

E-Books and Accessibility: A Guide to E-Books and E- Reader Devices

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Today's Agenda

- Assistive Technology and Electronic Accessibility
- Introduction to E-Books
- Choosing a Device – Questions to Consider
- Types of E-Books
- E-Textbook Accessibility
- E-Reading Apps
- Types of Devices: E-Readers
- Types of Devices: E-Reader Tablets
- Device Product Pages
- Reading App and Web Reader Links
- Other e-Book Resources

Assistive Technology & Electronic Accessibility

- Students with disabilities use a variety of technology to read electronic textbooks, articles, and web content. These are called Assistive Technology.
- Types of Assistive Technology:
 - Text-to-Speech Software (Listening to text)
 - Voice Recognition Software (Dictation)
 - Literacy Support Software (Study skills, highlighting, dictionaries, etc.)
 - Screen Magnification Software (Used by students with low vision)
 - Screen Reader Software (Used by students who are blind)
- Electronic Accessibility asks this question:
 - Can technology interact with the electronic content?

➤ Not Automatically!

Introduction to E-Books

- No One-size-fits-all solution
- Try before you buy if you can
- Variety of file formats
 - Most common: mobi/azw3, epub, pdf
 - Mobi/azw3: Amazon
 - Epub: Everyone else (Nook, Kobo, Apple, Sony)
- Wide variety of delivery methods / devices
 - e-Readers, tablets, reading apps, web-based
- All have restrictions
 - Not all formats will display well
 - Limitations of the format or device – file type, content type
 - Limitations imposed by the seller / publisher – file source, encryption
 - Even those that all use epub have different encryption methods
 - You cannot simply buy e-books from anywhere and read them on any device

Publishers and Copyright Concerns

- Variety of Booksellers / Publishers
 - Want to keep their content secure
 - Want you to buy exclusively from their store – both devices and books
 - E-Book ownership is not transferrable
 - Not bound by Section 508
 - Digital Rights Management (DRM)
 - Encryption used by the industry to limit use of e-Books and defend against piracy
 - Files with DRM are “locked” to a specific device or account
 - The device must be registered to “unlock” the file
- This leads to accessibility issues as the text is locked down

Choosing a Device: Questions to Consider

- What do I want out of the device?
 - Just for reading?
 - Multiple uses? (apps, internet, audio books, video)
 - Textbooks vs. mainstream fiction and nonfiction?
 - Ability to read for a long time without eye fatigue?
 - Ability to read outdoors without glare?
 - Built-in reading light?
 - Ability to sleep after reading at night?
 - Back-lit devices like computers and tablets can make it harder to sleep.

Accessibility Considerations

- What are my physical needs?
 - Weight of device?
 - Method of turning pages
 - E.g. Buttons? Touchscreen? Swipe or tap? Location?
 - Length of time reading? (possibility for eye fatigue)
 - Does reading on a computer screen for a long time bother you?
 - Screen reader capability?
 - Text-to-speech capability?
 - Audiobooks availability?
 - Zoom levels? In menus?
 - Contrast settings?
 - Type and size of fonts?
 - Line spacing / margin adjustment?
 - How customizable is the device?

Types of E-Books: E-Textbooks

- Not purely text
 - Often have complicated layouts, images, formulas, etc.
- Mostly web or app delivery, sometimes PDF.
- Not a downloadable file you can put on all e-Reader devices
- Need a computer or tablet with a browser or app capability
- No standard encryption method – varies by publisher
- Sources of e-Textbooks
 - Directly from the publisher, delivered on their exclusive website
 - From retailers, delivered through reading apps
- Students expect to be able to use technology with e-textbooks, but end up still having to get an alternate version through disability services just as they would with paper texts.

E-Textbook Accessibility Problems

- Degrees of Accessibility
 - Bare minimum: Screen readers can read the basic text in some fashion
 - Other aspects missing: headings, alt text, keyboard navigation, voice navigation, text-to-speech
- Both websites and apps often have limited accessibility
- The books themselves may not be accessible
 - The content is often locked to prevent copying / pasting / exporting, which means text-to-speech is also disabled
 - Onscreen OCR features DO often work for basic text-to-speech (e.g. Read & Write's Screenshot Reader / Kurzweil 3000's Image Reader)
- Interactive features are rarely accessible at all
 - It is better to assume that e-Textbooks will not be very accessible

Mainstream Retailers of e-Textbooks

- E-Textbooks only work on tablet apps or computer apps
 - Check the return policy before you buy in case the book does not work with Assistive Tech
 - Rentals are often available for e-Textbooks
 - Copy and paste ability usually indicates text-to-speech capability
- Amazon e-Textbooks
 - Check “Available only on these devices” in the Edition Info
 - Check text-to-speech availability on each book’s Product Details
 - Kindle Fire, Kindle for iPad/Android, Kindle for PC/Mac
- Barnes & Noble
 - Requires special textbook app for PC or Mac called “Nook Study”
- Apple iBooks
 - VoiceOver works with the app, but the books themselves may not work
- Google Play Textbooks
 - Allows highlight, notes with export, dictionary, search

Textbook Apps – Other Retailers

- Check that an app is available for your device before purchase
- Check the return policy before purchase
- CourseSmart.com / VitalSource.com
 - Accessibility is a stated priority and standards are included in their checklist for publishers
 - Accessibility in both web and apps (visual and hearing technology)
 - Allows copy & paste
 - Rentals available
- eCampus.com
 - Allows copy & paste, search, highlight, notes
- Chegg.com/etextbooks
 - Web only (html5-based)
 - Search, highlight, notes
- Kno.com
 - Does not allow copy & paste
 - Search, highlight, notes, flashcards

Types of E-Books: Mainstream Fiction & Nonfiction

- These e-books are the kind of books generally sold at retailers such as Amazon or Barnes & Noble
 - Buy a dedicated device from the retailer and register it to your account
 - Download a reading app and login with your account
- Buy books from that same retailer or a retailer with compatible encryption
- The most common retailers for e-Books in the U.S. are:
 - Kindle by Amazon
 - Nook by Barnes & Noble
 - Kobo by Kobo

E-Reading Apps (Mainstream Books)

- Each of the major e-Book retailers has free apps for both mobile devices and computers (not every platform)
 - Amazon has a PC app that is accessible to screen readers. This is a separate download from the main app
- Other mobile reading apps include
 - iBooks
 - eBooks.com
 - Stanza
- If you already have a mainstream tablet (iPad or Android), apps may be a more flexible option
- Apps for borrowing public library books
 - Adobe Digital Editions
 - OverDrive Lending Library

Adobe Digital Editions (ADE)

- ADE is for epub compatible devices only (no Kindle)
- Software installation for PC or Mac
 - Free Adobe ID required to register the software
 - Download epub (or pdf) books from e-Book store or public library
 - When prompted, open the .acsm file using ADE (other software will not be able to unlock the contents)
 - Transfer encrypted books from computer to e-Reader via USB
 - Read books directly within the ADE software on PC or Mac
- e-Book stores use ADE to deliver purchased books
 - Barnes & Noble, Kobo, Sony (built-in to devices & proprietary software)
 - Google Play eBookstore
 - eBooks.com
 - Textbooks.com
- Public Library Lending (OverDrive) uses ADE to deliver e-Books
 - The file locks after the borrowing period expires – no late fees
 - Note: Kindle devices borrow through logon to Amazon & wireless delivery

OverDrive Lending Library

- OverDrive also has its own apps aside from ADE for borrowing books wirelessly
 - Wireless delivery directly to the device (No usb transfer required)
 - Uses the same encryption & expiration system as Adobe Digital Editions
 - Local library account login is required
- E-Readers
 - Direct download from OverDrive is a feature on some devices
 - Not an app that you install, but included on the device
- App for E-Reader Tablets & Computers
 - Free OverDrive account required to register device (instead of Adobe ID)
 - Up to 6 devices – syncs progress & bookmarks
 - iOS, Android, Windows Phone/Tablet, PC, Mac
 - Audiobooks and videos are also available

Types of Devices: E-Readers

- E-Readers are dedicated reading devices
- Designed to replicate the experience of reading a paper book
- E-Ink technology
 - The page looks just like a paper book with grey-scale ink
- Best for mainstream fiction & nonfiction books – text only
- Limited internet
- No apps

Pros of E-Readers

- Less eye fatigue
 - Not like reading on a screen
 - Screen only refreshes on page turns
 - No flicker
 - No back-lighting
- Front-lit screen – the light shines down at the text
 - Some options without any light at all
- Much lighter weight than tablets
- Dedicated reading device – no distractions
- Long battery life

Cons of E-Readers

- Very inaccessible for visual impairments
 - No audio capability at all
 - No changeable contrast settings
 - Large font sizes are available within books, but not in menus
- Do not display PDFs very well
- Text-only
- No textbook capability

Top 3 E-Readers Currently Available

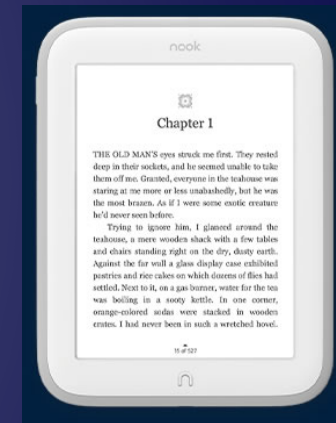
- Amazon Kindle

- Touch
- Paperwhite
- Voyage



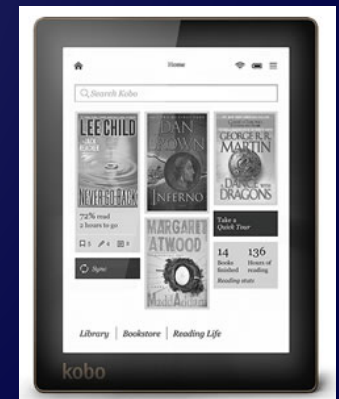
- Barnes & Noble Nook

- GlowLight



- Kobo

- Mini
- Touch
- Glo
- Aura / Aura HD
- Aura H20 (waterproof)



Shared Features of All E-Readers

- There are minor differences that set e-readers apart from each other, but they all have these basic features in common
 - E-Ink Screen
 - 6" Screen Size (except Kobo Mini – 5")
 - Weigh 6-7 oz
 - 6-10 different fonts
 - Font sizes up to about 24pts
 - Touchscreen navigation and page turns
 - Sync across devices and apps
 - Highlighting, notes, bookmarks, and dictionary lookup

Standout Features of Kindle E-Readers

Cost

- \$79-\$269

Pros of Kindle E-Readers

- Highest quality e-ink technology
 - Best contrast
 - Most responsive touchscreen
- Voyage model – page turn sensors
- Model without light is available
- Best selection / price of books
- Family library sharing

Cons

- Not customizable
- Includes the heaviest e-Reader (Paperwhite at 7.3 oz)
- Light is adjustable but always on
- Screensaver shows either ads or random images



Standout Features of Nook E-Readers

Cost

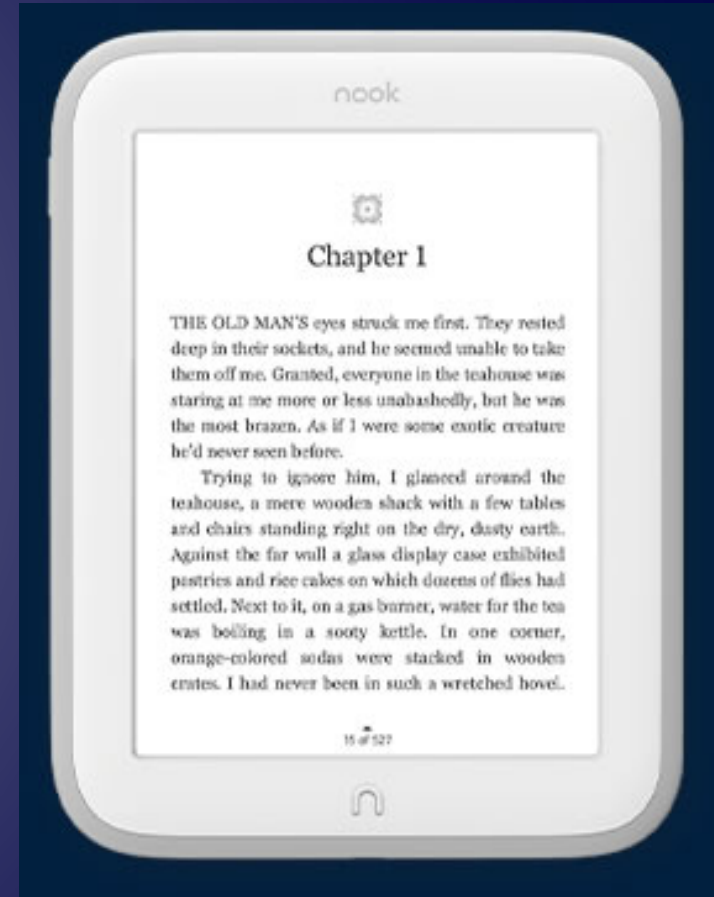
- \$119 (Comparable to the Kindle Paperwhite)

Pros of the Nook Glowlight

- Light can be turned on /off as well as adjusted
- Progress indicator – Page of Pages
- No ads
- Simple – not a lot of catchy features
- Very hackable

Cons

- Only one model
- Off-white case (could be a pro)
- Generic screensaver cannot be customized



Standout Features of Kobo E-Readers

Cost

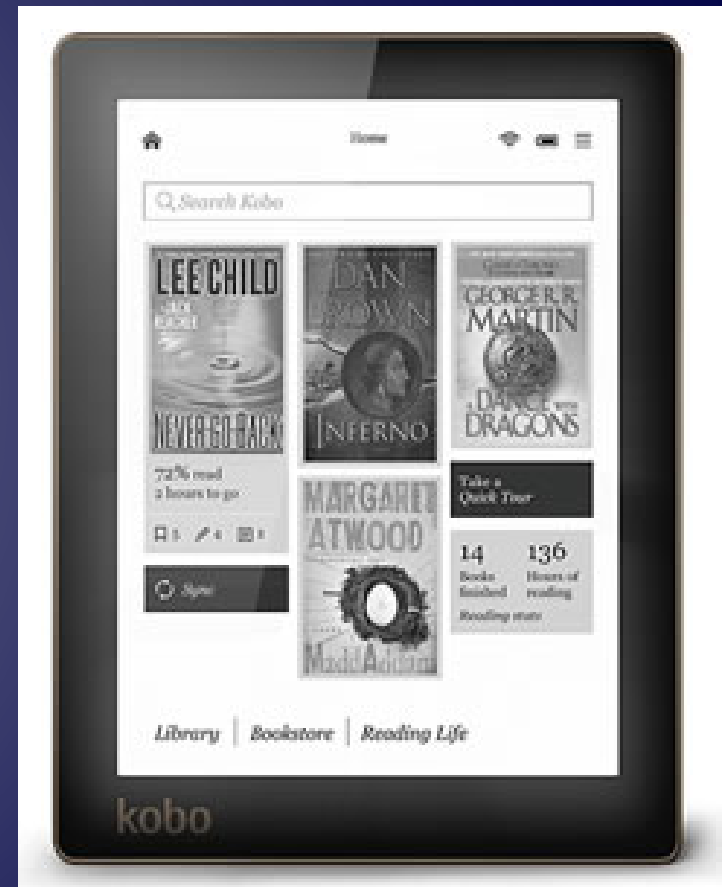
- From \$99-\$179

Pros of Kobo E-Readers

- Light can be turned on / off as well as adjusted
- Customizable zones for page turns
- More models available
 - Without light, Smaller screen, HD & Waterproof versions
- Lightest weight e-Reader
- More fonts and font sizes, line spacing & margin settings
- Screensaver is “currently reading” book cover
- Progress: Page of Pages, Percentage or Time remaining
- Reading stats on home screen
- No ads

Cons

- Touchscreen is sometimes unresponsive
- E-Ink screen has less contrast than Kindle
- More expensive than Kindle or Nook



Types of Devices: E-Reader Tablets

- E-Reader Tablets are designed to be more versatile than dedicated e-Readers
 - Books (text-to-speech capability if publisher allows)
 - Audio books (human narrator)
 - Textbooks
 - Magazines
 - Videos, Music, Games
 - Apps
 - Web browsing
 - Screen sizes vary from 7-10" (compare to e-Readers at 6")
 - Weight varies from 11-22oz (compare to e-Readers at 6-7oz)
- Similar to mainstream tablets such as iPads, but more limited
 - Kindle Fire – Limited to Kindle apps
 - Nook Samsung Galaxy & Kobo Arc – Android-based with Google Play

Pros of E-Reader Tablets

- Audio options are available
 - Text-to-speech (if allowed by publisher)
 - Audio books
 - Screen readers available (varying levels of accessibility)
- Generally more accessibility features (although limited)
- Contrast options
- Textbooks with print layout
- Can install other apps
- Color screen

Check the Text-to-Speech setting on each Amazon book page

Product Details

File Size: 1346 KB

Print Length: 353 pages

Page Numbers Source ISBN: 0451417550

Publisher: NAL (March 4, 2014)

Sold by: Penguin Group (USA) LLC

Language: English

ASIN: B00DMCV160

Text-to-Speech: Enabled

X-Ray: Enabled

Lending: Not Enabled

Amazon Best Sellers Rank: #1,638 Paid in Kindle St

#11 in [Books > Mystery, Thriller & Suspense >](#)

#16 in [Kindle Store > Kindle eBooks > Mystery,](#)

Cons of E-Reader Tablets

- More eye fatigue than E-Readers
 - Back-lit screen
 - Screen refreshes constantly
 - Like reading on a computer screen
- Glare – makes it difficult to read outdoors
- Heavier than e-Readers
- More possible distractions while reading
- May only be able to use apps from the retailer's app store (e.g. Amazon apps on Kindle Fire)
- More limited than mainstream tablets such as iPad

Top 3 E-Reader Tablets Available

- Amazon Kindle Fire

- HD 6 & 7
- HDX & HDX 8.9



- Barnes & Noble Samsung Galaxy Tab 4 Nook

- Samsung Nook 7
- Samsung Nook 10



- Kobo Arc

- Kobo Arc, Arc 7
- Kobo Arc 7 HD, 10 HD



Standout Features of Kindle Fire Tablets

Cost

- \$99-\$379

Pros of the Kindle Fire

- Magnification in menus as well as books
- Screen reader – with IVONA voice, 5 rate options
- Bluetooth keyboard or braille display capable
- Simultaneous reading and listening with Audible (have to purchase both e-book and audio book)

Cons

- Only Apps from the Kindle app store – limited selection



Standout Features of Nook Tablets

Cost

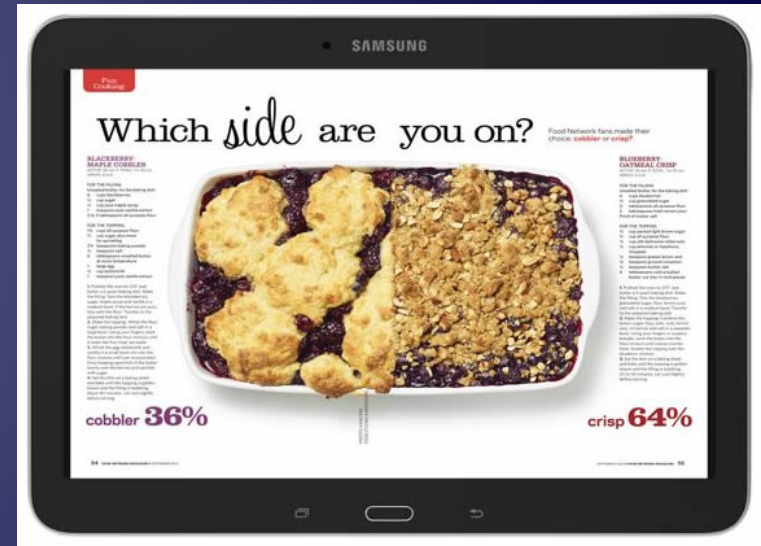
- \$179-\$319

Pros of the Samsung Nook Tablets

- Samsung Galaxy / mainstream tablet base
- Google Play for apps
- Large font in menus
- TalkBack works (with nonstandard, limited controls)

Cons

- TalkBack – Explore by touch does not work



Standout Features of Kobo Tablets

Cost

- \$139-\$399

Pros of the Kobo Arc Tablets

- Google Play for Apps – Samsung Apps
- Some magnification in menus (not in store)

Cons

- Only 3 fonts
- TalkBack is available, but does not read books



Questions / Comments / Discussion

- What would you choose for yourself or recommend for others?
 - e-Reader
 - e-Reader Tablet
 - Mainstream Tablet
 - Computer with browser or app
- What features are deal breakers for you?
- What have your experiences with e-Books or e-Textbooks been?
- As librarians, how does this knowledge affect you?

Device Product Pages

- Kindle e-Readers

- http://www.amazon.com/dp/B00115SB16/ref=fs_kb

- Kindle Fire Tablets

- http://www.amazon.com/dp/B00KC6I06S/ref=fs_far

- Nook Glowlight

- <http://www.barnesandnoble.com/u/nook/379003208>

- Nook Samsung Tablets

- <http://www.barnesandnoble.com/u/nook-tablets/379004191>

- Kobo e-Readers

- <http://www.kobo.com/devices#ereaders>

- Kobo Tablets

- <http://www.kobo.com/devices#tablets>

Reading App and Web Reader Links

Amazon Kindle

- [Amazon Kindle Apps](#)
 - (https://www.amazon.com/gp/digital/fiona/kcp-landing-page?ie=UTF8&ref=sv_kstore_3)
- [Kindle for PC with Accessibility Plugin](#)
 - (<http://www.amazon.com/gp/feature.html?docId=1000632481>) (“Reading on Kindle” at the bottom)
- [Kindle Cloud Reader](#)
 - (<https://read.amazon.com>)

Barnes & Noble Nook

- [Nook Apps](#)
 - (<http://www.barnesandnoble.com/u/nook-mobile-apps/379003593>)
- [Nook for Web](#)
 - (<https://mynook.barnesandnoble.com/index.html>)

Kobo

- [Kobo Apps](#)
 - (<http://www.kobo.com/apps>)
- [Kobo Instant Reader](#)
 - (<http://read.kobobooks.com>)

Other Reading Apps

- [Adobe Digital Editions](#)
 - <http://www.adobe.com/solutions/ebook/digital-editions/download.html>
- [OverDrive Lending Library](#)
 - <https://app.overdrive.com/>

Other e-Book Resources

General Info on E-Readers – Blogs, Reviews, News

- The eBook Reader.com
 - <http://www.the-ebook-reader.com/>
- MobileRead
 - www.mobileread.com

Reviews and Comparisons of Various E-Readers

- Top Ten Reviews eBook Reader Comparisons
 - <http://ebook-reader-review.toptenreviews.com>
- CNET Best e-book readers of 2014
 - <http://www.cnet.com/topics/ereaders/best-e-book-readers/>
- National Federation of the Blind Kindle Fire HDX Review
 - (<https://nfb.org/blog/atblog/kindle-fire-hdx>) (2013 Model)

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