Case Study:
Maryland Educators Share Six Tips to Implement SOLO with Creative Teaching Approaches

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Candace Strickland, Special Education Resource Teacher
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Sherwood Elementary School in Montgomery County, Maryland

QUOTES

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Nancy Mixson,
Special Education
Resource Teacher

Leveraging Collaborative Teams

When you speak to Ms. Strickland, Ms. Wray and Ms. Mixson at Sherwood Elementary School, you can feel the energy of teacher leaders who have tapped into creative ways to make technology work for all learners—average, gifted and talented and students with special needs. In this case study, you will learn about their after school reading-and-writing program and a project-based learning program called, Fractionville.

Students Who Benefit from Assistive Technology Support

As in many special education programs, these educators serve a variety of special student populations who require Individual Education Plans (IEPs) to support their needs. Their students are 3rd and 4th graders who have reading and speech-related disabilities, spatial boundary symptoms, memory processing issues, attention deficit and emotional disorders, and physical disabilities. Some children are autistic or have Aspergers syndrome. These students need assistance to verbally express their ideas, organize their thoughts, decode sounds and words, read with better comprehension, and listen attentively to improve their literacy skills.

Getting Started with Technology - SOLO Literacy Suite

Montgomery County Maryland Public Schools offers training by the High Incidence Technology Team (HIAT) to its teachers and para-educators. Over the course of the 2006-2007 school year, Candace, Doris and Nancy took the SOLO training from the HIAT team and infused it into a variety of assistive technology classes for students with high incidence disabilities, including attention deficit disorder, speech and language impairments and specific learning disabilities.

This computer training prepared them to more effectively implement **Universal Design for Learning** strategies. The training was the first introduction they had to the SOLO Literacy Suite and Candace remembers thinking, "This technology offers a lot of features and supports for students, how will I be able to integrate it?" She felt a bit overwhelmed, but was ready to take the challenge if it would improve her students' writing skills.

> *"SOLO cuts down on the repetitive motions that go along with good writing skills. The kids loved the fact that they didn't have to keep starting over—their work traveled with them throughout the writing process!"*
>
> Doris Wray
> Speech Pathologist

Tip #1 – Find ways to create play-time to learn new technology

Over the course of a year, these teachers worked with the HIAT team to hone their computer skills and began to practice the SOLO programs in their resource classes to play with all the different features. One by one the teachers patiently tried and tested the programs. Candace started an after-school writing program sans the SOLO Suite. Then, Candace and Nancy collaborated and integrated their computer SOLO skills with a Razzle Dazzle Writing program by Melissa Forney into an after-school program. They realized that more play-time with SOLO meant that they could feel comfortable using the programs during instruction. They saw that using the SOLO technology improved students' writing abilities in their after-school program and were pleased. Practice time beyond the school day really allowed students to explore and play with the SOLO Suite using the guidance of their teachers. Soon, Doris joined the after-school writing program providing her speech and language skills to help students develop their synthesizing and summarizing skills—they used the program to read to the students.

Tip #2 – Demonstrate what you know

Candace and Nancy decided to share out their SOLO expertise, tricks, and techniques and brainstormed other uses for a new classroom writing program. Nancy jokingly shared that she was a novice and reluctant to use technology, but as she saw the progress the students made, she was determined to take the technology plunge for her entire classroom. She said "I am very happy I learned how to use SOLO because it made me feel empowered and successful. I now fully acknowledge the benefits of the SOLO technology to support my students."

Tip #3 – Integrate learning time with team members and students

Candace and Nancy both agreed that what would really be beneficial for students was if their school's Speech Pathologist, Doris Wray, also used the technology to front-load vocabulary-building sessions to complement their sequenced lessons. Each educator focused on the Individual Education Plan (IEP) goals and objectives to build the academic skills of each student. They began to see their students responding favorably because they were using the same technology in different learning settings with different teachers. The students quickly became proficient users of the technology, transferring their technology skills from subject to subject and school year to school year.

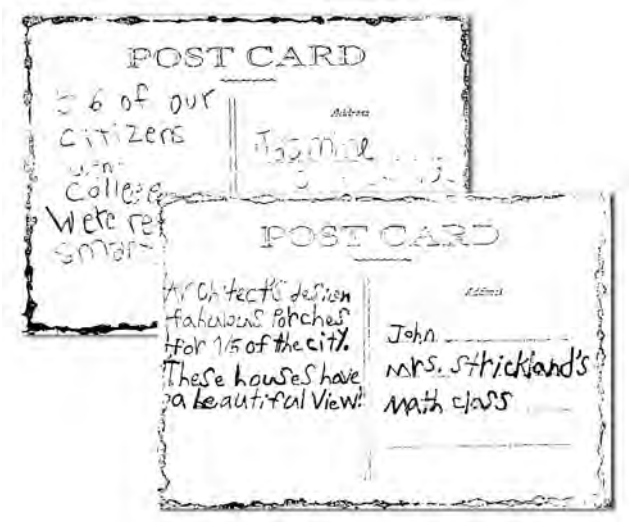
Tip #4 – Make learning fun, productive and real-time for kids! Discover the beauty of digitized or e-Text

Today, this dynamic special education team not only utilizes SOLO to improve their students' reading and writing skills, but also to support them in their mainstream classes in reading, language arts, math and social studies. They say one of the most versatile tools of the SOLO program is Read:OutLoud, a digital text reader that reads file formats like pdf, html, txt, rtf, xml, NIMAS and DAISY. The program has supports that help meet the readability level of each student. Nancy Mixson recalls, "The first time I saw my students learning with digitized text and audio feedback, I was amazed at their attention span. They just kept on reading! It was like a light bulb went on in their minds. This entire technology experience has been so motivating for me!"

The team designed an afternoon poetry appreciation project using e-text. Then they designed an expository writing project about junk food in our diets and another on the importance of drinking water. They used the graphic organizer in SOLO, called Draft:Builder, to guide students to highlight important facts while doing online research, document their ideas and express their thoughts in a draft. Once completed, the students opened their outlines into Write:OutLoud, a talking word processor, where they were prompted and supported as they checked vocabulary, homonyms and spelling, cited their sources with the Bibliography Wizard and finalized their work. "Our kids fatigue quickly," said Doris Wray. "SOLO cuts down on the repetitive motions that go along with good writing skills. The kids loved the fact that they don't have to keep starting over—their information and work travels with them throughout the process!"

Project Based Learning - Fractionville

Candace and Doris also created "Fractionville," a creative project-based learning approach where students create a town with people holding jobs and using word problems in math to create their daily functions. When developing Fractionville, the students needed to engage in cross-curriculum skills so they would understand how math concepts are used in daily occupations. In order to provide background information on towns and careers for both math and social studies, they researched occupations and read about various jobs from digitized text developed by Mrs. Wray who inserted text into Read:OutLoud for their research. Initially, the students responded orally in sentences to summarize the material read. The goal was to make postcards about math concepts and those jobs.



Fractionville postcards

The class made a bulletin board where they wrote a statement identifying a career and the way math was used in that job. Bankers learned to use fractions to change money. Farmers used fractions to chop produce. Map makers used fractions to section off streets. Finally, the teachers discussed the use of technology with their students and discovered ways that helped them express their thoughts more richly. Students recognized that using the technology helped them think better and read with greater comprehension.

Tip #5 – Empower kids to teach you and advocate for the technology

In speech pathology sessions, Doris Wray could see that her students were struggling to find the right words in the writing process. She incorporated the word prediction tool in SOLO, called Co:Writer, to improve letter-sound correspondence, spelling and vocabulary. According to Doris, "Students found the process much easier when they simply clicked on the tool on the screen to assist in spelling words. They spell the word as best they can and Co:Writer offers suggestions and reads the words. It saved tremendous time, was easy for the student, and provided information to assist in building effective writing habits."

Tip #6 - Demonstrate how technology can provide access to the general curriculum

Candace summarized, "As we saw what SOLO could do to creatively support our special education kids, we realized that we had to pre-plan our units earlier and communicate outside our department. Other core teacher groups saw how useful and cost-effective the technology tools are. If our students can become better prepared, why wouldn't we want other struggling learners to have access to the technology tools, too? "Our goal is try to get every educator in our school on board. Then our students have a better chance to advocate for their learning strengths and weaknesses and teachers will understand the types of instruction that best fits their needs. This is differentiated instruction at its best!"

"We all need to think globally about how our kids learn in an integrated approach. These creative teaching approaches and tools are just the beginning to keep them engaged and happily gaining knowledge in a quality learning environment," said Candace.

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Candace Strickland
Special Education
Resource Teacher

Student Work Samples

"D" can be described as a student with multiply disablities whose emotional overlays impact his written and oral expression. Initially, he had beginning sounds in reading and wrote simple incomplete sentences. After using Co:Writer successfully, he independently transitioned his writing papers to Draft:Builder and Write:OutLoud and his abilities in the writing process improved to a simple paragraph. Thus, as "D" evolved in his independent writing throughout the year, his use of the SOLO technology developed with him.

About the Author

"D" was born in Washington, D.C. He was born on December fourth. He attended Rockville preschool and Sherwood Elementary school. Recess and PE are his favorite subjects because you get to play around. "D" likes playing video games and playing on the computer because they help him learn. He has one brother and one sister. He as a fish named Big Red and a dog named Illusion. "D" enjoys playing with his pets. His favorite restaurant is Chicken Basket.

"D's" Work Sample

"K" has self-distracting behaviors which interfere with work completion. When writing by hand, she produced little to no work. The introduction of the SOLO Literacy Suite last year began an evolutionary process. This year, she is independently working at recess and during free time. She reads into selected topics using Read:OutLoud and then responds to questions in this program. Later, transferring her work into Draft:Builder she independently writes an expository paper and then checks her work in Write:OutLoud laughing at her mistakes. "K" has developed into a self-motivated, confident student who enjoys producing a completed written document.

The haunted house was scary and believe me you would scream too. I was so scared I ran out of the haunted house for the first time. I didn't think it would be too scary, but it was. The second time my dad went with me it wasn't so scary. I was in the haunted house and I turned the corner and if you where in this situation you would scream as well. I sceamed because there was a guy in a sute (a scary sute) a around the corner and he jumped then I sceamed.

"K's" Work Sample

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