Flexible learning content with the DITA Learning and Training specialization

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Executive summary

Learning content professionals spend a lot of time creating content for instructor guides, presentations, assessments, and other deliverables. To adapt that content for multiple contexts, these content developers often:

- Copy and paste content from one part of a course to another

- Develop multiple different delivery methods

- Create and maintain multiple versions of similar content

This white paper discusses learning content solutions with the DITA XML standard, which facilitates efficient content authoring through content reuse. The DITA XML standard includes the Learning and Training specialization (L&T) which provides predefined structures that support all kinds of learning content: study guides, assessments, e-learning, and so on. It allows learning content creators to:

- Quickly reuse learning content

- Simultaneously write and store multiple versions of learning content

- Easily publish multiple delivery formats
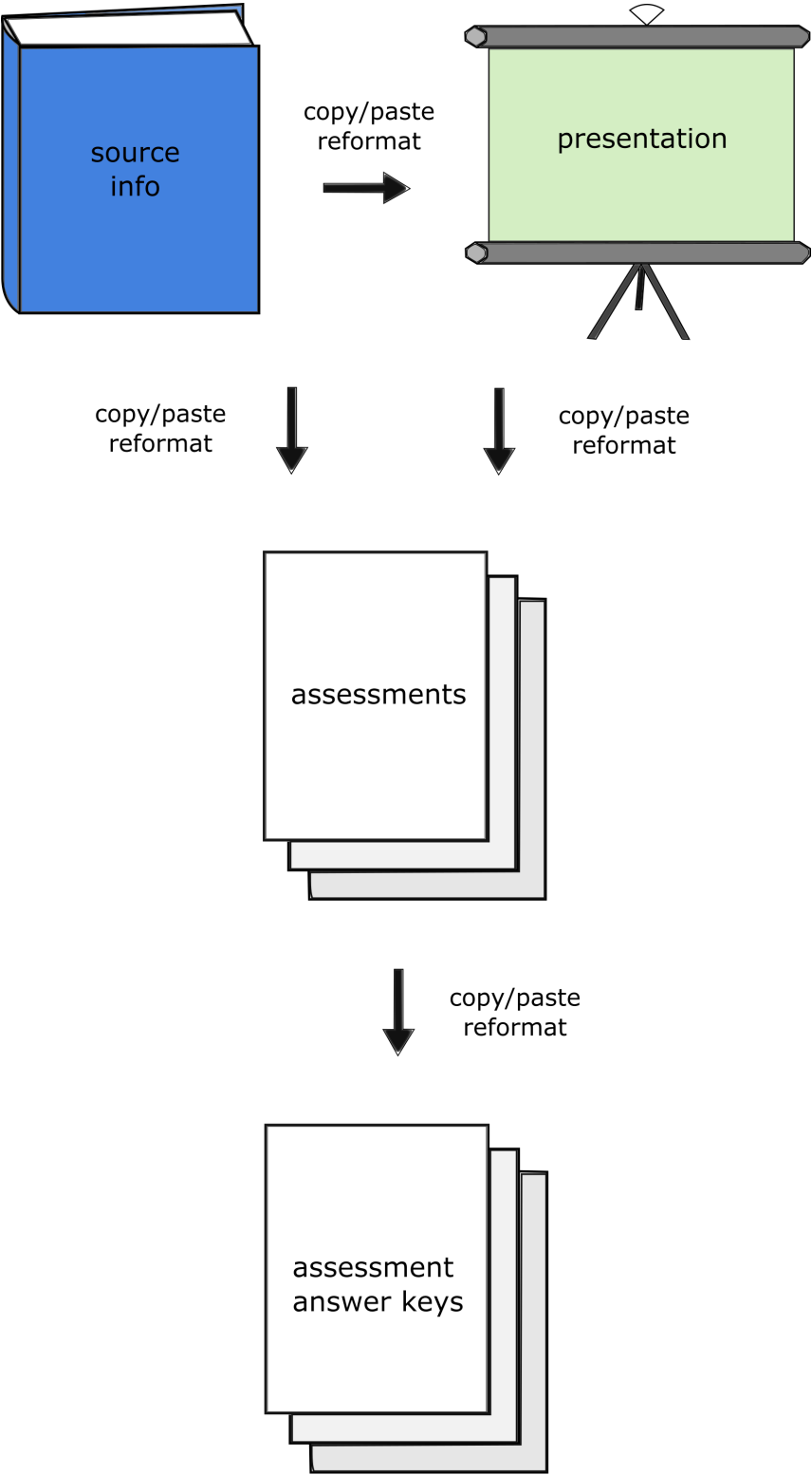
Quickly reusing learning content

When content creators write learning materials, they usually reference a main information source—a textbook, a handbook, product procedures, or set of regulations. This source usually informs the supporting content that the creator may have to write:

- Presentations

- Worksheets

- Quizzes and tests

- Other assessments

The source, the presentation, and the assessments often repeat information, and yet content developers usually write each of these deliverables independently. They may author the presentation with an application such as PowerPoint and then copy—or retype—the information from another source. Then when they create assessments, such as worksheets or tests, they will write them in an application such as Word, perhaps, with information from the
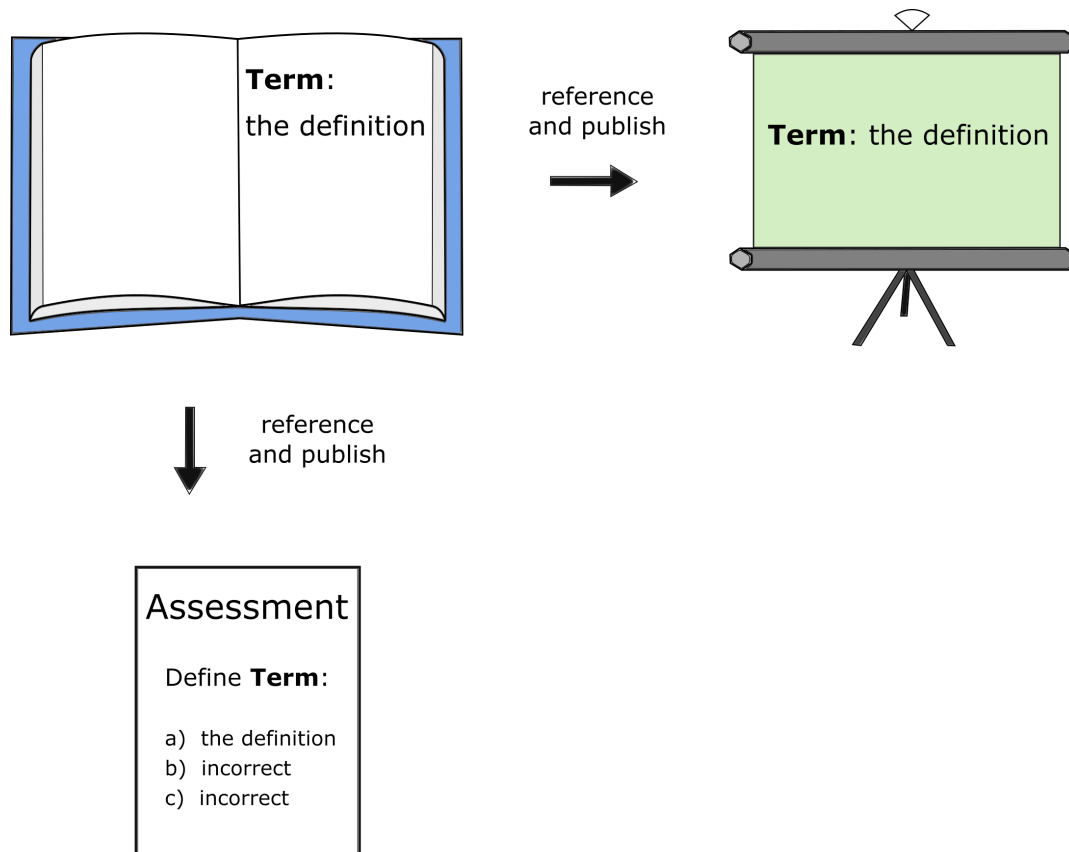
source and presentation copied in. Then to make an answer key, the content creator may have to copy, paste, slightly modify, and maintain another version in a separate document.

Figure 1: Traditional learning content workflow

In contrast, the L&T allows for information to be reused among different learning content materials. Content creators can directly reference source information in a presentation or assessment. For example, you can write a term definition, modify it in the source content as a glossary term, and then pull it into a test question as the correct answer option.

Figure 2: L&T reuse workflow

This term definition use case illuminates how reuse with DITA and the L&T can help disperse the most up-to-date and accurate information. If the term definition in your presentation and test is linked to the definition in the master source, it will be updated whenever the source material changes. The content creators save time and avoid potential mistakes.
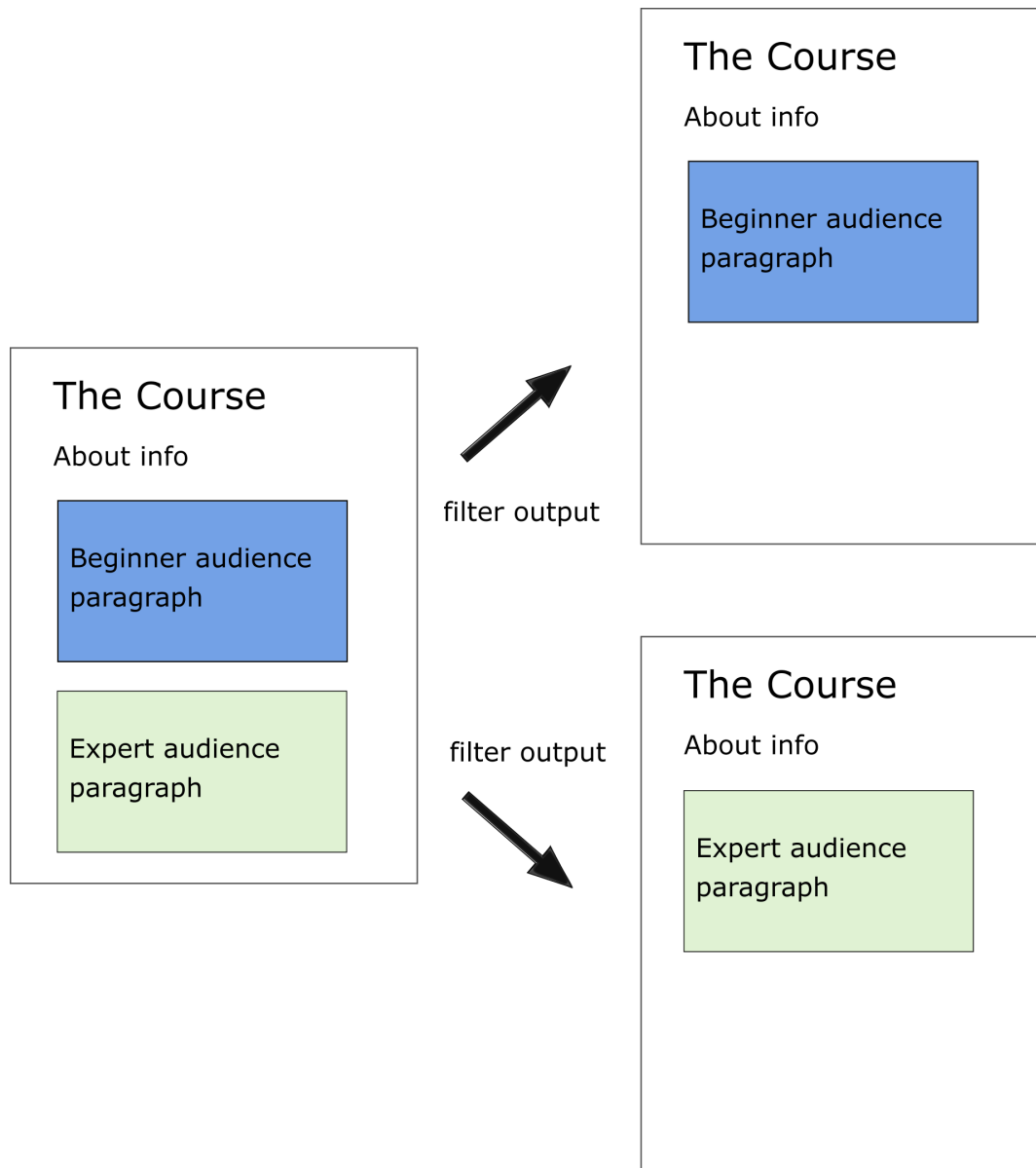
Simultaneously creating multiple versions of learning content

It can be time-consuming to create instructional content tailored to different audiences. For example, you may need one version for beginners and one for experts. Or maybe you need to train students to use two products that have slight differences. The content for those courses or lessons may only have small variations.

Traditionally, you would write one version of the course, then make a copy and adapt the copy as needed. But once you make a copy, you have duplicate source files, one for each version. You have to maintain both copies.

The L&T offers a way to create both versions in a single set of files. As necessary, you filter the source files to generate the different versions. You can author the beginner and expert content in the same source file, and then filter for beginner content when you create the deliverable.
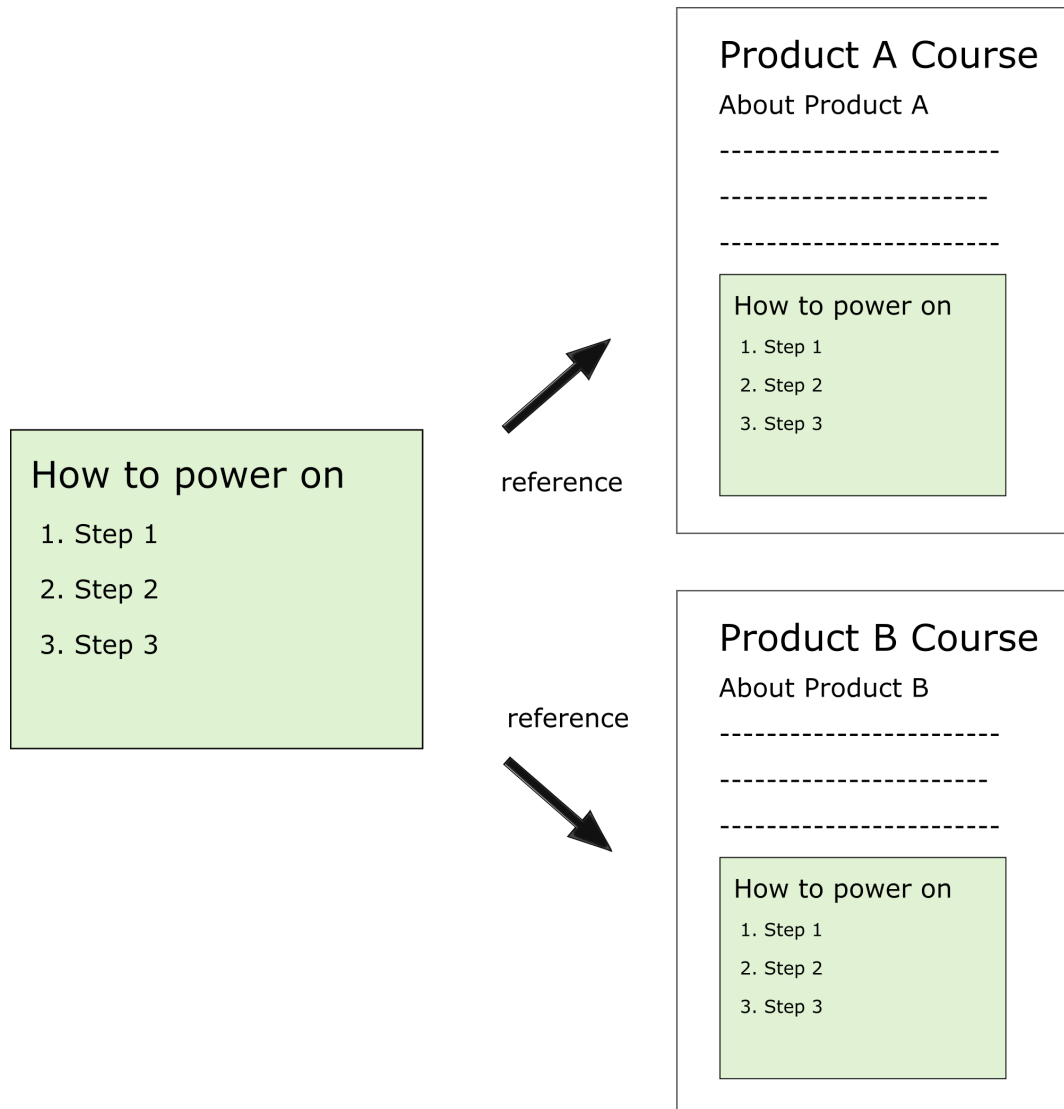
Figure 3: L&T filtering workflow

You may also need to create two seperate courses that still share common content. The L&T lets you create distinct reusable sections of learning content and reorganize them. You can reuse one section or lesson in multiple courses.

For example, if you have two different products with similar features, you may create two different training courses for customers. Suppose that the process to turn on these products is the same, and you want to include that in the training course. With the L&T you can write that content once and include it in both versions of the course.

Figure 4: L&T reuse for versions

Product A Course

About Product A

How to power on
1. Step 1
2. Step 2
3. Step 3

How to power on
1. Step 1
2. Step 2
3. Step 3

reference

reference

Product B Course

About Product B

How to power on
1. Step 1
2. Step 2
3. Step 3

Publishing multiple deliverable types

You might need separate delivery formats for manuals, presentations, and assessments. You may also need to produce multiple deliverable types for different types of users or to expand your market: for example, a print version and an ebook version for a manual.

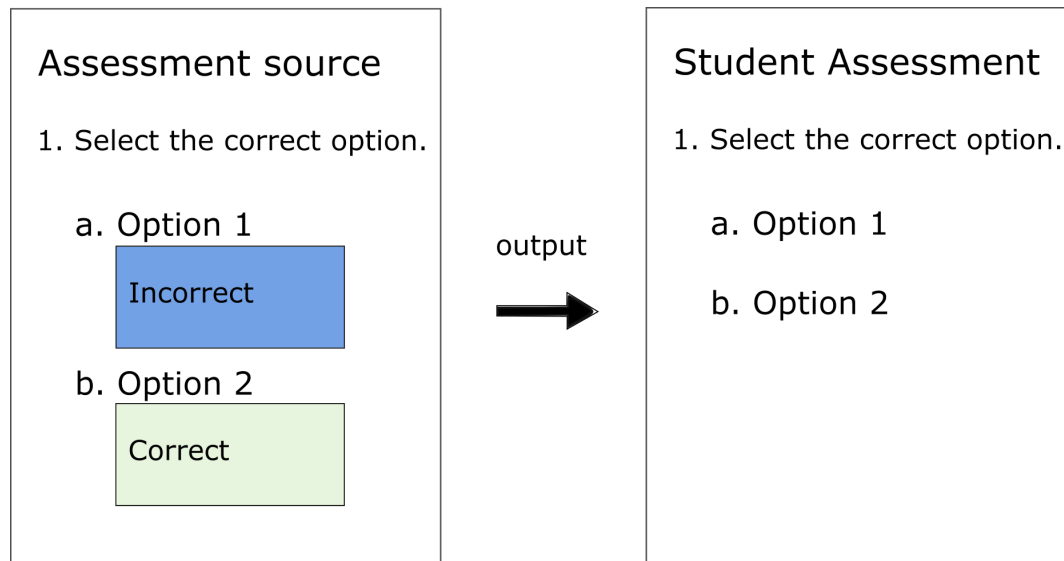With the L&T, you can use the same content to produce every delivery format you need.

The L&T makes it especially efficient to create assessments and online course material.

Assessment delivery solutions

Assessments almost always require two deliverables: the instructor version with an answer key and the student version without the answers. Content creators usually copy the answer key and remove the answers by hand to create the student version, but it takes a lot of time, and both documents may have to be updated separately if there are any changes.

The L&T assessment topic type allows questions and answers to be written and stored together, then filtered when the deliverables are created. There is a special element for the correct answer and different elements for incorrect answer options (in multiple choice scenarios).

Figure 5: L&T assessment workflow

Every answer option can have feedback, and it gives the instructor the opportunity to explain why each answer is correct or incorrect. This can be especially helpful for online or self-guided learning content.

Online learning delivery

We've discussed the publishing formats that you might need for a traditional classroom setting, but online learning deliverables can also be created much more quickly with the L&T.

Most online courses are delivered within a Learning Management System (LMS). The LMSs may also support SCORM (Shareable Content Object Reference Model), which is an encoding that defines learning content in a standard way for online learning. With a DITA L&T environment, you can export course content to SCORM, and then bring that package into the LMS.

With online and self-guided learning there are exciting options for real-time delivery and dynamic delivery.
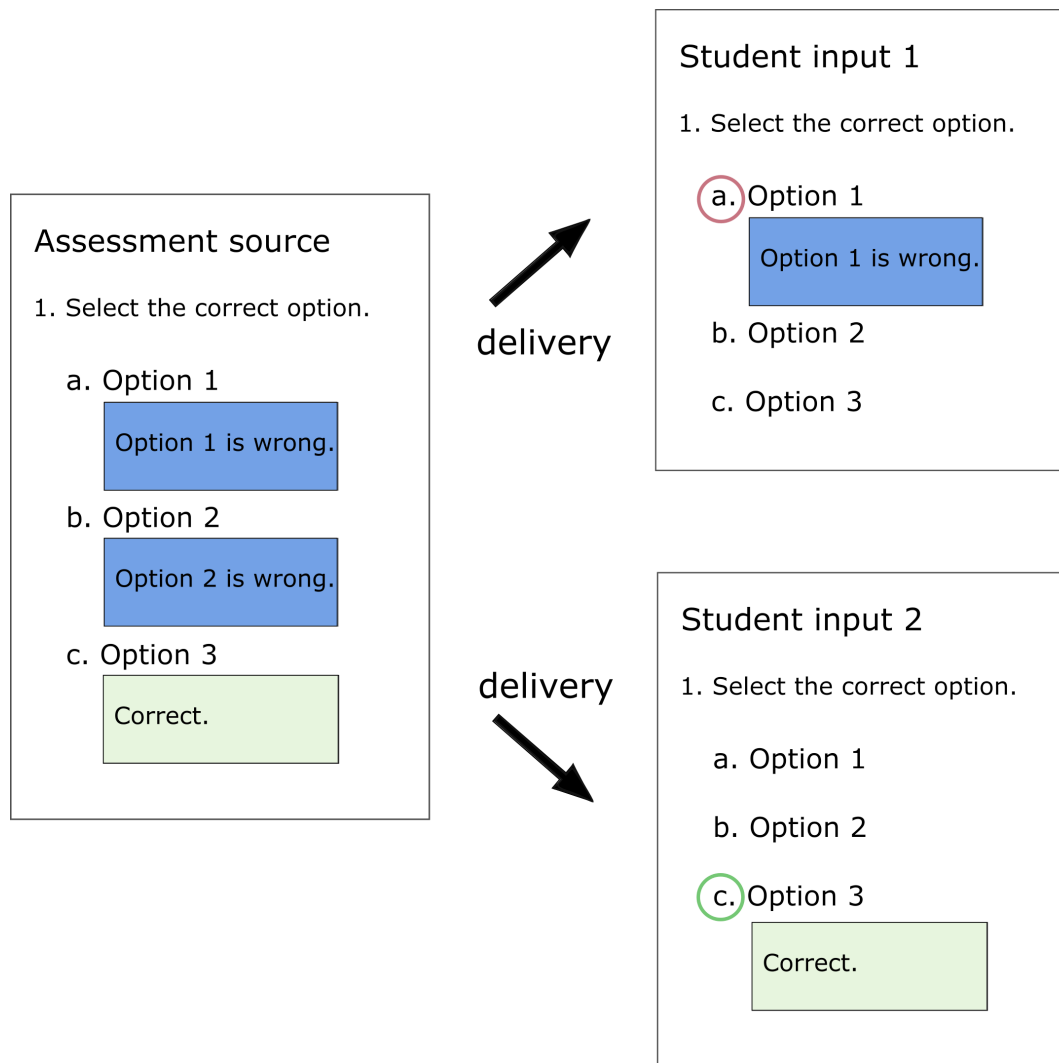
Dynamic delivery

If you use the L&T to create different versions of a course, you could automatically connect people with specific training based on their specific needs. For example, if a student needs training for Product A on an online learning platform, they could select the product from a list, and content for that product would be filtered from the rest of the course content and delivered to them via an LMS.

Real-time delivery

Feedback on assessments can also be delivered in real time based on student input since the L&T assessment topics can store feedback alongside question and answer content. If they select incorrect answer option A, they may get a different explanation than if they select incorrect answer option B or correct answer option C.

Figure 6: L&T real-time assessment delivery

Configuring deliverable outputs

The DITA L&T content comes with rudimentary output for HTML, PDF, and other delivery formats out of the box. Although, you will have to do some configuration to set up your corporate branding. To generate other delivery formats like SCORM or PowerPoint, you will need to develop those output methods.

In conclusion

The Learning and Training specialization offers efficient authoring of learning content by facilitating writing for reuse in multiple deliverables. The reuse possibilities are flexible and

can be tailored to your needs. It can save a lot of rewriting effort and time to make content creation less costly.

Scriptorium offers end-to-end consulting services for DITA, the L&T, and much more. If you would like more information, contact us or visit our LearningDITA.com course: The Learning and Training specialization.

About the author

Kaitlyn Heath, Technical Specialist, implements new content strategies.

She develops technical solutions for clients to author and deliver their structured content.

She ensures the quality of DITA-OT customizations for clients and documents the use cases.

Kaitlyn also contributes to LearningDITA courses.
She graduated from Virginia Tech with a degree in Professional and Technical Writing, with areas of study in user documentation, interaction design, and online content development.