



# School of the future

## Italian school modernizes the classroom and makes learning more fun with mobile computing and Intel® Education Software

The Baccio da Montelupo comprehensive school (Baccio) near Florence aimed to completely update its processes with the technological advancements available through mobile computing. One junior secondary school class was transformed into a multimedia schoolroom when Intel provided Samsung Ativ\* Smart PC tablets, powered by Intel® Atom™ processors, for students. The school achieved a much more engaging and collaborative learning environment for the class and stimulated more active learning in the students. It hopes to build out this model across more classes to achieve its vision of a school of the future.



"We wanted to give our students a high-tech learning environment to instill a greater love of learning. We can now teach collaboratively and via multimedia methods, thanks to Intel® technology. I believe the work we have done is important as we have begun to reconcile our teachers' educational skills with the great technological potential available to us."

*Gloria Bernardi,  
Head Teacher,  
Baccio da Montelupo,  
Comprehensive School*

### CHALLENGES

- **Innovate teaching.** Most teachers struggled to update teaching methods and integrate new technology into their lessons and found it hard to test new collaborative teaching methods
- **Beyond paper.** Lots of paper is processed and wasted in a school environment, so Baccio wanted to save time and resources by transitioning to using more digital assets
- **Student collaboration.** In a traditional, static classroom, students often lost concentration and didn't work well in group situations due to a lack of stimuli, creative license and familiar technological solutions

### SOLUTIONS

- **Mobile computing.** Baccio deployed Samsung Ativ Smart PC tablet devices, running Microsoft Windows\* 8 and powered by Intel Atom processors
- **Secure learning.** To keep students and technology safe and secure from malware and data loss, Baccio used Intel® Education Software, which has McAfee Antivirus Plus\* and mobile security built in
- **Technology training.** Baccio participated in Intel® Teach, a targeted professional training program which supplements teaching expertise with an effective use of new technologies

### IMPACT

- **Student engagement.** Students are given the freedom to work proactively, organize their time and collaborate in class and are reacting well to being trusted with the responsibility of a smart device
- **Empowered staff.** Thanks to Intel Teach, staff at Baccio are up to date and trained to use and teach with mobile and collaborative technology
- **Environmental benefit.** Increasing the use of digital assets reduces environmental impact and, according to Baccio's own experience, improves cost efficiency in terms of staff time, supplies, and printing costs

### Classroom innovation

Today's children are digital natives. They have a natural relationship with the technological world, having grown up with it. Baccio recognized that this progress means traditional classrooms are outmoded. "Schools would benefit from embracing technologies to improve the classroom experience," said head teacher Gloria Bernardi. "All students are familiar with computers, as most of them use smartphones and tablets and play video games daily. In general, they are familiar with touch screen devices, using them to play, chat and study. Therefore, we aim to always be at the forefront of classroom technology by finding the innovative products that can support us in updating teaching methods and giving students a better, more memorable schooling."

Baccio has more than 1,400 students, over 130 teachers and 58 classes – 14 for infants, 26 for junior school children and 18 for secondary

school students. The school tasked itself with replacing old teaching methods in favor of a high-tech, collaborative atmosphere that prioritizes student learning. It had installed an impressive technology suite, with 22 multimedia interactive whiteboards and an Internet-connected multimedia workstation in each classroom. However, it needed more than devices and connectivity to meet its goals. To make the most of its technology investment, it also needed well-trained teachers who could control both a class of students and a classroom worth of devices, while troubleshooting as needed.

The school also wanted to boost cost efficiency by cutting both printing and wasted paper. This did not necessarily mean totally eliminating paper, instead complementing traditional paper-heavy classrooms with fun and engaging multimedia assets, from audio visual material to graphic manipulation.



# Intel® technology gives students the freedom to benefit from a truly mobile, multimedia and collaborative classroom

## Group computing

Baccio undertook a project, called School 2.0, the future is already here, which is the continuation of a similar project, the successful Ardesia Tech initiative, involving three primary school classes. The school issued a year one class with Samsung Ativ Smart PCs, powered by Intel Atom processors, running Microsoft Windows 8, and equipped with multimedia editorial content and Intel Education Software. These enable students and teachers to connect with each other and the multimedia interactive whiteboard, which boosts engagement, interactivity and collaboration in the classroom. To protect against inappropriate content, malware and data loss, Baccio deployed Intel Education Software, which includes complete virus protection and internal security from McAfee.

One objective of the project was to set innovation in motion, testing different teaching methods to find an engaging and efficient technology-fueled learning environment. "Experimenting is important because it provides the chance to sound out the effectiveness of new educational methods and find the role of technology within them," said Bernardi. "Teachers hoped that this project would make learning more fun for the students and bring a joy back to learning, as well as provide a practical testing ground for certain key abilities such as problem solving, metacognition and creative work. It should also provide teaching continuity and shed some light on the impact of technology in secondary schools."

On top of this roll-out of Intel technology, Baccio also instituted Intel Teach, a targeted professional training program which supplements teaching expertise with an effective use of new technologies. In 12 years, Intel Teach has trained more than 10 million qualified teachers in over 70 countries.

A literature teacher at the school, Alessandra Cenci, said, "The question of training our teachers is a top priority. We have a dual aim: to communicate a full grasp of the technical aspects of the devices used while acquiring and applying teaching skills. Intel supports this with the Intel Teach Program, which includes both technical and educational training. We class teachers

attended various training sessions at the beginning of the project, about dealing with the Windows 8 operating system, the tablet interface, the Intel technology-based devices and the Intel Education Software. Understanding these new technologies is important for our professional growth."

## True collaboration

Teachers at Baccio are delighted with the advancements the mobile devices have facilitated. Enabling digital study not only made tracking and sending homework simpler and quicker, but is a more fun and practical way of learning. It has the additional benefits of encouraging collaboration between groups and providing a data backup for safety and security.

The aim of the head teacher and her team is to gradually give students greater control of their learning experience. "The Baccio da Montelupo Comprehensive School is working towards a flatter structure for teaching and learning, which involves family, teachers and children on a more equal footing, thanks to this technology," said Bernardi. "It helps the students to develop important skills for the modern world, such as communication, collaboration, creativity, problem solving, critical thinking, and digital literacy. Meanwhile, it helps teachers to run their classes more easily and gets the student more interested in their lessons. We hope that this scheme continues to grow and improve our methods."

Cenci added: "It is important that we allow children to take the lead and give them the tools to become responsible. With these reliable and secure tablets, the students can think freely, learn to do research, and interact with materials in different, more creative ways via the touch screen interface. Creativity and imagination are encouraged through this interactive technology – it facilitates group learning and student collaboration." Students who used the devices were also very pleased with the technology's performance and the flexibility it gave them, because they could work in different places, easily search for content online and share findings with fellow students.

## Lessons learned

Using the Samsung Ativ\* Smart PC devices, running Microsoft Windows\* 8 and equipped with Intel® Atom™ processors and Intel® Education Software, has enabled Baccio to make great progress in becoming a truly collaborative, technology-focused school of the future. It has demonstrated how using new technology can solve the challenges of a traditional school environment, from boosting student engagement to refreshing outdated teaching methods. Now, teachers across the school can benefit from the Intel® Teach program and better engage with a tech-savvy, mobile optimized classroom, secure in the knowledge that all work is safe and backed up.

Moving forward, Baccio plans to roll out the solution to other classes, continue its use of the Intel Teach program, with sessions from academics like Global Pedagogical Consultant Dr. Sabine Huber on Intel® Education Project Planning, and maintain its collaboration with Intel. "The link between the school and the business world is not to be neglected. Baccio da Montelupo Comprehensive School and Intel have established a strong working relationship, which we hope to nourish for years to come. We are talking about a relationship of mutual trust, going far beyond the technical support of the devices," concluded Bernardi.

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