



OFFICE OF
Educational Technology

Launching a Digital Literacy Accelerator

An Overview and Lessons Learned

U.S. DEPARTMENT OF EDUCATION

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Introduction

A strong democracy relies on an informed, thoughtful, and engaged citizenry. Digital technology and social media are rapidly changing the way that citizens consume, create, and share information. Many learners spend significant time each day online, yet they have never received training on how to engage meaningfully with the information they encounter. Our country's civic present and future depend on our ability to strengthen learners' digital literacy skills, particularly in relation to combating misinformation and promoting civil discourse in digital spaces.

The Office of Educational Technology (OET) at the U.S. Department of Education is actively looking for ways to promote digital literacy. OET believes that one effective way to support digital literacy is through innovative educational technology (edtech) tools created by a diverse array of developers who have a range of different backgrounds, life experiences, and education.

To support the development of these tools, OET—with help from WestEd, a nonpartisan, nonprofit research, development, and service agency—established the Digital Literacy Accelerator (DLA), a project that ran from August 2021 to April 2022. The DLA recruited teams of instructional designers and edtech developers to create and pilot edtech innovations focused on digital literacy. Specifically, the DLA was established to surface innovative edtech ideas and strategies to support middle school, high school, and postsecondary learners in (a) evaluating and combating misinformation and (b) promoting civil discourse in digital spaces.

The DLA supported teams in developing their edtech innovations through ongoing access to convenings, experts, and resources to strengthen their skills in design thinking and early phase development.

This report, coauthored by OET and WestEd staff, is aimed at agencies interested in supporting edtech or digital literacy accelerators, as well as education leaders interested in supporting strategies to address misinformation.



Definitions

The American Library Association's Digital Literacy Task Force defines **digital literacy** as “the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills” (Digital Literacy Task Force, n.d.).

In this report, the term **misinformation** refers to false or inaccurate information created with a deliberate intention to mislead people.

In this report, the term **innovation** refers to innovative edtech products, which include interventions, tools, games, or curricular programs.

This report examines the following questions about the DLA:

- What did OET and WestEd learn from research and the current state of the field of digital literacy to develop and scale innovations?
- What were the problems teams were trying to solve?
- What did OET and WestEd learn when teams applied their innovation to the identified problem?
- What are the barriers to new innovations in the digital literacy space?
- What best practices can OET and WestEd extract from the accelerator and apply to future thinking?
- Based on OET and WestEd's work with the DLA, what recommendations do we have for federal agencies to support the field of digital literacy?

1 The Digital Literacy Accelerator

AN OVERVIEW

IN THIS SECTION

- Goals of the Digital Literacy Accelerator
- Thought Leadership
- Activities Supporting the DLA

The DLA, which ran approximately the length of the 2021/22 school year, was designed to create a coherent system of support for the design teams, from applying to be part of the project, to onboarding, to iteratively refining the innovation, and, finally, to presenting at a capstone event.

Goals of the Digital Literacy Accelerator

The DLA's overarching aim was to recruit teams to develop and pilot edtech innovations. To do so, WestEd and OET organized the DLA around the following four goals:

- Surface innovative ideas and strategies that support learners in evaluating and combating misinformation and promoting civil discourse in digital spaces.
- Provide teams with an opportunity to develop and demonstrate a “proof of concept” of these ideas by providing access to convenings, expert reviewers and design coaches, and resources to strengthen skills in design thinking and early phase development.
- Provide tangible early proof points of success in either of two forms: (a) showing signs of promise for school-driven (in-school, after-school, or at-home) interventions or tools that can improve a learner's digital literacy or (b) providing key learnings for future iterations for improving skills related to digital literacy.
- Engage and motivate a diverse cadre of postsecondary students and professionals to address issues related to digital literacy and pursue work in edtech.

The DLA supported participants in iteratively developing and improving new ideas and in applying those ideas to education innovations.

Thought Leadership

To provide a series of supports over the course of the project, OET and WestEd staff relied on thought leadership from a Technical Working Group (TWG), as well as experts in the field who acted as design coaches providing guidance and feedback to participating DLA teams throughout the process.

Technical Working Group

The DLA's TWG was convened to guide the work of the DLA. The TWG was an ad hoc group of invited experts from communities of teaching and learning, edtech development, industry, and the nonprofit sector. Of those who accepted the invitation, the TWG consisted of teachers, professors, edtech developers, and consultants.¹ Together, these TWG members informed how OET and WestEd worked with the DLA teams to best reach shared goals.

TWG members met synchronously on Zoom four times and provided additional feedback on the design of the convenings. They also provided ongoing support to teams through asynchronous communication. The primary role of the TWG was to shape the experience for DLA participants. The TWG's contributions included informing the processes for recruiting potential participants, establishing selection criteria by which participants would be chosen, informing agendas of a series of convenings for DLA participants, and setting expectations for between-convening activities.

DLA Design Coaches

The DLA also included a group of design coaches² who provided DLA teams with individual and small-group consultations regarding the development of team innovations. Design coaches were chosen for their expertise in instructional design, design thinking, and edtech design. Individuals from the TWG as well as staff from WestEd not specifically tasked with running the DLA were identified to be design coaches.

Design coaches worked closely with up to two teams. At different points over the course of the DLA's life cycle, the design coaches reviewed teams' workplans and provided written support to help teams think more deeply about their work and engagement in the design process. In their final convenings with DLA participants, design coaches facilitated one-on-one conversations with each team. These final meetings were designed to acknowledge the strengths of each innovation as well as to help teams plan their next 6 months of work after the DLA ended. This was an intentional strategy to encourage teams to plan beyond the duration of the DLA.

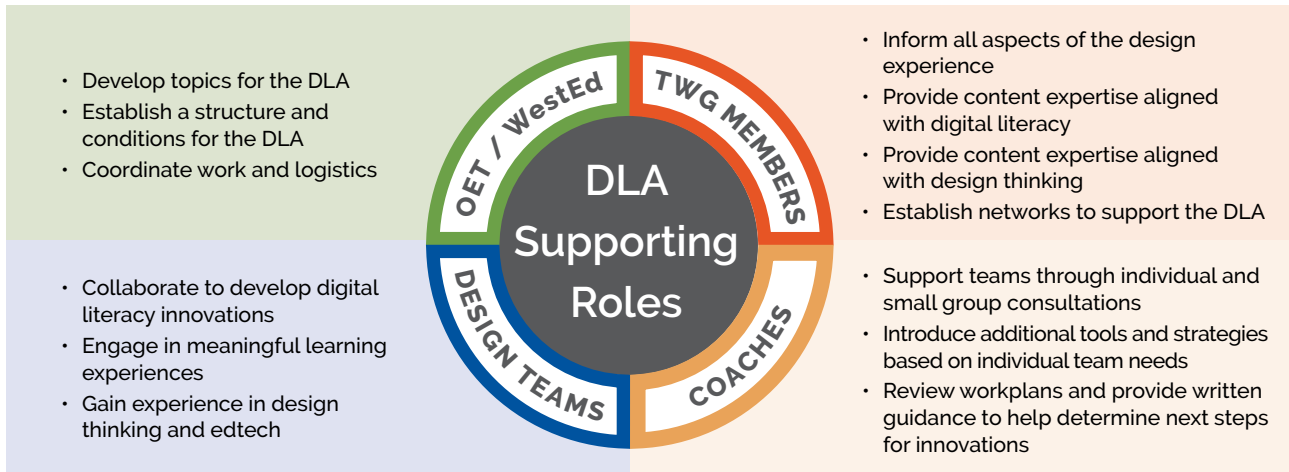
Additional Thought Leadership

Additional thought leadership came from OET and WestEd. Lead staff from these two organizations established the parameters for the DLA (i.e., the logistics and timelines for meetings, independent work, and deliverables) and coordinated work across this effort. Figure 1 illustrates the roles and interdependencies among these three groups, as well as the design teams that they supported, in establishing and carrying out the work of the DLA.

¹ Refer to Appendix A for a complete list of TWG members, their affiliated organizations, and their roles.

² Refer to Appendix B for a complete list of coaches, their affiliated organizations, and their roles.

Figure 1. Supporting Roles in the DLA



Activities Supporting the DLA

These four groups—OET and WestEd, the TWG, the design coaches, and the design teams—worked together throughout the duration of the DLA. Figure 2 shows a timeline of their key activities.

Figure 2. Timeline of Activities for the DLA

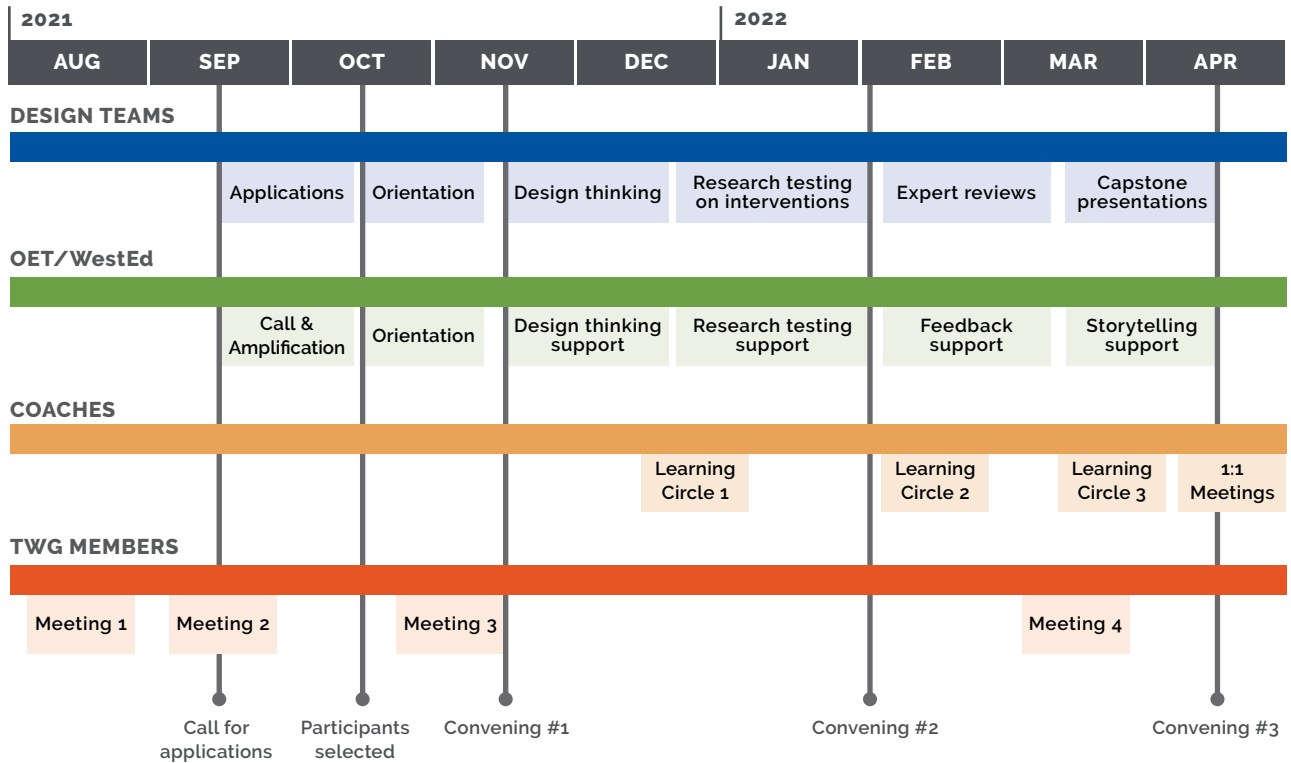


Figure 2 outlines the multiple ways in which DLA participants were supported. Most of these activities were synchronous, and all were online. Some activities (e.g., the orientations and convenings) were done as a whole group involving all participating design teams, and others (e.g., the Learning Circles) were facilitated in smaller groups. In some cases, OET and WestEd supported one-on-one events to ensure all teams were making progress toward their individual team goals.

Recruitment and Application Process

The process for recruiting DLA design teams relied on TWG members, WestEd, and OET reaching out to their respective networks. OET and WestEd's goal was to reach an inclusive and representative pool of applicants that would tackle digital literacy issues using unique perspectives and strategies. The DLA was aimed at educators, postsecondary and graduate students, and others who have innovative ideas related to digital literacy but who may not have had prior experience or expertise in designing and developing edtech.

To reach this pool of applicants, OET developed a page on its website to highlight the opportunity. In addition, OET, WestEd staff, and TWG members used social media channels to announce the DLA. WestEd and OET facilitated one pre-application webinar and provided a 1-month window to apply. We reviewed all applications in a 2-week period and began the onboarding process in September.

Of the 13 teams that applied to be part of the DLA, 10 submitted complete applications that met the minimum criteria for participation.³ These 10 teams were invited to participate in the accelerator, and all 10 accepted. The teams varied in size, experience, and expertise. Some teams included a mix of expertise, such as professors, computer programmers, and instructional designers, while other teams were made up solely of professors, teachers, or graduate students.

Orientation and Convenings

OET, in collaboration with WestEd staff, launched the DLA with an orientation session in October 2021 to set expectations of participation and intended outcomes of our work together. Over the course of the project's duration, teams were supported with three virtual convenings, organized into two 4-hour sessions for each convening. These sessions were scheduled a week apart to allow participants time to process what they had learned and to improve upon their innovations in between sessions. The sessions were designed to help the teams launch and accelerate their work to present a minimum viable product (MVP) in April 2022. Features of the MVP included documentation of engaging in the design process, summaries of findings from empathy interviews that led to the design and redesign of an innovation, a draft logic model, expected outcomes of using the innovation, and an iteration of the innovation shared in a brief 2-minute video.

The Convening 1 sessions were designed to motivate and launch teams in their work. Convening 2 sessions, built on what OET and WestEd learned in Convening 1, provided more customized support to teams, including guidance in the design of their work. Convening 3 was the capstone convening. Its two sessions were structured to share final proofs of concept and for teams to celebrate completion of the DLA. Table 1 details each convening by session with the goals.

³ OET's [DLA webpage](#) has specific information on the scoring rubric used to vet the applications.

Table 1. Summary Goals for Each Convening, by Session

Convening and Session	Goals
Convening 1, Session 1	<ul style="list-style-type: none"> • Establish meeting dates and expectations for participation with teams and begin building relationships among teams. • Discuss, share, and learn from one another about the topics of digital literacy and misinformation. • Learn about participatory design and user testing, and have each team begin to develop a plan for how they will test and research their innovation. • Begin the journey of learning about research-based and equity-centered design and begin making progress together as a community.
Convening 1, Session 2	<ul style="list-style-type: none"> • Establish community agreements with teams and continue building relationships among teams. • Enable teams to discuss, reflect, share, and learn from one another regarding the development and testing of innovations. • Consider the educator perspective in the development of testing of innovations.
Convening 2, Session 1	<ul style="list-style-type: none"> • Discuss, share, and learn from experts and one another regarding the topics of digital literacy and misinformation, the design process, and instructional approaches. • Learn about external reviews, receiving and using feedback, and interactive prototype development.
Convening 2, Session 2	<ul style="list-style-type: none"> • Discuss, share, and learn from experts and one another regarding the process of storytelling in preparation for the Convening 3 capstone presentations.
Convening 3, Session 1	<ul style="list-style-type: none"> • Teams present their MVP and receive completed feedback forms on their innovation from all participating audience members.
Convening 3, Session 2	<ul style="list-style-type: none"> • Teams acquire a well-rounded view of their MVP as well as a 6–12-month plan for how they will incorporate feedback to move beyond the MVP stage.

Learning Circles

As shown in Figure 2 and described in Table 2, the DLA had three Learning Circles over the duration of the project. The Learning Circles were designed to allow teams to meet in small groups to build support and knowledge about the design process. Each group had roughly three to four members, and each member

represented a different team. These meetings were intended to be times for the teams to workshop ideas with one another and get additional guidance and support from OET and WestEd. Each Learning Circle was facilitated by a WestEd staff person.

These meetings surfaced key needs that the teams had and, as a result, OET and WestEd were able to offer additional resources to support the teams in their work. For example, teams indicated needing support in developing logic models. Accordingly, WestEd staff structured opportunities to discuss how to develop a logic model,⁴ provided online resources with guidance on the development of a logic model, and arranged for teams to have one-on-one design coaching on different drafts of their logic models. Learning Circles acted as the connective thread in between convenings and allowed OET and WestEd to learn about teams’ progress and the challenges that design teams encountered. Table 2 identifies the goals for each of the three Learning Circles.

Table 2. Learning Circle Goals

Learning Circle	Goals
1	<ul style="list-style-type: none"> Share progress and celebrate successes since Convening 1. Enable teams to start discussing, reflecting, sharing, and learning from one another regarding the development and testing of innovations.
2	<ul style="list-style-type: none"> Discuss questions and concerns, along with reflections from external reviews, with other teams in individual Learning Circles. Receive an introduction to logic models and how they can be used to help in the development of teams’ innovations.
3	<ul style="list-style-type: none"> Workshop capstone presentations. Provide feedback on team presentations.

Ongoing Communication With DLA Teams

In addition to formal meetings, OET and WestEd developed alternate ways to ensure ongoing communication with the DLA teams. One method was the use of a listserv, open to OET and WestEd staff plus all DLA team members, to broadly share resources and ideas. Listserv members contributed to the listserv conversation with suggested resources and ideas to support teams through their DLA learning experiences. Another method of communication involved one-on-one meetings with OET, WestEd staff, and each team to ensure everyone was clear on the work expectations and to give teams the opportunity to raise questions that might not have come up in other forums. These touchpoints were a powerful way to build relationships with the teams early in the process.

⁴ In this instance, a logic model is a structured description of how a specific product achieves an intended learning outcome.

2 Research Review

DIGITAL LITERACY, MISINFORMATION, AND EDTECH DESIGN

IN THIS SECTION

- Identifying Sources of Misinformation and Pathways to Improved Digital Literacy

To inform the structure and focus of the DLA, OET and WestEd conducted reviews of existing research and guidance about digital literacy, misinformation, edtech design, and developing and scaling innovations. Relevant research and resources were also shared with DLA teams to help guide them in the design and development of their innovations.

Identifying Sources of Misinformation and Pathways to Improved Digital Literacy

To have a knowledgeable and engaged digital citizenry, people need access to accurate and reliable information and need to feel empowered and safe in online settings. Though rumors, gossip, and propaganda have always existed, misinformation is increasingly problematic in digital and online spaces (e.g., social media) due to the ease of creating content that is not required to have any baseline fact-checking and the speed and scale at which ideas and messages can spread. Basic automated techniques such as “bots,” as well as more sophisticated developments in artificial intelligence, further exacerbate the production, proliferation, and targeting of false and inaccurate content. Indeed, recent research reveals that misinformation is shared more quickly and broadly than accurate information (Vosoughi et al., 2018). Though some people deliberately share disinformation, defined as false or inaccurate information created with a deliberate intention to mislead people, many more individuals unwittingly share misinformation (misleading or inaccurate information not necessarily created to deliberately mislead). Instead of perpetuating disinformation and misinformation, edtech can be used to develop resources to help combat misinformation and reinforce critical thinking skills.

Why Focus on Promoting Digital Literacy?

Current global efforts to limit misinformation are not sufficient (van der Linden, 2022), and indeed, recent research reveals that misinformation is shared more quickly and broadly than true information (Vosoughi et al., 2018). Accordingly, it is critical to promote digital literacy to help people better understand how technologies (e.g., platforms, algorithms, emerging technologies) are used to accelerate and scale the spread of misinformation by influencing the content and delivery of messaging. Having digital literacy skills also enables individuals to be thoughtful producers and amplifiers of content as they contribute new ideas or reshare the ideas of others.

What Are Ways That People Perpetuate Misinformation?

People have a variety of inherent biases that influence how they understand and share ideas and information. Some of these biases are personal (e.g., Buchanan, 2020; Dunning, 2011) and others are reinforced in groups (Allcott & Gentzkow, 2017; Asch, 1956; Vegetti & Mancosu, 2020). These biases can, both consciously and unconsciously, lead to perpetuating misinformation. For more information on personal and group bias, read the OET blog series on [understanding the hurdles of digital literacy](#).

What Does Research on Technology Suggest to Combat These Individual and Group Biases?

Combating misinformation and promoting civil discourse can be approached at the individual or system level by either changing how people think or changing the features of digital environments. Education can help people understand the issues associated with misinformation and acquire skills that make them better contributors and consumers of information. Digital systems can be modified to help people make better choices or limit their access to misinformation.

A recent rapid evidence assessment of online misinformation and media literacy (Edwards et al., 2021) identified key observations regarding different technology-based interventions. The review focused on studies that measure the effectiveness of interventions specifically designed to address misinformation. Based on this assessment, the authors highlighted the following four features as essential considerations for developing technology-based interventions to combat misinformation:

- **Engage the user in critical thinking:** The analysis by Edwards et al., supported by other research, suggests that helping the user (e.g., student) think more critically when viewing any material online—text, graphics, and multimedia—is an essential first step in combating misinformation. Tools that help the user to engage in critical thinking and ask questions about the source of information are important components of a successful innovation. An innovation can be enhanced by providing opportunities for the learner to step back and reflect on what they are reading or viewing. An important first step in helping people be thoughtful consumers of information is to encourage them to critically evaluate the source of information (Gersema, 2020). As people tend to focus on content, drawing their attention to the source may be most effective. One study (Vafeiadis et al., 2019) found that critiquing the source of fake news/misinformation is more effective than refuting the message. Refuting the content instead of the source actually increased the belief in the original misinformation. Some questions to consider when analyzing a source are as follows: Is the author

established and credible? Where do embedded links and references point to? Does the information come from a niche group or from a diverse range of individuals and sources? When was the piece published or last updated? These guiding questions can be considered when designing an innovation to support digital literacy.

- **Interventions based on critical thinking are more likely to promote digital literacy than interventions based on rapid and intuitive thinking:** Technology often acts as an accelerator—it gives learners access to more information in a very short period of time. With the support of technology, a learner can access thousands of points of reference on one topic in mere seconds. Think about how fast a Google Search is and all the information it yields. But how often do people stop to consider the question: How trustworthy is this information? A study found that “information inundation” can lead to the perpetuation of misinformation because individuals do not have time to analyze the vast amounts of information presented to them (Allon et al., 2021). As learners, we use search engines and websites as tools to access volumes of information on any topic at lightning speed. How do we slow the immediacy of this information sharing so that the learner takes the time to process and think critically about what they are reading or viewing? Research suggests that engaging the user in a slower paced process to promote critical thinking will help alert them to issues of misinformation (Gersema, 2020). In contrast, developing innovations that engage the learner in rapid or intuitive thinking will not be as successful in addressing misinformation.
- **Research suggests that games and gamification enable users to engage more critically with misinformation than do other interventions:** Games are powerful tools to help introduce a learner to a concept. Early research on games and gamification to support learners’ understanding of digital literacy and misinformation suggests this strategy has positive outcomes (Roozenbeek & van der Linden, 2020). Supporting the design of different games—such as simulations in real or fantasy worlds, platforms for one or more players, and adaptive designs that adjust to the learner—will enable OET and WestEd to study the nuances of engagement and understanding of digital literacy. We hope to use examples from the DLA to contribute to this nascent body of work.
- **Research suggests that the ability to critically evaluate the quality of sources is a key factor in being able to detect misinformation:** Working with developers to establish and maintain the trust of their users is paramount in supporting digital literacy and combating misinformation. The onus of establishing and maintaining the trust of its users is on the developer. The field would benefit from more innovations that emphasize this aspect in their designs. This knowledge could potentially contribute to a core set of standards to support learners.

The DLA teams were encouraged to develop innovations with these findings in mind. Additional research was shared with teams to encourage them to consider different aspects in their innovations, including source interrogation, which involves focusing on the sources of misinformation (Vafeiadis et al., 2019); sharing explicit examples of misinformation to condition users to all of the different ways in which misinformation can be shared (Pennycook et al., 2021); and helping learners to understand the role that algorithms play in shaping access to information (West, 2017).

Which Organizations Are Producing Resources to Support Digital Literacy?

Many individuals and organizations understand the importance of digital literacy skills in promoting an informed and engaged citizenry and recognize the urgent need to produce resources and tools that combat misinformation and promote civil discourse. Organizations including [DigCitCommit](#), the University of Washington's [Center for an Informed Public](#), [Common Sense Education](#), and [RAND's](#) initiative on countering "Truth Decay" have recently focused efforts on promoting awareness of these processes and how they impact people's behavior online. Resources from these organizations were shared with DLA team members and, in some instances, individuals representing these organizations came to speak at DLA convenings so DLA participants could learn firsthand about their work and ask questions to inform their own innovations.

3 Digital Literacy Accelerator Teams

PROJECT OVERVIEWS

IN THIS SECTION

- Profiles of 10 DLA Teams

The following profiles introduce our 10 DLA teams. Each profile includes a description of the team’s innovation, its intended users, and its intended outcomes. OET is proud to have supported the development of the following projects through the DLA, and the inclusion of their work should not be considered an endorsement of content, curriculum, instructional materials, technologies, etc.

Agents of Influence

Description of innovation: Agents of Influence is an interactive game designed for middle school students to build habits that will last a lifetime and to prepare students to deal with misinformation they will encounter in high school and into their adult lives. In this innovation, students engage with characters in a parallel world where they are emotionally invested in the problem of misinformation. The game comes complete with personalized performance feedback and recommendations on resources to improve students’ skills to combat misinformation. Currently, this game can be downloaded for use on a Mac or PC, and there are future plans to develop paid web-based iOS and OS versions.

Users: Middle school students (grades 6–9)

Intended outcomes: By engaging with this innovation, users will

- gain an understanding of the topic of misinformation and disinformation;
- develop the ability to separate fact from opinion, critically analyze information, have respectful conversations, and verify information by identifying logical fallacies and engaging in lateral reading to identify trends and discrepancies in information across sources; and
- increase confidence in verifying information by playing a game in which they will have respectful conversations, critically analyze articles, and verify information on a fictional social media feed.

Critical Players

Description of innovation: Critical Players is a prototype tabletop game with supporting materials that promote players' development of digital literacy skills through the content of the game, mechanics of gameplay, and class dialogue. The game explicitly engages players in behaviors that mirror social media use to build awareness of how information is privileged and shared. It is intended for critical discourse to take place during the game. To promote more formalized critical discourse in the classroom, a guide provides scaffolding for deconstructing gameplay, describing and questioning experiences, and engaging in difficult conversations. As development of this game prototype continues, there will be both an augmented reality overlay to the physical game that will allow information on current events to be incorporated and a game-design component that enables students to engage in critical conversations about digital literacy as they participate in collaborative design.

Users: Middle school students (grades 6–9, ages 11–14) and their teachers

Intended outcomes: By engaging with this innovation, users will, in general, develop better digital literacy skills through play and be exposed to strategies for engaging in civil discourse. Specifically, students will

- discover strategies used by social media tools and users for distributing media and information,
- practice behaviors common to social media use,
- build dispositions for being critical consumers of information and media,
- reflect on motivations for various social media behaviors, and
- practice critical discourse skills to engage in healthy conversations with peers.

Specifically, teachers will

- teach digital literacy skills specific to social media;
- guide critical conversations about social media, misinformation, and online communication and safety; and
- build a community of critical consumers of information and media.

Fake News Fitness

Description of innovation: Fake News Fitness (FNF) works toward combating misinformation and disinformation by supporting students to determine the quality of an article making a claim. FNF can be used either in the context of a classroom inquiry in a specific content area (e.g., science, social studies, English language arts) or as a component of a digital literacy course. FNF includes a 2-week instructional unit with an accompanying Chrome browser extension, which pulls data from a page to help students evaluate the credibility of a website. It is designed to run as a partnership between a digital literacy/computer science teacher or a library/media specialist and a content-area teacher. The extension creates two versions of a sidebar form: simple (for initial exploration) and detailed (including claim–evidence–reasoning tracking). The extension saves the form data as a file for commenting to facilitate student discourse and collaboration.

Users: Secondary school students and their teachers

Intended outcomes: By engaging with this innovation within the 2-week unit, users will

- identify misinformation and disinformation in web-based articles and justify that identification;
- develop a conceptual map of web-based information sources and agents; and
- track claims, evidence, and reasoning from articles to sources and source data.

Journalism Jumble

Description of innovation: Journalism Jumble is a digital application that generates real-world social media posts for teachers to use in classroom discussions. These examples allow students to compare and contrast online content and learn to better evaluate a social media post's credibility, whether it is a tweet or a Facebook post. Teachers can search for unbiased examples on the application based on topics like COVID-19 vaccinations, climate change, or election results. Teachers can also use the application to generate these examples before class time to ensure they are appropriate for students. This innovation aims to teach digital literacy skills by pulling current examples from the news source that is most popular with young people: social media. By focusing on this medium and the stories that students see in their news feeds every day, Journalism Jumble aims to make digital literacy content authentic, relevant, and engaging.

Users: High school students (grades 9–12) and their teachers

Intended outcomes: By engaging with this innovation, users will

- increase teacher use of authentic, timely examples in digital literacy instruction;
- decrease user time and stress in locating authentic, timely examples for in-class use; and
- increase student participation in digital literacy learning.

Keeping It Real: Using Deepfakes to Combat Misinformation in Multiple Languages

Description of innovation: Keeping It Real is an open-access educational website that will serve as a clearinghouse for information related to deepfakes (synthetic videos) and their potential impact on history and society. This innovation addresses the dangers of deepfakes by engaging the target audience in four main website features: a customized deepfake that warns viewers about the dangers of deepfakes, information that showcases how deepfakes can potentially impact the historical record, the impact deepfakes currently have in society, and resources to help discern and reject misinformation.

Users: Postsecondary and adult learners

Intended outcomes: By engaging with this innovation, users will

- develop a greater understanding of deepfakes and the challenges they present to digital literacy and
- increase their confidence to discern misinformation and promote digital literacy.

Learning Beyond Grades

Description of innovation: Learning Beyond Grades is a learning program that brings school leaders, teachers, and parents together to cocreate with students and help them thrive in the digital age. Learning Beyond Grades is partnering with Miro to support education professionals in reimagining classroom learning experiences, using the workshops and toolkits provided by Learning Beyond Grades. This innovation helps students master digital literacy skills by partnering with school leaders to make their vision of learning into reality, empowering teachers to meet the learning needs of the students in the classroom, creating access to students' progress so parents can foster deeper learning at home, and enabling students to take ownership in their learning to become lifelong learners. This innovation will also equip the teachers with the guidance, resources, and support to integrate digital literacy into the subjects they teach.

Users: High school (grades 9–12) teachers of all subjects

Intended outcomes: By participating in the Learning Beyond Grades learning program, teachers will gain the skills and toolkits to

- develop a stronger awareness and deeper understanding of how to integrate digital literacy into the subjects they teach,
- better recognize and measure digital literacy skills and behaviors in the classroom, and
- create a shared language for the school community to support students in thriving in the digital age.

Little Tech

Description of innovation: Little Tech is an educational and support service for adults seeking to moderate their use of digital technology. This innovation helps adults learn how to monitor and modify their use of social media and smartphones to support their online and offline well-being. Through online study and support groups, participants will complete weekly challenges and discussions to recognize and overcome the manipulative design features of smartphones and social media in their lives. Little Tech addresses the problems of digital overuse, persuasive technology, and the lack of digital media literacy services for adults by empowering learners to take control over when, where, and how they connect online while simultaneously cultivating community and collaboration for adult learners looking for accountability in their technology usage.

Users: Adult learners looking to decrease the amount of time spent interacting with technology

Intended outcomes: By engaging with this innovation, users will

- critically reflect on their social media behaviors,
- identify the design features and social implications of smartphones and social media platforms,
- develop strategies for self-regulating technology use and transition from habitual to purposeful uses of technology, and
- engage with other Little Tech users as accountability partners.

Media Literacy Collaborative

Description of innovation: Media Literacy Collaborative is a learning analytics dashboard that intends to support the teaching and learning of media literacy and civic reasoning in the secondary classroom. The dashboard displays student- or classroom-level data on key skills and dispositions related to media literacy and civic reasoning, gathered through specific classroom learning tasks. The initial prototype presents student-level data to teachers in order to facilitate teacher reflection on student performance and growth, inform subsequent instruction and lesson planning, and build teacher knowledge and efficacy for media literacy instruction. Because the innovation will be developed and piloted within a supportive partnership of university researchers and teachers committed to designing effective media instruction, the dashboard will help the partnership understand what works for improving students' media literacy and civic reasoning.

Users: Middle and high school teachers

Intended outcomes: By engaging with this innovation, users will

- build knowledge and efficacy for teaching media literacy and civic reasoning and
- make more frequent and purposeful data-informed instructional decisions that will potentially improve students' dispositions, reasoning skills, and habits for effective media literacy and civic reasoning.

SteamHead

Description of innovation: SteamHead is a game-based approach to learning in which students select and research topics of importance to them and then design a fashion tech runway garment to exhibit and raise interest for their advocacy cause. The MakeFashion Edu Advocacy Course teaches digital literacy by presenting students with high-stakes situations in which their advocacy topics are presented to a physical public audience as well as to a larger global online audience. The professionalism of the platform directly affects the student's motivation to ensure that misinformation and disinformation are carefully avoided. The approach, training, and activity materials have been published online, for free, on a digital platform.

Users: Middle school students (grades 6–9)

Intended outcomes: By engaging with this innovation, users will

- accurately identify topics, facts, and communities in an online setting;
- discern the truthfulness of online statements from misinformation; and
- educate students on navigating potentially controversial topics by identifying high-quality information to further their discourse and debate among peers.

YAS!

Description of innovation: YAS! is a cooperative game to foster agency for youth digital rights. This innovation engages players on an adventure through Enchantedland to collaboratively create a healthy digital ecosystem. By completing tasks that bring to life the community as a classroom using augmented reality, players learn how their decisions create digital footprints that shape the health of Enchantedland's environment. The goal of this innovation is for players to understand how their digital footprints are created and to combat misinformation through data protection.

Users: Primary: Youth ages 11–17; Secondary: Parents/caregivers/educators

Intended outcomes: By engaging with this innovation, users will

- understand their digital rights, including how to exercise and advocate for them;
- learn how their data are collected;
- learn data protection practices and actions to prevent and combat misinformation;
- gain skills in critical thinking, strategic foresight, and risk assessment; and
- practice collaboration, affirmative consent, and design for social impact.

4 Lessons Learned

IN THIS SECTION

- Formative Observations
- Considerations for Supporting Digital Literacy in Education

OET, in partnership with WestEd, conducted formative and summative observations of the DLA and the work of the participating design teams. Drawing on these observations, as well as relevant research on digital literacy and combating misinformation, this section provides reflections and recommendations on digital literacy and future directions for addressing misinformation using different technologies.

Formative Observations

Meetings and Learning Sessions

As described earlier in this report, OET and WestEd organized convenings and Learning Circles to prepare teams to consider their innovations. These events focused on building a shared sense of understanding of the challenges that persist with misinformation and the role that digital literacy can play to address those challenges. From these events, OET and WestEd learned the following:

- Providing key high-level information—in the form of (a) a call to take action to combat misinformation and (b) research about digital literacy and misinformation and a call to action—to anchor our topical focus was helpful in providing a shared understanding of misinformation. In preparation for our kickoff meeting, as well as throughout the lifetime of the DLA, WestEd and OET staff identified and provided teams with up-to-date information on digital literacy. Teams also contributed to sharing relevant research and information related to misinformation to support our shared work.
- A combination of whole-group, small-group, and one-on-one design coaching ensured we were communicating shared expectations for the work but also providing more customized support as needed. Due to the evolving nature of the work, we built our agendas and identified outcomes for all convenings and Learning Circles based on the needs and feedback of the DLA teams. From this experience, we learned that whole-group sessions worked best to introduce teams to leaders in the fields of digital literacy, edtech, and design thinking. We invited leaders in the field to share best

practices and field questions on these topics. DLA participants were very receptive to these shared learning experiences, as they contributed to a greater capacity for developing their innovations. Small groups were helpful to build collegiality between teams and to workshop ideas. In one instance, we facilitated a learning circle where groups of three and four teams practiced sharing their origin stories with one another. This provided an opportunity to share and receive feedback on this important narrative. One-on-one design coaching provided the teams with guidance on how to move their innovations forward. For example, in our final convening, we organized 1-hour consultations with a design coach for teams. During this hour, teams met with an expert to discuss their logic models and plans for their innovation following the conclusion of the DLA.

Expertise and Makeup of the Teams

- Teams came with varying degrees of understanding and skill. Recognizing where teams were in terms of knowledge about digital literacy, misinformation, and the design process were all critical to forming a productive ecosystem for teams to develop their innovation.
- Teams had varying distributions of talent. Some teams had practitioners, while others did not. Teams with a well-rounded representation of teaching, design, and programming expertise had a greater depth of resources and diversity of thought to contribute to their innovation. Future iterations of the DLA should support design teams who are inclusive and diverse and whose members have a range of skills and professional backgrounds.

Instructional Design and Audience

- Teams would benefit from having access to frameworks on teaching and learning. Most teams were lacking a pedagogical framework to drive the development of their innovation. Providing different instructional frameworks, such as [CAST's Universal Design for Learning](#), would help teams to understand how to structure innovations to support instruction and inclusion. Teams would benefit from including practitioners as well as members with learning science expertise and experience.
- Teams needed to refine their intended users and consider the needs of teachers. Some teams thought too broadly, while others did not consider the learning levels of their audience. Across many of the teams, materials were developed for students but not for their teachers. Most of the teams assumed that teachers automatically understood digital literacy and would know how to naturally weave it into their instructional practice. A next step in the design phase would be to develop resources to help teachers integrate these innovations into their instruction.

Iterative Design and Development

- Teams were challenged to find individuals to test their innovations. During the pandemic, it was difficult to get teachers and students to test and provide feedback on early iterations of the innovations. Organizations supporting accelerators should consider providing more networking opportunities for teams to develop and establish relationships with teachers and schools. These relationships would enable the opportunity for greater frequency of communication, testing, and learning from teacher and student interactions.
- Iterating never ends. With each feedback and editing cycle, teams produced more refined designs of the innovation and deeper understanding of their challenges at hand. Innovation is a continuous

cycle of testing, adapting, and improving. With more time, teams would be able to continue to innovate and build upon their ideas.

- Logic models help teams to frame and track their progress and should be introduced early in the process. WestEd staff introduced the concept of logic models at multiple points in the life cycle of the DLA. Upon reflection, it would have been helpful to start all teams with the concept of a logic model and have them build and refine their models over the course of the DLA.

Considerations for Supporting Digital Literacy in Education

What Are the Barriers to New Innovations Related to Digital Literacy?

Perhaps one of the largest barriers to digital literacy innovations is the sheer complexity of this issue itself. Digital literacy is not an easy problem to solve. Thus, OET and WestEd expect the DLA and other efforts to contribute to a deeper understanding of the issue but not solve it in its entirety. Efforts like the DLA can contribute to developing knowledge of how to define, identify, and support efforts to combat misinformation and promote digital literacy. Based on lessons learned from the DLA, the following are high-level observations of barriers in the field to supporting digital literacy and suggestions for how to begin to break down those barriers.

- Overall, there is concern about a general lack of understanding in the field of what digital literacy is. However, realistically, simply understanding the construct of digital literacy is not enough. In addition to building a common definition of digital literacy, we need to support teams to better understand and engage in the design and development process for creating edtech tools and innovations to promote digital literacy. Putting more structures in place, like the DLA, will provide innovators the space and support to cultivate their ideas and develop their innovations based on research on how to combat misinformation as a way to develop digital literacy capacities.
- There is a lack of consistency in the field of education to address digital literacy. There is a lack of standardization in language and also a lack of policies in place to address issues of digital literacy. Lacking a nomenclature and structure makes it difficult for educators and students to build knowledge toward a shared goal of being digitally literate.
- There is no clear direction about how to best develop strategies to address digital literacy for educators and their students. For example, *should designers build a digital-literacy product that can be woven into a curriculum, or should they develop a stand-alone curricular unit focused on digital literacy that can be taught for a specific timeframe?* Better understanding the field of education's needs will allow us to support innovation more intentionally.
- School systems are not always conducive to innovation testing. Policymakers need to understand that “reimagining education” requires innovation; state educational agencies and the U.S. Department of Education should consider waiving certain requirements and policies (e.g., accountability, course credit requirements for students) to the extent that they inhibit innovation.
- There is a lack of standardized tools to measure the impact of digital literacy products in the field. Accordingly, education researchers need to create better measurement tools and techniques. Supporting the field to prototype and test these tools will help us build a system to understand the function and impact of innovations.

What Best Practices Can Be Learned From the DLA and Applied to Future Thinking?

The innovations developed by participating DLA teams have a diverse set of intended outcomes and reach a variety of learners. Across innovations, learners and teachers engage in different experiences designed to address misinformation. Missing from these innovations may be learning groups and modes that might not have been previously considered.

- Many of the interventions proposed by DLA teams focused on students. However, it is also important for these innovations to recognize the importance of teachers in the process of building students' digital literacy. Teams who designed edtech innovations focused on digital literacy may want to ask themselves, *Through our innovations, how are we helping teachers to visualize the outcomes of their students to address misinformation? Are we doing enough to support teachers in using these tools and understanding the impact of innovations designed to combat misinformation?*
- A unique model proposed by one of the DLA teams tackled the issue of digital literacy from a unique angle—a social media “reset.” Social media content can feel all-consuming, so this team proposed stepping back from social media to gain perspective and provide distance. *What support would people need to do this?* Taking strategic opportunities to disconnect from social media could increase people's abilities to connect in ways that are pro-social. The concept of stepping back is an interesting and not yet researched avenue.
- A shared taxonomy for how digital literacy is defined could help create consistency in how designers and developers articulate their work and see connections across innovations. Standardizing terms and setting shared standards for digital literacy may help innovators to design more intentionally. *How might leaders of accelerators and other incubators to support edtech innovations work with educators, researchers, and policymakers to establish and use a shared set of terms and standards to help frame digital literacy for the field of education? How could each group contribute to development and dissemination of this work?*
- Inclusion and representation are essential components to this work and therefore must be considered when designing innovations.

How Can Federal Agencies Support the Field of Digital Literacy?

OET has taken a bold move to pilot this accelerator to support innovation that addresses digital literacy. To further support this goal, the staff at OET have several recommendations for how federal agencies can advance this work.

- Leverage OET connections with leaders in the field to inform workplans, speak at convenings, and provide training and guidance in learning events to address digital literacy. OET can be the convener across all these events and can team up with other agencies to support the messaging of this work.
- Amplify messaging regarding federal definitions and standards for digital literacy through OET blogs and social media. Partnerships and cross postings with the Cybersecurity and Infrastructure Security Agency (CISA), the Department of Homeland Security (DHS), the White House's Office of Science and Technology Policy (OSTP), and the National Security Council (NSC) as well as other agencies can be formed.

- Offer more opportunities for innovators to collaborate through accelerators and other arenas in which they receive support for, learn about, and develop digital-literacy products to address misinformation.
- Provide guidance to state and local education agencies on resources available to help better inform instructional strategies to support digital literacy. Reports such as this that document how an accelerator was structured and lessons learned allow other organizations to consider replicating and improving upon this model for future innovators.

The DLA provided OET an opportunity to develop a proof of concept for engaging the edtech community and practitioners and provided a supportive structure to design digital literacy innovations to combat misinformation. The accelerator's structure, goals, and lessons learned identified throughout this report can inform policymaking, advocacy, and additional projects. OET is committed to expanding work in digital literacy and will seek out ways in which digital literacy innovations can be developed to create the largest impact on our learners.

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