



IDEA Model from Theory to Practice: Integrating Information Literacy in Academic Courses



Kimberly Mullins*

Long Island University Post, 720 Northern Boulevard, Brookville, NY 11548, USA

ARTICLE INFO

Article history:

Received 25 August 2015

Accepted 18 October 2015

Available online 11 November 2015

Keywords:

Instructional design

ISD

Information literacy

ADDIE

Instruction

Online learning

ABSTRACT

IDEA (interview, design, embed, and assess) is a theoretical instructional design model for integrating information literacy (IL) in academic courses. The model supports the Association of College and Research Libraries (ACRL) proposed 2015 Framework for Information Literacy for Higher Education through the collaborative efforts between librarians and teaching faculty. The article describes a case study application of information literacy content integrated into three Doctor of Education blended classes taught by the same classroom instructor. The theoretical phases are explained in terms of practical steps and outcomes resulting in pedagogically sound curriculum and effective collaboration between librarian and teaching faculty.

© 2015 Elsevier Inc. All rights reserved.

INTRODUCTION

The IDEA model is a step-by-step curriculum design process for integrating information literacy in academic courses. The model supports the Association of College and Research Libraries (ACRL) proposed 2015 Framework for Information Literacy for Higher Education through the collaborative efforts between librarians and teaching faculty in order to “create a new cohesive curriculum for information literacy”. The author created the model after a review of the literature indicated no existing systematic approach to working collaboratively with faculty to integrate information literacy in academic courses. It became evident that a library-specific instructional design model would be more efficient in streamlining the process, increase the pool of librarians not formally trained in instructional design, and meet the demands of collaboratively designing cohesive curricula. This paper describes in detail how the model was used in a pilot case study to design a Doctor of Education blended course consisting of nine face-to-face classes and five asynchronous online classes. The use of case studies are “proven particularly useful for studying educational innovations, evaluating programs, and informing policy” and gathering data regarding the effectiveness of new theoretical models (Merriam & Merriam, 1998).

LITERATURE REVIEW

The systematic approach to designing instruction began with the United States Military during World War II. The approach became

formally known as Instructional Systems Design (ISD) during the 1950s. Although ISD was used primarily for the development of on-the-job training, the field of educational psychology recognized that the systematic instructional design approach to curriculum development was pedagogically logical and cost effective (Gagné, Briggs, & Wagner, 1992). ISD is now more practically referred to as the ADDIE model based upon its phases of analysis, design, development, implementation, and evaluation. Numerous derivatives of the ADDIE model evolved, including Mager's criterion referenced instruction (CRI) framework (1975), Dick and Carey's *The Systematic Design of Instruction* (1978), and Gagne's *Conditions of Learning* (1985). The transition from a systematic approach for developing on-the-job training to educational pedagogy occurred with the widespread adoption of Wiggins and McTighe's *Understanding by Design* (1998). The “backward design approach” to lesson planning is counter intuitive to traditional curriculum design because it begins by identifying instructional outcomes before developing performance-based assessments and finally classroom instruction and lesson planning.

A review of the literature indicates the increasing use of the ADDIE model in higher education library instruction. Campbell (2014) discussed the application of the ADDIE model in order to analyze and identify new technologies for use in library instruction. Easter, Bailey, and Klages (2014) and Summey and Valenti (2013) describe how the model was used in distance learning environments to support the research needs of online students. Reinbold (2013) reported success using the ADDIE model to redesign programmatic information literacy instruction for first year medical students. Also in 2013, Davis discussed using the model to develop one-shot library sessions for journalism students.

* Tel.: +1 516 299 3645; fax: +516 299 4179.

While Booth (2011) introduced a formal instructional design model for developing “one-shot” and programmatic information literacy instruction, a review of the literature found no evidence of a library-specific instructional design model for working collaboratively with content instructors to integrate information literacy in academic courses.

The IDEA model has foundations in both behavioral and cognitive learning theories. Similar to traditional ISD approaches, the model incorporates behavioral theory through its emphasis on observable performance objectives and assessments representative of Bloom’s *Taxonomy* (1956). The model also includes aspects of cognitive psychology, specifically Sweller’s (1988) Cognitive Load Theory (CLT). CLT is an information processing theory that considers the effect of the working and long-term memory on meaningful learning. The working memory is a mental construct that temporarily holds limited amounts of raw data. Long-term memory manages cognitive structures called schemas that permanently store unlimited amounts of meaningful information. According to CLT, an overload of information in the working memory, through complexity or amount of data, negatively impacts learning. Empirical studies indicate that instructional design interventions can positively affect the efficiency of the working memory particularly when learning complex tasks (Paas, Renkl, & Sweller, 2003). In addition, instructional design that considers students’ prerequisite abilities and backgrounds improve long-term, meaningful learning. It is important to note that instructional strategies that are helpful for novice learners may have no or even negative effects on advanced learners, referred to as the expertise reversal effect (Kalyuga, Ayres, Chandler, & Sweller, 2003). Effective instructional design strategies include presenting clear and concise content, “chunking” information into logical and concise amounts, logically sequencing information, limiting redundancy, and providing a distinct focus on critical learning tasks.

BACKGROUND

The instructor assigned to teach the blended Doctoral course initiated the collaborative effort with the librarian two months prior to the course. It was the first time the instructor was teaching the course, as well as, delivering an online blended class using the Blackboard course management system (CMS). The instructor expressed frustration with teaching previous courses that had significant research requirements, particularly the amount of instructor time dedicated to research activities and assignments and not having sufficient time to focus on the course content. The instructor hoped that a collaborative design effort with the librarian would alleviate these challenges. The first course was delivered in the Spring 2014 semester.

After the course, the librarian implemented and analyzed multiple qualitative assessments to measure the effectiveness of the information literacy and library resources, instruction, and support. Based on the assessment results, the librarian reiteratively applied some steps in the model to improve upon the course design. The instructor and librarian again made modifications to the course. The same instructor taught two of the revised classes the following spring of 2015. After the courses, the assessments were again implemented. The librarian re-analyzed the assessments and compared the effectiveness of the redesigned course to the original results.

THE IDEA MODEL

The IDEA model (Mullins, 2014) is based upon instructional design best practices and has foundations in behavioral and cognitive learning theories, with emphasis on Cognitive Load Theory (CLT). According to Sweller’s (1988) Cognitive Load Theory, instructional design strategies that minimize an overload of information in the working memory reduce learning disruption and improve long-term and meaningful learning. The model includes four steps, each associated with forms, rubrics, and checklists as outlined by Mullins (2014).

1. Interview: collect broad data about the student profiles, learning constraints, course, and information literacy content through a syllabus analysis and instructor interview.
2. Design: identify information literacy goals, objectives, assessment items, and content using a backward-design approach.
3. Embed: embed the information literacy content using effective strategies that minimize learning disruption.
4. Assess: assess the course effectiveness and modify the course content at the class, departmental, institutional, regional, and national standards including Association of American Colleges and Universities (AAC&U) and Association of College and Research Libraries (ACRL).

CASE STUDY DESIGN

INTERVIEW PHASE

During the interview phase, the librarian collects broad data about the course’s learning environment, the students, and the course research requirements. Significant input by the instructor helps validate the data. Fig. 1 illustrates the case study’s interview phase from theory to practice and results as discussed in detail below.

STEP 1: PERFORM A SYLLABUS ANALYSIS

The librarian analyzed the syllabus for research-related tasks and assignments, information literacy opportunities, potential library sources that may be utilized as course content, and general course logistics (i.e., class dates and times). Library related terms, skills, and content were highlighted and potential questions or comments were directly annotated on the syllabus.

The librarian identified a number of course elements that the library could potentially support through instruction and resources. First, the primary course assignment was a 20-page research paper about a contemporary topic in literacy education. The paper required a minimum of 20 varied resources written within the last five years. The assignment required students to write an effective hypothesis statement, perform a comprehensive literature review, avoid plagiarism, and correctly use the American Psychological Association (APA) style.

A second course element that the library could potentially support was access to resources suggested as course content that were not classified as required textbooks. The Library does not, as a rule, purchase textbooks as these are expenditures expected of students. The librarian investigated whether the resources were available through the library’s digital collection so that persistent links may be embedded within the Blackboard CMS. Embedding direct links to resources, particularly at the “point of need” within a course, helps minimize disruption and increases learning continuity. If the source was available, the librarian verified the number of simultaneous user-licenses so that more than one student could use the resource at a time. Also, the librarian verified any licensing restrictions regarding use within a “distance-learning” course. Although Harvard Business Review Notice of Use Restrictions was the only known publication that mandated licensees “not host this content on learning management systems or use persistent linking or other means to incorporate the content into learning management system” it was standard practice by the librarian to verify licensing restrictions for all sources. If the source was unavailable through the digital collection, the librarian sought acquisition of the material. The library’s informal practice gave high priority to the acquisition of materials recommended for courses with the exception of textbooks.

A third course element that the library could offer was reference services to meet both distance learning and in-person research needs. Synchronous virtual services for real-time support include Skype-by-appointment, chat, and telephone support. Asynchronous virtual services for support that did not require immediate attention included text and email. The librarian also noted that students that preferred in

Download English Version:

<https://daneshyari.com/en/article/358148>

Download Persian Version:

<https://daneshyari.com/article/358148>

[Daneshyari.com](https://daneshyari.com)