

## **Houston ISD's One-to-One Laptop Initiative: Teaching and Reaching the 21st Century Learner**

*"...It is important for the educational system to make parallel changes in order to fulfill its mission in society, namely the preparation of students for the world beyond the classroom. Therefore, the educational system must understand and embrace ... 21st century skills within the context of rigorous academic standards." — NCREL & Metiri Group, 2010*

In January 2013, HISD Superintendent Dr. Terry Grier proposed a plan to provide every high school student with a laptop computer as a 21st century learning tool. "With anytime-anywhere learning, our students will have the world at their fingertips," he said. "We will make sure they learn skills that complement technology in order to prevent them from being replaced by technology."

### ***Why One-to-One?***

This initiative to place a laptop in the hands of every student in order to create transformational, digital-age instruction is grounded in HISD's *Declaration of Beliefs and Visions*: "*The world is changing rapidly, and students must be prepared to live and work productively in a new economy with new technology, new competition, and new expectations ... [W]e believe that [HISD] can and must do even more to keep pace with change.*"

More specifically, Core Initiative 3 of the HISD Strategic Direction emphasizes the importance of providing every student with *equitable access* to a rigorous instructional program. Providing a laptop to every high school student moves the district significantly closer to achieving that goal. This initiative empowers students to become drivers of their own learning and connects them with resources, people, ideas, and opportunities far beyond the four walls of the classroom. Laptops open up new avenues for student research, problem-solving, collaboration, and creative expression. For teachers, work can be more easily and appropriately tailored to the needs and interests of students, thereby making instructors more effective guides and facilitators, counselors and questioners. In addition, instructional materials can come from almost anywhere in the world.

### ***What is One-to-One?***

Successful one-to-one implementation transforms how teachers teach and how students learn. A digital device in the hands of all students engages them in *highly interactive, transformational* learning. Students need to be producers and evaluators of knowledge, not just consumers. In the digital age, analyzing information is a critical skill. In a one-to-one initiative, students will regularly have the opportunity to locate, evaluate, and interpret information, as well as collaborate with others to engage in authentic, real-world tasks.

In preparing students to succeed in the 21st century, schools must ensure that students are:

- digitally literate
- inventive thinkers, successful problem-solvers, creative decision makers, and critical thinkers
- clear and effective communicators and collaborators
- intellectually curious and persistent
- self-regulators
- connected to the world around them and contributors to their communities

A one-to-one laptop initiative provides a key resource for teachers who are helping students develop these skills and competencies.

### ***What Does One-to-One Look Like?***

**A. Pedagogical Model:** In HISD, implementation of a one-to-one program will focus on using the laptop as a tool to provide students with effective and engaging instruction based on the district's standards and curriculum. The digital content, strategies, and resources embedded in the curriculum will provide support for planning instruction *with* technology, not teaching the technology itself. The primary goal is always effective, engaging instruction.

In support of the one-to-one initiative, the Curriculum Department will create enhanced curriculum documents that incorporate an expanded and robust set of online instructional strategies and resources. The documents will link to the online components of currently adopted instructional materials, online district resources and database subscriptions, and other high-quality online instructional resources and materials. A package of key instructional software will be part of each laptop.

An effective one-to-one program supports instruction that is individualized, differentiated, and personalized. Individualized instruction is paced to the learning needs of different learners. The learning goals remain the same for all students, but each student can progress through the material at their own pace and according to their individual learning needs. Differentiation refers to research-based instruction that is tailored to the learning preferences and needs of learners. The method or approach of instruction can vary based on what is most appropriate for a single student or group of students. Personalized instruction incorporates both individualized and differentiated instruction, and a laptop can provide what is needed—tailored, student-centered instruction. Used alongside district curriculum with appropriate technology tools and resources, the laptops will make instruction more manageable and effective.

In the one-to-one initiative, the goal is for students to become more active learners and producers of knowledge. Effective use of digital devices will *progressively* lead to more engaging forms of classroom interactions that are personalized, individualized, and differentiated. Students will be able to design their own learning with the teacher as facilitator. This pedagogical model supports the district's Planning and Instructional Practice Rubric.

Support for teachers will follow the same pedagogical model of individualization, differentiation, and personalization using a variety of professional development opportunities (virtual and face-to-face), professional learning community meetings, online collaborative tools, and in-school modeling.

HISD's instructional focus will be:

- Increase interactivity in the classroom with the use of technology
- Increase student engagement with active learning and authentic tasks
- Extend learning beyond the immediate classroom through collaboration and communication
- Provide digital learning content and resources that offer optimal challenge through adaptation to individual learning needs
- Create a learning environment that promotes individualization, differentiation, and personalization

**B. Assessment and Evaluation Framework:** The one-to-one initiative will facilitate the use of immediate feedback for students. Formative and summative assessments will be available online to both students and parents. Digital learning systems can quickly collect, analyze, and disseminate data on important variables not captured by standardized tests. Teachers will be able to use formative assessments that provide much more detailed information about how students think and approach problems, not just whether or not they arrive at the correct answer.

A three-year evaluation plan is recommended to answer broad questions about the initiative:

- Year One: To what extent are school leaders, teachers, and students using laptops in instruction, and what implementation issues impact the level of technology integration?
- Year Two: To what extent is instruction changing?
- Year Three: What are the achievement outcomes of the initiative, and is the environment sustainable?

HISD's assessment focus will be:

- Expand assessment opportunities and methods to include 21st century skills not typically measured by achievement tests
- Capitalize on opportunities for mining data produced when students work in digital learning environments
- Conduct a thorough program evaluation to systematically examine and promote variables that can advance student learning

*The illiterate of the 21st century will not be those who cannot read and write but those who cannot learn, unlearn, and relearn. — Alvin Toffler*