

4565: Computing Foundations for a Digital Age

Unit 5

Day 4 Lesson Plan: Usability, Ergonomics, and Accessibility

Objective:

Students will evaluate technology for its usability and inclusive design.

Materials Needed:

- Sample apps/websites or printed screenshots (both accessible and non-accessible)
- Station Rotation Checklists

Warm-Up: Tech Trouble Talk

- Prompt students to **Think-Pair-Share**:
 - **“Have you ever struggled to use an app or device? What made it hard to use?”**
- Share out a few responses with the class and chart the common reasons — confusing layout, small text, not working for everyone, etc.

Mini-Lesson: What Makes Tech User-Friendly?

Step 1: Set the Context

Say:

- “Today, we’re looking at how we *experience* technology — how easy it is to use, who it works well for, and who might be unintentionally left out. Just because a tool works for one person doesn't mean it works well for everyone.”
- Write this on the board or slide:
“Good tech doesn’t just *work* — it works for everyone.”

Step 2: Vocabulary in Action

Introduce each term using real-world examples:

Word Byte	Definition	Example Prompt
Usability	How easy something is to use	“Think of an app where the buttons are clear, labeled, and exactly where you expect them.”
Ergonomics	How physically comfortable or suitable a tool is	“Have you ever used a keyboard that hurt your wrists or a phone that's hard to hold?”
Accessibility	How well something works for people with different abilities	“Closed captions in videos, screen readers for the blind, or voice commands — all boost accessibility.”
Inclusive Design	Designing tech with all kinds of users in mind from the start	“Imagine if a game had built-in colorblind settings — not added later as an afterthought.”
Learnability	How quickly a user can figure out how to use something	“When you try a new app and immediately ‘get it’ — that’s strong learnability.”

Step 3: Demonstrate with Two Contrasts

Example 1: Show a **well-designed** site (e.g., Google or Canva) and a **confusing** one (e.g., bad web design example). Ask:

- “Which of our terms show up here?”
- “Who might struggle with this tool and why?”

Example 2: Show accessibility in action (captions, voice command, screen reader).

Step 4: Discussion Prompt

Ask:

- “Who might struggle to use a tech tool that works well for you?”
 - Use think-pair-share or a quick write. Capture responses and organize under categories like *Vision, Mobility, Learning Style, Tech Familiarity*.
End with:
- “If we only design tech for people like ourselves, who are we leaving out?”

Activity: Usability Stations

Set up 3–4 rotating stations, each with a tool/app/screenshot. At each station, students complete a checklist to rate:

- Usability
- Accessibility
- Learnability
- Ergonomics
- Suggestions for improvement

Example stations could include:

- An educational game
- A basic website
- A phone settings menu
- A classroom device (e.g., document camera, smartboard tool)

Class Debrief

Ask:

- “What made some tools easier to use than others?”
- “What small design changes could improve user experience?”

Chart responses and link back to vocab.

Project Connection

Say:

- “As you explore your chosen technology for the Ethical Tech Case Study, consider how well it works for different kinds of users. Would everyone find it usable, accessible, and intuitive?”

Prompt students to jot notes in their project tracker or reflection journal.

Exit Ticket

Prompt:

- “What’s one design change you would make to a tech tool you use often — and who would it help?”
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Word Bytes (Vocabulary for Today)

Definitions already covered in the mini-lesson above. At the end of the day, ask students to add the following examples to their Word Bytes journal:

- **Usability** → “Spotify’s homepage is easy to navigate — I find my playlist in one click.”
- **Ergonomics** → “I switched to a laptop stand so I don’t hunch over my screen.”
- **Accessibility** → “YouTube’s auto captions help me follow videos in loud spaces.”
- **Inclusive Design** → “My gaming app added a colorblind mode.”
- **Learnability** → “I understood how to use Canva without any instructions.”