Information Literacy

CREATING ONLINE LEARNING OBJECTS
I’ll Get To It This Summer

Participant Workbook

Presented by
Instruction Round Table
Minnesota Library Association

summer
- NOUN ['sə-mər]
That imaginary time when everything you put off during the academic year gets done.
Online Learning Objects

First things first, what do we mean by “online learning object” anyway? Wiley (2000) defines an online learning object as “any digital resource that can be reused to support learning.” Online learning objects can be web sites, research guides, interactive tutorials, screen captures, images, screencasts, videos, so on and so forth. For this program, we intentionally kept our definition broad, meaning we are letting you choose whatever type of online learning object you want.

Instructional Design

This program will walk you through the steps of using the ADDIE instructional design model. But why do we need instructional design anyway? Isn’t it enough to just hit “record” on Jing and hope for the best? While many of us might already be familiar with the concept of instructional design, going through the actual process can sometimes get overlooked when working on a tight deadline or when you just need to get something checked off your to-do list.

Instructional design is the intentional process of creating instructional experiences, which make the acquisition of knowledge and skill more efficient, effective, and appealing. As Wiggins and McTighe (2005) point out “too many teachers focus on the teaching and not the learning. They spend most of their time thinking, first, about what they will do, what materials they will use, and what they will ask students to do rather than first considering what the learner will need in order to accomplish the learning goals” (p. 15).

As we begin our planning process, start to think about the following questions:

- What do your students need to learn?
- How are you going to teach it to them?
- Why are you going to teach it that way?

More often than not in this program, we are not showcasing a specific technology. Instead we will focus on teaching a specific idea, process or concept and then decide on what technology to use to create the object. Instructional design is an iterative process - meaning that it can be revised at each step. Instructional design is both systematic and creative.
Why the ADDIE Model?

ADDIE stands for Analyze, Design, Develop, Implement, and Evaluate, and it is the basis for many other instructional design models. It provides a step-by-step process for developing learning objects. It is not a perfect model, but it was chosen as the model for this program because many of you may already have some familiarity with this process, or at least with particular aspects of it.

**Do**

- Looking at examples of existing tutorials, videos, LibGuides, etc., can be a valuable part of your own online learning object development process. Find one example of an online learning object that you think is exemplary or effective in one way or another. You could search for one that is on a similar topic, is the same type of learning object (video, interactive tutorial, LibGuide, etc.), or will use the same technology that you anticipate using for your own tutorial. Don’t know where to start searching? Try searching [PRIMO](#), ACRL’s Peer-Reviewed Instructional Materials Online database. Then complete **Worksheet 1: Exemplary Online Learning Object**.
References


Worksheet 1: Exemplary Online Learning Object

Find one example of an online learning object that you think is exemplary or effective in one way or another. You could search for one that is on a similar topic, is the same type of learning object (video, interactive tutorial, LibGuide, etc.), or will use the same technology that you anticipate using for your own tutorial.

Title/URL of the online learning object:

What makes this online learning object exemplary or effective?

How long does it take for a participant to complete the learning object (approximately)?

Are learning outcomes stated or implied?

Are there any assessments/evaluations associated with the learning object?

Can you tell what technology was used to create it? Was the technology selected integral to the effectiveness of the tutorial?

Where is it hosted? YouTube, library website, learning management/course management system (LMS/CMS)?

What elements of this learning object will you keep in mind throughout your own development planning process?
Module 2: Environmental Scan

Before you begin the instructional design process, it's useful to survey your environment for what tools, texts, people, organizations, and literature exist to support the creation of online learning objects. This module will provide you with a brief look at what is available as far as support.

Read

Creating online learning objects is easy. You just throw things that you think are important onto a LibGuide or hit the record button for a screencast and it all works perfectly. Right?

Some tools make it easy enough to create a learning object, but simply doing something can be entirely different from doing it well. Case in point: You are in this program. You and everyone else doing this program wouldn't have signed up if it was so easy. Before getting into the planning process, it's good to know what resources are available to you. Below is a brief list of possible resources to use.

Existing Online Learning Objects

It's always easier to start from a model to base your design. The exemplary online learning object you found and described in Module 1 could be used as a model but it may not accomplish the learning goals you're trying to meet, or because it's from a different library, it may not work in your context. That's in part why you're here; to make something work for your library, for your library users. We'll look in depth at accounting for your context in the next module, but all of my fellow procrastinators can attest to starting being the most difficult part, so "borrowing" traits of a quality learning object can make the first step a little easier.

Online learning objects don't stay useful or relevant forever, so you will find that you have to re-create or do some editing to your learning objects over time. It may seem a little too obvious, but use the original learning object as a model; however, don't be too attached to it. If you didn't base the original on an instructional design model but just threw something together, going through the ADDIE process could lead you to a very different learning object...for good reason.

Online Tools

Here’s a selection of online tools that could be used for creating online learning objects. Depending on the scope of your project, you may need to use multiple tools.
Research Guides

Springshare’s LibGuides are the most common tool for creating research guides. Though there is a moderate cost involved, many academic libraries have a subscription to the LibGuides software platform due to the ease of creating web pages. There is plenty of research about how to best create useful guides for library users (Almedia & Tidal, 2017; Bowen, Ellis & Chaparro, 2018; Thorngate & Hoden, 2017). If you’re planning a research guide, there will be plenty of exploration of best practices during the Design phase. While alternatives exist, LibGuides is the standard.

Screencast Videos

Screencast videos record your voice and your computer screen so you can explain how to perform any digital function your library users need to know. There are many options of screencast software. I thought to provide you with a list of these platforms and compare the various features that they offer; however, Wikipedia beat me to the punch. Check out the Wikipedia comparison of screencast software.

Camtasia

Personally, I (Trent) use Camtasia when making in depth screencast videos. There is a cost ($249 for the 2018 version) and there’s a bit of a learning curve, but it is fairly user-friendly and offers a good amount of editing capability.

Screencast-O-Matic

When making quick screencasts that don’t require editing, usually for following up with a reference interaction, I use Screencast-O-Matic.

Everyone seems to have their own "go to" screencasting product. When choosing a screencast software to use, be aware of the editing capabilities, the amount of recording time the software allows (S-O-M has a cap at 15 minutes for the free version), and where you want your video hosted. S-O-M and Camtasia allow you to host your video on their websites but they also offer an integration with YouTube, so moving your video from a file on
your computer to a site like YouTube is easy. Then, instead of sharing the file that’s too big to email, you can share a link or embed the video.

Slide Decks

![Google Slides](image)

Similar to screencast software, there are several options for creating slide decks. You may have used PowerPoint or Google Slides, but check out this alternatives list. Be sure to research which options allow embedding your slides into web pages. Instead of using your slides once in a class, you can extend their life by embedding them.

Other Online Tools

![Image](image)

When you registered for this course you gave us some detail into what you want to create. Among the types of learning objects you are thinking about include other online tools like Kahoot or Sway or SomeCrazyNewTechToolThatNoOneElseHasHeardOfYet. Needless to say, this brief list of tech options doesn't do justice to the entire landscape of teaching tools. So, explore! A web search for ed tech tools will give you countless options. Here's a site I found with an intriguing list of a few new tools to try.

If you're planning your own online course: 1) My hat is off to you; It's a lot of work! 2) I won't go into much detail about learning management system, or LMS, options. There's a growing list of options out there from Canvas (which you're in right now) to Blackboard to Moodle to D2L to Sakai. You usually don't have the option of selecting which LMS works best for you, individually. Since these products are so expensive, your institution as a whole will decide on one. So, this is a decision that's usually made for you.

People or Offices

As Michael Jackson once said, "You are not alone" (Kelly, 1994). Whatever library you work at, there are people and places to go for support. Speaking from the academic librarian perspective, there are entire offices created for academic support. Here are a few suggestions of who to consult when creating online learning objects:
● Instructional designers
● IT staff
● Center for Teaching & Learning (or whatever they call it your institution; specific to colleges or universities)
● Fellow librarians and library staff

Outside Your Library

The New Literacies Alliance provides a website full of tips and learning objects for your use. The librarians behind the Alliance also wrote Creating and Sharing Online Library Instruction (Pitts, Kearns & Collins, 2017). Beyond the New Literacies Alliance, there is a plethora of journal articles about creating online learning objects that could supplement this program, but, hey, you work in a library, so you already knew that. :)

Do

Conduct an environmental scan of all of the resources you have at your library and/or institution that could help you build your online learning object. If you have a co-worker at your library that is also doing this program, feel free to work with them! Then complete Worksheet 2: Environmental Scan.

References


Worksheet 2: Environmental Scan

What existing learning objects do you have to draw from?

Is there an existing lesson plan that the online learning object you want to create will support or possibly replace? If so, what materials do you have?

What digital technologies does your library/institution have available that you think could be useful?

What digital technologies are freely available that you think could be useful?

Which people/offices are there to support you in instructional and digital design?

Which books, articles, or websites could support the development of your online learning object?
Module 3: Analysis

Read/Watch

Foundational Readings/Videos for Module 3

  - This video provides a brief overview of the Analysis phase
- **Web site:** Instructional design: Learner analysis. (2018). In *Wikiversity*.
  - You won’t/can’t consider them all, but the graphics on the following pages provide a good overview of the types of characteristics you may want to consider when analyzing your learner population. I know, a librarian suggesting a wiki site. Shocking.
  - Demographics
  - Cognitive/Prior Knowledge
  - Affective/Social
  - This MIT site provides a basic overview of the learner analysis process. Just replace the word “course” with “learning object” and it should all make sense.
  - If you want to get more familiar with pedagogy, this research guide Information on pedagogical theories as they apply to online learning objects, with a focus on constructivism
  - If you have questions about teaching strategies, this research guide provides information on best practices/principles for good design for online, asynchronous instruction

The Analysis Phase

The analysis phase is the foundation that the rest of the process is built upon, and it is important to take the time to thoughtfully work through this phase. Generally speaking, this phase asks you to analyze both your instruction and your learners. As you go through the remaining steps of the process you may find yourself revisiting, and possibly revising, the analysis phase.
You may have already noticed by skimming this page that there are a lot of questions you will be asking yourself. For some of these you may need to think about what your “evidence” is for the answers - and you might need to do a little research to be able to answer them effectively. Worksheet 3 will ask you to put down in writing the answers to some of these questions, but it will beneficial to your analysis process to take some time to reflect on each question as you read through them.

Analyze Your Instruction

The analysis phase provides the opportunity to take a high level view of the work you are about to embark on. Analyzing your instruction allows you to define the purpose of what you are trying to accomplish. You will consider your overall instructional goals - what you want learners to accomplish, and how you are going to make that happen, including strategies for delivering content (format, pedagogy, teaching strategies, etc.).

For this stage you will want to think about the following questions:

- What is your purpose, or what is the problem that you are trying to solve?
- Why does this learning object need to be created?
- How much time are you willing to put in to the project for the output you want?
- Is it a temporary substitution for in-person content or is it a permanent replacement?
- How will the instruction be delivered?
  - Are there any pedagogies or teaching strategies you will apply to the delivery?
- Are there any constraints that could affect the delivery (technology, staff, time, expertise)?
- Will you be able to measure/assess you learning outcomes?

Analyze Your Learners and Learning Environment

Assessing your learners is an important step in the process of creating a learning object. Each learning object is different, as is each set of learners. You will want to gather as much background on the learners as possible to figure out what the prior knowledge of the subject is, as well as the future knowledge you are trying to instill.

For this stage you will want to think about the following questions:

- Who are your learners?
- What methods can you use to gather more information on your learners and their needs?
- What experience do your learners have with the content?
- What do your learners need and what are their (anticipated) present skills?
- What should the learners be able to do, accomplish or perform after completing this learning object?
  - Learning outcomes will be formalized during the design phase
- What is the learning environment and what constraints are there in the environment?
Learner analysis is sometimes difficult for librarians to perform for a variety of reasons, including that our learners can sometimes represent a large segment of a population - such as “all students or faculty.” Consider who at your library/institution might be able to assist you with this process. For instance, if you are at a college or university, you may want to work with your institution's teaching/learning center or student affairs office to see if they have an information on your learner population that can contribute to this part of the process.

**Do**

This module has already asked you a laundry list of questions to consider. We would apologize, but that is kind of the point of analysis. In **Worksheet 3: Analysis**, we ask you to elaborate on some of the key questions. Yes, the list seems long, but this is one of the more time-intensive steps of the process. Take the time to think about each question, what evidence you have to answer it, and how it will help you with the next stages of your project.
Worksheet 3: Analysis

What is the purpose of this learning object?

Why is there a need for this learning object?

Who are your learners, and what characteristics are important to consider for your project?

You may want to break it down by area. Below are some suggestions for considerations to address, but not all may be applicable or you may want to consult links for additional areas to consider.

- **Demographics** -
  (https://en.wikiversity.org/wiki/Instructional_design/Learner_analysis/what_when_why/demographics)
  - Size of group, education, age, traditional/non-traditional/first-generation students, language barriers, cultural factors, access to internet/technology/resources

- **Cognitive/Prior Knowledge** -
  (https://en.wikiversity.org/wiki/Instructional_design/Learner_analysis/what_when_why/demographics/cognitive)
  - Level of education, level of knowledge/proficiency in subject area, prerequisite skills, prior training in area, computer literacy, experience/proficiency with required technology, learning, intellectual or physical disability

- **Affective/Social** -
  (https://en.wikiversity.org/wiki/Instructional_design/Learner_analysis/what_when_why/demographics/cognitive/physiological/affective)
  - Predetermined perceptions, view of online learning, personal goals, motivation to learn, required or voluntary, confidence level, anxiety level

What experience do your learners have with this content already (if you did not address this in question 3)?
What are their present skills (if you did not address this in question 3 already), and what should they be able to do, accomplish or perform after completing this learning object?

Why would they want to learn what is being taught? What is their motivation (if you did not address this in question 3 already)?
How do you plan on delivering the content? Are there any pedagogies or teaching strategies you will apply to the delivery?
Will you be able to measure/assess your learning outcomes? How?

Are there any anticipated constraints about the design, development and/or implementation that you can foresee? Resources, technology, tech support, tech skills, time, staff, cost, etc.
Module 4: Design

Read/Watch

Foundational Readings/Videos for Module 4

  ○ This research guide provide guidance on matching assessment techniques with different types of learning outcomes. Feel free to explore all the areas under the “Assessment” heading on the left hand side navigation, as there is a wealth of information here.
  ○ This may look familiar - it was also listed in Module 3. If you want to get more familiar with pedagogy, this research guide Information on pedagogical theories as they apply to online learning objects, with a focus on constructivism
  ○ This may look familiar - it was also listed in Module 3. If you have questions about teaching strategies, this research guide provides information on best practices/principles for good design for online, asynchronous instruction

The design phase allows us to plan for what is going to be learned, and how it is going to be learned. The design phase for this program will focus on developing learning outcomes, deciding on teaching strategies, and determining assessment methods. We will use the development phase to talk more specifically about delivery method and storyboarding, which you sometimes see during the design phase.
Develop Learning Outcomes

We start the design phase with developing learning outcomes, which help us define what it is exactly we want the learners to do be able to do by the time they have completed our learning object. Outcomes help us plan how we will deliver and assess our learning object.

Each learning outcome should be an observable behavior. The outcomes should be specific, student centered, and measurable. The learning outcome should target one expectation or aspect of understanding that the student needs to accomplish and also highlight the conditions under which the student will accomplish this task. Generally speaking, aim for approximately 3-5 learning outcomes per learning object, although this may depend on the content and learning object you select.

Follow the three-step process below for creating learning outcomes.

1. Create a stem for the objective.
   - After completing the lesson, the student will be able to . . .
   - After this unit, the student will have . . .
   - By completing the activities, the student will . . .
   - At the conclusion of the course/unit/study the student will . . .

2. After you create the stem, add a verb:
   - Analyze, recognize, compare, provide, list, etc.
   - For a list of action verbs see the Bloom’s Taxonomy graphic below. The pyramid is organized from lowest (remember) to highest (create) levels of learning. See also Appendix B for a list of verbs organized by category.

3. Once you have a stem and a verb, determine the actual product, process, or outcome:
   - After completing this lesson, the student will be able to recognize various forms of citation.
Instruction Strategy and Content

Now that we know what we want learners to learn, we have to link about how we want them to learn it. What information do we need to include, and how do we need to deliver it in order for students to be successful in meeting our learning outcomes? We can think of this both in terms of the technology used to deliver the content, as well as how we organize that content within our chosen technology. Some questions to consider at this stage are:

- What learning strategy will help students meet the identified outcomes?
- What technology will allow you to most effectively deliver your content? (We will explore this more in the delivery method section of the development phase)
- What content needs to be included for students to meet learning outcomes?
- How should the information be presented to learners?
  - What are logical ways to “chunk” out content or organize it logically?
- What types of activities or exercises can you incorporate that would help learners?

Assessment Method

How do you know your learners are “getting it”? Through assessment, of course! Many people find assessment to be intimidating, but it is a vital step in making sure learners are meeting your learning outcomes. Whether it is a set of question at the end, or a project to complete, most learning objects should have an assessment method if at all possible. It can be formative or summative, objective or subjective, formal or informal (if you need to refresh your memory on these categories, the Digital Learning Toolkit listed above gives a good summary).

Not only will you be assessing student learning outcomes, you should also be conducting formative assessments on your online learning object throughout the ADDIE process. Consulting with students, content or technology experts throughout the ADDIE process can help you determine if you are meeting your instructional goals in an effective manner.

When approaching assessment, consider the following questions:

- What proof do you need from the student that they met the learning outcomes?
- Are you just measuring competency, or are you also looking for learner satisfaction?
- At what point in the duration of the learning object do you want to administer the assessment?
- What method of assessment are you going to use?
  - Quiz, pre/post-test, survey, etc.
- How will you incorporate formative assessment during the ADDIE process?

Develop Timeline and Consult Experts

Once you have an idea of what you want your students to learn and how you want them to learn it, develop a timeline for the learning object to help manage your time. Consider the following questions:
• What is your timeline?
  ○ Is there a hard deadline?
• How much time do you want/need to commit to the project?
  ○ Can you reasonably meet the deadline considering the time factors?

We can’t always accomplish everything on our own. Sometimes our own level of expertise does not match the level of expertise required to complete our project, either in terms of content or object development. Anticipating where you might need some assistance, and who you can call on for that assistance, can make the design and development phases go more smoothly.

Consider the following questions:
• Do you feel confident in your ability to use the specific technology/program/software that you anticipate using to create the online learning object?
• Do you need additional subject matter expertise?
• Is there a person or department on campus that you can consult with in either of these areas?

**Do**

Complete *Worksheet 4: Design*. 
Worksheet 4: Design

Using the three-step process (stem + verb + outcome/process/product), write down 3-5 learning outcomes for this object.

1.
2.
3.
4.
5.

What ways can/should the content be organized? How can you “chunk” out your content or break down skills to make it more manageable? Is there a logical order? Sketch out a basic lesson plan/outline to help you in the development phase.

What is your assessment method? Will it be formative or summative? Formal or informal? Subjective or objective? Measure competency or satisfaction?

What questions will you ask in your assessment? Provide a draft assessment if possible.

How will you deliver your assessment? Does the technology you anticipate using allow it to be worked into the online learning object itself? Will it be linked to from the object?

How will you incorporate formative assessment into your instructional design process?

What is your timeline?

Will you need to draw on the expertise of others and include them in the process?
Module 5: Development

Read/Watch

Foundational readings/videos for Module 5


The design of your online learning object lays the blueprints for the final creation. The initial planning process takes a bulk of your time. With a well developed plan, the development of your object is much easier. In this phase, you will simply actualize your plan. In the interest of not overloading the Design phase, we made an executive decision here to include storyboarding in this phase. We've seen storyboarding included in either phase but we actually wanted you to come back after the Design phase.

Storyboarding


Storyboards can be created using online tools, like Canva, PowerPoint, or good old fashioned pencil and paper. The two videos on storyboarding will give you an overview and a few tips on how to create your storyboard. Worksheet 5 provides you with some frames for the paper and pencil option, but use whatever tool is best for you. During storyboarding write out your script if that applies to the type of learning object you plan to create. If you're recording a screencast, your script will provide you with the text for closed captioning as well! If you're creating a research guide, use the storyboard to sketch what each page will look like.

Choose a Delivery Method

After storyboarding, it's time to decide on a delivery method. In Module 2, you explored the various tools you can use to create online learning objects. Which one fits your learners and your design?

Build Content

Using your storyboard, outline and learning outcomes, build the content for your learning object. As you build the content, review your learning outcomes – revise your content to match. We
know the short window of time in this program may not allow you to actually create your learning object, but this is the point where the creation would begin.

We have a few suggested readings for you about some best practices for making the type of learning object you choose. There may not be a reading that talks about your specific tool, but find one that you think will be the closest fit or find your own!

Research Guides


These are just a few from the literature. There are many more out there if these aren't what you're looking for.

Screencast Videos

  - This is dated, but most of it is worth a skim. Especially pay attention to the points made in the Recording section on pages 43-58. In the Handbook the author mentions a technique of recording your narration after recording your screen. When I (Trent) make screencasts, I usually record the audio first, then the video. This lets me avoid the confusion of speaking and controlling my screen at the same time. It's easier for me to record audio first so I speak in a natural pace and then make my on-screen movements match up rather than speed reading my script to catch up to what's on the screen. You still might run into timing issues so you may have to record again or do a lot of editing.

Slide Decks

Other Online Tools


For more on data visualization, see anything by Edward Tufte.

Ok, I guess we bit off more than we can chew here since this "other" section covers everything under the sun. Do some searching on best practices for the delivery method you chose!

Standards for Delivery

Your library or institution may have some branding requirements to keep a consistent look to your learning object. Be sure to follow the standards in place or develop them to keep a consistent look. You will also need to take into account accessibility requirements. These differ for every type of learning object but include closed captioning or alternate text, large buttons, clear audio, and clear images.


Prototypes and Usability Testing

When you have created a rough draft or prototype of your learning object, it can be helpful to get some feedback before it's ready to implement. This is the time to get a few of your users to test out your learning object and see how it can be improved before launch.

**Do**

Create a storyboard for your online learning object on **Worksheet 5: Development** in the Workbook or use PowerPoint or a similar tool to make your storyboard.
Worksheet 5: Development

Online Learning Object Storyboard (Copy and paste as many boxes needed)

Title/Captions:
Narration/Script/Text:
Images:
Notes:

Title/Captions:
Narration/Script/Text:
Images:
Notes:

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Does your learning object meet the standards for delivery?

**Look & Feel**
- Fits institutional or library standards

**Accessibility**
- Closed Captions
- Clear Audio
- Clear Images
- Large Buttons

**Meets Selected Design Principles for Multimedia Learning**
[http://hartford.edu/academics/faculty/fcltd/data/documentation/technology/presentation/powerpoint/12_principles_multimedia.pdf](http://hartford.edu/academics/faculty/fcltd/data/documentation/technology/presentation/powerpoint/12_principles_multimedia.pdf)
- Multimedia Principle - words and pictures are used rather than words alone
- Spatial Contiguity Principle - corresponding words and pictures are presented near rather than far from each other on the page or screen
- Coherence Principle - extraneous words, pictures and sounds are excluded
- Personalization Principle - words are in conversational style rather than formal style

Does the learning object meet the stated Learning Outcomes?
Module 6: Implementation

Woo hoo! The most difficult parts of creating your online learning object are done! Now, it's time to do a last check and figure out how to deploy this thing.

Read/Watch

Foundational readings/videos for Module 5


Final Check

Before you show your learning object off to the world, you need to do a final check to make sure that it's ready for its debut. While accessibility should be a focus through the design and development phases, we haven't really talked about it yet. This final check should involve accessibility considerations. You could take an entire course on accessibility for online tools, but it wouldn't be taught by us! We don't have the technical skills or knowledge to tell you how to test each type of learning object you create. This is where your relationships with the IT department or your library's web team can come in handy. However, there is one useful accessibility tool we know about that could be useful for a lot of people in this course. If your project is developing a research guide, put the URL into the WAVE Web Accessibility Tool. It will point out any accessibility issues that screen readers have with the web page. Ok, there's another one we know about, WebAIM's Color Contrast Checker. If you have the hex codes (six-digit codes that specify a color) for your colors, you can check if the color of your text contrasts enough with the background color. This is to verify that those with certain vision issues can read your text.

Publishing Location

So, after that final check, it's time to put your learning object in place. Wait, what place? You may have known where your learning object would live from the very beginning of this process or you may have never thought about it. This may seem like a fairly easy step, but if you create an amazing online learning object that no one can find, it's pretty useless. If it's a research guide, where does it fit in your guide organization? If it's a video, where will you house it so that your intended audience can view it? Decide the best location to publish your learning object and make it live.
How to Use Your Learning Object

Now that your learning object is out there, think of anything that your users need to know in order to use your learning object. Do they need special software or are there certain computer requirements to use it? What are the prerequisites for using the object? If your learning object is used in a course, what do the teachers of the course need to know to implement it? Is there any training that they need? Be sure to specify any instructions for use. This could come in the form of some text next to your learning object.

Marketing


As much as we'd like to believe that library users spend a lot of time on our websites and notice whenever we add new things...uh...they don't. So, you need to do a bit of marketing to drive the traffic there. Who's your audience? What do they need to hear? How do you reach them? Again, here's another point where you could do another entire program. Canva can be a useful tool for creating marketing materials. Develop your message and materials, send them out, and watch users flock to your learning object!

Do

Complete Worksheet 6: Implement.
Worksheet 6: Implement

Where will you host your online learning object so that your library users will see it?

Describe your marketing plan. Give details on the audience you’re marketing to, your marketing message, and your marketing medium. See the Library Marketing Plan Workbook (link above) from the New Mexico State Library for information about each of these aspects.
Module 7: Evaluation

Read/Watch

Foundational readings/videos for Module 7

  - This resource was also provided in Module 4. This research guide provide guidance on matching assessment techniques with different types of learning outcomes. Feel free to explore all the areas under the “Assessment” heading on the left hand side navigation, as there is a wealth of information here.
  - An overview of self-reflection techniques. Some examples are geared more toward classroom instruction.

You have made it to the final phase! The end is in sight!

You have taken the time to analyze, design, develop and implement your learning object, now it is time to evaluate your pride and joy. “But wait” you say, “we haven’t even created/implemented our learning object yet! How can we possibly evaluate it?!” Excellent point. Since time travel does not yet exist, your work for this section will involve thinking ahead to how you will approach the evaluation stage, and planning for that time in the hopefully not-so-distant future.

You will have noticed that formative evaluation has actually been taking place throughout the ADDIE process - we didn’t just save up all the evaluation till the end! The first four phases utilize formative assessment, which takes place while a project/program is “in process” to gauge progress, whereas the evaluation phase really focuses on summative assessment which takes place when a project/program is done and helps determine if students met the intended outcomes.

The evaluation stage should include an assessment of the learning as well as an evaluation of the teaching. This stage will help you answer some of these “big picture” questions:

- What learning occurred and how effective was the design and product?
- Do the learners change their behaviors?
Do learners like the course?
Does the object help the library achieve its goals?

Some specific questions you may want to ask your future self after your learning object is released into the world are:
- What was the response to the learning object?
- Did the learners complete the learning object successfully? How do you/will you know?
- Did the learners achieve the learning outcomes?
- Where was my learning object used (library website, etc)?
- What was the reach of my project (metrics like hit counts, hit locations)?
- What would I do differently next time?

Since you likely can’t ask yourself those questions now, we will instead plan for how you will approach each of those questions in Worksheet 7.

Do

Complete **Worksheet 7: Evaluation**.
Worksheet 7: Evaluation

Since we haven’t asked you to actually complete the development and implementation phases yet, we are going to plan for your hypothetical future where your learning object has been created, released into the wild, and is ready to be evaluated.

**At what point after implementation do you want to evaluate your learning object?**
- Is there a natural timeline for when you want to first evaluate, or is it arbitrary? Based on time, number of uses, etc.?

**What was the response to the learning object?**
- How are you planning to capture this? Is it a part of your assessment plan? Is it formative or summative assessment, formal or informal?

**Did the learners complete the learning object successfully?**
- Does the technology you chose for creating or hosting your learning object allow you to see if they went through the entire object? Did they drop off at some point?

**Did the learners achieve the learning outcomes?**
- Were you able to assess student learning? How are you going to utilize that assessment to answer this question? Do you have a “threshold” to determine success?

**Where was my learning object used (library website, LMS/CMS, etc.)?**
- Where is the best place for it to “live” to reach the intended audience. Are there opportunities to use it in other places?

**What was the reach of my project (metrics)?**
- Will you be able to measure the reach of your learning object? Does the technology used, or the platform it is hosted on, allow for compiling metrics (hit counts, locations of hits, etc.)? Will this matter to you?

**I have determined that I made a terrible mistake and I have to re-do this entire thing.**
- Does the technology you used for creating your object give you the flexibility to easily change things/make adjustments? Or are you going to have to start from scratch again?
I have determined that I made a not-so-terrible mistake, but I still want to learn from my previous experience.

- When all is said and done, take time to reflect on the question “what will I do different next time?”
Module 8: Wrap-Up

Read/Watch

Congratulations! You did it! You completed this program! Well, almost anyway. Let’s take a moment to reflect on your two and a half week experience with ADDIE. ADDIE is not a perfect process and while there are certainly benefits to using it, it also has a fair share of criticisms (you can see some of them at https://opentextbc.ca/teachinginadigitalage/chapter/6-5-the-addie-model/ - just scroll down to sections 4.4.3 and 4.4.5). Do you share any of the same thoughts on the benefits and limitations of the ADDIE model?

Do

Reflect on your experiences in the program and working through the five steps of the ADDIE process, then complete Worksheet 8: Wrap-Up Reflection.

You. Are. Done.
For real.
Worksheet 8: Wrap-Up Reflection

What did you find helpful about the ADDIE process?

In what ways was it limiting or frustrating for you to use?

Do you think you will use it for future learning object development, or is there a different process you might adopt?
Appendix A: Additional Resources

For this program, only freely available/open access materials were selected for the required reading/viewing sections. There are numerous resources on information literacy instruction, instructional design, and the ADDIE method available through subscriptions or purchase. Here are some additional resources that may be of interest.

You also have the opportunity to add to this list on the Canvas course site (click on the Suggest Additional Readings & Resources under the Resources & More section). Please feel free to add any resources you found helpful during the instructional design process.


Appendix B: Learning Objective Verbs Organized by Bloom’s Taxonomy Categories

<table>
<thead>
<tr>
<th>Remember</th>
<th>Understand</th>
<th>Apply</th>
<th>Analyze</th>
<th>Evaluate</th>
<th>Create</th>
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<td>Define</td>
<td>Classify</td>
<td>Choose</td>
<td>Appraise</td>
<td>Appraise</td>
<td>Adapt</td>
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<td>Compare</td>
<td>Demonstrate</td>
<td>Argue</td>
<td>Argue</td>
<td>Assemble</td>
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<td>Employ</td>
<td>Compare</td>
<td>Critique</td>
<td>Build</td>
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<td>Execute</td>
<td>Contrast</td>
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<td>Differentiate</td>
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