

GBRSAC
Digital Literacy Workgroup
DLCS Framework Proposal
February 2024

**Proposal to Amend MA Digital Literacy &
Computer Science Framework**

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Table of Contents

Statement	2
Computing and Society [CAS]	3
a. Safety and Security	3
b. Ethics and Laws	3
c. Interpersonal and Societal Impact	4
Digital Tools and Collaboration [DTC]	5
a. Digital Tools	5
b. Collaboration and Communication	5
c. Research	5
Computing Systems [CS]	6
a. Computing Devices	6
b. Human and Computer Partnerships	6
c. Networks	6
d. Services	6
Computational Thinking [CT]	7
Inquiries & Contact	7

Statement

Despite how much technology has changed since 2016, the Massachusetts Digital Literacy Framework remains unchanged and does not reflect the rapidly advancing technological landscape of 2024. As student representatives from the GBR SAC Digital Literacy Workgroup, we have reviewed the current framework, and we are advocating for it to be amended to better serve the peers we represent. By writing this document, we hope to collaborate with DESE, and other educational bodies in Massachusetts, to make these changes a reality.

This document outlines the various changes that we would like to propose in the form of additions to the curriculum framework. Our proposed changes are organized in four strands corresponding with those described in the current framework, with subgroups by grade level.

Computing and Society [CAS]

a. Safety and Security

- AI - The framework should be amended to include the topic of safety with regards to artificial intelligence (AI). Across all grade levels, we believe the addition of explanations as to how to approach using AI in a way that protects the user's safety is important, considering the recent increase in AI's prevalence.
 - For K-2: Introduce the idea of AI in a basic and comprehensible way.
 - For 3-5: Explain the importance of not oversharing personal information with AI.
 - For 6-8: Continue to explain important safety measures when dealing with AI and introduce the ways AI can use the user's personal information.
 - For 9-12: Ensure students leave high school with a good understanding of how AI works and how it can use the user's personal information in potentially dangerous ways.
- Cyber bullying - The framework needs to reinforce the idea that cyberbullying is unacceptable, and discuss the potential consequences. Simply teaching students how to identify cyberbullying is not equivalent to preventing it.
 - For K-2: Introduce the idea of cyberbullying to students.
 - For 3-5: Ensure students understand that cyberbullying is equally as harmful as non-cyber bullying.
 - For 6-8: Continue to enforce the idea that cyberbullying and being unkind on the internet is harmful and stress the importance of digital footprint, as 6-8 is a common time for students to get social media access. Ensure students are familiar with the appropriate and responsible etiquette of the internet and what should and shouldn't be shared.
 - For 9-12: Stress the importance of digital footprint and real-world consequences of online behavior, particularly in life beyond secondary school.

b. Ethics and Laws

- AI - The framework around ethics and laws of the internet is currently robust and fulfills students' needs, with the exception of its lack of inclusion of information regarding artificial intelligence. By including information about AI, we will bring this framework closer to modern standards.
 - For K-2: We have no proposed changes for these grade levels at the moment.
 - For 3-5: When teaching students about plagiarism and what is ethical, ensure they understand that using AI to do an assignment is not their own work, and that it is an unethical shortcut that hinders their learning.
 - For 6-8: Provide students with a more nuanced understanding of when AI usage is acceptable, especially in a real-world context.
 - For 9-12: The current framework states that students must "Model mastery of the school's Acceptable Use Policy (AUP)". AI should be included in all school Acceptable Use Policies, and the state should consider standardizing policies across districts. Furthermore, the current framework calls for students to "Analyze the impact and intent

of new technology laws” and we think it is important that current AI laws be brought into this discussion.

c. Interpersonal and Societal Impact

- Personal Impact - It is important to ensure that students with access to the internet and online communication develop a strong understanding of their potential to influence others, in both positive and negative ways. While the current framework does address this, there is potential to do so in a more robust way.
 - For K-2: Provide students with a basic understanding that, on the internet, they can be interacting with other individuals with real feelings.
 - For 3-5: Ensure students understand that, through use of the internet, they have the ability to seriously impact others and society, both for better and for worse.
 - For 6-8: This is the age that many students get access to social media and are unsupervised during their time on the internet. For this reason, they must understand the effects of cyberbullying, as well as the opportunity they possess to positively impact others through technology.
 - For 9-12: We have no proposed changes for these grade levels at the moment.
- Digital Footprint - The current framework lacks adequate information regarding the importance of digital footprint, especially given the current digital age. For grades 6-8 and 9-12, it is important for all students to be aware of their digital footprint, and the consequences a poor digital footprint can have, especially when applying for college or a job.
 - For K-2: We have no proposed changes for these grade levels at the moment.
 - For 3-5: We have no proposed changes for these grade levels at the moment.
 - For 6-8: Ensure that all students understand that anything posted on the internet, sent to another person via text or email, or otherwise communicated on any online platform, can never truly be deleted. Furthermore, students should be encouraged to think before they post while navigating social media and other online communication.
 - For 9-12: Students should continue to be reminded that the way they behave on the internet is a reflection of who they are as a person. Students should have an understanding that anything they post or support online can be addressed and used to characterize them by potential college admissions officers or employers.

Digital Tools and Collaboration [DTC]

a. Digital Tools

- New Technology - The current framework does not fully capture the variety of digital tools and applications that have been developed since 2016. Given the context of the pandemic, students have been introduced to digital tools at a younger age, and understanding how to use these tools is key to success in this digital age. A special emphasis should be placed on AI, since it is a recently developed tool that students have not received much instruction about.
 - For K-2: We have no proposed changes for these grade levels at the moment.
 - For 3-5: The current framework states that “Upper elementary students learn to differentiate tasks that are best done by computing systems or digital tools and those best done by humans.” However, the recent growth of AI blurs these lines. Computing tasks and human tasks really aren’t so distinct anymore, and the usage of AI to aid human work should be discussed.
 - For 6-8: We have no proposed changes for these grade levels at the moment.
 - For 9-12: When students are learning which digital tools are best to use to complete a task, AI should be included in this discussion, and they should learn the various ways that AI can help in an ethical manner.

b. Collaboration and Communication

- Across all grade levels, it is important to ensure that students have an understanding of how to use tools such as Google, Drive, Docs, Sheets, and Classroom. Students should also be comfortable using video conferencing platforms such as Zoom and Google Meet. In the aftermath of the COVID-19 pandemic, these platforms have become commonplace in the classroom, and learning how to use them is crucial to success in a digital learning environment.

c. Research

- Across all grade levels, the framework for teaching students appropriate ways to conduct research must be updated to include new technological innovations. The current framework calls for students to “Gather, organize, analyze, and synthesize information using a variety of digital tools.” When learning best practices for these tools, they should also be taught about AI as a tool. Students should be provided with current information regarding the use of AI in their research and the specific regulations regarding how and when AI can be used effectively and ethically.

Computing Systems [CS]

a. Computing Devices

- Across all grade levels, the Computing Devices section should be updated to encompass recently developed devices and applications. Furthermore, an understanding of how AI functions should be included in this target. DESE should consider what a good age to introduce students to AI is, and should determine how in-depth this instruction should go at each grade level. These decisions should be supported by data on the extent to which students are able to comprehend these topics given their age.

b. Human and Computer Partnerships

- AI - Among the many updates related to AI that need to be made, this is one of utmost importance. The current framework seems to emphasize the binary relationship between humans and technology, but with AI's increased accessibility and convenience, all students should understand the fundamentally intertwined relationship between humans and AI. Students should have a solid understanding of what AI is capable of doing, and how to recognize when it is and is not acceptable to utilize.
 - For K-2: Explain that even though AI is not human, despite large language models like ChatGPT attempting to replicate human thought, AI can still help people with daily tasks in life.
 - For 3-5: Demonstrate how AI is capable of doing certain tasks, but incapable of completing others. Additionally, provide a basic explanation as to how AI works. Emphasize the fact that it can sometimes appear or sound like a human, but caution students against providing it with personal information or interacting with it excessively.
 - For 6-8: Elaborate on the different instances when AI is and is not appropriate to use, and explain that the use of AI should never replace a students' learning, but if used effectively and ethically, AI can be used to aid learning.
 - For 9-12: Continue to ensure students understand when and how AI can be used appropriately and what it is capable of, particularly in real-world contexts that will be relevant to students after secondary school.

c. Networks

- We have no proposed changes for this section at the moment.

d. Services

- We have no proposed changes for this section at the moment.

Computational Thinking [CT]

- We have no proposed changes for this section at the moment.

Inquiries & Contact

For further inquiries, please reach out to a member of the GBR SAC Digital Literacy Workgroup.

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