

Assistive Technology for Children & Teens with Learning Disabilities: Frequently Unanswered Questions

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MCLD - 2017 Parent Conference: Tool Box For Success!

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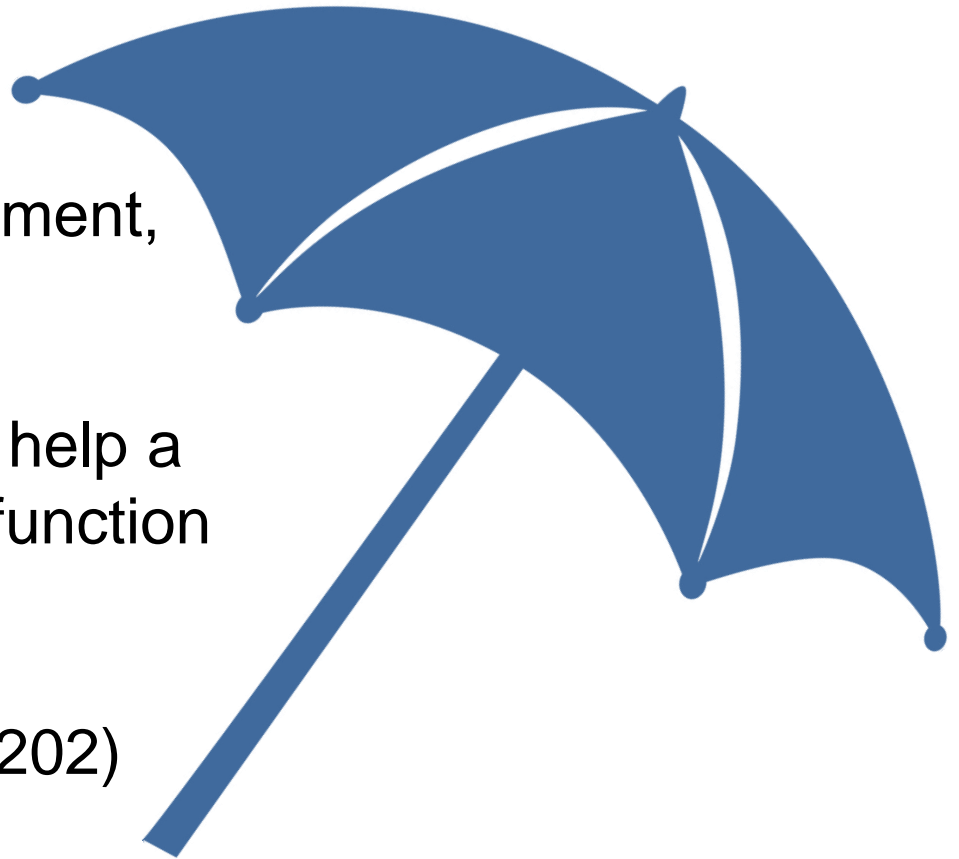


By the End of this Workshop, My Goal is For You to:

- Understand the role that AT can play in your child's daily life
- Become aware of the systemic issues that surround effective AT implementation
- Feel more confident in your decision making regarding your child's use of AT

Assistive Technology (AT) Defined

“Any items, devices, equipment, or products which may be commercially available, customized, or adapted to help a person with a disability to function or to improve, maintain or increase their capacity to function” (U.S.C § 2201, 2202)



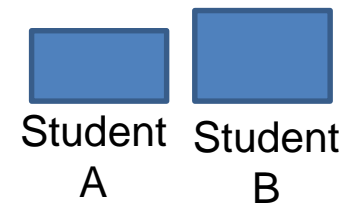
AT in Context

- Specific hardware, software, or applications that help students with LD compensate for areas they struggle with
- For students with LD, AT is usually suggested to help students compensate for weak:
 - Word reading leading to impairments in reading comprehension
 - Spelling which interferes with written expression
 - Organization of ideas which interferes with written expression
- AT is not a remediation tool
- AT is not simulation software or gamification software

Part 1: Putting the “Assist” in Assistive Technology

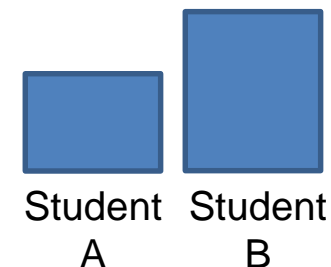
“Mind the Gap”

- Everybody follows the same curriculum
 - Structured to develop new skills
 - New skills:
 - Require foundational skills
 - Build on previously learned skills
- Students A & B start at similar skill levels
 - Student A has LD
 - Student B does not have learning difficulties



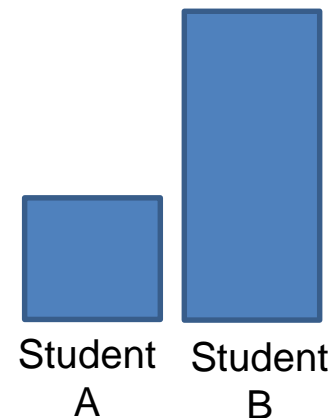
“Mind the Gap” – Early Stages of Learning a New Skill

- Student A:
 - Difficulty with needed foundational skill
 - Difficulty with foundational skill affects ability to learn new skill
- Student B:
 - Still practicing foundational skills
 - Level of foundational skill does not impact learning new skills



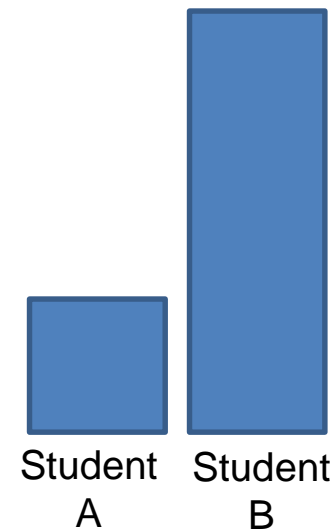
“Mind the Gap” – As Time Goes On...

- Student A:
 - Continued difficulties with foundational skills
 - Difficulties with foundational skills interfere with development of new skill
- Student B:
 - Foundational skills become more automatic
 - Able to focus on practicing new skills



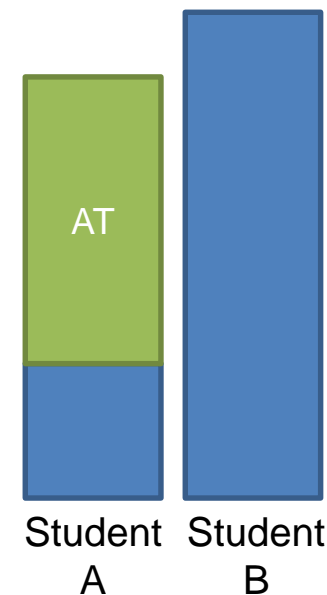
“Mind the Gap” – As Time Goes On...

- Student A:
 - Continued difficulties with foundational skills
 - Limited opportunities to develop previously taught skills needed for newer, more advanced skills
- Student B:
 - Foundational skills are automatic
 - Learn new skills that build on previously learned skills



“Mind the Gap”

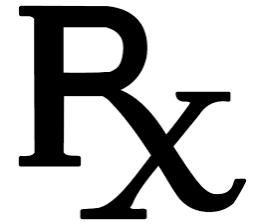
- As time goes on, the gap widens
- The goal of assistive technology is to help reduce the gap
- A great idea in principle
- Where do things get derailed?



Timing is Everything

- Younger vs. older?
 - Learning new skills at the same time as peers VS playing catch-up
- Both can work, but the approach to using AT needs to reflect the situation
 - Younger – AT may be enough for now
 - Older – AT + extra support/strategies
- Adolescents seem to be more resistant to learning to use AT than younger children

“Here is your AT prescription”



- Parents given a list of AT to buy
- Limited/No training on AT for parents and students
- Limited/No discussion of what the AT does and how it could help their child
- Limited/No discussion of parents role with AT
- Limited/No discussion about additional AT that may be required to make it work
- Limited/No follow-ups about what is working/not working
- Few, if any, people to call for support (except the AT company)

A “One Size Fits All” Approach Does Not Work With AT

- Not all children and teenagers are tech savvy beyond Instagram, Facebook, YouTube and Netflix
- Not all children and teenagers with similar difficulties will benefit from the same AT
 - Individual strengths and weaknesses impact potential benefit of AT
 - Need to be considered in AT selection



Training/Knowledge In the School System

- Tech has advanced faster than we have been able to adapt to it
- Limited/No particular job in K-12 that deals with AT and students
- Lack of knowledge among school professionals regarding:
 - How AT can help struggling students
 - What AT is out there
 - How to use AT
 - How to train students to use tech
- Lack of awareness regarding technical needs & troubleshooting:
 - Digital materials/books
 - Technical needs in class – e.g., headphones, internet, scanner
 - Accessing AT at home

Students' Perception

- Sometimes kids and teenagers...
 - Don't see the point in using AT
 - Don't want to look/use something different from peers
 - Don't feel they have any difficulty
 - Feel that using AT is too effortful to learn
 - Feel that using AT is cheating
 - Think that their teacher won't let them use AT/hand in typed work
 - Think that using AT will make their work take longer
 - Think that AT will be a magic solution
 - Think that other skills don't need to happen because of AT

Part 2: How Does AT Work?

The Most Frequently Recommended Types of AT for Students with LD

- Text-to-speech
- Dictation software / Speech-to-text
- Word prediction

Text-to-Speech

- Reads digital text out loud
 - Digital text = text on a computer, laptop, tablet, smartphone etc.
 - Human-like voice
 - Words, sentences, or paragraphs may be highlighted as it is voiced
 - Typically need extra software & hardware to turn paper texts into digital texts
 - Not common in K-12 schools
- Typical goal: help students understand text by bypassing/compensating for their word reading difficulties
 - Frees up cognitive resources tied up in slow, inaccurate, and effortful word reading

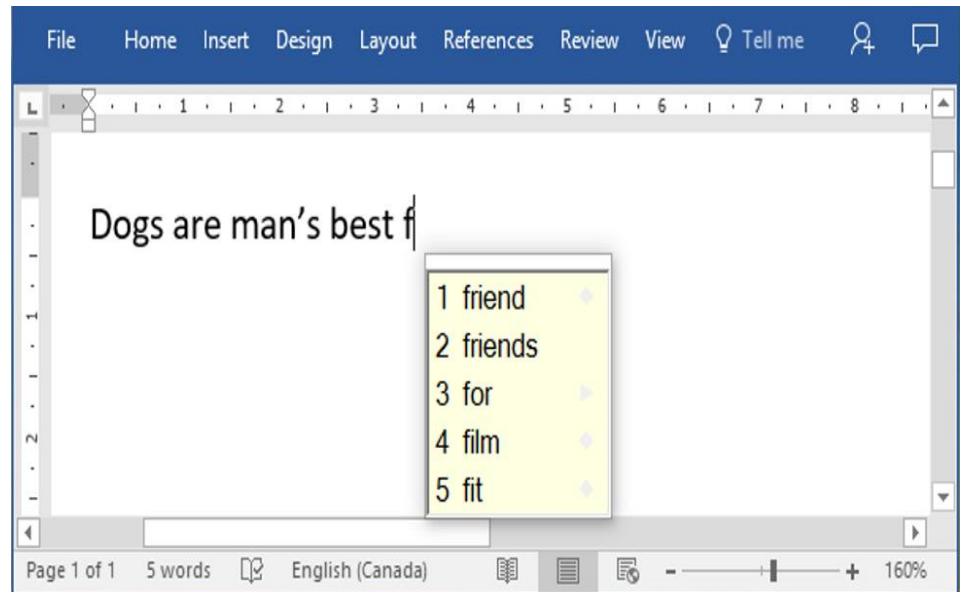
Dictation/Speech-to-Text

- Transcribes a person's voice into text
 - Dictate entire sentences/paragraphs
 - Dictate words that students don't know how to spell
- Typical goal: help students with written expression by bypassing/compensating for spelling and/or fine motor difficulties

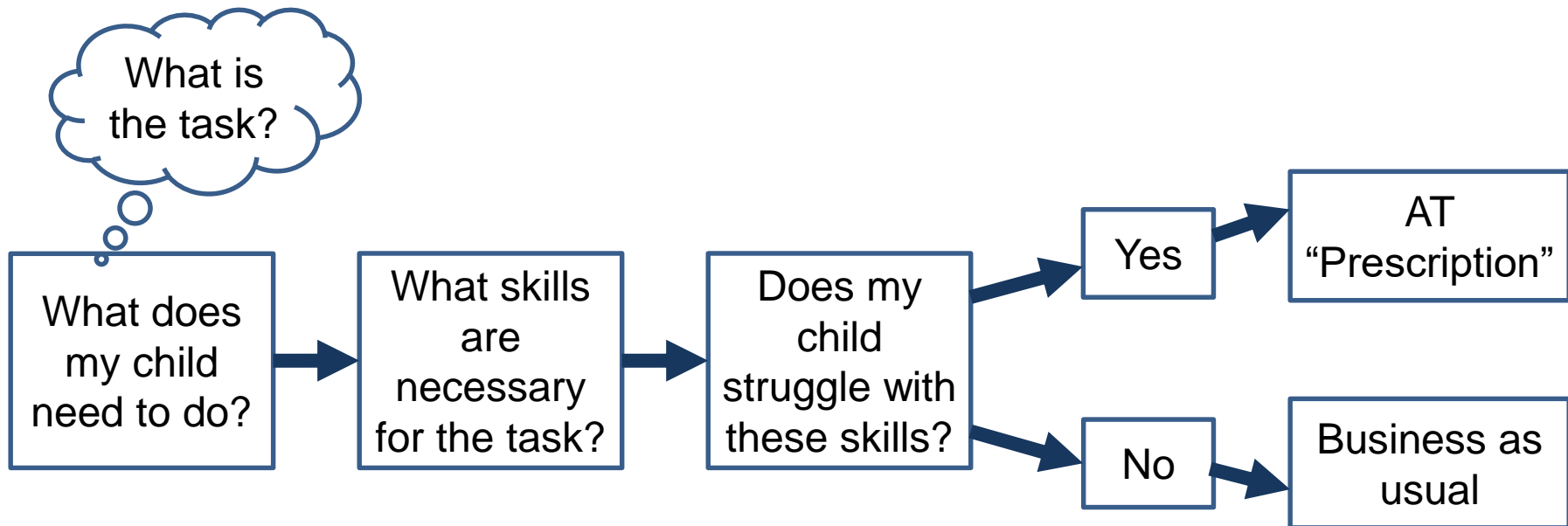


Word Prediction

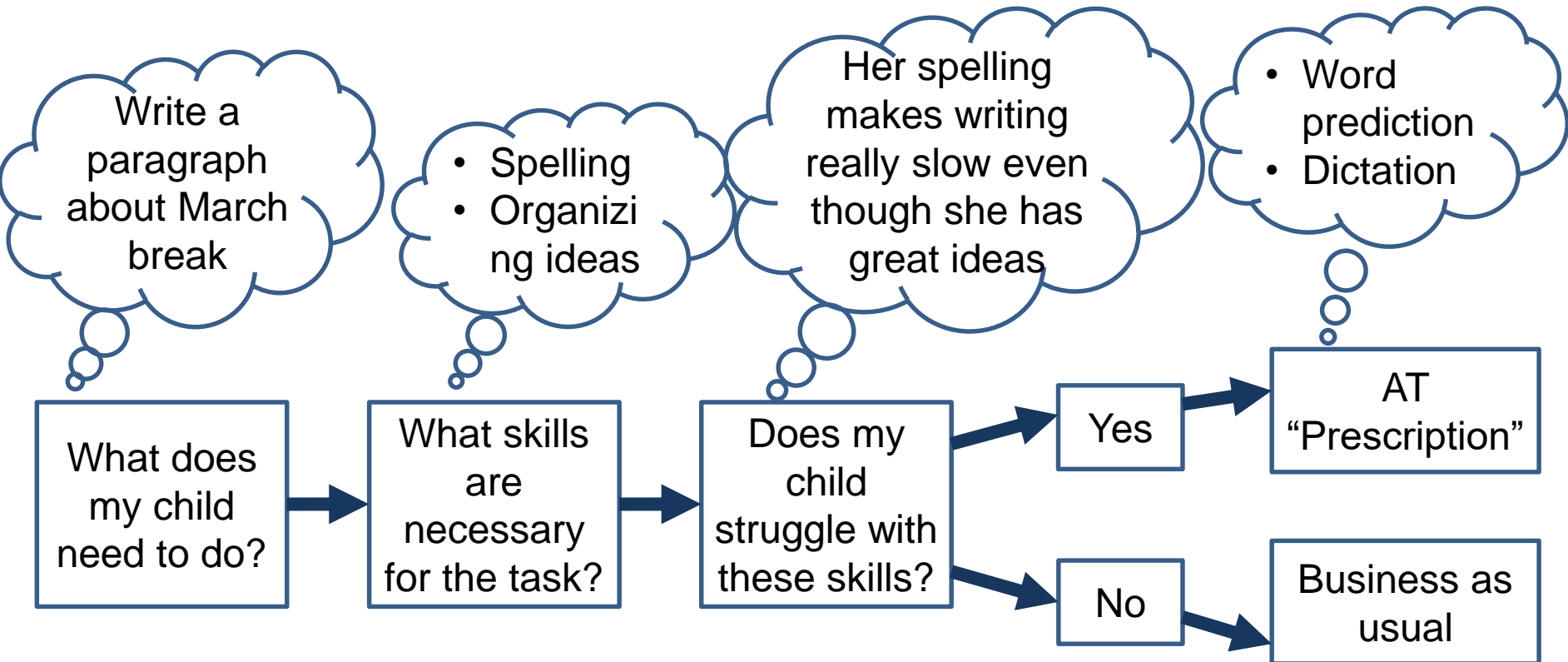
- Predicts words while typing
 - Based on spelling, phonetics, context, and student's writing style/patterns
 - Pronounces words in list to help selection
 - Students usually need to know the first few letters of the word they are spelling
- Typical goal: help students with written expression by bypassing/compensating for spelling difficulties



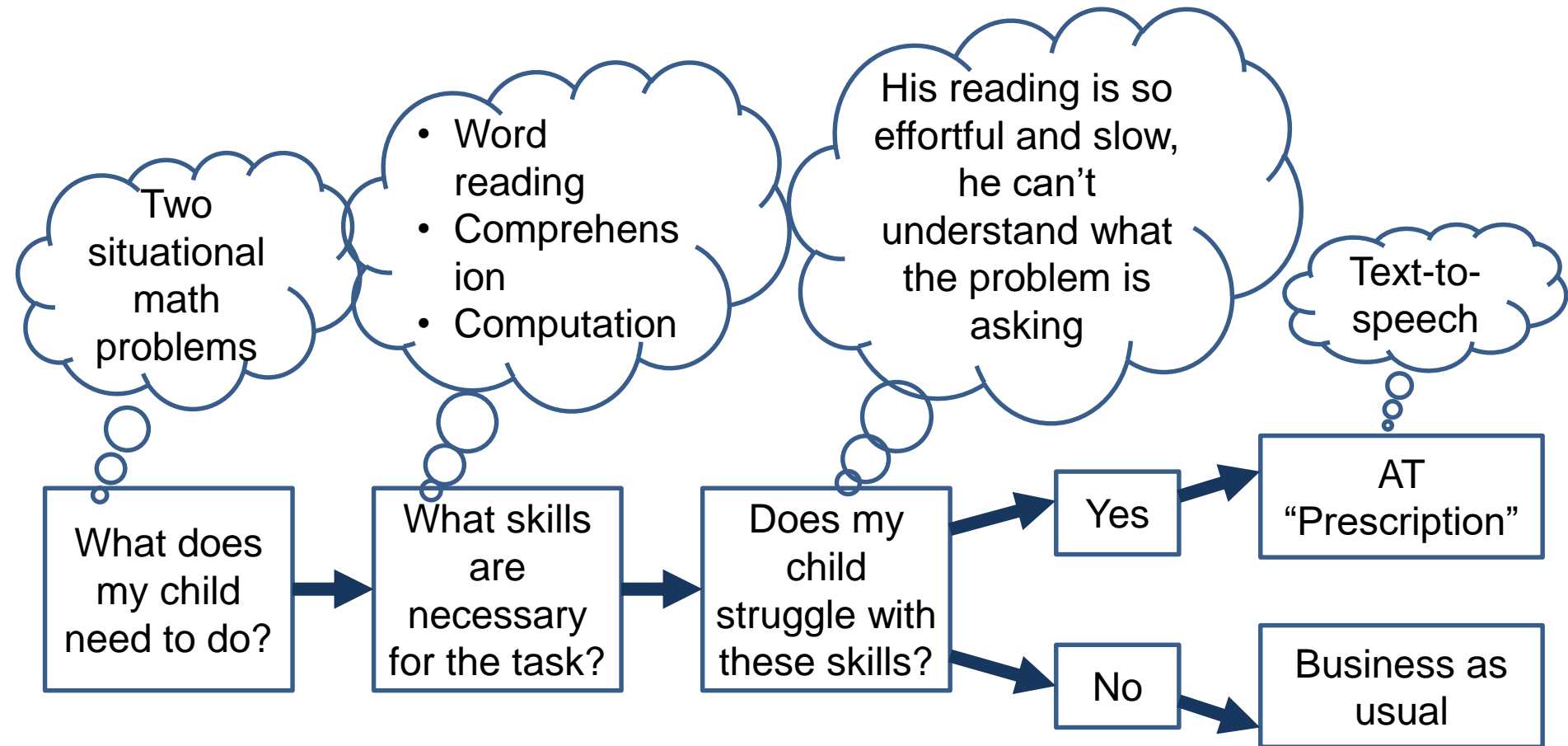
How and When Could My Child Use These Tools?



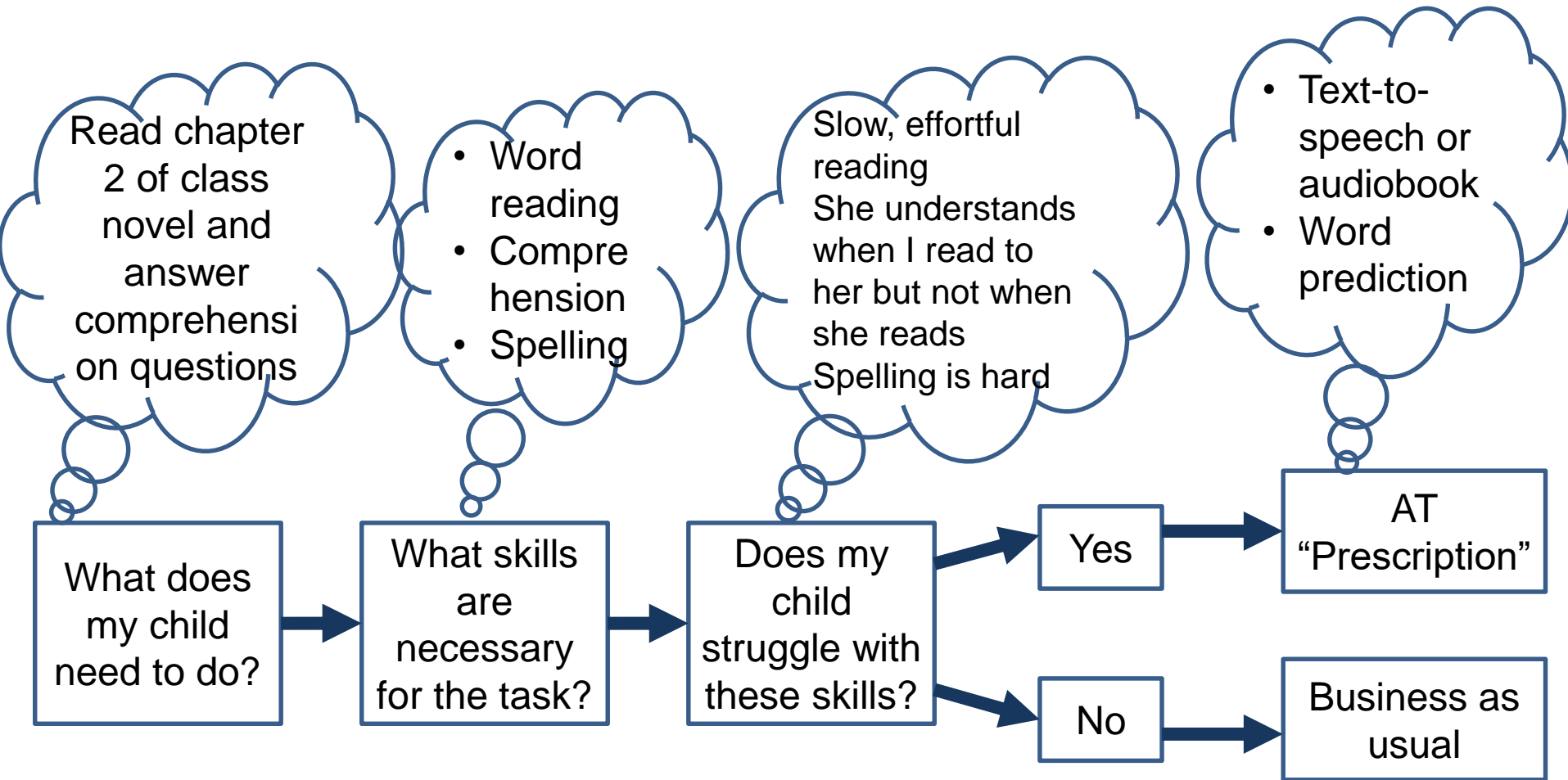
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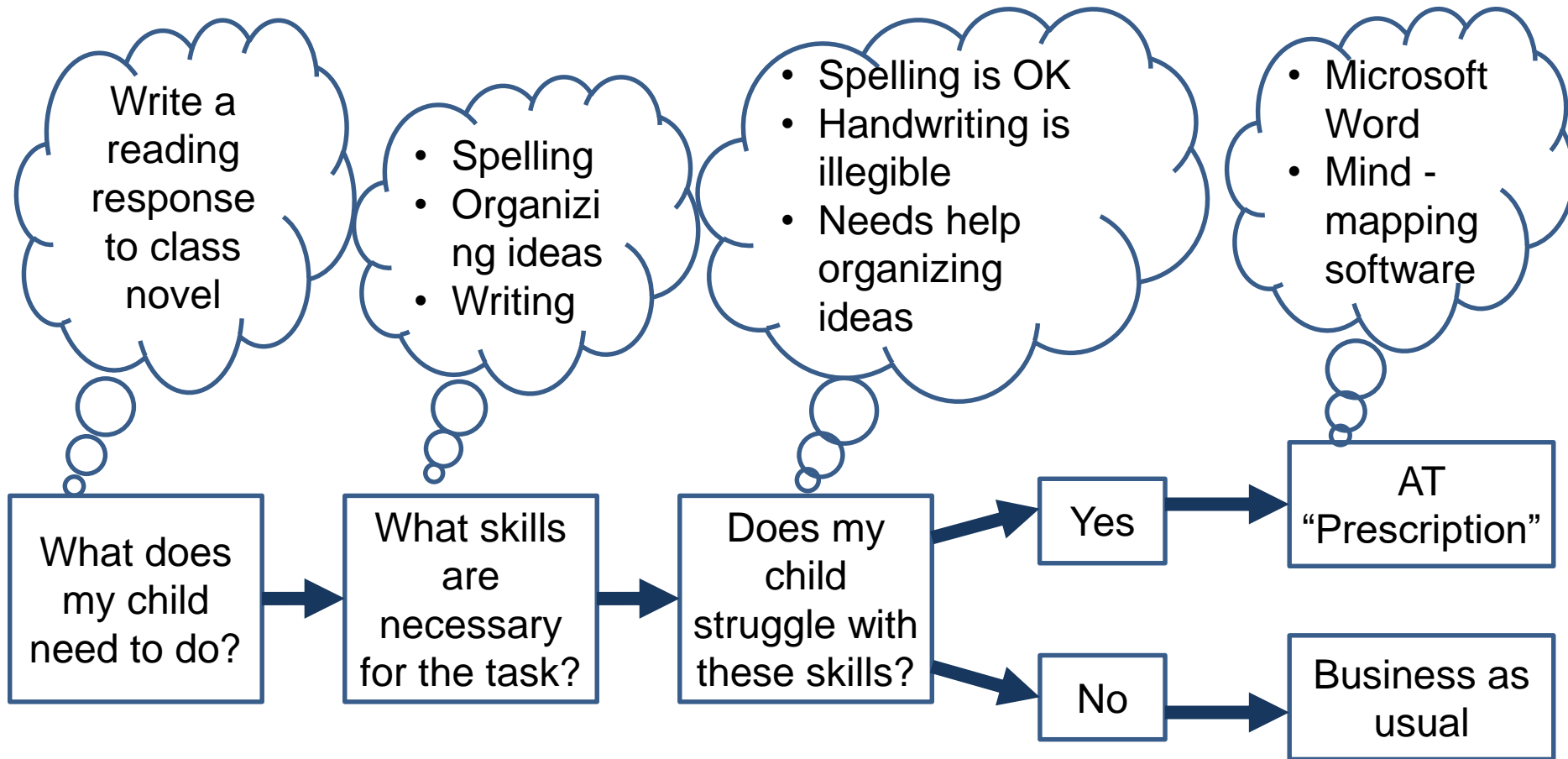
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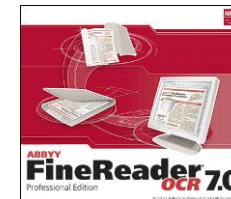
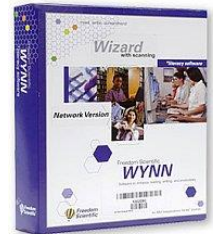
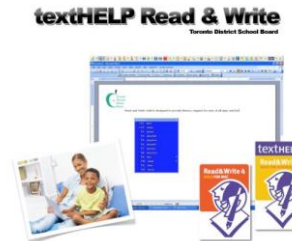
Who Will Help My Child Use AT?

- Most schools and school teams are not prepared to help children choose and use AT
- Specialized tutor if available/possible
- Parents and YouTube are the main sources of help a child will receive

Part 3: Where Can I Find AT?

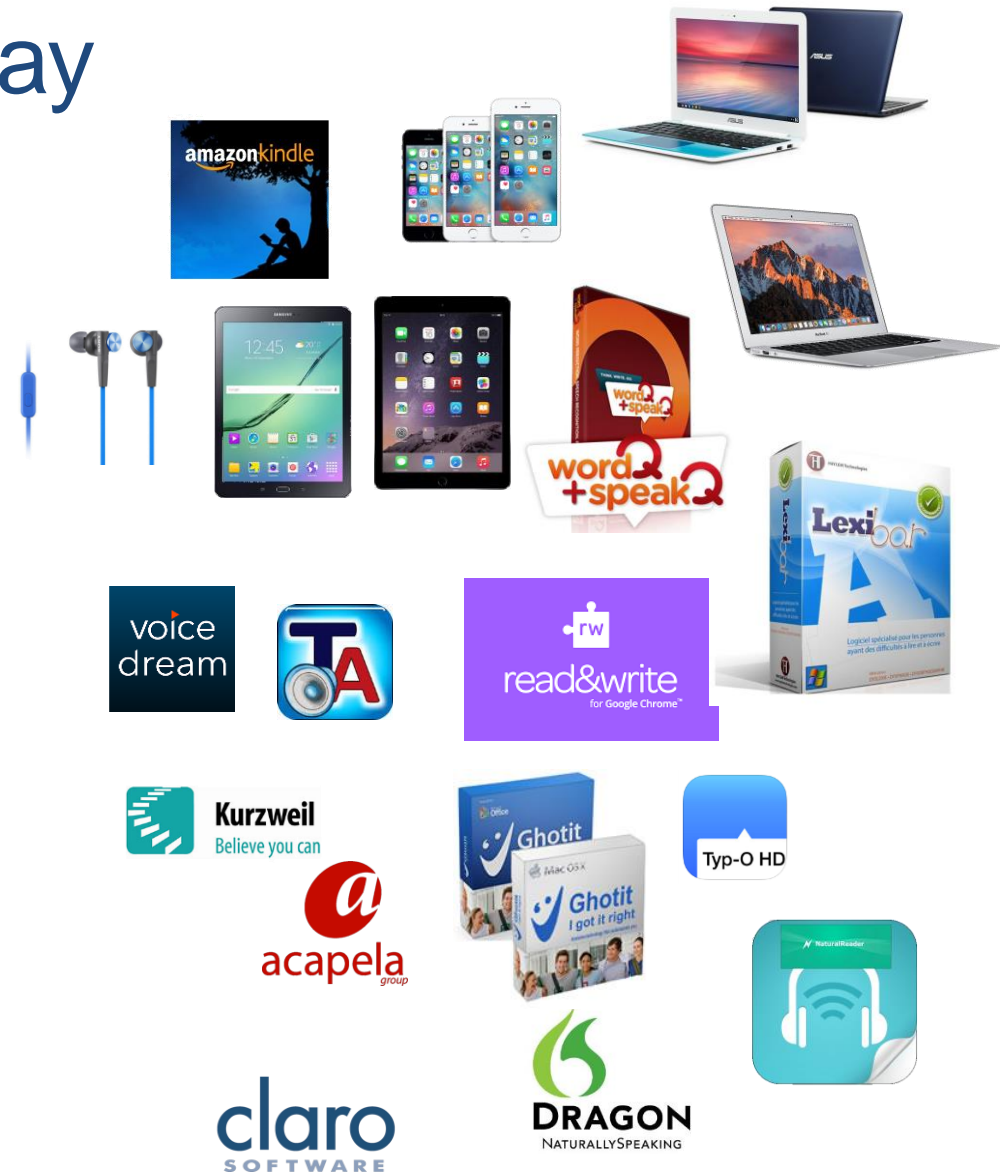
Where We Were With AT ≈5-10 Years Ago

- Few options
- Expensive
- Restricted
- Special computer requirements
- Uncommon
- Mostly used in post-secondary
- Stood out



Where We Are Today

- Many products available
- Available in K-12
- Range of cost options
- No special computer parts required
- Can be used on most laptops and tablets
- Many devices have AT features built-in



Built-in Features on Your Devices

- Most of your devices come with some built-in AT features
 - Quality of features range

Device	Text-to-Speech	Dictation	Word Prediction
Mac. computer	✓	✓	✓
Windows 7 to 10	✓	✓	
iPhone/iPad	✓	✓	Sort of
Android	✓	✓	Sort of
Microsoft Word (2010 to now)	✓		

Computer Software & Hardware

- Products with **few** AT tools
 - Usually inexpensive (<\$100)
- Literacy suites with **many** AT tools
 - Fairly expensive (>\$150)
 - Schools usually purchase literacy suites
- Choice of purchasing product or monthly/yearly subscription
- Most software have trials
 - Try it before you buy it

Apps: Smartphones & Tablets

- Most big companies develop app versions of their software
- Apps often have fewer features compared to the computer software
- Apps sometimes crash or don't work as well as promised/expected
- Prices used to be relatively inexpensive but have increased over the years
 - E.g., Voice dream reader cost \$11 a few years ago, today the same product costs double

What Will Best Fit My Child's Needs?



- ...the truth is, it depends on many factors:
 - Your child's strengths & weaknesses
 - E.g., attention, typing skills, computer skills, spelling, word reading, fine motor skills, frustration tolerance
 - Keeping technology aligned at school & home
 - What you are most familiar with so you can provide help if needed
 - What your child is likely to use or wants to use
- One-size really doesn't fit all but when you find the right combination that works, it's worth it!

PART 4: Q&A

What Do You Think?

- What is the parent's role in supporting their child's use of AT?

Questions?



Contact Information

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