

Technology Tools to Support Executive Functions



Jocelyn Kotrba, M.Ed., LBS II
Assistive Technologist-Batavia School District
Developed for the BSPN Meeting 1-21-16

Executive Functions

- Executive functions are a set of processes that have to do with managing oneself and one's resources in order to achieve a goal. It is an umbrella term for the neurologically-based skills involving mental control and self-regulation
- Executive function helps us connect past experience with present action
- We use executive function to perform activities such as planning, organizing, strategizing, paying attention to and remembering details and managing time and space

Executive Dysfunction

- Children with Learning Disabilities (LD) and Attention-Deficit/Hyperactivity Disorder (ADHD) typically have difficulty with one or more executive functions
- Most of these children will need extra support to compensate for their executive skills weaknesses which requires the direct teaching of skills
- Technology will not teach students these skills, but can assist them with carrying out related tasks and building independence

Executive Function Categories

- Impulse Control
- Emotional Control
- Planning/Prioritizing
- Flexibility
- Working Memory
- Self-Monitoring
- Task Initiation
- Organization

Impulse and Emotional Control

Impulse Control- the ability to stop and think before acting

Emotional Control- the ability to manage feelings by thinking about goals

Planning/Prioritizing and Flexibility

Planning/Prioritizing- the ability to create steps to reach a goal and to make decisions about what to focus on

Flexibility- the ability to change strategies or revise plans when conditions change

Working Memory and Self-Monitoring

Working Memory- the ability to hold information in the mind and use it to complete a task

Self-Monitoring- the ability to monitor and evaluate your own performance

Task Initiation and Organization

Task Initiation- the ability to recognize when it is time to get started on something and begin without procrastinating

Organization- the ability to create and maintain systems to keep track of information or materials

Keep in Mind

- Executive skills develop gradually and at different rates for different people
- One size does not fit all- personalize strategies that best address your specific child's needs
- Start small- choose one area of concern to work on
- Tech tools will not help teach executive functions, but they can support executive function skills and build independence

SETT Framework

Student- What is the area of concern? What are the student's abilities and needs?
What are the student's interests and preferences?

Environment- What settings? What is the arrangement? What support is available?
What materials and equipment are available? What are attitudes and expectations?

Tasks- What tasks are difficult or impossible for the student?

Tools- What tools can help the student achieve the tasks?

To learn more about the SETT Framework visit <http://www.joyzabala.com/>

Assistive Technology Device

- A. The term `assistive technology device' means any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of a child with a disability.

- B. The term does not include a medical device that is surgically implanted, or the replacement of such device.

Assistive Technology Continuum

- Assistive Technology falls on a continuum from low to high tech
- Examples
 - Low Tech- paper schedule
 - Mid Tech- digital timer
 - High Tech- smart watch

Tool Time

- Remember the SETT- look at the tools last
- Start small- mutually select one area/problem to work on at a time
- Technology is just a tool- it's how solutions are implemented that matters most

Smartphones

- Alarm
- Calendar
- Camera
- Reminders
- Speech Recognition (Speech-to-Text)
- Text-to-Speech
- Voice Notes



Google Apps

- Google Drive
 - Organize digital materials
 - Search for digital materials
 - Share digital materials
- Google Calendar
 - Set appointments
 - Set recurring events
 - Set reminders
 - List tasks



Time Timer

- Visual time management tool
- Designed to show the passage of time in a concrete way
- Available as a clock, watch, Android app, and iOS app



[Time Timer Website](#)
[Time Timer in iTunes](#)
[Time Timer in Google Play](#)



Watchminder

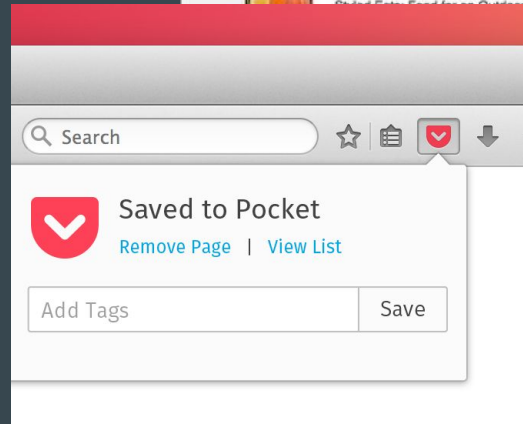
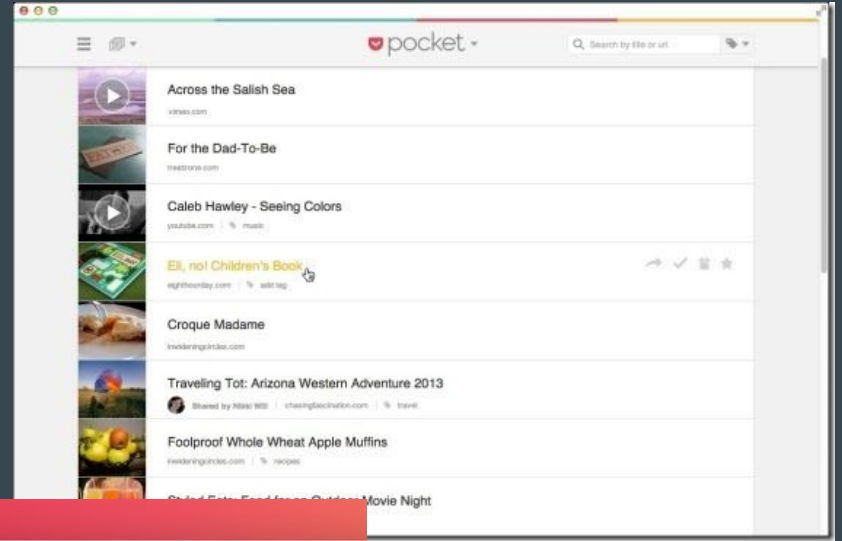
- Designed to aid children and adults with ADHD and others with special needs in staying focused, managing their time, and modifying their thoughts and behaviors
- Programmable
- Discrete vibrating reminders
- Interval Training Mode
- Countdown Timer



[WatchMinder Website](#)

Pocket

- Save articles, videos, recipes, and web pages found online and from apps to read/view later
- Offline access to saved content
- Chrome, Android, and iOS



[Pocket Website](#)

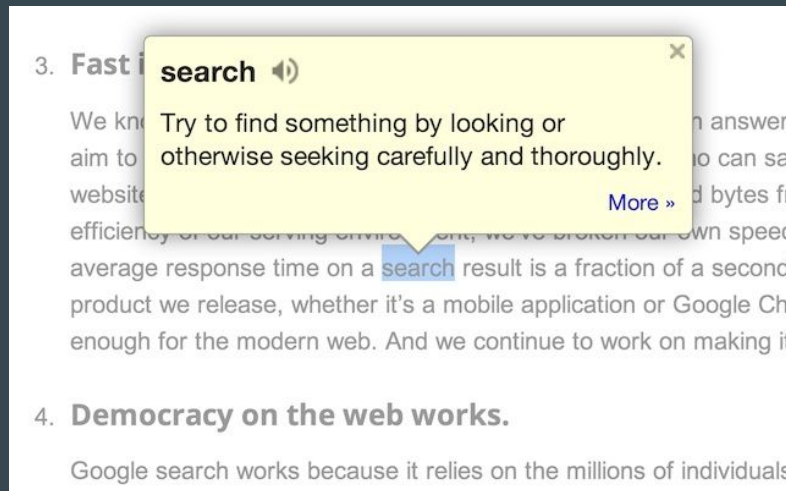
[Pocket in Google Play](#)

[Pocket in iTunes](#)

[Save to Pocket in Chrome Web Store](#)

Google Dictionary

- Double-click any word to view its definition in a small pop-up bubble
- View the complete definition of any word or phrase using the toolbar dictionary
- Store a history of words you've looked up, so you can practice them later



[Google Dictionary in Chrome Web Store](#)

Read&Write for Google

- Text-to-Speech
- Translator
- Word Prediction
- Talking Dictionary
- Fact Finder
- Speech Recognition
- Free and premium versions available
- Vocabulary Builder
- Highlights
- Text Simplifier (web)
- Voice Notes
- PDF Annotations



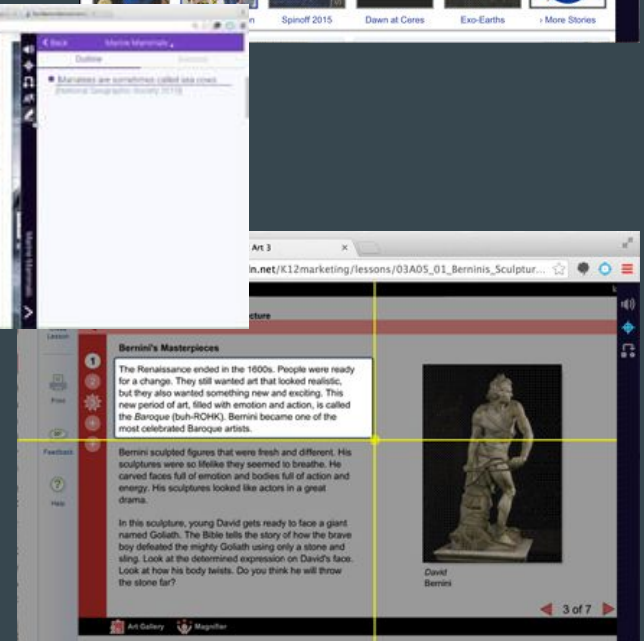
[Texthelp Website](#)

[Read&Write for Google in Chrome Web Store](#)

[Read&Write for Google Resources on Jocelyn's AT Website](#)

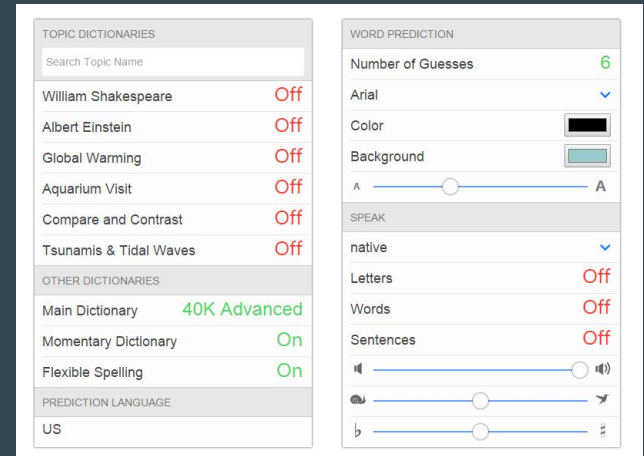
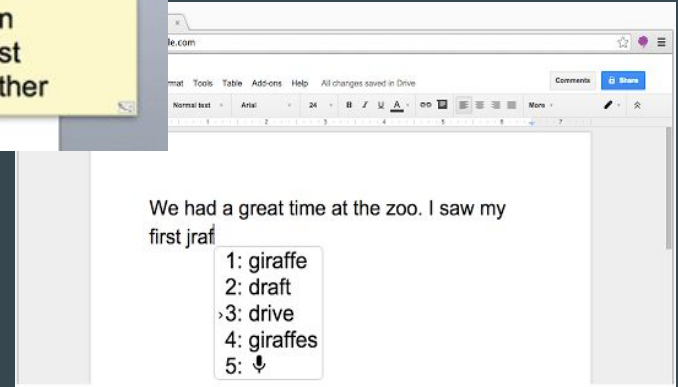
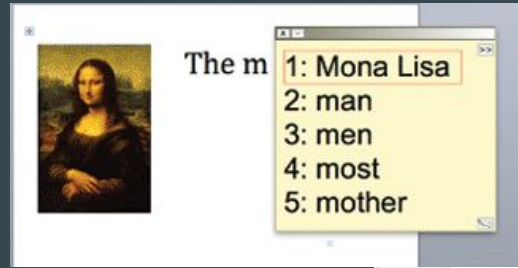
Snap&Read Universal

- Text-to-Speech
- Reads Inaccessible Text
- Dynamic Text Leveling
- Study Tools
- Bibliographer
- Translates into 90+ languages
- Data Collection



Co:Writer Universal

- Word Prediction
- Flexspell
- Text-to-Speech
- Speech Recognition (speech-to-text)
- Vocabulary Support
- Data Collection
- Integrates across Google, iPad and Desktop

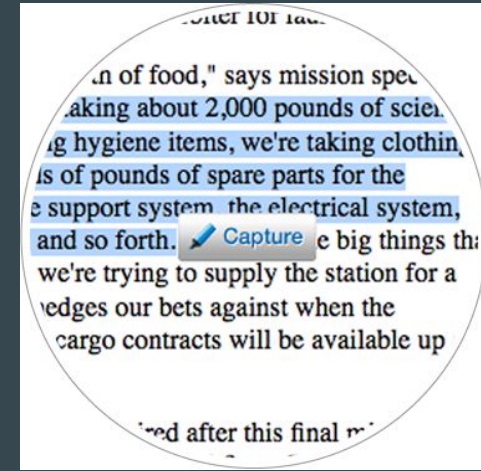


[Co:Writer Universal on the Don Johnston Website](#)

[Co:Writer Universal Resources on Jocelyn's AT Website](#)

Citelighter

- Research tool that provides an organizational framework for writing papers
- Free and premium version
- Features of the free version include:
 - Student content-capturing tools
 - Student outlining tools
 - Google Doc Integration



[Citelighter Website](#)
[Citelighter in Chrome Web Store](#)

Citelighter Pro

Search Research Database

+ Create

Move

Copy

Send to Word

Send via Email

Print

Knowledge Card

Trash

Feedback

Twitter

Facebook

Google+

Obama

Barack Obama was a state senator from Illinois when he won the Democratic nomination for the U.S. Senate in March of 2004. When he won the seat, the charismatic politician became only the third African American to serve in the Senate since Reconstruction. His selection as the keynote speaker at the Democratic National Convention that July confirmed his status as a rising star. That appearance also led to Obama running for and winning the Democratic nomination for president in 2008.

Thanks to record-setting fundraising efforts by several Democrat and Republican candidates for president in 2008, the presidential race could become the first billion-dollar race in U.S. history. This phenomenon has been due largely to the ability of Democratic front-runners Hillary Rodham Clinton and Barack Obama to acquire substantial funds, even during the early stages of the campaign. A number of commentators have suggested that the system for using public election funds may come to an end with this election, and critics have noted that many candidates will not be able to compete simply due to financial constraints.

Bibliography

APA MLA Chicago

1. "Obama, Barack." Citelighter Pro. American Law Yearbook 2008. 1 January 2009. Web. 17 September 2012. <http://www.citelighter.com/content/obama-bzrock/11223234400064>
2. "Channing Bagnasco." Citelighter Pro. American Law Yearbook 2007. 1 January 2008. Web. 17 September 2012.

Suggested Articles from Citelighter

Obama's uncle set to fight deportation ; Same legal team helped sister stay
The Boston Globe (Boston, MA)

Obama Channeling Reagan? Hardly, Gipper to O Force: There You Go Again
The Washington Times (Washington, DC)

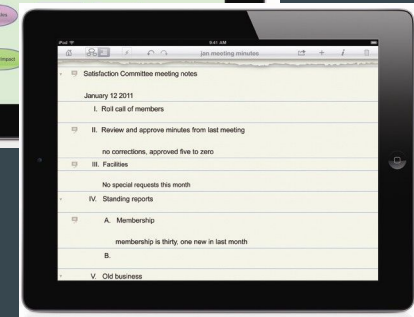
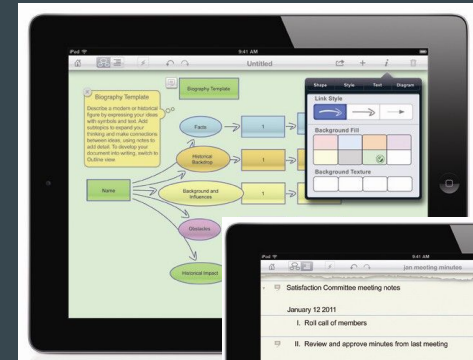
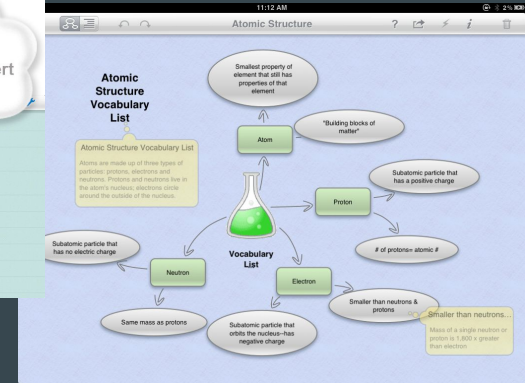
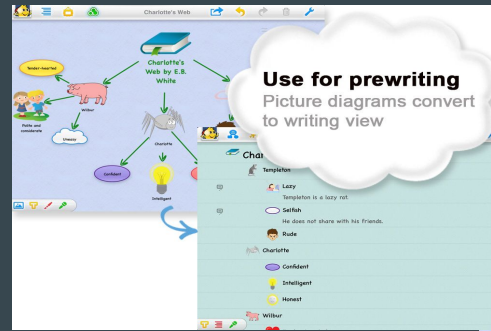
Obama's troubled blast from past: Gets call from high school pal fresh from prison
Chicago Sun-Times

Obama Approval High Among Muslims, Jews, and Catholics; Catholics give Obama higher approval score
Gastup Poll News Service

Obama homecoming: embraced as a hero

Inspiration Software

- Graphic Organizers
- Concept Mapping
- Mind Mapping
- Webbing
- Outlines
- Desktop Software- Kidspiration and Inspiration
- iOS Apps- Kidspiration Maps and Inspiration Maps
- Web- Webspiration Pro



[Inspiration Maps in iTunes](#)
[Inspiration Software Website](#)
[Kidspiration Maps in iTunes](#)
[Webspiration Pro](#)

MindMeister

- Online mind-mapping tool
- Google drive integration
 - Open, view and edit mind map files from Google Drive
 - Synchronize entire maps list (incl folders) with Google Drive
 - Synchronize single maps with Google Drive
 - Add attachments from Google Drive
 - Share mind maps with your Google contacts
 - Export maps to Google Drive as image, text and PDF
 - Collaborate in real-time on Drive maps



OneTab

- Convert all tabs into a list in one tab
- Restore tabs individually or all at once

OneTab
Save up to 95% memory and reduce tab clutter in Google Chrome

Before: 1981 MB memory used

After: only 99 MB memory used

95%
memory reduction

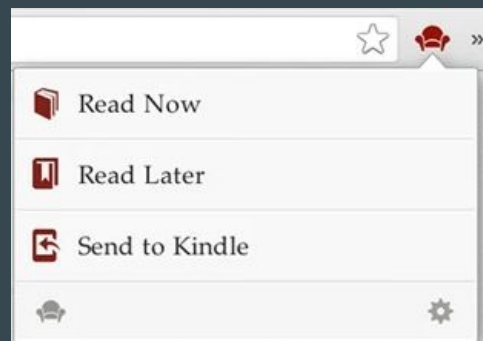
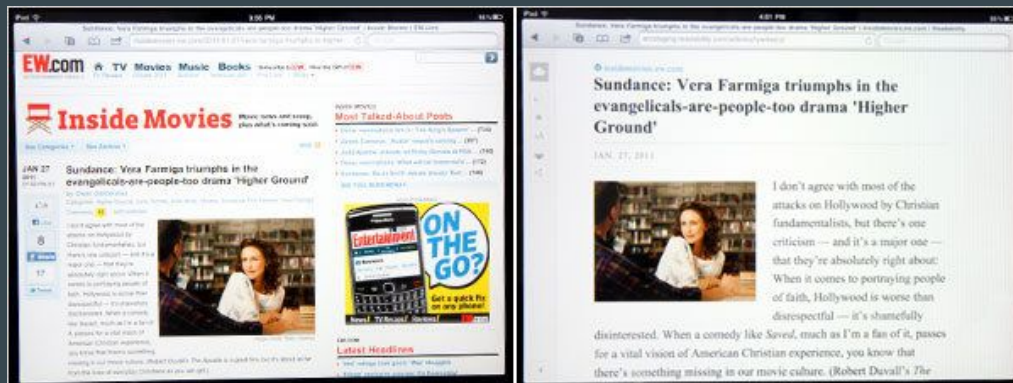
[Add OneTab now](#)
No signup or registration required

The advertisement features a Chrome browser window at the top with a cluttered tab bar containing 21 tabs. Below it, a smaller window shows the OneTab interface, which consolidates all 21 tabs into a single list. An arrow points from the OneTab icon in the browser's tab bar to the OneTab window. The text '95% memory reduction' is prominently displayed in blue, with the link 'Add OneTab now' and the note 'No signup or registration required' below it.

[OneTab in Chrome Web Store](#)

Readability

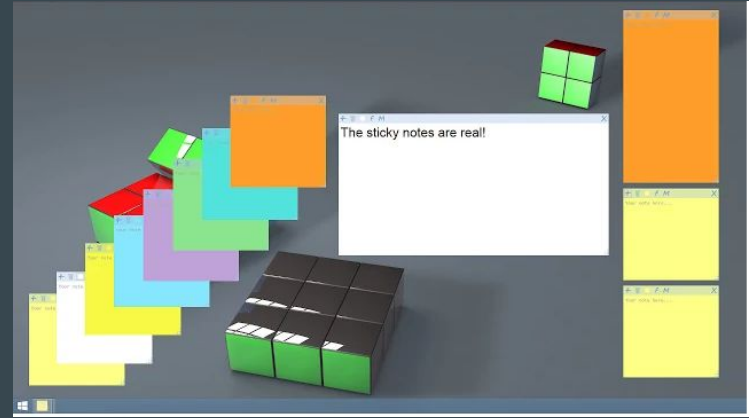
- Clean up cluttered web pages
- Save for later reading
- Chrome, Android, and iOS



[Readability Website](#)
[Readability in Chrome Web Store](#)

Sticky Notes

- Dictate notes with Speech recognition
- Synchronization via Google Drive
- Move and resize your notes independently
- Dictate the notes thanks to the speech recognition
- Pin note / Always on top
- Choose color of your note
- Set the font
- Close the note if you don't need it at the moment and simply click Sticky Notes icon to open it again



Wunderlist

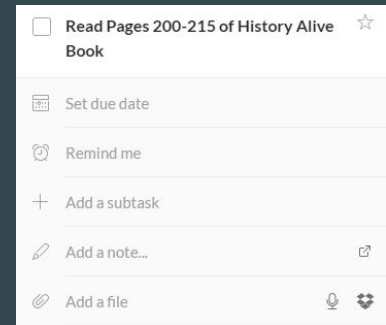
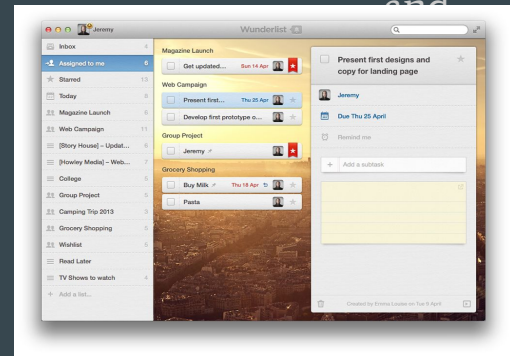
- Create unlimited to-do lists
- Share todo list and errands to collaborate with family, friends colleagues
- Access todo lists and errands from phone, tablet and computer
- Instantly syncs reminders, checklists, shopping lists, errands and lists in real-time
- Attach photos, PDFs, presentations and more to any todo list.
- Create reminders

[Wunderlist Website](#)

[Wunderlist in iTunes](#)

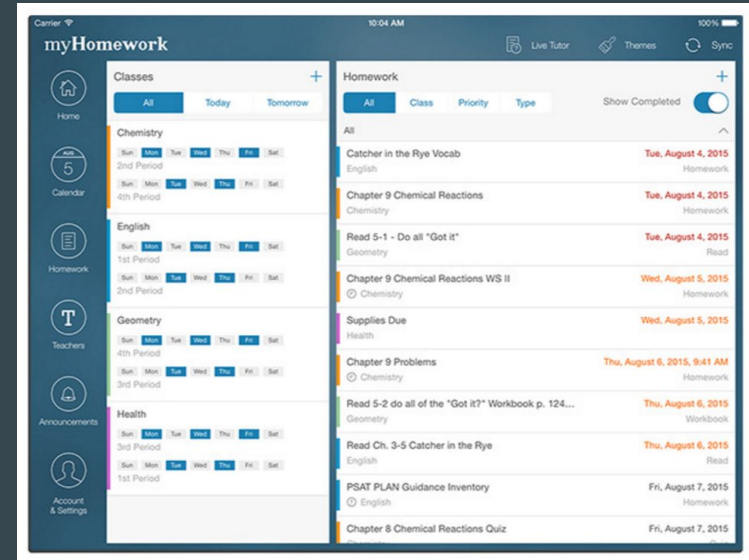
[Wunderlist in Google Play](#)

[Wunderlist in the Chrome Web Store](#)



MyHomework Student Planner

- Track classes, homework, tests and assignments
- Receive homework reminders
- Monthly and weekly calendar display
- Supports time, block and period-based schedules
- Sync across other platforms
- Google Single Sign-On
- Free and Premium Version
- Available on ALL platforms- Windows, Mac, Android, iPad, Chrome



[MyHomework Website](#)

[MyHomework in Chrome Web Store](#)

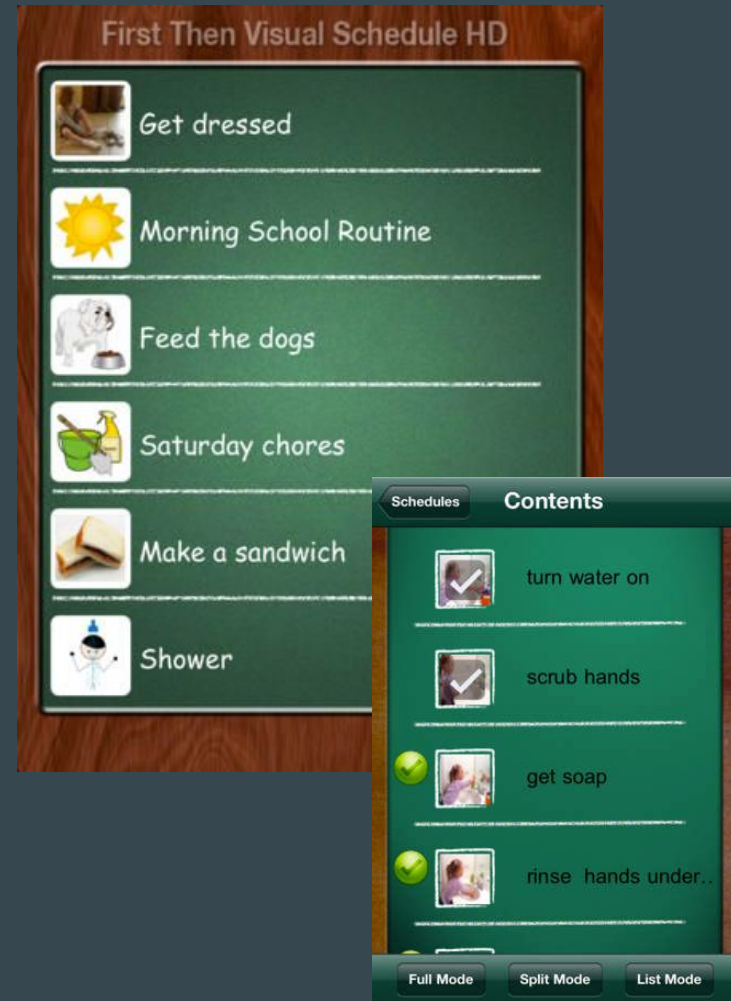
[MyHomework in iTunes](#)

[MyHomework in Google Play](#)

First Then Visual Scheduler

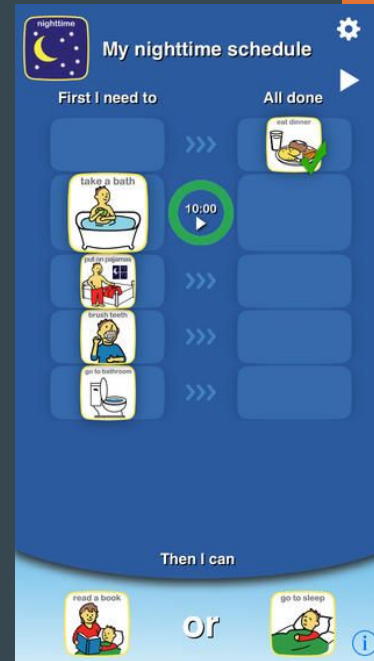
- Create custom visual supports
 - Schedules
 - Daily Events
 - Routines
 - Specific Steps to Complete an Activity
- Add images
- Voice recording
- Checklist feature
- View in full screen, split screen or list screen

[First Then Visual Schedule in iTunes](#)



ChoiceWorks

- Designed to help children complete daily routines, understand and control their feelings and improve their waiting skills
- Image Library
- Add images
- Audio recording
- Speaks boards out loud
- Save boards as PDFs



Ginger

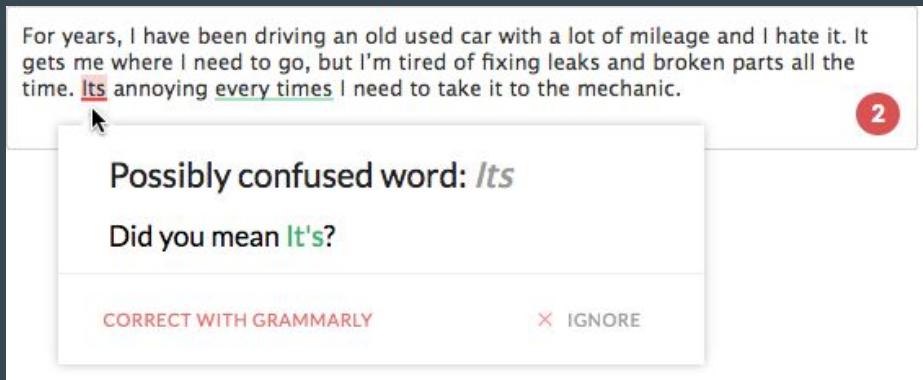
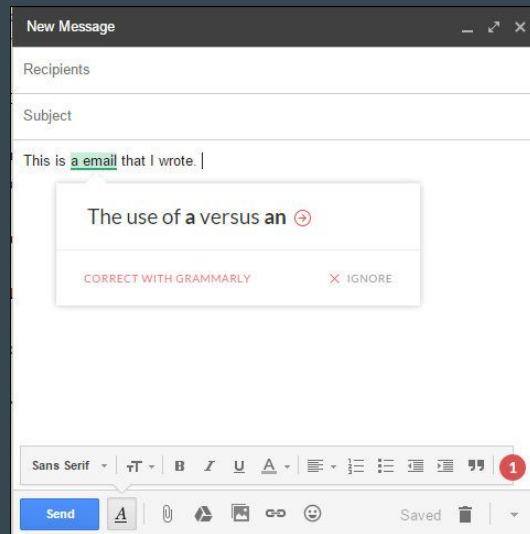
- Grammar Checker
- Sentence Rephrase
- Dictionary
- Text Reader
- Translation in 50 Languages
- Basic and Premium Versions
- Windows, Chrome Browser, iOS, Android



[Ginger Website](#)

Grammarly

- Contextual Spell Checker
- Grammar Checker
- Vocabulary Enhancement
- Free and Premium Version

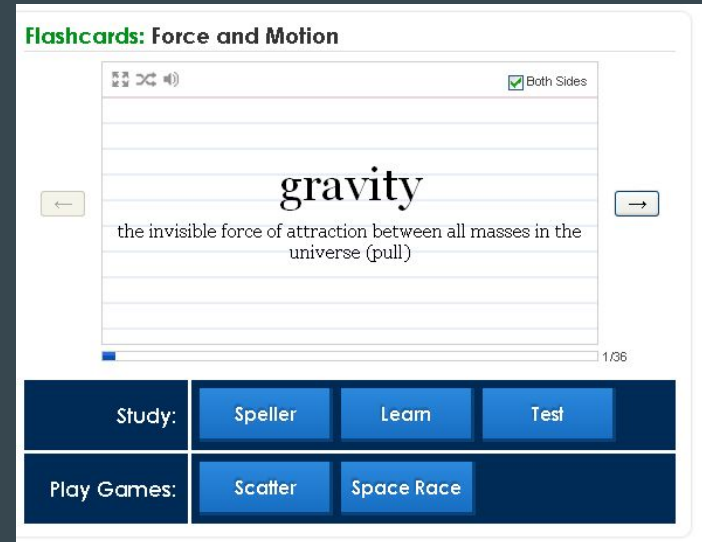


[Grammarly in Chrome Web Store](#)

Quizlet

- Over 50 million free study sets
- 6 study modes including Flashcards, Scatter, Speller, Learn, Test, and Space Race
- Audio in 18 languages
- Easily share study content with your classmates

[Quizlet Website](#)



The screenshot shows a Quizlet flashcard interface. At the top, it says "Flashcards: Force and Motion". Below that, there are icons for a list, a refresh symbol, and a speaker icon. On the right side, there is a checkbox labeled "Both Sides" which is checked. The main content of the flashcard is the word "gravity" in a large, bold, black serif font. Below the word is the definition: "the invisible force of attraction between all masses in the universe (pull)". There are navigation arrows on the left and right sides of the card. At the bottom right of the card area, it says "1/36". Below the card area is a dark blue navigation bar with two rows of buttons. The first row is labeled "Study:" and contains three buttons: "Speller", "Learn", and "Test". The second row is labeled "Play Games:" and contains two buttons: "Scatter" and "Space Race".

Strict Workflow

- Enforces a 25min/5min workflow: 25 minutes of work, followed by 5 minutes of break
- Pre-configured to block popular distracting websites
- Easy to use: just one click starts a work/break timer
- Personalize: block the sites that are most change the timer durations
- Blacklist or whitelist: either choose what sites to during a work timer, or what sites to allow

[Strict Workflow in Chrome Web Store](#)

Strict Workflow Options

To remove temptation, some options cannot be edited during a work session. Patience, please.

Block ▼ the sites on this list:

facebook.com
youtube.com
twitter.com
tumblr.com
pinterest.com
myspace.com
livejournal.com
digg.com
stumbleupon.com
reddit.com
kongregate.com
newgrounds.com
addictinggames.com
hulu.com

Enter one site per line, like "youtube.com" or "google.com/reader". We'll block/allow all URLs with that base.

For example, "mail.example.com" won't match "www.example.com", but "example.com" will match both. Similarly, "google.com/reader/" will match Google Reader, but will not match Google Search, Gmail, or any other Google service.

Work: minutes Break: minutes

Show a notification when a timer finishes

Ring when a timer finishes (audio)

Clicking on a running timer restarts it

By the strictness philosophy, the only way to cancel a running timer is to disable the extension.

Additional Tools

- [Clicker](#)
- [Cram.com Flashcards](#)
- [Explain Everything](#)
- [Extensity](#)
- [Google Keep](#)
- [iPrompts Pro](#)
- [iStudiez Pro](#)
- [Kami](#)
- [Lucidchart](#)
- [Mindomo](#)
- [Padlet](#)
- [Pictello](#)
- [Screencastify](#)
- [Snagit](#)
- [SpeakIt](#)
- [Stay Focused](#)
- [ThoughtQ](#)
- [Timer](#)
- [Todoist](#)
- [Tools4Students](#)

Executive Function Resources

A copy of this presentation, resources on executive functions and free and low-cost professional development opportunities related to executive functions can be found on the [Executive Function](#) page of Jocelyn's [Assistive Technology 101 Website](#).

Contact Information

Jocelyn Kotrba

Assistive Technologist

jocelyn.kotrba@bps101.net

630-937-8860