

Use of Multimedia in Teaching Young Children About Living with a Spinal Cord Injury: A Case Study

Manon Maitland Lauderdale, MSE EdS^{1,2}; Inger Ljungberg, MPH¹; Brenda Triyono, BS¹; Alexander Libin, PhD^{1,3}
 1 National Rehabilitation Hospital, Washington, DC; 2 Nova Southeastern University, Ft. Lauderdale, FL;
 3 Georgetown University, Washington, DC

Objective: To explore classroom contexts and educational media to foster spinal cord injury (SCI) and general disability awareness in young children

Design: Case Study

Participants/methods: SCI educators are individuals with SCI who interact with children and adults to promote awareness by sharing their experience of living with a disability. Investigators worked collaboratively with an SCI educator and preschool teachers to create an SCI-focused disability awareness story in two formats: one a multimedia storybook and the other a traditional print storybook. Teachers of two preschool classrooms in metropolitan Washington, DC engaged children around the storybooks in both structured and discovery learning activities. A total of 21, multi-ethnic, 4-5 year-old children of both genders participated. Interactions were audio-recorded, transcribed, coded and triangulated with investigators' field notes and post-intervention semi-structured interviews using NVivo8 qualitative software.

Results: SCI life contexts, such as children using sports wheelchairs in play, were more salient when presented in multimedia than when presented through static print images accompanied by text. At the same time, the multimedia storybook was more difficult for teachers to use as it did not fit well within the structure of existing preschool practice.

Factor	Video Storybook	Print Storybook
Positioning of participants for storytelling	"Adult" presentation configuration: children facing presentation screen, back to teacher.	Children seated in circle facing teacher.
Positioning of storytelling media	Video projected on screen.	Illustrated book pages held toward children.
Participant visibility	Teacher and children watched the video together but children had to pivot to see the teacher's face.	Teacher and children saw the storybook and one another's faces continuously.
Teacher control of storytelling media	Punctuated. Teacher paused video to interpret or pose questions.	Continuous. The "voice of the story" was the teacher's own voice.
Teacher interpretation of theme	Simplified. Video provided multiple representations of thematic content	Difficult. Detailed explanation of significance of static illustrations required

Factors Influencing Preschool Teachers' Use of Video versus Print Media in Storytelling



Conclusion: There is greater potential inherent in dynamic multimedia than in static print imagery to convey richness of information about SCI disability contexts. To fully leverage multimedia's greater salience however, new techniques to manage the interplay of video discourse, child interaction and pedagogical mediation in a dynamic medium need to be explored.



Top:
 Disability storyteller shows preschool children how to use a reaching stick
 Left:
 Congruent story elements from video and print storybooks