

PowerPoint is not just for Business
Presentations and College Lectures: Using
PowerPoint to Enhance Instruction for
Students with Disabilities

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PowerPoint Is Not Just for Business Presentations and College Lectures: Using *PowerPoint* to Enhance Instruction for Students with Disabilities.

Mari Beth Coleman

Abstract

Microsoft PowerPoint software is widely used in business and higher education and is growing in use with school-aged students. A small body of research has demonstrated that it can be effective in enhancing skill instruction for individuals with disabilities. PowerPoint is not a difficult program to learn, but it provides endless possibilities for the creation of instructional materials. This article presents a brief summary of some of the research that has been done using PowerPoint with individuals who have disabilities to promote computer access, reading decoding, and social communication skills. Several examples of PowerPoint presentations that can be created for use in teaching students with disabilities are described with visual examples provided. Brief directions for using several features of PowerPoint to create instructional presentations are given.

Keywords

Computer-assisted instruction, assistive technology, *PowerPoint*

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Microsoft *PowerPoint* software is a powerful tool that has been widely used in the worlds of business and adult education. It seems that it would be difficult to walk into most business presentations or through classroom buildings on a college campus without seeing *PowerPoint* in use. Increasingly, elementary through high school classroom teachers are using *PowerPoint* presentations to present material to students or are enhancing their students' learning by teaching them to create their own presentations. Whereas most people think of *PowerPoint* only for its presentation capabilities, because of its wide availability and numerous features, the software offers many possibilities for use in computer-assisted instruction.

While the role of the teacher cannot be

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diminished, computer-assisted instruction allows students to practice previously taught skills independently and may be more motivating than traditional methods for practicing skills. Heimann, Nelson, Tjus, and Gillberg (1995) found that students with autism increased their word reading and phonological awareness during computer-assisted instruction and that these students appeared to enjoy computer-assisted instruction more than traditional instruction. There are numerous software tools that have been successful in increasing skills with students who have disabilities, including *PowerPoint*.

A small body of research literature has shown *PowerPoint* to be effective in promot-

ing skill instruction for individuals with disabilities. It has been used to increase responses to photographs of preferred items by adults with profound multiple disabilities (Holburn, Nguyen, & Vietze, 2004), to teach reading decoding for students with physical and speech disabilities (Coleman-Martin, Heller, Cihak, & Irvine, 2005), and to promote social communication for students with autism (Sansosti & Powell-Smith, 2008).

Holburn, Nguyen, and Vietze (2004) created *PowerPoint* presentations containing clip art, digital photographs of preferred items, and photographs of participants interacting with preferred items for five adults with profound mental retardation and physical disabilities. All of their participants learned how to interact with the computer using single switches to change the slides in the *PowerPoint* presentations. Additionally, some of their participants showed increases in responding when the photographs were of preferred items or of themselves interacting with the preferred items. This study demonstrates that *PowerPoint* can be used with individuals who have a wide array of cognitive abilities.

Coleman-Martin, Heller, Cihak, and Irvine (2005) used *PowerPoint* software in conjunction with the Nonverbal Reading Approach (NRA) to teach a strategy for reading decoding to students without verbal speech. The NRA procedure is a systematic method for teaching students with limited verbal abilities to decode words using the process of internal speech as well as a method for evaluating progress (Heller, Fredrick, & Diggs, 1999). Their investigation took place in three parts: first, the teacher taught the students how to decode a set of words using the NRA without the use of *PowerPoint*; then, a set of words was taught with the teacher presenting one trial of each word followed by two presentations of each word via *PowerPoint* soft-

ware; and, the final set of words was taught solely via *PowerPoint*. Of their three participants, two learned the word sets presented via *PowerPoint* in the same or fewer number of trials as with teacher or teacher plus *PowerPoint* instruction. One participant had the least number of trials to criterion with teacher plus *PowerPoint* instruction, followed by instruction with *PowerPoint* only. This study represents the ability of *PowerPoint* to provide specific skill instruction to students with disabilities.

Sansoti and Powell-Smith (2008) examined the effectiveness of a treatment package with video modeling and social stories which were presented by *PowerPoint* software on increasing the social communication for three boys with high functioning autism spectrum disorders. Their treatment package was effective; however, modifications to the procedure had to be made to increase access to social reinforcement for two of the participants. Because the *PowerPoint* Social Stories were part of a treatment package, their role in changing the students' behavior cannot be estimated. However, the effective use of Social Stories with students who have autism spectrum disorders in numerous research studies suggests that they can be a means for improving social and behavioral tasks. Since students with autism may be more motivated by computer-assisted instruction (Heimann, Nelson, Tjus, & Gillberg, 1995), the possibility of presenting social studies via *PowerPoint* warrants further exploration.

PowerPoint is widely available, easy to use, and offers a number of features that teachers can use to make interesting instructional presentations including animated text and the ability to record speech into the pres-

entation. Additionally, a free *PowerPoint Viewer* can be downloaded for viewing previously created presentations. This way, activities can be sent home for students who have computers at home to use even if the family does not own *PowerPoint* software.

The following information will describe only a few of the many possible uses of *PowerPoint* software for teaching students with disabilities. These include simple activities to practice letter sounds, practice blending sounds for reading decoding, provide physical and/or visual access to reading connected text, and present computerized Social Stories which may be used to increase social behaviors. Basic design instructions for teachers to create their own *PowerPoint* presentations will also be described.

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Examples of *PowerPoint* Presentations

Simple Activity for Letter Sound Recognition

There are endless possibilities for the use of *PowerPoint* so this is just one of many. Teachers can create presentations to reinforce concepts such as letter sounds by starting with an introductory slide and then creating slides that contain text, pictures, and spoken narrative. In this example, letter sounds are introduced on one slide while the following slide contains pictures of items that begin with that letter sound.

Visual Information on Slide

Recording that Plays When Slide Opens

Other Features



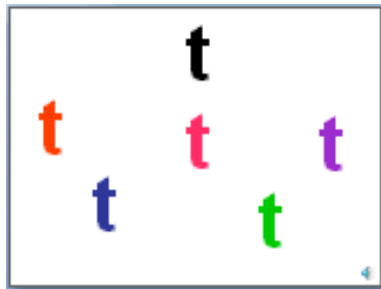
“Hi. We are going to look at some consonant sounds together.”

Smaller consonant letters fade in while recording starts playing. (Accomplished using “Custom Animation”: *Entrance: Fade*)



“This is the letter T. Letter T says ‘t’.”
(sound is very short with no schwa sound)

T fades in via a checkerboard pattern. (Accomplished using “Custom Animation”: *Entrance: Checkerboard*)



Each time a letter flies in, the recording says the sound, “t”.

Each letter flies in from a different direction. (Accomplished using “Custom Animation”: *Entrance: Fly In*)



“Here are some sounds that start with the letter T: tooth, tiger, toys.”

Each picture flies in separately while the word is spoken. (Accomplished using “Custom Animation”: *Entrance: Fly In*)

Figure 1. Example of *PowerPoint* presentation to reinforce letter sound recognition.

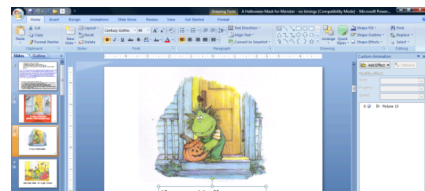
A simple presentation such as the example in figure 1 is easy to make for a specific student, or teachers can create presentations which can be used from one school year to another by multiple students. Once slides are created, it is easy to copy several slides at once and paste them into other presentations or multiple times in the same presentation so that the order in which concepts are presented is varied. This type of presentation is created with very simple *PowerPoint* features. Text boxes and pictures are inserted and the “Custom Animation: Entrance” features are applied (see the right side column in figure 1 for the features that match the sample presentation.) The “Record Narration” feature is used to insert speech that matches the text and pictures. When this feature is activated, it starts the slideshow and voice recordings can be made for each slide. As the mouse is clicked, the slides advance and the text is recorded to match as text or pictures fly in. After the final slide is reached, the recording stops and the software asks if timings are to be kept. If kept, the presentation will play in its entirety after started without the user having to click the mouse to change from one slide to another. In an activity such as this one where the student is watching the presentation, the teacher may want to keep timings; however, the student will have more interaction with the presentation if he/she has to click to advance the slides. One note about using the “Record Narration” feature is that selecting “CD Quality” for the recording makes the sound very clear, but also makes the file quite large. Prior to recording an entire presentation, it is recommended that the teacher ex-

If the student has difficulty reading the text independently, *PowerPoint*'s features can be used to create a more interactive book.

periment with this feature to get the feel for how it works and to determine which quality will be the best fit.

PowerPoint for Practicing Reading Decoding

In Coleman-Martin, et al. (2005), the script of the Nonverbal Reading Approach was presented using *PowerPoint*. This script guides the student to say individual sounds, blend sounds together slowly, and then blend them together quickly in their head. This was done because the students did not have clear verbal speech. The guided practice portion of the NRA was based on direct instruction methods which have been used widely for students with and without disabilities (Adams & Carnine, 2003). An example of creating a presentation to guide students in blending sounds together would have multiple slides per word. The student would first be shown the entire word and told that he or she will be sounding it out. The next slide would have only the first letter sound on the screen while the sound is modeled. The following slides would either have individual sounds or contain the first sound in a lighter color and the sound being spoken in a darker color to emphasize it. Coleman-Martin et al. used this method because traditionally in the NRA, words are presented on flash cards and each sound is uncovered while spoken. Thus, the initial sound is always visible. In Coleman-Martin, et al., reinforcer slides were inserted with a graphic of a smiley face and a reinforcing statement, such as, “Super!” One idea to expand on this is to include slides with additional information, such as a picture of the word that was sounded out. See figure 2.



“We are going to sound this word out together. Say each sound with me.”



“mmm...”

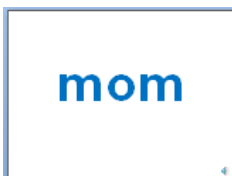


“...oooo...”

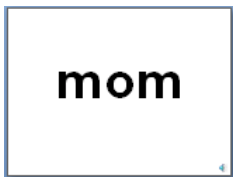
There is no break between sounds on these slides



“...mmm”



“Now let’s say it altogether. Don’t stop between sounds. Mmmooooommm.”



“Now say it fast. Mom.”



“Here is a picture of a mom. She is hugging her little girl.”

Figure 2. Example of a *PowerPoint* presentation used to promote reading decoding.

Creating Books with PowerPoint

Students with physical disabilities frequently have delays in reading due to a number of factors including decreased access to reading materials (Heller & Coleman-Martin, 2007). One way to provide access when students cannot turn pages in a book is to provide computerized text. There are several types of commercially available computerized books (e.g., *Start-to-Finish Books* by Don Johnston). However, making books with *PowerPoint* software allows the student to have access to the same books as his/her peers and is a free option for teachers who already have a scanner and *PowerPoint* software. The Chafee Amendment of Public Law 104-197 stipulates that it is not a violation of copyright law if materials are copied in an effort to make them accessible to individuals with disabilities. Creation of *PowerPoint* books is accomplished by scanning the book, copying the pictures and text, and pasting them onto a blank slide.

Depending on the student's needs, books can be formatted in several ways. The most basic way to provide access is having one page of text appear on each slide of the presentation. Pages can be "turned" by the student clicking the mouse, spacebar, or a switch that is connected through another device such as a switch interface or a switch adapted mouse or keyboard.

If the student has difficulty reading the text independently, *PowerPoint's* features

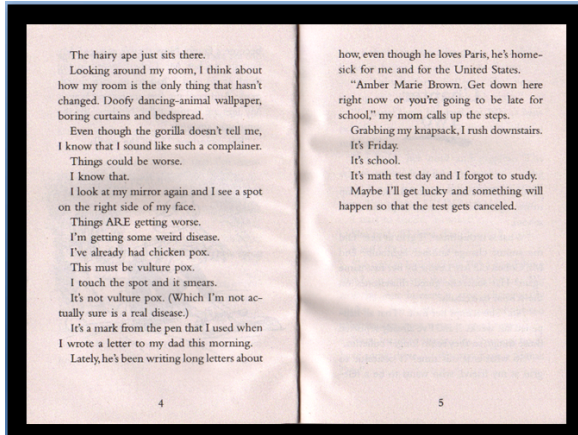
can be used to create a more interactive book. The simplest of these would include playing a recording of someone reading the text on each page. This is done by first placing all of the pictures in the presentation and then using the "Record Narration" feature as previously described. Usually, the teacher would want the student to have control over when pages are turned, so timings would not be kept for a book.

More sophisticated books can be created by copying the scanned images into a program such as *Microsoft Paint* (available in the "Accessories" on Windows computers) and removing the text prior to pasting the pictures into a *PowerPoint* slide. Then, the teacher can type the original page text into a text box on the slide and make it larger or change the color. This can be helpful for students who have vision impairments who require larger print or who benefit from the use of different colored text such as yellow on black instead of the colors in the original text.

By using the "Brush on Color" feature to have each word change color and recording the narration carefully to match, teachers can provide text that is highlighted when spoken. This can be valuable for students who are beginning readers and need to see the word-to-word correspondence visually as well as for students who are working on reading fluency and comprehension.

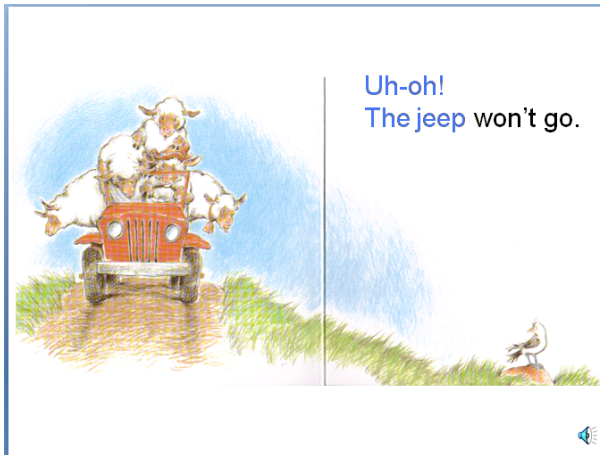
Slide View

Description

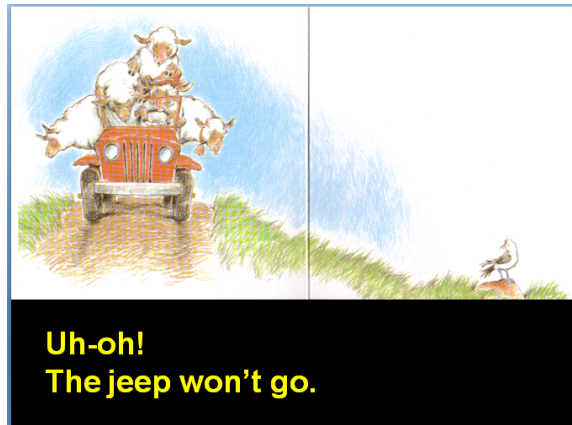


Example of a chapter book scanned in for physical access. A student with a physical disability may have difficulty holding the small paperback and flipping pages. This type of presentation can be set up without recorded narration for students who are reading independently or the text could be recorded for students who need auditory support.

(This is a page from *Amber Brown Sees Red*. Text Copyright 1997 by Paula Danzinger. Illustrations Copyright 1997 by Tony Ross. Published by Scholastic, Inc.)



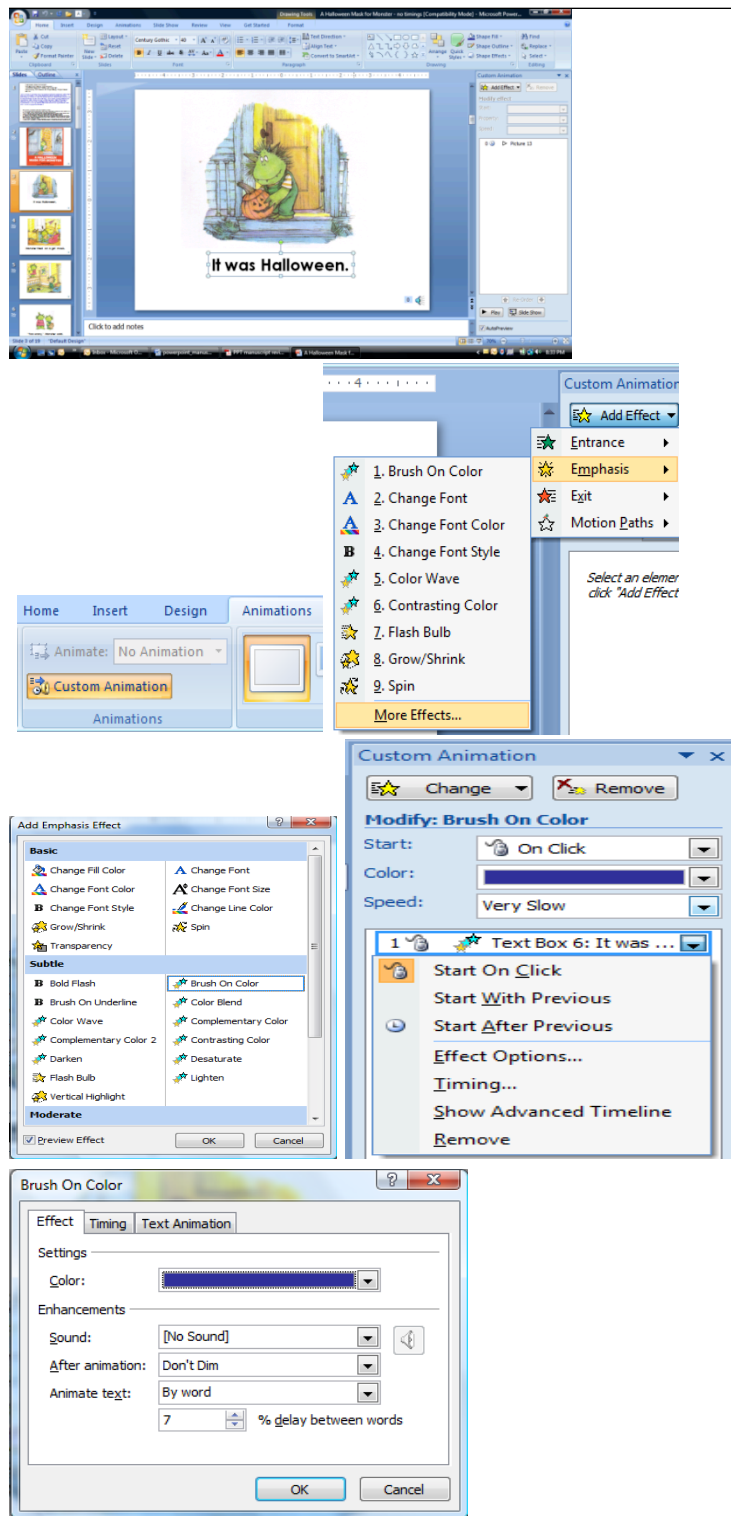
In this example, the picture was opened with *Microsoft Paint* and the original text was removed prior to pasting the picture into *PowerPoint*. A text box was placed where the original text was and the "Custom Animation" feature, "Brush On Color," was used to create text that is highlighted one word at a time. Narration would be recorded to match the timing of the text highlighting.



This is the same book as above. In this example, the text was removed using *Paint* prior to being pasted into *PowerPoint*. The slide background was changed to black and text was placed in a text box at the bottom of the screen with a larger font size and different colors to meet the needs of a student with low vision.

(This is a page from *Sheep in a Jeep*. Text Copyright 1986 by Nancy Shaw. Illustrations Copyright 1986 by Margot Apple. Published by Houghton Mifflin.)

Figure 3. Examples of *PowerPoint* books.



1. After you copy the picture and graphic into the painting program and remove the text, place the text box where you want it and then type the text that was on that page of the book.

2. To add highlighting to the text, you will use custom animation under the Animations menu on the toolbar. First, highlight your text. On the toolbar, choose Animations and then “Custom Animation”. In the Custom Animation window, click “Add Effect,” “Emphasis,” and “More Effects”.

3. From the Add Emphasis Effects window, you will choose “Brush on Color”. Then, from the Custom Animation window, you will set the options for Brush On Color. Set “Start: With Previous,” “Color” (your choice, but should be optimal for student. This example uses blue.) “Speed: Very Slow.” Then click the drop down menu next to text box animation indicator and select “Effect Options”.

4. Under the “Effect” tab, change “Animate Text: By Word” and choose a 7% delay between words. When you begin recording, you may need to adjust the percent to make the timing of the highlighting fit with the speed at which you are recording your voice.

Figure 4. Using “Brush On Color” to create the effect of text highlighting in *PowerPoint* books. The book page depicted is from *A Halloween Mask for Monster*. Text Copyright 1986 by Virginia Mueller. Illustrations Copyright 1986 by Lynn Munsinger. Published by Puffin Books, the Penguin Group, Penguin Books USA Inc.

Figure 3 shows three examples of *PowerPoint* books for students with different abilities. See figure 4 for directions on how to create a page of text with highlighting. Using these techniques, teachers can create interesting interactive books for students with a variety of abilities. If no scanner is available, books can be created using pictures taken with a digital camera or acquired from free open source photo web sites (e.g., <http://pics4learning.com>). Teachers can create customized stories or assist students in creating their own *PowerPoint* books using these same techniques.

PowerPoint for Social Stories

As in Sansosti and Powell-Smith (2008), *PowerPoint* can be used to create social stories for students who can benefit from their use (e.g., students with autism spectrum disorders). Sansosti and Powell-Smith provide detailed instructions for setting up *PowerPoint* slides for Social Stories. When creating Social Stories, teachers should refer to guidelines set out in Gray (1994, 2000) and Gray and Garand (1993). Research has shown social stories to be an effective way to introduce information to individuals with autism spectrum disorders to promote social behaviors such as social communication (Sansosti & Powell-Smith, 2008) and participation in novel social situations (Ivey, Heflin, & Alberto, 2004). Although it may take some time to create social stories with *PowerPoint*, it may actually be quicker than creating stories with traditional materials. Obviously, however, paper social stories do not require access to a computer and can be transported easily from one environment to another. The needs of the individual student should be considered when deciding which medium to use for so-

cial stories.

Figure 5 shows a couple of possible slides of a Social Story used to promote acceptance of a schedule change for a fellow student's birthday party. The slide style was accomplished by inserting a 6 x 8 white rectangle on the main master slide and moving around text boxes and changing the font on the title and main master slides. See figure 5 for further directions on formatting slides for Social Stories.

Conclusion

In conclusion, *PowerPoint* offers many possibilities for instruction of individuals who have disabilities. This software is widely available and easy to learn. With a little bit of time and creativity, teachers can create interesting, fun materials to reinforce learning. After slides have been created, they can be copied to multiple presentations and presentations can be saved on a disk to be used on multiple computers. Many students are motivated by computer-assisted instruction and, for some students who have decreased motor, cognitive, or learning abilities, *PowerPoint* opens up opportunities for independent skill practice that would otherwise require adult assistance. Presentations can be sent home for additional practice for students who have *PowerPoint* or *PowerPoint Viewer* available. Teachers need only to spend a little time learning the program features and then open their imaginations to the possibilities that *PowerPoint* provides for creating materials to enhance instruction for their students.

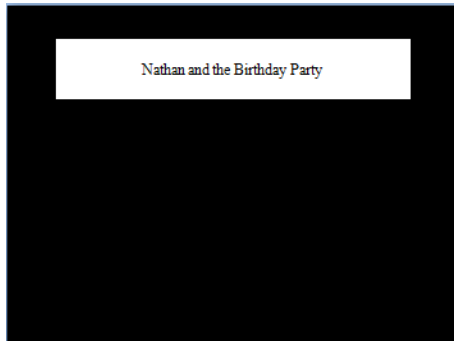
*The author's website contains examples of *PowerPoint* presentations as well as detailed instructions for creating *PowerPoint* books.

See:

http://web.utk.edu/~mcolem12/mbc_materials

Slide View

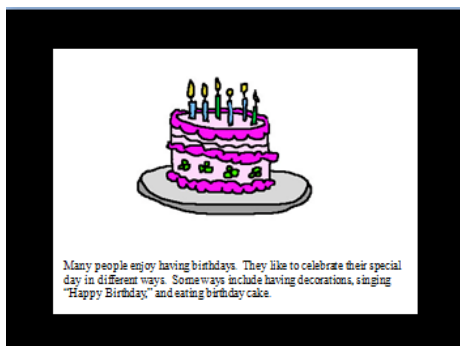
Directions



1. To set up the presentation with the black background, choose "View" and select "Rulers" then "Slide Master." On the title slide master, move the main text box to the top of the screen. Right click on the edge of the text box and choose "Format Shape." Select "Solid Fill" and then choose the fill color as white. Set the font and alignment. Right click on the area outside of the white box and select "Format Background." Choose "Solid Fill" and select black as the color.



2. On the main slide master, use the drawing tools to insert a white rectangle. In this example, the rectangle on the main slide is 6 x 8. Move the text box to the bottom of the white area. Format the text and background as before. Close the master view.



3. On each slide, insert sentences and graphics as appropriate for your student according to Gray's (1994, 2000) guidelines for creating Social Stories.

Figure 5. Example of a Social Story created with *PowerPoint*. (Pictures from <http://pics4learning.com>)

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