

Using instructional design principles to develop effective information literacy instruction

The ADDIE model

Many academic librarians conduct instructional activities, but few possess more than a passing knowledge of pedagogical theory. Yet, many academic librarians have responsibilities, such as helping faculty achieve student learning outcomes, by designing courses that facilitate the mastery of information literacy (IL) and other library skills. One way librarians may overcome the pedagogical theory knowledge gap in designing effective library instruction is through the use of instructional design (ID) models and principles. Using ID principles to develop effective IL instruction is accomplished by collaborating with an instructional designer.

So, what is instructional design? Is it instructional technology? Is it learning theories? While it does encompass these concepts, ID may be defined as using a systematic approach to solve an instructional problem. The ID process begins by identifying the performance problem of learners and then determines if instruction is the appropriate solution. Solutions to an instructional problem incorporates the use of technology and learning theories. The systematic approach consists of instructional system design (ISD) models, such as ADDIE, ASSURE, and the Dick and Carey model.

This article outlines the ADDIE model and demonstrates how applying these principles to IL instruction will enhance the learning experience for students and the teaching experience for librarians.¹

ADDIE overview

The ADDIE model consists of five steps: analysis, design, development, implementa-

tion, and evaluation. It is a strategic plan for course design and may serve as a blueprint to design IL assignments and various other instructional activities.

The first step in the ADDIE model is *analysis*. In the analysis phase the instructional problem is identified along with learner characteristics; what do you want the learners to learn, and how will you define instructional goals and learning objectives? This step will provide you with a blueprint for the whole ID process and guide you in the following processes. In the analysis phase, a timeline may be established to complete the instructional module.

The second step is *design*, where an outline of instructional strategies is created or and learning activities and assessment are determined. Next is *development*. In this phase you are going to build your learning content, learning assignments, and assessment. You will also need to identify which technologies should be chosen to enhance your learning experience. Storyboards are used and help create a sample of the instruction module. The *implementation* phase includes the testing of prototypes where training for the instructor happens followed by learners participating in the instruction.

Evaluation consists of two parts: formative and summative. Formative evaluation is a measurement of learning outcomes during

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the instruction process, and summative evaluation—measurement of learning outcomes after instruction—is the final stage.

ADDIE in action

As a reference librarian with instructional duties for the mass media arts, I collaborated with the instructional design technologist (IDT) at my library to help design effective learning experiences for library users. While an instruction librarian conducts information literacy sessions, an IDT is skilled in pedagogical theory, instructional technology, learning outcomes, and assessment.

My first instruction session using the ADDIE model to develop effective IL instruction was a 50-minute, one-shot instruction session for journalism students. The objective was to introduce the students to library resources so that they would rely on these resources to assist them in writing news stories on assigned topics. To find ways to engage the students, I met with the IDT to discuss the learning objective. In our initial consultation, we discussed the learner's characteristics (first-year students, journalism majors, millennials, etc.). Next, we made an outline of instructional methods (hands-on, lecture, interactive, etc.) and selected the most appropriate. We designed the instruction module, fine tuned the implementation, and conducted an evaluation.

In the session, the students were instructed to operate as if the teaching lab was a newsroom. The students were editors for a newspaper, and they were to edit the fictitious news story I created on the topic their professor had assigned. Students were instructed to edit the news story by simply fact-checking the details of the story using the library resources I discussed earlier. Comparisons were then made between library resources and Internet sources.

The evaluation tested the students' ability to identify, locate, and access appropriate resources for the fact-checking assignment. To develop teamwork, students could work together in teams to complete the assignment. In the end each group can share their

findings. Also mention that technology and Web 2.0 tools, such as Wikis, Google Docs, and Twitter, may help in collaboration.

The instruction session ended a few minutes before the end of the class, leaving time for a one-minute assessment, which was distributed in paper form. By doing this I could immediately answer last-minute questions concerning anything I may or may not have covered.

Another example of using ID principles to develop effective IL instruction is illustrated by a session for an honor's course. In this course, the IDT and I decided to use the self-teaching and discovery method to engage and educate learners. In this instructional situation, advanced first-year students worked in small groups for five minutes to explore the library Web site. Student groups were assigned various topics (e.g., library catalog) and presented to the class what they discovered or knew about this library resource.

The librarian then answers questions, and shares items that may not have been discussed. Longer class sessions may include presenting to class using Web 2.0 technologies (Today'sMeet, Facebook, YouTube, etc.). I mentioned in the beginning of the class that this was a new instructional strategy I was trying out, and I wanted their feedback. So, to evaluate this instruction session the students conducted a one-minute assessment.

Benefits of instructional design in IL

Without ID to develop library instruction, the instructional session lacks goals and doesn't consider learner characteristics. With ID, however, there are clear instructional goals, learners characteristics are considered, and students are engaged with interactive instruction. Other benefits may include collaboration with an IDT, lessons designed to meet the needs of students—not the needs of librarians, improved student performance, and more engaging learning experiences.

Conclusion

There are many pros when it comes to using

instructional design models. Although some models are more suitable than others, the ADDIE model is helpful when collaborating with the instructional designer, faculty, and other librarians at work (higher education). ADDIE is a cycle. This means it is flexible enough to allow anyone, at anytime to revisit a step, and refine it. Another reason the ID approach works in developing formation literacy instruction is because when given a large assignment, one may not know where to start.


ADDIE helps identify an entry point for the project, which is helpful for a new or inexperienced instructional librarian. ADDIE, one of the most recognized and used ISD models, is consistent and can be used in a wide range of fields.

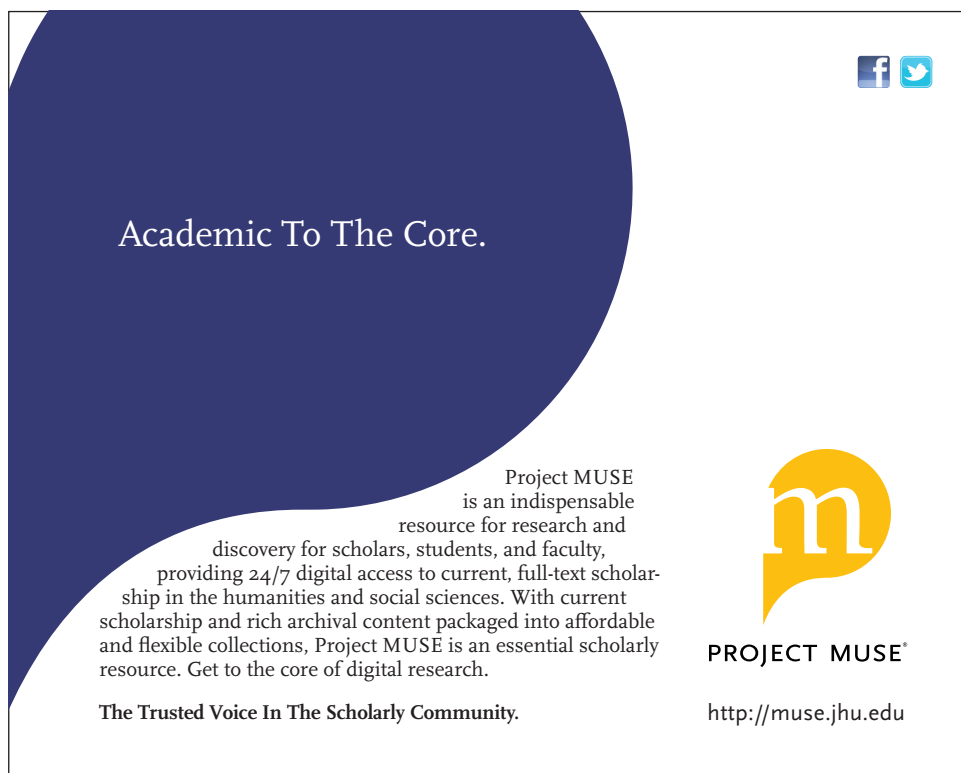
Whichever model the instructional designer chooses, he or she must make sure that the objectives of the instruction lesson must be met. Because learning is about the learner being able to perform the tasks they have been given.

Some of the cons of using a systematic approach are the fact that the model is a system, so it can take away the humanism factor.

For example, one cannot predict every student's behavior. So no matter how many learning styles a librarian addresses with a lesson, he or she still may miss some students. In library instruction, I've found it's beneficial to have the faculty, the instructional designer, and the librarian on board from beginning to end. This will enhance the learning experience for students and the teaching experience for librarians.

Note

1. For further reading on instructional design try these books: *ISD From the Ground Up: A No-Nonsense Approach to Instructional Design*, *Designing Effective Instruction Instructional Design for Librarians and Information Professionals* and *Academic Librarianship by Design: A Blended Librarian's Guide to the Tools and Techniques.* 



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