

## Outline

At Hokkaido University, we are currently working together with Adobe Systems Incorporated to develop OERs capable of teaching students about digital content creation within a Digital Literacy Global Framework (DLGF). Our motive for undertaking this project lies in the fact that, in this complex and constantly changing digital society, it has become necessary to be proficient in both using a framework for design and understanding how to judge media. It has furthermore become necessary that we be able to apply and understand the characteristics of software and digital expression through the practical application of software as the infrastructure of our digital society.

## Digital Literacy Global Framework (DLGF)

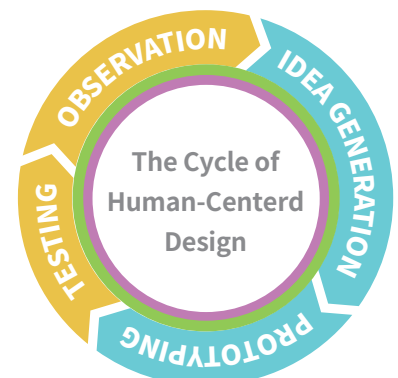
The Digital Literacy Global Framework (DLGF) is a framework conceived of by UNESCO for the sake of mapping digital literacy education in various countries. The DLGF is divided into 7 competence areas. The OERs we are developing focuses mainly on Digital Content Creation (Area 3). Moreover, because an understanding of Information and Data Literacy (Area 1), Communication and Collaboration (Area 2), and Problem-solving (Area 5) are needed in order to learn about Digital Content Creation, these OERs will also touch upon these competence areas as well.

## Digital Literacy × Design Thinking

The OERs we are designing will mainly cover Digital Content Creation in the DLGF [Fig.1]. While the application of Digital Content Creation had been taught in traditional media literacy education as well, such education failed to identify the intrinsic connection between Digital Content Creation and design thinking. In all actuality, design gives birth to an iterative cycle, in which observation, idea generation, prototyping, and testing all feed into one another, and thus provide us with a model for thinking that can help us understand the object we are facing [Fig.2]. If we understand the basic principles of interaction, it is possible to learn the fundamentals for observing and testing any form of media. By prototyping, and thus experiencing the perspective of both the designer and the receiver, we can develop the capacity to critically analyze media. In this way, design can be considered as an important tool for digital literacy education.

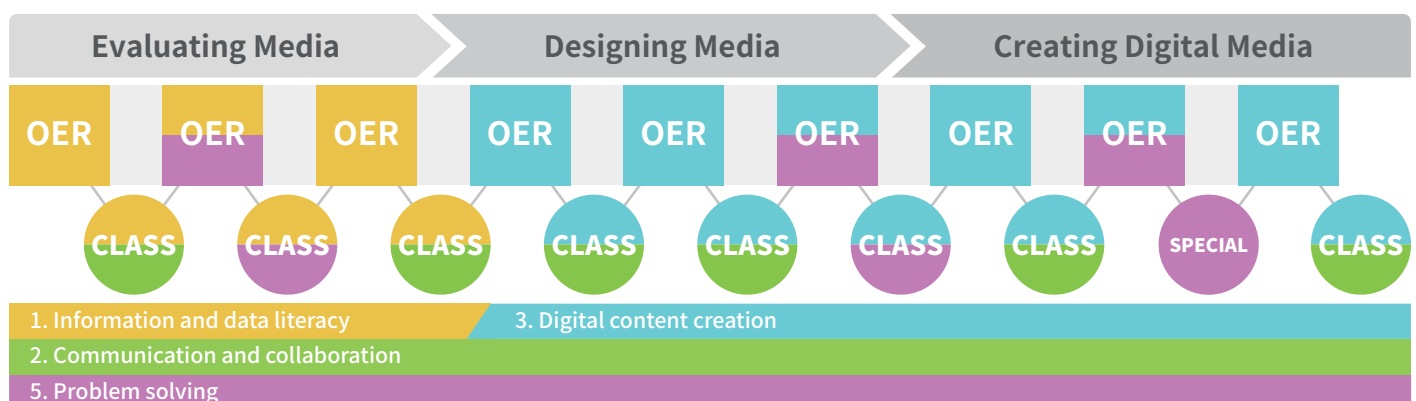
DLGF competence areas	Focus on 7 competences
0. Devices and software operations (2)	1.2 Evaluating data, information and digital content
1. Information and data literacy (3)	2.1 Interacting through digital technologies
2. Communication and collaboration (6)	2.2 Sharing through digital technologies
3. Digital content creation (4)	3.1 Developing digital content
4. Safety (4)	3.2 Integrating and re-elaborating digital content
5. Problem solving (5)	3.3 Copyright and licenses
6. Career-related competences (2)	5.3 Creatively using digital technologies

[Fig.1] DLGF competence areas, and 7 competences to focus on development our OERs



[Fig.2] The iterative cycle of HCD

At Hokkaido University, we are developing 9 OERs under the themes of “Evaluating media,” “Designing Media,” and “Prototyping Media.” These OERs aim to utilize both practical assignments and groupwork in order to help students learn more efficiently. We are currently in the process of modeling the curriculum, teaching method, and evaluation method in such a way that it is possible to ensure that even non-specialists can apply the education they receive in this course.



[Fig.3] Experimental curriculum composition

# Learning Objective

- **To become able to choose quality contents** based on “the 10 principles of good design” and “the 7 principles of interaction.” To become able to analyze why a certain media article can be considered to be of good quality within the context in which it is being used. To become able to stockpile one’s own expressions for later use. [ DLGF: 1.2, 2.1, 5.3 ]
- **To investigate the relationship between meaning and form** using design methodology for the sake of understanding the cognitive experience provided by high-quality media. To become able to realize the results of one’s learning or thinking in the form of digital content. [ DLGF: 3.1, 3.2, 5.3 ]
- **To obtain a basic grasp on the core points of digital creation technology as defined by software.** To become able to make attempts at expression through digital content in light of the facts that essentially any information is available to the creator and, thus, basic knowledge of copyright law is necessary. [ DLGF: 3.1, 3.2, 3.3 ]

## LIST of OER

### 1. Introduction [ The Aim of these Resources / Definition of Media Design ]

### 2. Evaluating Media [ DLGF: 1.2, 2.1, 5.3 ]

- 2-1. The various aspects of media (the modern history of media / the style and function of media / the influence of digitalization)
- 2-2. Observing Media (the 7 principles of interactions / the maker’s intent / unique method of analysis for digital content)
- 2-3. Critiquing Media (the 10 principles of good design / is the maker’s intent being conveyed effectively?)

### 3. Designing Media [ DLGF: 3.1, 3.2, 5.3 ]

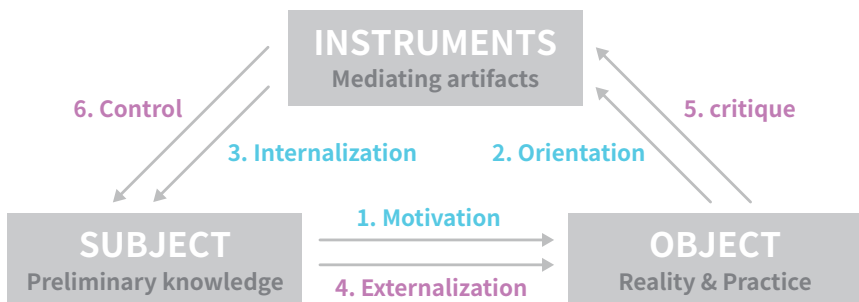
- 3-1. Creating an Experience (a brief history of design / activity-centered design process)
- 3-2. Forming an Experience (becoming able to make infographics)
- 3-3. Seeking the Essence of an Experience (meaning and form: the phenomenology of signs / similar observational themes?)

### 4. Creating Digital Media [ DLGF: 3.1, 3.2, 3.3 ]

- 4-1. Media Creation and Software (a brief history of software / unique thought process for digital content)
- 4-2. The Core Points of Digital Creation (basic schematic / the concept of ‘layers’ / the application of information materials)
- 4-3. Releasing digital data in the most appropriate form (format and coding / data delivery forms)

## Developing OER

The design philosophy for these OERs will be based in what is called the “cycle of investigative learning (Engeström, Hakkarainen & Hedegaard, 1984)” [Fig. 4]. They will furthermore Appeal to the three steps of Motivation, Orientation, and Internalization. For instance, when considering Media Observation (Area 2.2), we can experience cognitive bias when dealing with media (motivation), learn methods to analyze the functions of media from the perspective of interaction theory (orientation), and – after finishing with concrete practice exercises – we can summarize the content we have learned in our own words (internalization). The OERs will use a mixture of reading, diagrams, videos, and quizzes as necessary in order to maximize students’ capacity to learn. In order to help students improve their capacity to “Externalize, Critique, and Control” the content they have learned, efforts will be made to create a curriculum that also utilizes practical exercises and groupwork.



[Fig.4] The cycle of investigative learning (Engeström, Hakkarainen & Hedegaard, 1984)

<b>Motivation</b>
2-2-1. Introduction : Cognitive bias etc.
<b>Orientation</b>
2-2-2. Fundamental principles of Interaction
<b>Internalization</b>
2-2-3. Affordances & Signifiers
2-2-4. Constraints & Mapping
2-2-5. Summarize what you have learned

[Fig.5] ex) Thematic units of “2-2 Observing Media”