



Building Reading Skills through Assistive Technology

Viewers' Guide



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Reading is a difficult task that does not come naturally to humans; it draws on many different cognitive processes at the same time including decoding words, understanding their meaning, creating mental pictures, making inferences and much more. Learning can be a difficult task for any student but especially for those with learning disabilities (LDs). Many of them have trouble identifying written words, which can lead to difficulties with other processes, like writing, spelling, and comprehension. In order to help students with LDs learn to read and/or compensate for weaker reading skills, schools across Ontario have adopted various forms of assistive technology or AT.

This guide provides viewers with the opportunity to reflect on how AT can help students with LDs develop reading skills, assist with accessing all areas of the curriculum and demonstrate learning, and how AT helps students view themselves as smart, capable learners. Additionally, viewers are able to reflect on their thoughts and practices, both individually and as a group.

The viewers' guide includes the following sections:

- **What Are My Beliefs** is a pre-viewing activity that allows viewers to think about their attitudes and beliefs about reading and the role AT plays in building reading skills, and then to reflect on their attitudes and beliefs subsequent to watching the video.
- **Supporting Literacy Development** is a viewing activity that encourages viewers to reflect and consider how AT can support literacy development in the areas of oral communication, comprehension, reading and writing.
- **How AT Assists with the Writing Process** is an application activity that focuses on how various types of AT can assist with the various elements of the writing process for students with LDs.
- **Selecting the Appropriate AT for Student Success** is a consolidation activity that presents three student profiles with differing degrees of literacy needs. Viewers are asked to apply what they have learned in the video and answer reflection questions on supporting each student using AT.
- **Appendix A** includes the answer key to the **What Are My Beliefs** activity.
- **Appendix B** identifies key messages from the video that a facilitator may use to initiate additional discussions and to ensure that all key concepts are understood.
- **Appendix C** provides a list of related resources on the LD@school website and the Internet.



What Are My Beliefs? True or False

Pre-viewing Activity

Part 1: Prior to watching the video, read the following twelve statements about assistive technology and building reading skills and mark each as true or false in the pre-viewing column.

Part 2: Once you have viewed the video, return to this activity and read each statement again, reflect on the content of the video, and decide if each statement is either true or false. Record your answers in the post-viewing column. You may also use the last column to write comments or notes about things that you have learned while watching the video that are in relation to each of the statements. Did your answers change after watching the video? Share your thoughts with an elbow partner.

Please note that the answer key to this activity can be found in Appendix A.

Pre viewing True or False?	Statement	Post viewing True or False?	Comments
	1. Reading draws on many different cognitive processes, but only one at a time.		
	2. AT is an important tool that helps students improve their reading skills.		
	3. AT is enabling, empowering and accessible.		
	4. AT offers a variety of options that can support students with their reading in many different ways.		
	5. AT should only be used by the teacher in front of the class once the teacher has mastered the technology.		
	6. AT can help some students with their organization skills.		
	7. Using any type of AT singles out students and creates stigma.		
	8. AT can be used to teach concepts, for students to answer questions (comprehension), to assess knowledge and be used as a textbook.		
	9. AT does not take the stress out of building reading skills because you need to learn a new way of reading.		
	10. AT does not give students an unfair advantage.		
	11. AT should not be used during tests or exams.		
	12. Learning how to use AT increases students' self-esteem, and improves their reading skills, which will lead them to be successful further in their future.		

Supporting Literacy Development

Viewing Activity

Literacy has various components including oral communication, comprehension, reading and writing. Working on your own, with a partner, or within a small group, and while watching the video, record the AT that would support skill development in each area of literacy on the graphic organizer. After you have finished, share your responses with a partner or in a small group.



How AT Assists with the Writing Process

Application Activity

Part 1: Look at the chart below. Across the top of the chart are some of the elements of the writing process and down the side of the chart are different types of AT that can assist students with LDs. An example of each type of AT has been listed and a check mark has been included for the elements of the writing process that the AT addresses. On your own or with a partner, complete the chart with other examples of AT and how the AT can assist students with LDs.

Part 2: Compare your completed chart with a partner or have a group discussion.

	Organizational Structure (Brainstorming, generating ideas, concept maps)	Drafting (Recording ideas, initial draft)	Editing & Revising (Checking for grammar, spelling, revising draft)
Concept Application: <ul style="list-style-type: none"> Inspiration 	✓		
Voice to Text: <ul style="list-style-type: none"> Dragon 	✓	✓	
Text to Speech: <ul style="list-style-type: none"> NaturalReader 	✓		
Word Predication Software: <ul style="list-style-type: none"> Co-writer 		✓	✓
Text Correction Software: <ul style="list-style-type: none"> Ginger 			✓
Spell Check: <ul style="list-style-type: none"> Grammarly for Chrome 			✓
Reading & Writing Software: <ul style="list-style-type: none"> Kurzweil 	✓	✓	✓

Selecting the Appropriate AT for Student Success

Consolidation Activity

Three student profiles are listed below, each with different needs in regards to literacy; read each profile, and answer the reflection questions below.

You may choose to do this activity for one profile, all profiles, or apply these questions to a student with LDs in your classroom.

Note: this activity may also be completed in a group environment where the reflection questions can be used to facilitate a group discussion.

Student Profile 1 – Jenna

Jenna is in Grade 5 and has a reading disability that affects comprehension. She is still at the decoding stage of reading and her phonological skills are not consolidated; even sight words are extremely difficult for her to read. Jenna will often omit or confuse letters and sounds as she reads. In addition, if she does not use a ruler or cardboard, she will skip lines when reading and loses herself, which frustrates her tremendously. Jenna's comprehension of simple texts is very poor but when someone reads for her, she understands well and can answer a variety of questions including those with inferences. Jenna is frustrated and as the years go by, she is less and less engaged at school because of her lack of success.

Student Profile 2 – Luis

Luis is in Grade 9. Though he can read, his processing speed is well below average, which affects his fluency and comprehension. He struggles with remembering the beginning of a story as well as the details he read. Verbally, Luis can explain the context of the story, but he cannot make inferences. When visuals are added, Luis has better success. Luis can bring his tablet to school, though he often forgets. Outside of class, he is described as happy-go-lucky, though more often than not, this seems to be a façade.

Student Profile 3 – Achak

Achak is 17 years old and most of his classes are at the grade 11 level; however, he is reading at the 5th percentile for his age group. Luis would like to concentrate on fluency comprehension and using context properly to paraphrase. His strengths are finding details in the story. Though he has access to a laptop, Luis prefers using his smartphone. Achak understands that technology will make reading easier and he wants to improve all aspects of his reading skills in order to pass the Ontario Secondary School Literacy Test and graduate the following year.

What AT is available in my classroom? How can it meet the needs of this student?

How can I assure that this student is using the AT to its fullest potential?

Reflection Questions

How do I measure success for this student?

Are there other students in my class who may benefit from the AT designed for this particular student? How can I accommodate their needs too?

(Hint: think “necessary for some, good for all” and differentiated instruction.)

Appendix A:

What are my Beliefs? Answer Key

Statement	True	False
1. Reading draws on many different cognitive processes, but only one at a time.		X
2. AT is an important tool that helps students improve their reading skills.	X	
3. AT is enabling, empowering and accessible.	X	
4. AT offers a variety of options that can support students with their reading in many different ways.	X	
5. AT should only be used by the teacher in front of the class once the teacher has mastered the technology.		X
6. AT can help some students with their organization skills.	X	
7. Using any type of AT singles out students and creates stigma.		X
8. AT can be used to teach concepts, for students to answer questions (comprehension), to assess knowledge and be used as a textbook.	X	
9. AT does not take the stress out of building reading skills because you need to learn a new way of reading.		X
10. AT does not give students an unfair advantage.	X	
11. AT should not be used during tests or exams.		X
12. Learning how to use AT increases students' self-esteem, and improves their reading skills, which will lead them to be successful further in their future.	X	



Appendix B:

Key Messages

- Reading draws on many different cognitive processes at the same time – decoding words, understanding what they mean, creating mental pictures, making inferences and many more.
- Many students with LDs have trouble identifying written words, which can lead to difficulties with other processes, like writing, spelling, and comprehension.
- Assistive Technology (AT) is an important tool that helps students improve their reading skills.
- AT has proved to benefit both the students and the teachers in their learning processes.
- AT allows students with LDs to be able to access and participate in the curriculum, allows them to communicate their ideas, and evens the playing field for all.
- AT, like Google Read & Write, offers a variety of options that can support students with their reading in many different ways such as speech-to-text, text-to-speech, defining words, and create study notes. It also allows students to use this technology both at school and at home.
- It is important for students to see teachers modelling how to use technology, and how to navigate errors, so that the trial and error that often comes with technology is seen as part of the process.
- Partnering with someone who has used the AT helps the teacher learn the new technology.
- AT boosts confidence in the student and takes the stress out of learning.



Appendix C:

Resources

Related Resources on the LD@school Website

- **Click here to access the video, “Blended Learning: Levelling the Playing Field for Student with Learning Disabilities”**
➤ (<https://www.ldatschool.ca/technology/blended-learning/>).
 - **Click here to access the Ask the Expert question and answer, “How do we encourage more educators to integrate technology into their classrooms?”**
➤ (<https://www.ldatschool.ca/technology/a-t-e-technology-classrooms/>).
 - **Click here to access the article. “Choosing Appropriate Assistive Technology for Students with ADHD”**
➤ (<https://www.ldatschool.ca/technology/appropriate-at/>).
 - **Click here to access the video, “Building Reading Skills through Assistive Technology”**
➤ (<https://www.ldatschool.ca/literacy/video-building-reading-skills/>).
 - **Click here to access the article, “Google Docs, Apps and Add-ons for Students with LDs”**
➤ (<https://www.ldatschool.ca/technology/google-docs/>).
 - **Click here to access the article, “Interactive Whiteboards: An Assistive Technology Tool for Students with LDs”**
➤ (<https://www.ldatschool.ca/technology/smartboards/>).
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Relevant Resources on the Internet

- **Click here to access the Ministry of Education resource, “Paying Attention to Literacy, K-12”**
➤ (http://www.edu.gov.on.ca/eng/literacynumeracy/paying_attention_literacy.pdf).
- **Click here to access the Literacy and Numeracy Secretariat resource, “Assistive Technology Tools: Supporting Literacy Learning for All Learners in the Inclusive Classroom”, in PDF**
➤ (http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/WW_TechnologyTools.pdf).
- **Click here to access the Literacy and Numeracy Secretariat publication, “Using Digital Technologies to Support Word Study Instruction”, in PDF**
➤ (http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/WW_UsingDigitalTech.pdf).
- **Click here to access the article, “5 Tech Tools that Help Improve Reading Comprehension”**
(<https://www.noodle.com/articles/5-tech-tools-to-aid-your-reading-comprehension>).

Thank you for watching
**Building Reading Skills through
Assistive Technology** and for
using this viewers' guide.

At this time, we invite you to share your thoughts and comments relating to this video; the feedback we receive will assist in the development of future videos and future content for the LD@school website **short survey**

➤ (<https://www.surveymonkey.com/r/readingskillsAT>).

Here is an opportunity to help out other educators!

Do you use a specific form of AT to help build reading skills of students with LDs that you would like to share with LD@school? Or do you know of a specific strategy, practice or approach that has worked well in supporting the needs of students with learning disabilities in the area of math at school?

Click here to send your ideas to info@LDatSchool.ca.

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