



Studybeesofficial

Where Minds Pollinate

Class 12
Computer 

Chapter 7
Digital literacy
notes

Follow Our Socials



studybeesofficial



studybeesofficialpak



studybeesofficialpak

Chapter 7 # Digital Literacy

Digital Literacy is the **ability to use digital devices, tools, and the internet effectively, safely, and responsibly.**

Introduction: What is Research?

- **Research** — Systematic process of investigating a specific question/topic by gathering, analyzing, and interpreting information.
- Helps solve problems and answer questions effectively.
- Core element → **Research Question**: Clear, focused, specific → guides the entire investigation, narrows scope, provides direction.

Why research is important:

- Helps solve real-life problems
- Helps make informed decisions
- Builds critical thinking
- **Example:**
 - **Bad question:** Technology is good?
 - **Good research question:**
 - How does the use of mobile phones affect students' academic performance?

2. Role of Digital Tools in Modern Research

In the digital age, tools like **Google, online databases, and presentation software** make research:

- Faster
- More accurate
- More creative
- Easier to present

Examples of digital tools:

- Google Search
- Google Scholar
- Microsoft Word (reports)
- PowerPoint / Canva (presentations)
- Excel / Google Sheets (data analysis)

In the digital age, **digital tools** revolutionized research:

- Efficient data gathering and processing.
- Creative, engaging communication of findings.
- Essential for modern effective research.

Goal of chapter → Use advanced searches to locate information + use digital tools to create and present an artefact (e.g., report, presentation, dashboard) that communicates results/conclusions.

Performing Advanced Searches to Locate Information

Information sources: books, journals, articles, websites, multimedia.

Credible sources are vital — peer-reviewed, trusted domains (.edu, .gov, .org), up-to-date, reputable authors/institutions.

Advanced Search Techniques (mainly via Google Advanced Search):

- Go to Google → type keywords → click **Tools** → **Advanced Search**.

Key fields/options in Advanced Search:

Field/Option	Purpose	Example / Tip
All these words	All words must appear (implicit AND)	"Digital Literacy" → results with both words
This exact word or phrase	Exact phrase (use "double quotes" in normal search)	"Digital Literacy" → exact match, not separate words
Any of these words	At least one word (OR)	Digital Literacy → some results have Digital, some have Literacy
None of these words	Exclude words (use - hyphen in normal search)	Digital Literacy -deep → Digital but exclude deep (e.g., machine learning - deep learning)
Numbers range	Range (e.g., dates, prices)	books Rs500..Rs1500
Language	Filter by language	Urdu
Region	Limit to country/region	Pakistan

Site or domain	Specific website/domain	site:fbise.edu.pk
File type	Specific formats (PDF, DOC, PPT)	filetype:pdf "digital literacy"
Usage rights	Free-to-use content (e.g., images)	labeled for reuse
Intitle:	Keywords in title	intitle:"HSSC Result 2025"

Practice Examples (from text):

1. Articles on machine learning excluding "deep learning" → machine learning -deep learning
2. PDFs about Python programming → filetype:pdf python programming

After finding info → Evaluate credibility → Use citation tools (Zotero, Mendeley) for organization and proper referencing (APA, MLA).

Digital Artefact:

A **Digital Artefact** is any **item created using digital tools** that represents learning, research, or creative work.

Example :

If a student researches "**Effects of Social Media on Students**" and then:

- Writes a report in Word
- Makes a presentation in PowerPoint
- Designs an infographic in Canva

These final products are called **digital artefacts**.

7.1.1 Creating the Artefact

- Step 1: **Data collection** via advanced searches (search engines, academic databases like Google Scholar, PubMed).
- Use primary/secondary methods (from previous grades).
- Verify sources for reliability and accuracy.

7.1.2 Communication of Collected Data

Use digital tools to present findings:

- **Text-heavy:** Microsoft Word, Google Docs, LaTeX → detailed reports, citations.
- **Visual presentations:** PowerPoint, Google Slides, Prezi → engaging slideshows.
- **Data visualization:** Excel, Google Sheets → charts, graphs, tables.

7.1.3 Layout of the Digital Artefact

Logical structure (e.g., sales report, user manual, presentation):

1. **Introduction** — Research question, objectives, background, context.
Example: Impact of Social Media on Mental Health.
2. **Methodology** — How research was conducted.
3. **Findings/Results** — Present data (use visuals: graphs, charts, tables, infographics).
Clearly label visuals; ensure accuracy and relevance.
 - Example: Questionnaire data on social media impact by age group → present in tables or charts.
4. **Conclusion/Result** — Interpret results, answer research question, discuss implications, suggest future research.
 - Example: School breakfast program → highlight improved attendance in specific grades, suggest studying academic performance next.

Digital tools enable interactive elements, multimedia, hyperlinks → enhance depth/accessibility.

7.1.4 Using Digital Tools to Communicate Results and Conclusions

Tools depend on research type and audience:

- Text: Microsoft Word / Google Docs
- Presentations: PowerPoint / Google Slides / Prezi
- Data viz: Excel / Google Sheets / Tableau
- Infographics: Canva, Piktochart
- Collaboration: Google Drive, Trello, Microsoft Teams

Always: Proper citations (EasyBib, Zotero), clear visuals, avoid overwhelming audience.

APA (American Psychological Association), MLA (Modern Language Association)

7.1.5 Creating a Research Artefact

A **research artefact** is the final product you create to present the results of your research or to solve a problem using digital tools.

A **research artefact** is a digital or physical product created to communicate research findings or propose a solution.

Example Research Question : "How does social media affect student productivity?"

1. **Initial Problem** → Identify question (e.g., How can we reduce energy consumption in commercial buildings?).
2. **Explicate Problem** → Refine (e.g., strategies for urban office buildings).
3. **Explicated Problem** → Final statement (e.g., investigate retrofitting with energy-efficient lighting/HVAC).
4. **Outline & Requirements** → Sections (introduction, literature review, case studies, recommendations, conclusion); features (interactive dashboard, 3D model).
5. **Design & Develop** → Create (e.g. SketchUp 3D model).
6. **Artefact** → Final product (interactive dashboard + 3D models).
7. **Demonstrate** → Present to audience.
8. **Evaluate** → Assess clarity, organization, effectiveness → identify improvements.

Activity Suggestion: Group work → research different questions → use Google Slides/Prezi → present → peer feedback.

Additional Example Insight (from recent research summaries): Heavy social media use often reduces student productivity via distractions, multitasking, poor sleep, and reduced attention. Studies show 50-70% of students report negative effects on learning focus/time management.

7.1.6 Reflection and Self-Assessment

After project:

- **Reflect on process:** Challenges (finding credible sources, presenting data)? What worked well? How to improve?
- **Self-assess digital tool skills:** Selecting tools, organizing info, clear/engaging presentation.
- **Use checklist** → build confidence, improve future research/presentation skills.