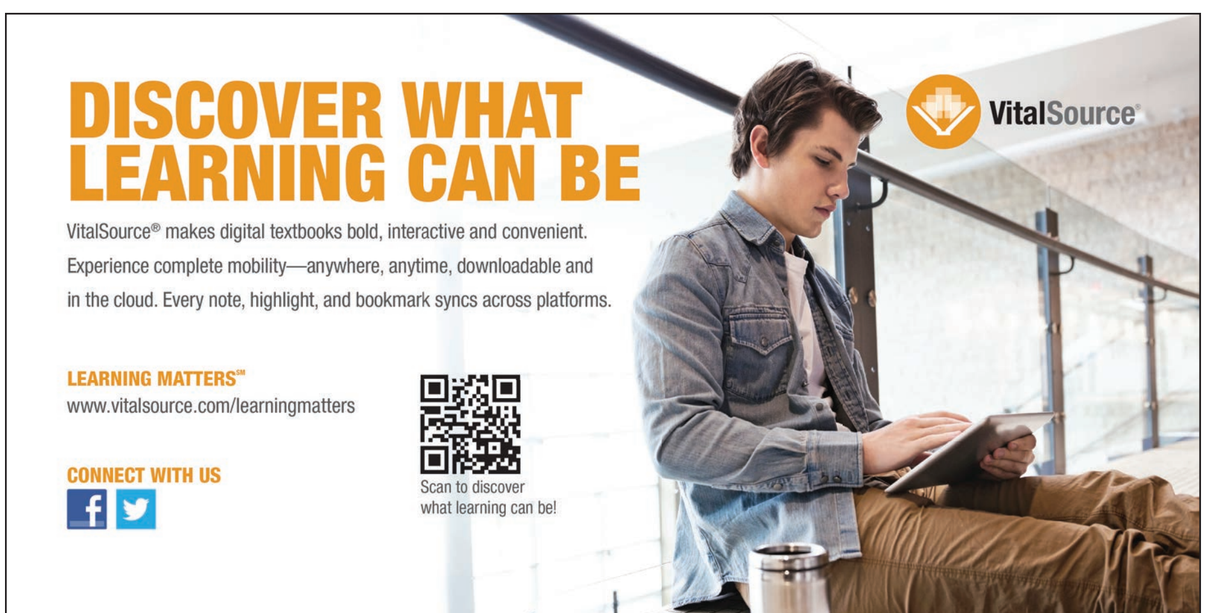

INDUSTRY PERSPECTIVE

	1 How is technology transforming education?	2 How will technology affect classroom content in the next five years?	3 How can today's classroom technology trends help increase the education levels of Americans?	4 What barriers exist for students adopting new technologies in the classroom?
Elisa Steele CMO, Skype Division, Microsoft	**Ten** years ago, students learned about historical monuments, oceans, and the cultural arts through books or films in their classroom. Today students and teachers are utilizing free technology like video chat to have live conversations with explorers, artists and business leaders, sharing real time experiences without leaving the walls of their classroom.	**As** budgets continue to tighten teachers and administrators are becoming more resourceful around adoption of creative ways to access hands-on, immersive learning experiences. As access to technology and the internet continues to grow, we will see a strong shift towards online, experiential field trips and collaborative learning opportunities.	**There** is a significant need in today's workforce for skills around science, technology, engineering and mathematics. The more exciting and engaging teachers can make lessons in these areas, the more inspired students will be to pursue these areas of study. Trends like live videochats with expert guests enable this.	**Perception!** Teachers often view technology to be complicated and a possible distraction from their core curriculum. The sixty-thousand teachers we hear from who use our video chat lessons can attest that it only takes a few clicks and internet access to take students on exciting virtual field trips to experts all over the world.
Kent Freeman COO, Vital Source Technologies	**Technology** is transforming how we teach and learn by making it more accessible, personal and interactive. Students have a classroom at their fingertips, anywhere. Instructors can monitor student engagement and performance remotely. Digital content and educational tools add new and improved dimensions to learning, which can lead to improved learning outcomes.	**Adaptive** technology has the ability to adjust and create customized paths to meet individual learning needs. We are already seeing the benefits of this technology. Publishers and many companies, including Vital Source, are working to build enhanced portable courseware using the latest technology.	**Many** Americans seeking to further their education are non-traditional students. Technology has eroded barriers to education, making it accessible for students of all levels, backgrounds and learning preferences. High-quality, widely distributed learning options now exist, and online courses and degree programs are critical to increasing our nation's education levels.	**Cost** and accessibility continue to slow broad adoption. All students should benefit from new technologies. Although, currently, it is expensive to develop interactive content and use adaptive educational technologies, we need to ensure that the benefits are accessible to all users, including those with special needs.
Trevor Bailey Sr. Director, Worldwide Education, Adobe Systems	**Every** day, teachers and students use technology to foster creative thinking, generate new ideas, explore complex topics and bring learning to life. Technology promotes visual learning, with tools that enable students to experiment and visually understand complex concepts. Technology also allows students to move at their own pace and be self-directed, which motivates and builds self-confidence.	**There** are two areas in which technology will have an impact in the classroom—content creation and content delivery. We'll see touch, mobile and cloud computing become the norm. Students will start to produce more creative visual content to convey their learning and online learning will continue to place pressure on brick and mortar institutions.	**Students** can become content creators with the adoption of new devices and innovative software. Investing in the right tools and teacher training will better prepare them to become creative thinkers when entering the workforce—helping fuel the economies of the future. And with the use of analytic data, instructional content can be personalized to maximize learning outcomes.	**Without** appropriate funding, professional development and the right resources, it is difficult for any school to successfully integrate technology into the curriculum. Institutions not only need to provide the tools, but also ensure that the educators have the right training to teach with those tools.
Brad Richter VP of Product Design, Luidia Inc.	**Technology** is transforming education by breaking down the barriers of where and how learning happens. Teachers work on curriculum using resources from websites, digital textbook content, and by participating in online courses, webinars and recording lessons to support flipped classroom methodology.	**Lesson** Exchange sites with keyword search allow individual teachers to post and download lessons. Digital textbook content is made accessible to an entire class when used with interactive whiteboards combined with mobile technology. Cloud services allow for collaboration and secure storage so lessons can be re-used, modified and reflected on by anyone with a digital device and access to the web.	**Projectors,** interactive technology and BYOD are making content previously limited to dissemination via textbooks to now be presented in a visual and hands-on way. Reading about environmental issues is a completely different experience when analyzing a 3-D map, looking at historical photos and hearing live interviews of those on all sides of an issue.	**Many** schools still lack reliable, high-speed Internet access. Many educators are tentative about jumping in and experimenting with technology and don't make the inclusion and integration of technology a collaborative learning experience. Finally, even in schools with sophisticated use of digital content and hardware, access is often not available to students outside of school.

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BEST PRACTICES ↓

Nutrition powers minds

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There's a reason it's called the most important meal of the day! According to reports from the American Dietetic Association, students who eat a healthy breakfast have better problem-solving skills, improved memory function and are less likely to be absent! Try foods high in fiber or protein as they'll sustain your child's hunger longer.

Snacks can be nutritious and delicious

When kids think of snacks, they imagine things like candy, cookies, chips and ice cream — but it doesn't have to be that way. Snacks often get overlooked as an opportunity to eat healthy but options such as unsweetened applesauce, fruit cups (in water, not syrup or gel), cut-up grapes, whole-grain crackers, and air-popped popcorn (for kids over age three) are all great alternatives!

Limit sugar consumption

According to the CDC, the largest contributor to America's sugar intake is sugar-sweetened beverages (those are your soda, juice drinks, tea) so next time you think about giving your child a sugary drink, opt for water, milk, or 100 percent juice instead!

DR. MORRIS NEJAT, PEDIATRIC ALLERGIST AND MEDICAL DIRECTOR FOR BABYGANICS
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Technology: An essential ingredient in the 21st century classroom

In our interconnected world, it's surprising that there are people who still debate technology's value in education. Technology is here. It's becoming ever more influential. And it's not going away.

Students today are 21st-century learners, playing games on smartphones since preschool, finding the answer to any question on the internet and sharing class projects on YouTube.

As students head back to class, the vast majority of schools will be focused on implementing the Common Core State Standards. To implement the assessments that accompany the new standards, schools will have to make significant investments in infrastructure and hardware which will provide an extraordinary opportunity for extending and leveraging the use of technology to transform learning. Technology, effectively engaged to support learning goals, will play a major role in ensuring that all students meet rigorous learning goals and build the knowledge and skills necessary to graduate from high school prepared for college and a career in an increasingly competitive, global environment.

Enthusiastic learners

Technology also personalizes learning and fosters activities that engage and motivate students. The enthusiasm is palpable as students learn about history by building a virtual Alamo, or connect with students in another country to conduct a science experiment. They're not asking, "How long does this report have to be?" They're generating ideas upon which to create video reports and movies, and sharing them with learners worldwide.

Collaborative advocates

To create and nourish a robust digital educational environment, we need advocates. Education leaders and education technology experts have created an unprecedented global community where they collaborate and share best practices across geographic borders. The International Society for Technology in Education (ISTE), the premier membership association for educators and education leaders engaged in advancing excellence in learning and teaching through the effective use of technology, and its members and partners are at the center of that community, using the ISTE Standards to support the development of digital teachers and learners, and opening new windows of learning. Most recently, ISTE has been pleased to see that the Federal Communications Commission is exploring ways to increase its investment in broadband connectivity for schools. ISTE's advocacy on this issue is not new, but we have expanded our efforts and collaborations with vigor. We must match our high expectations of students and schools with a commitment to give them the tools necessary to succeed. In this case, that means equitable high-speed broadband connectivity.

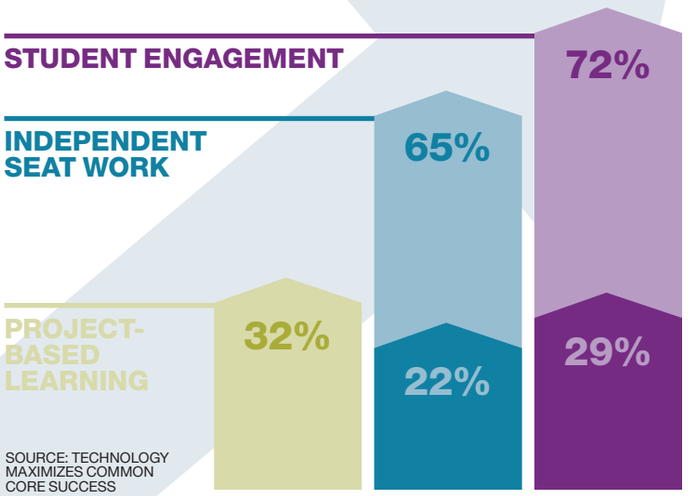
Today, educators like those at the heart of ISTE are on the leading edge of implementing technology to deepen critical thinking, engage students and create lifelong learners. As innovative educator Adam Bellow noted, we'd be doing our students a disservice if we relegate technology to "icing on the cake."

In education, as in our lives, technology is an essential ingredient in the cake itself.

BRIAN LEWIS, CEO, ISTE
editorial@mediaplanet.com

IMPACTS OF TECHNOLOGY INTEGRATION

One-year study showing learning improvements and overall increase in student achievement.



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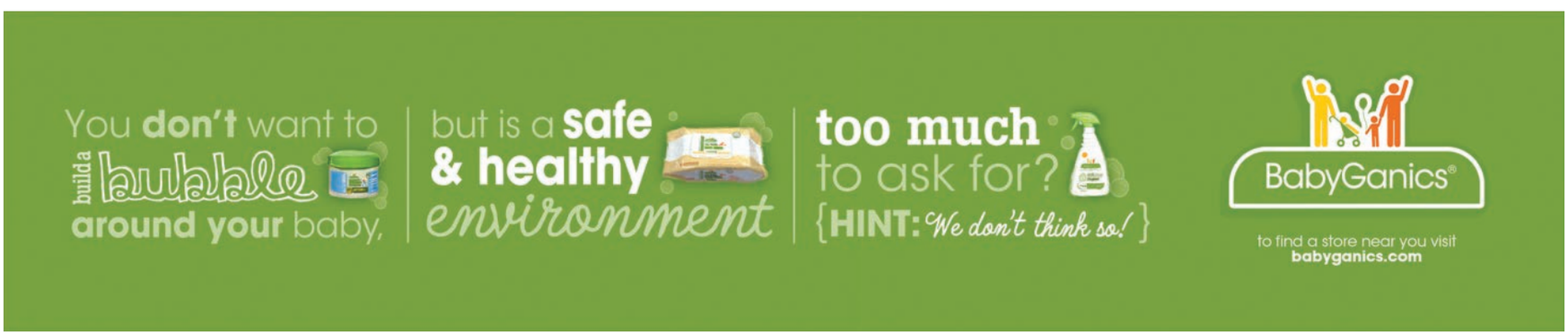

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