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## Abstract

This article chronicles one special educator's process of implementing adaptive instructional strategies in her middle school language arts classroom. Paige Michalski crafted adaptations for her students with disabilities in the curricular area of digital storytelling (Banaszewski, 2002; Dunn, 2000). Digital storytelling involves telling stories using multimedia technologies, providing a format for students to put their thoughts together, visually, aurally, and kinesthetically. Ms. Michalski has found that incorporating the process of digital storytelling into her special education language arts classroom produced numerous benefits. Students appeared to be excited about their projects and committed increased effort in writing and verbal communication. They proved they were able to generate projects, using multimedia software and computer technology.

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## Introduction

Educators are teaching more diverse students and including more students with disabilities in general education classrooms (McLeskey, Henry, & Hodges, 1999). Teachers are finding that students have a much broader spectrum of skills and abilities. To meet the needs of all students, it is clear that the use of a variety of instructional and learning strategies must be included in the instructional process more efficiently and effectively than ever before. These instructional and learning strategies assist students who are considered gifted/talented as well as those who have a disability that affects learning and are designed to increase student achievement.

This article chronicles one special educator's process of implementing adaptive instructional strategies in her middle school language arts classroom. Paige Michalski crafted adaptations for her students with disabilities in the curricular area of digital storytelling (Banaszewski, 2002; Dunn, 2000). Digital storytelling involves telling stories using multimedia technologies, providing a format for students to put their thoughts together, visually, aurally, and kinesthetically. Evidence supports the notion that students can increase their reading and writing skills by incorporating multimedia technologies in this manner (Bagui, 1998). Because writing for students with disabilities can be laborious and frustrating, exploring alternatives that alleviate some of these stressors, while stimulating students to edit and revise, is vital (Bailey, 2000).

Though digital storytelling has been employed in a growing number of general education classrooms (Lambert & Mullen, 2004), the curricular innovation has not been introduced to most inclusive or special education classrooms. Creative uses of computer technologies have been traditionally absent in these settings (Edyburn, 2000; Jeffs, Morrison, Messenheimer, Rizza, & Banister, 2003). The reason for this may be that the adaptations seem to be more extensive when teaching students with disabilities. (Holzberg, 1998; Leneway, Brinkley, Webb, & Harbaugh, 2002).

These challenges highlight the need for research in special education classrooms where exemplary instruction and the integration of multimedia technologies is modeled. If teachers are to begin using multiple instructional strategies and curricular innovations, they need examples of best practices from their colleagues (Piper, 2000). Chronicling a peer's experiences, as she implements a new approach in the classroom and sharing this evidence give teachers practical information. Ms. Michalski shares her successful implementation of digital storytelling, using several innovative and effective strategies to meet the needs of her students with low incidence disabilities.

## Developing a Vision and Plan for Digital Stories in the Classroom

Ms. Michalski is a veteran teacher of 15 years. She has spent all of those years teaching language arts and social studies classes at a Midwestern, urban junior high school. Her commitment to this challenging environment is evidenced by her 15-year tenure. She comments that the most difficult aspect of teaching for her is the lack of resources. Spending her own money to purchase items needed for her classroom is a common occurrence.

Ms. Michalski's seventh and eighth grade students have been identified as cognitively delayed. One group has IQ's averaging below 70, and the other group has IQ's averaging below 55. Students participate in some general education classes such as fine arts, physical education, language arts and social studies. Others participate in a self-contained classroom with Ms. Michalski for language arts and social studies. The class sizes range

from four to ten students in a class. Students spend two or three class periods, consecutively, in the self-contained classroom setting. Most of the students have been in Ms. Michalski's classroom for more than one year.

In addition to their cognitive challenges, 90% of the students at this school qualify for free or reduced lunch, documenting the impoverished status of most of the households in which these students live. It is not uncommon for students to have parents that are imprisoned or battling drug addictions. Some students have suffered physical or sexual abuses. Ms. Michalski, partnering with school and community support systems, works to teach the "whole child", acknowledging their many needs, and providing opportunities to accommodate those needs in her classroom.

Ms. Michalski was introduced to the concept of digital storytelling when a team from the Center for Digital Storytelling (Lambert & Mullen, 2004) in Berkeley, California (http://www.storycenter.org/desc.html) visited the school in January, 2004. The visitors worked directly with a small group of students and teachers in creating digital stories that combined written and recorded text with still images and music. Later, as a part of grant-funded professional development workshops in her school, Ms. Michalski was challenged to complete a lesson *in her own classroom,* instead of the computer lab, that integrated computer technology. This lesson had to address specific curricular goals, as well as a component of the National Educational Technology Standards for Teachers (NETS-T) (Kelly, 2002). She began to think about how she could provide her students with experiences in digital storytelling, comparable to those of the students in some of the general education classrooms. She brainstormed ideas with her colleagues in special education, and began to formulate a plan. The following paragraphs relate her experience, in her own words.

**Ms. Michalski's Experience**

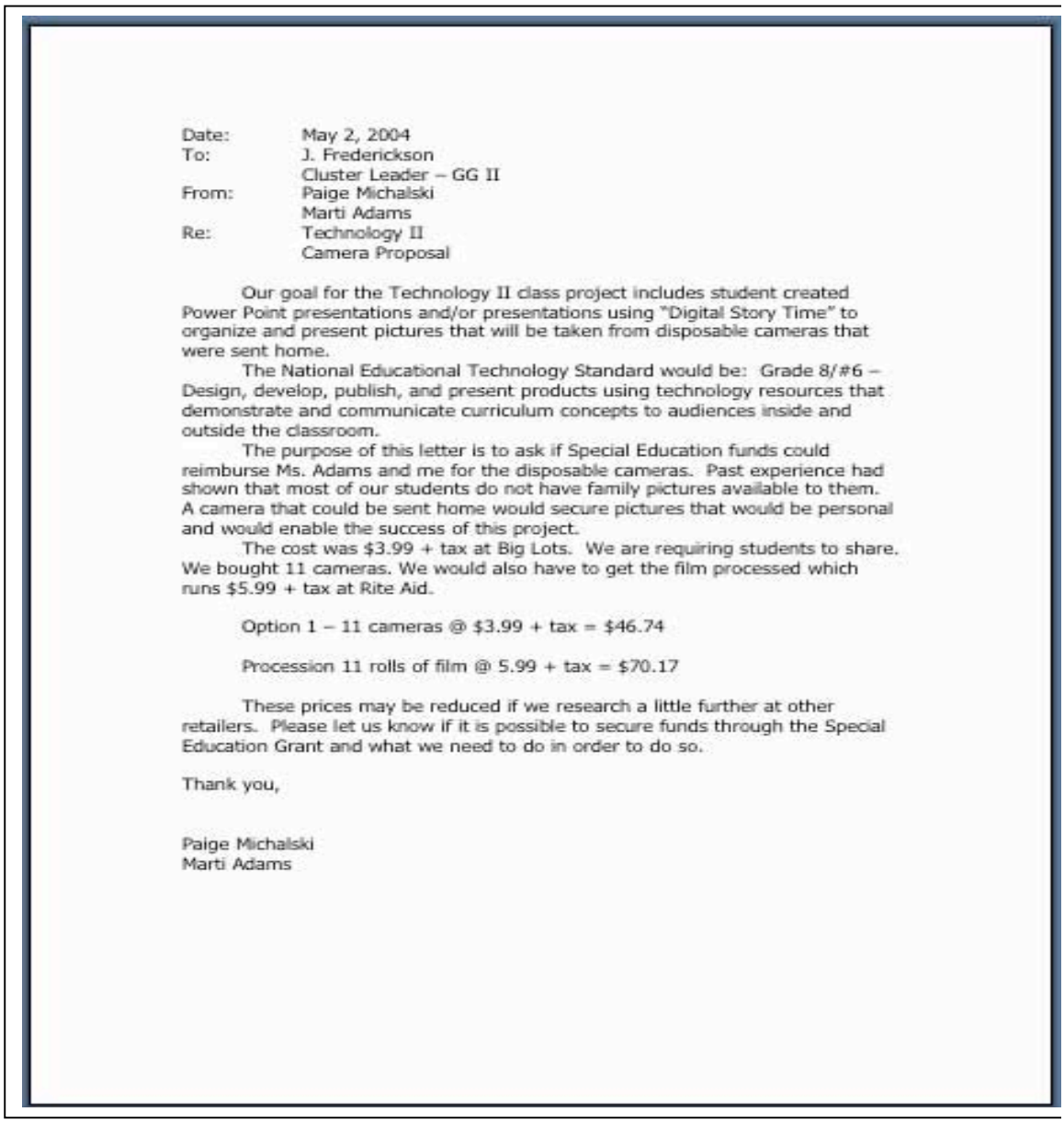
"Focusing on the topic of "My Life," I challenged my students to think and write about people, places, and events that characterized their individual life experiences. I envisioned students bringing in pictures that correlated with their ideas, and creating two final products:

1) A PowerPoint slide show combining the pictures and written text
2) A digital video, with student narrations accompanying their photos

I believed that the first of these products could be created by my students, in our own classroom, using the three student workstations. In order to complete the second, I would need one day in which students would have access to a small set of laptops and a co-teacher, skilled in digital video software. Confident that my students could be successful in creating these digital stories, I began to implement this plan.

Our first task was to ask student to bring in pictures from home that illustrated various parts of our selected table of contents for the PowerPoint slide shows, "My Home," "My Pet," "My Neighborhood," and "My Favorite Room" were among these categories. Unfortunately, I immediately discovered that few of my students had access to family pictures. Growing up in an impoverished, urban environment is not always conducive to creating and saving family photos. Faced with our first roadblock, NO PICTURES, a fellow teacher and I requested departmental funds for disposable cameras (See Image 1). Once these were acquired, we sent them home with students and the students returned them for development. We had prints made of the photos and students were taught how to scan and name their pictures. This process took several weeks and then we were ready to experience PowerPoint!"

**Image 1: Request for Cameras**



Date: May 2, 2004
To: J. Frederickson
Cluster Leader – GG II
From: Paige Michalski
Marti Adams
Re: Technology II
Camera Proposal

Our goal for the Technology II class project includes student created Power Point presentations and/or presentations using "Digital Story Time" to organize and present pictures that will be taken from disposable cameras that were sent home.

The National Educational Technology Standard would be: Grade 8/#6 – Design, develop, publish, and present products using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom.

The purpose of this letter is to ask if Special Education funds could reimburse Ms. Adams and me for the disposable cameras. Past experience had shown that most of our students do not have family pictures available to them. A camera that could be sent home would secure pictures that would be personal and would enable the success of this project.

The cost was $3.99 + tax at Big Lots. We are requiring students to share. We bought 11 cameras. We would also have to get the film processed which runs $5.99 + tax at Rite Aid.

Option 1 – 11 cameras @ $3.99 + tax = $46.74

Procession 11 rolls of film @ 5.99 + tax = $70.17

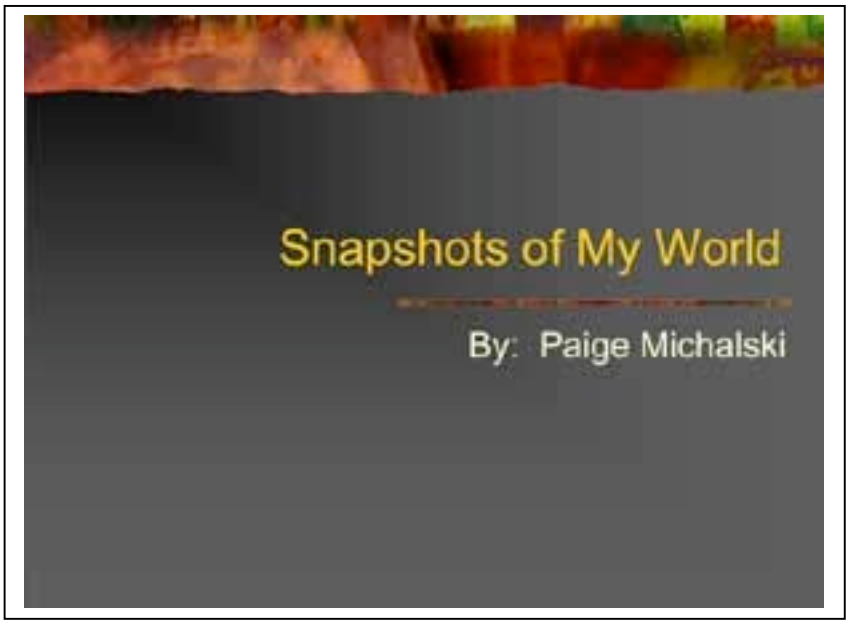
These prices may be reduced if we research a little further at other retailers. Please let us know if it is possible to secure funds through the Special Education Grant and what we need to do in order to do so.

Thank you,

Paige Michalski
Marti Adams

”Knowing that even taking a small group of students to the computer lab could be a daunting proposition, I drew up a list of tasks that students needed to complete to begin their digital story. The students were excited about learning a new piece of software. I had made a few demonstration slides for them to see, so they understood what they were making (See Image 2 & 3). The time in the lab was exhausting! Running from one student to the next, answering their questions, trying to figure out what they had clicked on, and working to get them to all save to my folder on the server kept me very busy”.

**Images 2 & 3: Sample Slides**



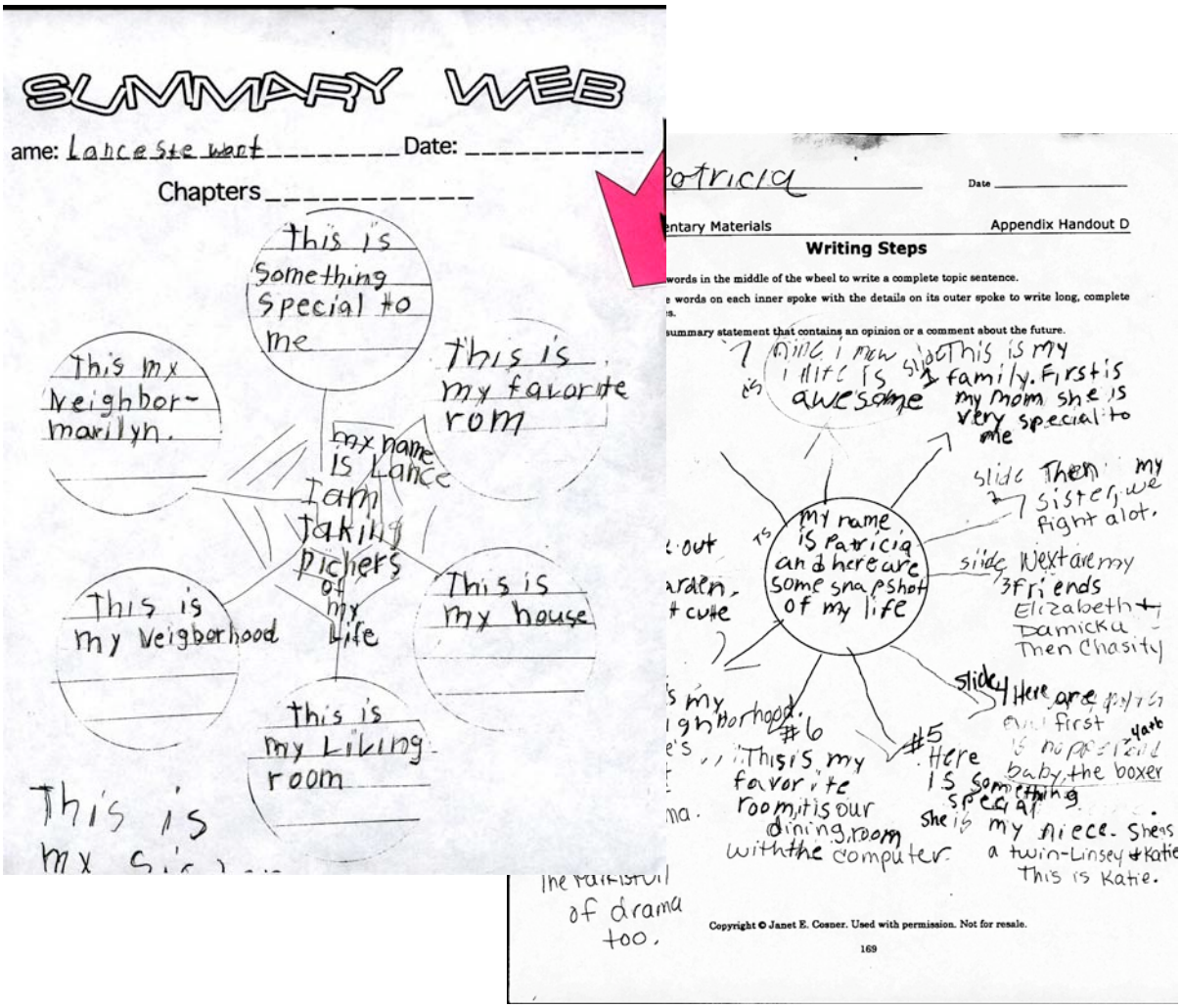

”Reflecting on this experience, I created a modified task list, documenting some of my “teacher talk” (See Table 1).

**Table 1: Teacher Dialogue - Power Point**

| Students’ Computer Assignment | Teacher Comments<br>Hint: You may have to wear tennis shoes |
|---|---|
| #1 – Open Microsoft PowerPoint | “No not the blue W – you may need to go to start then programs then power point!” “Just Wait” |
| #2 – Click on Blank Presentation | “Then OK –it looks like a blank piece of paper” “Mr. Iffland” “Wait Chris!” |
| #3 – Click on Title Slide | “It has 2 bars – 1 long one and 1 short one- then click ok.” |
| #4 – Type in your title and your name. *“Snapshots of my Life”* | “Oops – I forgot to tell you to click in the top box and type your title, then click in the second box and type your title” “Oh no! Ms. Adams – we have to spell the title to them!” |
| #5 – (1 hour later) Click on New Slide | “Go to common tasks pull down” “It’s on the far right” “Mr. Lassiter help please” “Mr. Iffland – help please!” “Lord God Almighty – help please!” |
| #6 – Select Bulleted List Slide and title it Table of Contents. Then type the following next to each bullet. | “It looks like a bar then a box with 3 bullets (dots) – next to title slide.” “Just wait – there’s only 4 of us and 8 of you!” *Actually there were more students than that.* |
| #7- Click on the 4 little squares in the bottom right hand corner to see both slides at once. | “Its real little.” |
| #8 – Double click on the first slide | “Do-click-click - real fast!” |
| #9 – To Animate (Make it Move) | Just followed student steps. But it almost took 1 on 1 at each computer. Students were help-ing each other by this time. |
| #10 – Save to teacher’s folder. | Mrs. Adam, “My kids save to my folder.” “What? I don’t have a folder?” “What, you can’t get on the student server?” “MR. IFFLAND!” |
| #11 - Background | Took less help but needed to visit many com-puters. |
| #12 – Save again | “Just save it anywhere!” |

"I had originally planned to use the three computer workstations in my room for students to complete the text for their Power Point slides, but only two computers actually had PowerPoint. The school district's technology personnel were not able to install the application on my other computer, so students had to take turns during class-time to work on their digital stories. To guide students through the process of writing their stories in more detail, I used Judy Cosner's Formula Writing (Cosner, 2003). Each student created a web representing his or her story. For each element of their table of contents, the student's wrote at least one sentence explaining the photograph (See Image 4). As students alternated working on the computer and writing their stories, based on their webs, they continued to edit and revise their work. I was excited to see them begin to employ a broader range of vocabulary and create longer, more complex sentences."

**Image 4: Students' Webs**



"Once the PowerPoint slide shows were underway, we experimented with putting our digital stories in a video environment, using iMovie. Students "dropped in" their pictures in to the video interface and then recorded their voices telling their digital stories with assistance from a teacher. After a few attempts that resulted in low quality audio, students learned to speak slowly and loudly into the microphone. In order to get a more relaxed, conversational tone, I encouraged students to look at their pictures and tell their stories, rather than read from their written script. Even though we only did this activity during one school day, most students completed their iMovie digital stories and were very excited to get a copy on DVD" (See Image 5).

**Image 5: Completed Digital Stories on DVD**


**Adaptations and Accommodations for Success:**

Several adaptations were made to meet the needs of the students in this class. Ms. Michalski used adaptations including input, output, time, and level of support as defined in the Nine Types of Adaptations **(**Cole et al., 2000**)** (See Table 2).

## Table 2: Nine types of adaptations

**Input-**The instructional strategies used to facilitate student learning.
*For example:* Use of videos, computer programs, field trips, and visual aids to support active learning.
*In this case:* Students used digital cameras and Powerpoint to collect their information for their story.

**Output**-The ways learners can demonstrate understanding and knowledge.
*For example:* To demonstrate understanding, students write a song, tell a story, design a poster or brochure, perform an experiment.
*In this case:* Students told their stories using the Powerpoint slides as a prompt.

**Size-**The length or portion of an assignment, demonstration or performance learners are expected to complete.
*For example:* Reduce the length of the report to be written or spoken, reduce the number of references needed, reduce the number of problems to be solved.
*In this case:* The length of the students' stories depended on the student information collected and organizational skills.

**Time-**The flexible time needed for student learning.
*For example:* Individualize a timeline for project completion, allow more time for test taking.
*In this case:* The timeline was not adjusted for individual students. Students were given a timeline that was flexible and met the needs of all.

**Difficulty-**The varied skill levels, conceptual levels and processes involved in learning.
*For example:* Provide calculators, tier the assignment so the outcome is the same but with varying degrees of concreteness and complexity.
*In this case:* The difficulty level of the assignment did not affect the outcome or process.

**Level of Support-**The amount of assistance to the learner.
*For example:* Students work in co-operative groups, or with peer buddies, mentors, cross-age tutors or paraeducators.
*In this case:* Students worked in co-operative groups and with support from the teacher and researcher in the class.

**Degree of Participation-**The extent to which the learner is actively involved in the tasks.
*For example:* In a student written, directed, and acted play, a student may play a part that has more physical action rather than numerous lines to memorize.
*In this case:* Rather than reading the text, students were given the option to use the pictures they had taken as a guide for their presentation.

**Modified Goals-**The adapted outcome expectations within the context of a general education curriculum.
*For example:* In a written language activity, a student may focus more on writing some letters and copying words rather than composing whole sentences or paragraphs.
*In this case:* Goals for this project were not modified.

**Substitute Curriculum-**The significantly differentiated instruction and materials to meet a learner's identified goals.
*For example:* In a foreign language class, a student may develop a play or script that uses both authentic language and cultural knowledge of a designated time period, rather than reading paragraphs or directions.
*In this case:* A substitute curriculum was not used for this project. Students developed and attained the objectives that met the State Academic Content Standards.

*Adapted from: Cole, S., Horvath, B., Chapman, C., Deschenes, C., Ebeling, D. G., & Sprague, J. (2000).* Adapting curriculum & instruction: A teacher's desk reference (2nd ed.) *Bloomington, IN: Indiana Institute on Disability and Community, p. 39.*

The strategies she used to facilitate student learning including the use of a handout that illustrated the steps to be used in the writing process, teaching students about formula writing, webbing stories or using a graphic organizer, using several new and innovative tools such as digital tools to record student voices, pictures, and music. Instead of writing a story on a piece of paper, the student output was adapted by the using PowerPoint presentation software. This allowed students to organize, listen to, and see their product. The learning outcomes have been raised in number and quality. Students learned several new technical skills in addition to their knowledge about the organization, elements of a story, and writing a paper.

**Results**

Before the digital storytelling activities, many students in Ms. Michalski's classes could not create a complete sentence. Their difficulties with writing processes included problems in constructing phrases, using correct grammar and spelling, employing varied and interesting vocabulary, and effectively crafting sentences. Though writing was a part of their daily curriculum, students were often uninterested or defeated, as they struggled to put ideas into words on paper.

Ms. Michalski had already incorporated many of the formula writing strategies into her writing instruction, with good results. The tools for brainstorming and organizing ideas helped students begin to collect their thoughts and generated a foundation of key words and phrases. The story webs allowed students to slowly build these words and phrases into sentence fragments, and eventually sentences. The use of images provided students with prompts that encouraged their use of words in more creative and complex ways. Verbally describing their photos, as they shared them with each other, helped them determine what could be written. Typing these phrases and sentences into their PowerPoint slides, and eventually recording their own voices telling their stories, kept students engaged in the writing and revising process.

In the end, the scaffolding Ms. Michalski provided for her students during the digital storytelling process assured their success. All students were able to complete both their PowerPoint presentations and their digital videos. These finished products reflected the attention to detail, ability to organize and develop a story as well as provide proof of the level of achievement of each student. Students' time dedicated to editing and revising their stories resulted in improved written work. Grammatical and spelling errors were corrected and additional descriptive details were added. As students focused on writing their own story, Ms. Michalski witnessed a broadening and improvement of vocabulary skills as well.

Upon reviewing student written work, Ms. Michalski remarked that she was "blown away" by the improvement. She noted that thoughts were organized, not sporadic. Students had created sentences that were lengthier, as well as well-structured and grammatically correct. She commented, "I thought someone else wrote it for Brittany…I just couldn't believe it!" The cooperative nature of the digital storytelling process strengthened students' interest in editing, revising, and expanding their work. Sitting next to each other in the computer lab and reading each other's stories prompted exchanges of ideas for improvement and additions. Sharing a computer, as they created their video projects, gave them more opportunities to discuss their texts. Practicing their oral recitations with their partners also became a time of reflection and revision. New ideas, new words, new inflections emerged. Perhaps because their writing became more public, students were motivated to polish and perfect.

In addition to their improved written work, Ms. Michalski noted other changes in some of her students. While working on the audio recordings for their digital stories, those with speech difficulties managed to raise the quality of their spoken communication. Concentrating on making a clear recording, students were able to slow down and articulate their words in a way that had previously eluded them.

Students, throughout their work on the digital storytelling projects, were highly motivated and engaged. They eagerly shared their pictures and written work with teachers and classmates, pointing out the details each contained. Students demonstrated a pride in the work they were accomplishing and dedicated more time to the tasks required to produce the final products. Ms. Michalski was thrilled to see the positive changes in their attitudes and their academic achievement, as a result of her plans and efforts.

**Summary**

Ms. Michalski has found that incorporating the process of digital storytelling into her special education language arts classroom produced numerous benefits. Students appeared to be excited about their projects, committed increased effort in writing and verbal communication. They proved that they were able to generate projects, using multimedia software and computer technology that were comparable to their general education student counterparts.

The digital storytelling successes her students experienced were strongly grounded in the adaptations and accommodations Ms. Michalski orchestrated throughout the projects. From the inception of her plan, isolating a topic and creating examples, to the final audio recordings, improvisation, she devised strategies to encourage and support student learning. The categories (my neighborhood, my favorite room, etc.) Ms. Michalski chose for the project gave students a focus for their picture-taking. The images then provided the prompts for their text. Story webs graphically represented the connections between their ideas. Students referred to their PowerPoint step handout, as they created their slides. They carried their pictures and their story webs to the computer and used them as a reference to organize their presentations and movies. All of these strategies supported student successes throughout the writing and digital storytelling process.

As her notes indicate, a teacher must be willing to invest significant amounts of time and energy to reap these rewards. This work is not for the faint of heart. Detailed plans, enormous flexibility, creative problem-solving, and a TON of energy are required. With such an investment, though, comes the satisfaction of seeing students sharing their stories. Stories that say, “Now that I look over my life…it’s good. It’s very good.”

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