12 Essentials of Digital Literacy

What is Digital Literacy?

Digital literacy is the ability to understand, use and interact with technology, media and digital resources in real-world situations. Every interaction with the Internet or digital media requires some level of digital literacy.

Your students have access to the most powerful tool in the world: the Internet.

But do they know how to use it? Contrary to popular belief, kids aren't born with digital literacy skills. Just because your students interact daily with their computers and cell phones doesn't necessarily mean they understand basic uses, best practices, and safety risks. Recent online testing has shown us that we have to educate students on digital literacy in order for them to succeed in our digital world.

In most school districts today, digital literacy skills are not being systematically taught and differing levels of focus on them has resulted in differing levels of ability. Just as we address varying levels of reading proficiency, it's important that we ensure consistent digital skills development across a whole cohort of students.

Below are 12 essential skills of digital literacy. These skills are designed to be taught systematically across your district and to help you evaluate if your digital literacy programs are comprehensive enough.

Why is digital literacy important?

The future careers of your students depend on their ability to understand and harness digital tools. 96% of employed Americans use digital technology daily and 62% say the Internet is an integral part of their jobs[1]. A recent report estimated the cost to the U.S. economy of lost productivity due to the "digital skills gap" as roughly $1.3 Trillion a year.

The impact of digital literacy extends far beyond employment and industry. Your students spend more time interacting with the digital world than they do at school or with their families. This means every day they're facing significant personal and safety risks that they may not be aware of or understand how to avoid. Arming them with the knowledge and skills needed to navigate the digital world is not just "nice to have", it's vital for their well-being.

[1] Pew Internet and American Life Project, Most Working Americans now use the Internet or Email at Their Jobs, Sept 24, 2008

1 Computer Fundamentals

Think of a computer like a car – the basic mode your students will use to connect with the world around them. What if they can't turn the key in the ignition? Or unscrew the gas cap? In the same way you'd educate a new driver with basic knowledge about car use and maintenance, students need to master the fundamentals of using a computer.

3 Elements of Computer Fundamentals

- Find and open files, save in different locations
- Understanding of software programs: copy and paste functionality, formatting (fonts, font size, color, text alignment), etc.
- Basic knowledge of computer components: monitor, processor, motherboard, power supply, RAM, hard drive, and inputs

2 Coding

Coding skills are the ability to apply computational thinking skills in a specific coding language to solve problems and create solutions. They also include the development of general skills with coding structures such as variables, loops, conditionals, general sequencing, functions, objects with methods and attributes, arrays and various data structures, input and output, etc. to solve problems. Coding skills also include structuring and formatting information as applied to non-programming languages such as HTML and CSS.
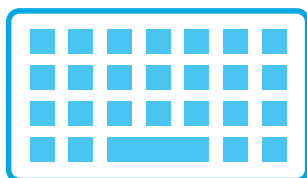
3 Elements of Coding

- Understanding of the key structures used in programming and coding languages
- Develop fluency in the syntax of programming or coding languages
- Use coding and programming languages to solve problems and create products

3 Keyboarding

Communication in the modern world moves faster than the speed of light, and your students need to be able to keep up. Mastery of touch-typing is not only a necessary skill for career development, but it can also save your students' time and effort when completing their schoolwork.

3 Elements of Keyboarding

- Effective QWERTY keyboard use without assistance
- Daily typing practice to improve technique, accuracy, and speed
- Knowledge of basic keyboarding shortcuts and commands

4 Online Safety & Digital Citizenship

The Internet is the digital community where your students live 24/7, and can be a dangerous force, as we've seen with cyberbullying and stalking. The difference between an educated and uneducated digital user can be the difference between life and death.

Educated digital users understand the risks of digital tools and are familiar with best practices to ensure their safety. Your students are most likely seeing and hearing things on a daily basis that they're not sure how to process - make sure they feel encouraged to have open dialogues about digital information, media, and tools.
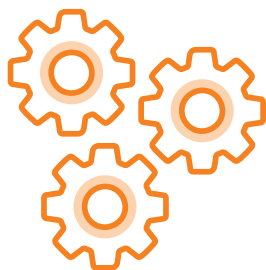
3 Elements of Online Safety & Digital Citizenship

- Understand what information should only be shared in specific situations (date of birth, social security, credit card, full name, etc.) and being able to identify situations where personal information should not be shared

- Knowledge of Internet best practices and common risks, including how it relates to social media, ecommerce, email, Internet searches, and viruses

- Articulate the meaning and real-world examples of plagiarism, digital identity theft, online bullying, cyber stalking, and hacking

5 Computational Thinking

Computational thinking skills are problem-solving skills that include different approaches based on the context or environment of the problem. While these are foundational skills used in computer programming and coding, they are also transferable skills that students can use in their everyday lives.

3 Elements of Computational Thinking

- Transferable problem-solving process that leverages the power of computing to find solutions

- Develops the dispositions and attitudes to have confidence, persistence and tolerance for ambiguity while collaborating to achieve a common goal

- Uses patterns, modeling, abstraction, and decomposition in algorithmic design, implementation, and testing to develop efficient and effective solutions

93% of kids 12 – 17 are online
(source: Pew Internet and American Life Project, "Generations Online in 2009")

6 Multimedia

The primary goal of multimedia is to express ideas. Learning the basics of graphic design, desktop publishing, and video editing allows students to become creators of a variety of content forms in order to communicate effectively.

3 Elements of Multimedia

- Communicate ideas visually and graphically using appropriate digital tools

- Create original works and responsibly repurpose and remix other digital resources into new creative works

- Demonstrate an understanding of basic design principles and strategies to increase the effectiveness of a digital product as viewed by different audiences and in different contexts, including print, web, and screen, etc.

7 Internet Usage & Online Communication

In a study from the University of Connecticut, less than 8 percent of 13-year-olds could send a proper email, including a subject line, greetings, or a clear message. Email, social media, and texting are the new norms of communication. Understanding how to use these tools is the foundation of being a successful member of the online community.
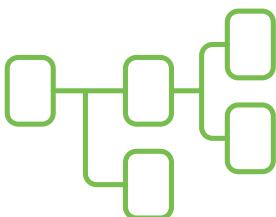
3 Elements of Internet Usage & Online Communication

- Craft a concise message, with a clear introduction, body and conclusion

- Understand various forms of greetings and able to tailor communication style to a wide range of situations and recipients

- Navigate the nuances of different digital communication tools, including text, email, social media, and private messaging

8 Visual Mapping

A global community allows citizens to spread ideas and messages across borders, languages, and cultures. But, global communication requires the ability to express ideas visually and use digital tools.

3 Elements of Visual Mapping

- Translate an idea or concept into a graphic or digital image to convey a thought, argument, or situation

- Understand different communication types and evaluate situations that may require visual mapping

- Complete basic functions using common digital visual mapping tools

9 Word Processing

Students today are expected to use word processors for school assignments. Just because your students are familiar with word processing, doesn't mean they fully understand it, nor would they be able to use it effectively in a real-life situation.

3 Elements of Word Processing

- Confidently create, edit, save, and publish written work
- Troubleshoot basic word processing errors and know foundational shortcuts and best practices
- Familiarity with common word processing tools, including Microsoft Word, Text Edit, Notepad, and Google Docs

10 Spreadsheets

The ability to organize and understand data within spreadsheets has become a minimum requirement for most career paths. Spreadsheets are an area of digital literacy that students don't come across as frequently in their digital usage. It's important that educators ensure students have the opportunity to become familiar with this powerful mathematical tool.
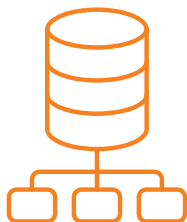
3 Elements of Spreadsheets

- Track, organize, and present data within a spreadsheet and know basic mathematical functions
- Read and understand data presented in a spreadsheet and draw conclusions
- Simple troubleshooting and analysis to solve spreadsheet errors

11 Databases

The power of the digital world provides us with access to more data than ever before. The possibilities are endless, and data now informs our demographic, sociological, political, and financial futures. But, where is this data stored? In databases – complex organizational systems that require specific skills.

3 Elements of Databases

- Explain the difference between a field, record, table, and database
- Understand relational databases versus non-relational databases
- Familiarity with common database tools including Access, Microsoft SQL Server, and Oracle

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12 Presentations

Digital tools are becoming the foundation of every type of communication—even presentations. Understanding the powerful capabilities of digital presentation tools and being able to successfully use basic functions to create a presentation will help your students prepare for the expectations of their careers.

3 Elements of Presentations

- Know the elements of a successful presentation
- Create a simple presentation using best practices, effective language, and compelling graphics
- Prepare, troubleshoot, and give a live presentation while using a digital presentation tool

Digital literacy requires education

Digital literacy is more than just keyboarding skills, or test prep skills. If your district isn't teaching these 12 essential skills systematically across cohorts, Learning.com can help.

Learning.com uses technology to help your entire staff blend key lessons into standardized instruction to accelerate student understanding. When technology is applied across core content, students have the advantage of establishing lifelong learning skills early – preparing them for college and successful careers.

The best part? Learning.com makes it fun!

"It's not just 'Here's your home row; now type the letters.' Science, math, and language arts are embedded within digital literacy lessons, so the kids are learning how to manipulate a spreadsheet or Word document, while simultaneously developing literacy or math skills."

Dawn Siech

Director of Curriculum and Instruction
Tipton Community School District

Learn why one in six U.S. school districts and over 4 million students use Learning.com's EasyTech product to develop 12 essential digital literacy skills.

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