

Reusable Learning Objects: Tools for Teaching in Nonformal Education¹

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This publication about Reusable Learning Objects (RLOs) provides Extension agents with a brief synopsis of what RLOs are and how to create an RLO for use in an educational setting.

used in a variety of ways, including in a class or workshop setting or through an e-learning platform or independent Web page. Whether in a formal or nonformal setting, RLOs can be valuable tools for sharing information.

What is a reusable learning object?

Reusable learning objects (RLOs) are short, self-contained, digital learning activities that are often stored in a central online repository, such as a website (Neven & Duval, 2002). The repository, which can either be private or public, is searchable by keywords that are linked to specific characteristics of and potential educational applications for the RLO (Neven & Duval, 2002). RLOs that are stored together often form a network of educational resources that can then be

Creating a reusable learning object

Step 1: Choose your topic

There are several steps for creating an RLO. First, determine the topic. When choosing a topic, remember that RLOs can be used to address any number of areas. Examples of recent RLOs created by faculty from the University of Florida are available at <http://www.globaleducationlab.org>. By using

Table 1. Potential RLO Topics Worksheet

Overarching Topic	Specific Concept(s)	Where RLO May Be Used	Possible RLO Users
<i>Example:</i> Tips for Starting a Community Garden	Conveying steps necessary for planning a community garden	1. Community workshop 2. 4-H Club meeting 3. In the classroom	1. Other agents 2. Teachers 3. 4-H Club leaders

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not only text, but also photographs, figures, and videos, RLOs have the ability to create a contextually rich learning environment for your audience. The worksheet in Table 1 will help you think through the steps of choosing a topic.

In addition to considering overarching topics and possible concepts, think about where you might use the RLO. Can the RLO be used for multiple programming efforts? In what context could it be used? Can you think of others who might also be able to use this RLO in their instruction?

Step 2: Identify your main objective

Now that you have sketched out several topic possibilities, it is time to focus on what you intend for your audience to learn from the RLO. An RLO should be designed to present information around a single learning objective. A learning objective identifies what the learner is required to do in order to demonstrate mastery of the concept. Determining an objective allows you to align the types of practices and assessments that are most helpful for achieving that objective. The small chunk of instruction captured in an

RLO can be paired with additional materials or other RLOs to facilitate more complex learning situations. With this in mind, choose one of the specific concepts you identified in the previous section. Write out a single learning objective for the concept you chose. A learning objective for the example in Table 1 might be: *At the completion of this workshop, a participant will be able to identify five different considerations that must be made prior to starting a community garden.* This type of learning objective would be at the “remembering” level of Bloom’s Taxonomy. A variety of learning objective verbs is available in Table 2.

Step 3: Outline the content of your RLO

The next step in formulating your RLO is to determine exactly what content will be covered within the “Knowledge” portion of your presentation. Using the instructional objective identified in the previous section, develop a brief outline using a presentation software such as PowerPoint, where each slide constitutes a piece of the outline. Sketch out what you would like for the audience to learn at each step of the presentation. See Table 3 for a sample outline

Table 2. Learning Objective Verbs for Each Level of Bloom’s Taxonomy

Cognitive Level	Verbs			
1. Remembering I want my audience to <i>retrieve relevant knowledge from long-term memory.</i>	Define Describe Draw Identify	Label Locate Memorize Name	Recite Recognize Remember Select	State Write
2. Understanding I want my audience to <i>convey the meaning of instructional messages, including oral, written, and graphic communication.</i>	Change Compare Confirm Defend Distinguish	Explain Express Extend Generalize Illustrate	Infer Match Paraphrase Predict Restate	Summarize Transform
3. Applying I want my audience to <i>carry out or use a procedure in a given situation.</i>	Apply Change Choose Classify Collect	Discover Dramatize Draw Interpret Make	Model Modify Paint Prepare Produce	Report Show
4. Analyzing I want my audience to <i>break material into its basic parts and determine how the parts relate to one another and the overall structure/purpose.</i>	Analyze Categorize Classify Compare Construct	Contrast Differentiate Distinguish Examine/Infer	Investigate Point out Research Select Separate	Subdivide Survey Take apart
5. Evaluating I want my audience to <i>make judgments based on criteria and standards.</i>	Apprise Assess Compare Consider	Criticize Critique Judge Recommend	Evaluate Relate Solve Summarize	Weigh
6. Creating I want my audience to <i>put elements together to form a new whole or an original product.</i>	Add to Combine Construct	Create Design Develop	Formulate Hypothesize Invent	Organize Plan Produce

Note. In ascending order from simpler to more complex. Adapted from *A Taxonomy for Learning, Teaching and Assessing: A Revision of Bloom’s Taxonomy of Educational Objectives: Complete Edition*, by L. W. Anderson and D. R. Krathwohl (Eds.), 2001, New York, NY: Longman.

used for creating RLOs on a technical concept. A short outline for the example is located on the right side of Table 3.

Step 4: Create your script

Now that your outline is complete, it is time to create a complete picture for your audience. Create a script to fill in any information that may have been left out of your slides. A script helps ensure better audience understanding of the concept. The script also helps you narrate your RLO within the standard RLO time frame of 2–15 minutes. You can

Table 3. Generic RLO Outline and Sample

Generic Outline	Example
<p>RLO Title</p> <ul style="list-style-type: none"> • Author Name <p>Learning Objective</p> <ul style="list-style-type: none"> • Upon completion of this RLO, the audience will be able to...[Insert a single learning objective.] <p>Overview 1 (What is the concept?)</p> <ul style="list-style-type: none"> • Add a few key background points that give the “big picture” about the concept in this RLO. • Add a picture here that connects with the concept. <p>Overview 2</p> <ul style="list-style-type: none"> • Add a few key facts about the context from which your RLO will be presented (i.e., from a different cultural perspective, or within your current context [county Extension program]). • Add a picture that represents this context. <p>[Concept] in [context]</p> <ul style="list-style-type: none"> • Add background information about the concept addressed in this RLO as applied to the context. • Add pictures that show your concept in the context. <p>[Concept] in [context]</p> <ul style="list-style-type: none"> • Give specific details and facts about the concept addressed in this RLO. • Add a relevant picture showing some of the details addressed in this slide. Preferably have some people in the picture. <p>[Concept] in [context]</p> <ul style="list-style-type: none"> • Maybe add a video clip that details how the concept of this RLO impacts people in the (context) or how the people in (context) might influence the concept. <p>Summary</p> <ul style="list-style-type: none"> • Add a few summarizing points. • Be sure to add another picture. <p>References and Additional Resources</p> <ul style="list-style-type: none"> • Add references used to create the RLO. • Add links to additional resources. Be sure to only use stable Web pages. 	<p>Tips for Starting a Community Garden</p> <ul style="list-style-type: none"> • Jessica Gouldthorpe & Norma Samuel <p>Learning Objective</p> <ul style="list-style-type: none"> • At the completion of this workshop, a participant will be able to identify five different considerations that must be made prior to starting a community garden. <p>Creating a Community Garden</p> <ul style="list-style-type: none"> • A great way to bring the community together while developing friendships and healthy lifestyle habits. • <i>Insert picture of community members (young and old) working in a community garden.</i> <p>Considerations When Planning a Community Garden</p> <ul style="list-style-type: none"> • However, in order for a community garden to be successful, some planning must be done. • <i>Insert picture of Extension agent talking with community members.</i> <p>Create a Plan</p> <ul style="list-style-type: none"> • Each community is unique and must formulate a plan that will work for them. • <i>Insert picture of Extension agent working with community members to determine garden site.</i> <p>Make it Useful</p> <ul style="list-style-type: none"> • Educate community members about gardening techniques and how to prepare the items produced. • <i>Insert picture of Extension agent teaching how to cook vegetables grown in garden.</i> <p>A Community Garden Success Story</p> <ul style="list-style-type: none"> • Several communities have successfully integrated this type of garden into their area. • <i>Insert a video clip of a success story from a community garden project.</i> <p>Summary</p> <ul style="list-style-type: none"> • A community garden might be a useful tool for bringing a community together. • <i>Insert additional pictures of the transformation from an open lot to a successful garden.</i> <p>References and Additional Resources</p>

either elect to write out the script in a separate Word document or within each of the separate Notes sections within the PowerPoint presentation. In addition to helping you narrate, the text-readable version of the script also makes your RLO compliant with Americans with Disabilities standards for members of the deaf community who wish to use this resource.

Step 5: Put your presentation together

With the script prepared, it is time to put the RLO together. As you construct the visual portion of your RLO, be sure

to think about the design of your slides. Include layout, text, video, photos, charts, and figures that enhance your presentation and capture the interest of the audience, but don't make it so flashy that it is distracting. Remember, this is meant to be an educational tool. Once the text, images, and script are in place, it is time to record.

Several programs can be used to narrate your presentation – PowerPoint itself has a record option. Whichever program you select, be sure to record in a quiet space with a higher quality microphone. These details help to minimize the distortions and white noise that may be distracting to your distance audience. Take your time reading through the script to make sure that the phrases you have selected are easy to say. Once you are ready, select the record function for the software program that you have chosen and record. Don't worry if it requires a couple of takes. Listen through each slide and make sure that it is easy to hear and understand. Make adjustments as needed. Be sure to save your work periodically.

Summary

Extension personnel are often called upon to teach to diverse groups. As in most educational settings, some learners like to “see” and “do” rather than just hear. An RLO is a useful tool for sharing information in a visual manner through a digital medium. RLOs can be used in a workshop setting to enhance the content being presented or, if narrated, can be used as informational resources hosted on a county Extension website.

In the future, agents can use RLOs to exchange ideas and share expertise across Florida, building a set of resources that can be integrated into many settings across a number of content areas. As such, RLOs could be a great new tool for Extension.

For more information or for helpful RLO resources, visit the “Resources” page of the UF Global Education Lab at <http://www.globaleducationlab.org/resources.shtml>.

References

Neven, F., & Duval, E. (2002). Reusable learning objects: A survey of LOM-based repositories. *Proceedings of the 10th Association for Computing Machinery (ACM) International Conference on Multimedia*, 291–294. doi: 10.1145/641007.641067.