



UDL is based on an understanding of how the brain functions to create learning environments that are flexible to meet the needs of diverse learners by minimizing barriers to learning.

## Universal Design for Learning

- Universal Design for Learning (UDL) is a set of principles guiding curriculum development.
- It promotes and awareness of the barriers that learners can experience in learning, and finding ways to provide flexibility to circumvent those barriers.



By building learning material that is flexible, all students can access the flexibility provided by these options, rather than having to label themselves with a disability before they can access material in a way that is most effective for them.

Providing multiple means of representation, action and expression, and engagement helps provide this flexibility.

## Three Areas of Flexibility for UDL

1. Multiple Means of Representation
2. Multiple Means of Action & Expression
3. Multiple Means of Engagement



Some individuals process text very well and learn efficiently through reading traditional textbooks. Others find it easier to learn through listening, watching, or doing.

When the learning designer provides educational material in multiple formats (multiple means of *representation*), the learner can choose a method to access the information.

This creates a very customized learning experience that is very different from a traditional classroom where all students must proceed through the material at the same pace and in the same way.

## Multiple Means of Representation

- Representation is about ‘what’ we learn.
- When the learning designer provides educational material in multiple formats (multiple means of *representation*), the learner can choose a method to access the information.
- In addition to traditional text, material can be presented as audio, images, video, and interactive resources.



When a learning designer has identified the learning objectives (i.e. what the course wants to teach), it is important to assess the actually learning object.

Some forms of assessment can create an inappropriate barrier to a learner trying to demonstrate understanding.

## Multiple Means of Expression

- Expression is the ‘how’ of learning, specifically *how* we express understanding.
- For example, the following demonstrates how a different means of expression can help prevent a learning barrier:
  - If the learning objective for a cooking course was ‘Recall the steps to fry an egg’, one way to demonstrate understanding could be to actually fry an egg.
  - However, if a learner has a broken arm, or is paralyzed, or even if the stove is broken, or perhaps the stove is a type the learner doesn’t know how to operate, they will be unable to demonstrate their understanding, even though they do actually remember the steps.
  - If, in addition to performing the task with the correct steps, the learner could arrange pre-written steps in order, or list them verbally, he or she could successfully demonstrate understanding of the actual learning objective in a different mode.



Providing learners a choice in both what content is presented to them, and how it is presented, creates the potential for higher engagement with the material.

## Multiple Means of Engagement

- Engagement is the ‘why’ of learning, or what connects the learner to the material and makes it meaningful.
- Engagement can be enhanced by allowing learners to select a topic that is engaging to them.
- Other times when the content is the critical element, engagement can be improved by offering the learner choices in how they manage their learning experience.
  - This includes providing for self-directed paths through the learning material, control over how they access the content (multiple means of representation) and how they demonstrate understanding of the content (multiple means of expression).



By following the UDL principles in learning design, authors of adaptive courses can utilize the various content formats a digital course can offer.

The more variety you provide learners, the more flexibility you allow your learners.

## Connection to Adaptive Courses

- Adaptive courses can use the UDL framework as a guide to creating content.
- Although adaptive courses may differ slightly depending on the platform used to create the course, they typically are all delivered in an online format.
- Keeping in mind the multiple means of representation and engagement, it is best to think about different modalities content can be presented in digital ways (e.g. videos, interactives, text, audio, images, etc.)
  - Although the multiple means of expression focus more on assessment, it's important to think about how you will assess the content you create. If your material is unfocused or structured poorly, it may be difficult to create assessments that truly test that content.