

# Spokane Program Transforms Teenage Math Illiterates to Literates in One School Year

*An iLearn Math Success Story*



The first period bell signals to students in Lewis and Clark High School that it's time to be at their desks to begin their school day. That is, if you understand what class periods are and why you have to be seated at a specific desk when the bell rings. These are concepts 16-year-old Mark had never experienced before.

For years Mark lived on the streets of one of the poorest Caribbean islands, a child alone with no family to nurture him and no schooling to enlighten him. His life changed radically when he was adopted as a teenager by an American family and brought to Spokane, Washington, in June 2007.

Initially, as a first-time student, Mark attended the Spokane Schools' Newcomers Center, where he was introduced to English and the American education system. After six months, Mark was sent to Lewis and Clark High School. Even though he had no previous schooling, he was required to enroll in ninth grade courses. English and social studies were modified and taught by English Language Development (ELD) teachers who understood that learning has to be in logical, incremental steps for students like Mark. Unfortunately, math and science were not modified, so Mark was forced to sit in a regular freshman math class with a teacher speaking a language he barely understood and surrounded by students with previous math instruction.

Mark was eager to learn but frustrated because had no idea how to learn, how to fit into the structure of public school or how to catch up to his peers. It seemed hopeless...until he started using iLearn Math, an Internet-delivered math intervention program from iLearn.

Mark slowly began to grasp simple math concepts such as counting, addition and subtraction. The software understood where Mark was on the math learning scale, so it only delivered what he could handle. He persevered, sometimes becoming impatient because he wasn't learning the material fast enough for his

liking. Yet, in only two semesters, working with iLearn Math and the bilingual specialist and tutor, Larissa Braaten, Mark mastered all the math concepts through the third grade. For the first time in his life, Mark experienced a new feeling—a sense of pride in his academic accomplishments.

Starting in a new school with 2,000 students produces anxiety for the average U.S. teenager. Imagine what it is like for adolescents like Mark, who are new to our country and our culture, speak another language, and have not had any formal education in their native land. Never having been in school before, these 14-, 15- and 16-year-olds don't read their own language, don't understand the concept of numbers and mathematical formulas, don't comprehend teacher instructions, and don't know their fingers can be used to retrieve information on something called a keyboard. Such teenagers must feel overwhelmed, confused . . . terrified.

For the past several years, the Spokane Public School District has seen an increase in immigrants from third world countries, like Somalia, Myanmar, Afghanistan and Bhutan. In 2007 approximately 50 of these youngsters came directly from refugee camps to the district's Newcomers Center and then, after a short adjustment period, were assigned to attend their neighborhood high school. State law insisted that students be placed in a school environment according to their age, even though their educational skills may be at a kindergarten level. To further complicate the situation, state law also required they be placed in "regular" math and science classes so they have "an equal opportunity to graduate."

The question for Spokane Public Schools became: How do we follow the letter of the law but meet these students' needs?

Frank Newman, ELD Instructor at Lewis and Clark High School, researched on-line math courses for the district and chose iLearn Math because it was interactive and individualized; the tutorials were age-appropriate and not geared for younger children like some of the other programs; and the lessons were not just textual, but oral as well.

In the 2008-2009 school year, the district arranged to supplement the foreign students' required high school math classes with daily, hour-long iLearn Math sessions.

Although it's designed as a math intervention program, initially, for these students, the program became an English immersion program as well. The interactive capabilities quickly engaged the students and in a short time, they began to pronounce and read English words. They learned to articulate numbers, count to 10 and understand the fundamentals of math. They progressed through units of study at their own rate, slowly gaining confidence in their learning abilities.

According to Phil Koestner, the district's ELD Coordinator, "These students, with little or no prior education, came into our district having a kindergarten or first grade knowledge base and through iLearn Math ended the school year with major gains in not only their math skills but their English-speaking abilities as well."

When students first encounter the Internet-based program, they use a pre-assessment tool to determine the gaps in their education. It automatically places the students at the appropriate skill level and provides instruction, practice and review until they master the standard being introduced. The program also generates reports to keep teachers abreast of students' progress.

"This wave of immigrants is different from those in the past," remarked Lewis and Clark's Larissa Braaten. "We used to get students from

countries in Europe, Eastern Europe, Asia, Central or South America who had attended school in their homeland. Our role was to convert their previously obtained knowledge in math into English. Now, it is very different as most of these latest students haven't had an education. They can't even tell us what they know. In the absence of school transcripts we depend on assessments like the one iLearn Math offers to determine where we should begin their education."

Larissa relates the story of a 17-year-old boy from Burundi, whose family left their country because of civil war and ended up in a refugee camp in Tanzania. There was a school at the camp, but it was one room, with one instructor teaching every child every subject at every level. Ralph was extremely shy and withdrawn when he entered Spokane's schools. The district tested his math abilities and discovered he was only able to complete six out of the 45 problems presented. They immediately enrolled Ralph in iLearn Math, where the program's placement test indicated he had gaps in his math knowledge as low as kindergarten. With the individualized, multimedia instruction that iLearn Math offers, Ralph began to flourish. The graphic animation and natural voice narration kept his interest and helped Ralph progress rapidly through the units. By the end of the school year, Ralph mastered all the standards required for the fifth grade level. No longer withdrawn, Ralph can be seen this year sporting a smile that lights up his classrooms.

Cory Johnson, the ELD teacher at Rogers High School, is concerned about following state mandates yet making the learning meaningful to teenagers from other countries. "We are required to put these students into the ninth grade math class, which is largely story problems involving problem-solving skills. If you can't read English and have little or no math background, how can you possibly succeed?"

Having a positive attitude toward school is crucial to learning. iLearn Math is developed to ensure students experience success every step of the way. And when students feel successful, their self concept improves and their attitude toward school changes.

One of Cory's students, 14-year-old Sophia, immigrated from the Marshall Islands and entered the school as a freshman in September 2008. It was difficult for Sophia to adjust to her new surroundings. She was angry and lashed out at her teachers. Dropping out of school was a real possibility.

The school enrolled Sophia in the iLearn Math class. It was clear from the assessment that she had the least skills of any other student in the class. She counted on her fingers and drew tick marks on paper to work out basic addition. As she worked through the iLearn Math lessons, her attitude started to change. She learned formatting, the language of math, and the thought processes you need to solve problems. With authentic learning experiences geared to her weaknesses, Sophia began to experience success. Within a few months, Sophia's attitude and confidence level took a 180-degree turn. She started surpassing many of the other students, made progress by leaps and bounds, and ended the semester near the top of her iLearn Math class. This school year, Sophia is ready to take on the required ninth grade math.

Spokane, Washington, is one of many school districts throughout the U.S. enrolling students who lack any formalized education. In most states, the requirements have not kept up with the changing tide of the current immigrants' experiences. Supplementing the students' classes with iLearn Math guarantees such students will move from the illiterate realm to full math literacy in a short period of time.