A-B. Definition of Digital Information Fluency (DIF) and Learning Goals

Preface

The underlying nature of Digital Information Fluency is generic, yet its expression in tools and practice can be highly varied across disciplines. Thus, the information literate psychologist might encounter Digital Information Fluency challenges in an engineering setting – and *vice versa*.   Yet, the psychologist and engineer should be equally capable of understanding a digital technology article in the popular press.

Thus, the following definitions and learning goals are structured to accommodate this variability built on common concepts. First, common *Foundational Competencies* are distinguished from "higher level" competencies, which are likely to possess a greater disciplinary character. Second, the following definitions and learning goals are stated at a high level, with the purpose of leaving room for them to be elaborated in a way appropriate to their context of application, such as a college or a department's major.

To counter the problem that these high-level definitions and learning goals are necessarily vague, included are *examples* of existing courses at UC San Diego that illustrate just *one way* in which these might be realized in a concrete form. As stated before, these courses were designed prior to this report, not in response to it; they therefore may not fully realize the group's stated learning goals.

A. Digital Information Fluency (DIF) Defined

Digital Information Fluency can be defined through a system of three interrelated competencies:

- ***Foundational Competency***
  The first competency consists of a basic knowledge of computing and the lifecycle of digital information, the skills involved with the identification, navigation, evaluation and communication of digital information, and the facility to participate in and contribute to digital communities.

- ***Conceptual Competency***
  The second competency includes an understanding of the history, development and general structural features of digital technologies and digital information, an understanding of methods and techniques that can be used to represent information, and the ability to comprehend the rhetorical strategies used in text-based and multimedia arguments.

- ***Expressive and Rhetoric Competency***
  The third competency involves the ability to use digital information and artifacts in the creation and communication of meaningful arguments in the digital environment.

Taken in the aggregate, the three competencies constitute an unfolding intellectual and academic progression that occurs as a result of a student's full educational experience as an undergraduate at UC San Diego, i.e., throughout a student's undergraduate curriculum, and culminates in their graduating with recognizable Digital Information Fluency skills.

B. DIF Learning Goals

Foundational Competency
The first competency consists of a foundational knowledge of computing and the lifecycle of digital information, the skills involved with the identification, navigation, evaluation and communication of digital information, and the facility to participate in and contribute to digital communities.

Learning Goals

1. Student has a basic knowledge of computing that includes understanding the structural features of information systems[1] and the lifecycle of digital information[2].
2. Student is able to select appropriate discovery tools to meet information needs, can identify appropriate Internet resources to use, can formulate search queries to effectively extract results, and can critically evaluate the credibility and significance of Internet sources.
3. Student understands the principles of copyright and his/her rights as a creator of information, follows those principles by using accepted practices of attribution of sources, and knows the conditions for and consequences of infringement.
4. Student has a basic understanding of digital content production principles and techniques[3].
5. Student has an awareness of social norms and sufficient technical skills to successfully and ethically communicate and collaborate in a virtual environment.

[1] Structural features of information systems include hardware and software components, interfaces, databases; consistency; availability, persistent storage, archiving, audit trails, security, privacy and their technological underpinnings.

[2] Digital information lifecycle elements include creation, accessibility and preservation.

[3] Digital content production principles and techniques include how different software packages can be used to format and display information and how different production techniques can be used for different effects.

Conceptual Competency
The second competency includes an understanding of the history, development and general structural features of digital technologies and digital information, an understanding of methods and techniques that can be used to represent information, and the ability to comprehend the rhetorical strategies used in text-based and multimedia arguments.

Learning Goals

1. Student understands the societal dimensions (e.g. historical, political, cultural, and economic) of digital technologies and digital information.
2. Student understands the general methods and techniques for presenting information and understands that digital representations of information have limitations.
3. Student can compare and distinguish between the structure and impact of the rhetorical strategies commonly used in formal written arguments and those used in multimedia arguments.

Expressive and Rhetoric Competency
The third competency involves the ability to use digital information and artifacts in the creation and communication of meaningful arguments in the digital environment.

Learning Goals

1. Student can apply the fundamental design principles that inform the creation and efficacy of digital media artifacts.
2. Student is able to create and identify patterns and interpretations of digital information and data to validate their own analysis.
3. Student is able to create and produce digital media artifacts to support different rhetorical strategies.
4. Student is able to make effective visual/auditory multimedia arguments.