Proposal 13106, Learning2 Domain

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Stage 3 proposal: Feature 13106 Updated Learning and Training Interaction Support

New base and specializations for interactions that allow multiple paragraphs for question and feedback content, allows multiple assets in an interaction and make @id attribute for interactions optional.

Champions

Primary champions are Eliot Kimber and Amber Swope. Significant contributions were made by the Learning and Training Subcommittee members.

Tracking information

Event	Date	Links
Stage 1 proposal accepted	5/15/2012	*Minutes 15 May 2012*
Stage 2 proposal submitted	13 August 2013	*Minutes 13 August 2013*
Stage 2 proposal discussed	13 August 2013	*Minutes 13 August 2013*
Stage 2 proposal approved	20 August 2013	*Minutes 20 August 2013*
Stage 3 proposal submitted to reviewers	16 November 2013	
Stage 3 proposal (this document) submitted		

Approved technical requirements

This proposal defines two new domains for the Learning and Training vocabulary, interactionBase2Domain and learning2Domain. These two new domains mirror the existing interactionBase and learning domains, but provide a base model that allows multi-paragraph questions and multi-paragraph feedback. The new domains are otherwise semantically identical to the original domains. In addition, the plugin redefines the learningAssessment topic with the options for using either the DITA 1.2 support or the DITA 1.3 support.

learningInteractionBase2Domain

<lcInteractionBase2>

The <lcInteractionBase2> element differs from lcInteractionBase as follows:

- It is a specialization of (new in 1.3), not fig. This removes the content limitations that <fig> imposes (in particular, that <fig> cannot directly contain table) and removes the need to explicit implement special processing for <lcInteractionBase2> in order to not apply default figure processing to it. The element has no natural default processing semantics as it's just a wrapper element.
- Uses <lcQuestionBase2> in place of <lcQuestionBase>. The <lcQuestionBase2> element allows multiple paragraphs within its content, whereas <lcQuestionBase> is itself a specialization of <p>.
- Allows the same content as div whereas <lcInteractionBase> only allows figure content.
- Makes @id optional. Not all uses of interactions require that they have IDs and it is inappropriate to require @id in all cases. Users who need to require @id can add that requirement through DITA's normal constraint facility. The implementation of this proposal includes a constraint module that makes @id required on the new interaction elements.

<lcQuestionBase2>

The <lcQuestionBase2> element is also a specialization of and allows the same content as (that is, anything that can occur in <body> except <section> or <bodydiv>).

<lcInteractionLabel2>

Replaces the use of <title> with a specialization of <p>, <lcInteractionLabel2>. Because does not allow <title>, the <lcInteractionLabel2> element satisfies the general requirement to have "titles" on questions without literally using the <title> element. There is some question with the Learning SC as to whether or not there is a general requirement for questions to have titles as distinct from classifying metadata that may be presented in a "titleish" way.

learning2Domain

The learning2Domain is a clone of the 1.2 learningDomain. It defines new versions of each of the built-in interaction types, each of which are specialized from <lcInteractionBase2>.

In addition, the content models for the interactions are extended as follows:

- The <lcAsset2> element is allowed to repeat where in DITA 1.2 there may be at most one <lcAsset> element.
- The <lcOpenAnswer2>, <lcAnswerContent2>, <lcFeedback2>, <lcFeedbackCorrect2>, and <lcFeedbackIncorrect2> elements are all specialized from and allow all content.

The learning2Domain uses elements from the learningDomain when the content models of those elements are unchanged.

Processing impact

- How, in general, will the feature work? It will work exactly like the DITA 1.2 support.
- Will the feature have an impact on other processing features? For example, will the proposed feature have an impact on key resolution? NO
- What edge cases need to be considered? None

Backwards compatibility

To support backwards compatibility for all teams that have used the DITA 1.2 support, the 1.3 support is a stand-alone plugin. Because it includes a copy of the learningBase and defines a new assessment topic, there is no dependency on the learning domain.

Usability

In cases where the team can use either the original learning domain or the learning2Domain, update the DITA deployment to use only one of the pluging.

- To only display the DITA 1.2 learning elements, integrate the learning domaing and do not integrate the learning2Domain.
- To only display the DITA 1.3 learning2Domain elements, integrate the learning2Domain and do not integrate the learning domain.

This proposal makes the DITA-defined interaction vocabulary more usable by allowing a wider range of structural options and removing the need for non-standard workarounds where multi-block questions, answers, or feedback are required.

Dependencies or interrelated proposals

This proposal is dependent upon implementation of #13023: New element.

Modified DTDs

This proposal provides the following files:

learning2Domain.ent

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- ============================================================= -->
<!--                    HEADER                                     -->
```

```
<!-- ============================================================= -->
<!--  MODULE:    DITA Learning Domain                              -->
<!--  VERSION:   1.3                                               -->
<!--  DATE:      March 2012                                        -->
<!--                                                               -->
<!-- ============================================================= -->

<!-- ============================================================= -->
<!--                    PUBLIC DOCUMENT TYPE DEFINITION            -->
<!--                    TYPICAL INVOCATION                         -->
<!--                                                               -->
<!--  Refer to this file by the following public identifier or an
      appropriate system identifier
PUBLIC "-//OASIS//ENTITIES DITA Learning Domain//EN"
      Delivered as file "learningDomain.ent"                    -->

<!-- ============================================================= -->
<!-- SYSTEM:     Darwin Information Typing Architecture (DITA)     -->
<!--                                                               -->
<!-- PURPOSE:    Declaring the substitution context and domain     -->
<!--             entity declarations for the learning domain       -->
<!--                                                               -->
<!-- ORIGINAL CREATION DATE:                                       -->
<!--             March 2012                                        -->
<!--                                                               -->
<!--             (C) Copyright OASIS Open 2012.                    -->
<!--             All Rights Reserved.                              -->
<!--                                                               -->
<!--  UPDATES:                                                     -->
<!-- ============================================================= -->

<!-- ============================================================= -->
<!--                     LEARNING DOMAIN ENTITIES                  -->
<!-- ============================================================= -->

<!ENTITY learning2-d-att "(topic learningInteractionBase2-d learning2-d
+learning-d)">

<!-- The following elements are specializations of lcInteractionBase,
     which is a specialization of fig. So, they are available as
     replacements for each of those elements. -->
<!ENTITY % learning2-d-div
                      "lcTrueFalse2 |
                       lcSingleSelect2 |
                       lcMultipleSelect2 |
                       lcSequencing2 |
                       lcMatching2 |
                       lcHotspot2 |
                       lcOpenQuestion2"
>

<!ENTITY % learning-d-lcInteractionBase2
                      "lcTrueFalse2 |
                       lcSingleSelect2 |
                       lcMultipleSelect2 |
                       lcSequencing2 |
                       lcMatching2 |
                       lcHotspot2 |
                       lcOpenQuestion2"
>

<!-- ================== End Learning Domain 2 Entities ============ -->
```

learning2Domain.mod

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- ============================================================= -->
<!--                    HEADER                                     -->
<!-- ============================================================= -->
<!--  MODULE:    DITA Learning 2 Domain                            -->
<!--  VERSION:   1.3                                               -->
<!--  DATE:      November 2012                                     -->
<!--                                                               -->
<!-- ============================================================= -->

<!-- ============================================================= -->
<!--                    PUBLIC DOCUMENT TYPE DEFINITION            -->
<!--                    TYPICAL INVOCATION                         -->
<!--                                                               -->
<!--  Refer to this file by the following public identfier or an
      appropriate system identifier
PUBLIC "-//OASIS//ELEMENTS DITA Learning Domain//EN"
      Delivered as file "learningDomain.mod"                    -->

<!-- ============================================================= -->
<!-- SYSTEM:     Darwin Information Typing Architecture (DITA)     -->
<!--                                                               -->
<!-- PURPOSE:    Declaring the elements and specialization         -->
<!--             attributes for Learning Domain                    -->
<!--                                                               -->
<!-- ORIGINAL CREATION DATE:                                       -->
<!--             March 2012                                        -->
<!--                                                               -->
<!--             (C) Copyright OASIS Open 2012.                    -->
<!--             All Rights Reserved.                              -->
<!--                                                               -->
<!--  CHANGE LOG:                                                  -->
<!--                                                               -->
<!-- ============================================================= -->



<!-- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -
   - Assessment interactions
   - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -->

<!-- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -
   - ENTITY DECLARATIONS FOR DOMAIN SUBSTITUTION
   - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -->

<!--<!ENTITY % lcInstructornote         "lcInstructornote">-->
<!ENTITY % lcTrueFalse2              "lcTrueFalse2">
<!ENTITY % lcSingleSelect2           "lcSingleSelect2">
<!ENTITY % lcMultipleSelect2         "lcMultipleSelect2">
<!ENTITY % lcSequencing2             "lcSequencing2">
<!ENTITY % lcMatching2               "lcMatching2">
<!ENTITY % lcHotspot2                "lcHotspot2">
<!ENTITY % lcOpenQuestion2           "lcOpenQuestion2">

<!ENTITY % lcQuestion2               "lcQuestion2">
<!ENTITY % lcOpenAnswer2             "lcOpenAnswer2">
<!ENTITY % lcAnswerOptionGroup2    "lcAnswerOptionGroup2">
```

```
<!--<!ENTITY % lcAsset                    "lcAsset">-->
<!ENTITY % lcFeedbackCorrect2         "lcFeedbackCorrect2">
<!ENTITY % lcFeedbackIncorrect2       "lcFeedbackIncorrect2">
<!ENTITY % lcAnswerOption2          "lcAnswerOption2">
<!ENTITY % lcAnswerContent2           "lcAnswerContent2">
<!ENTITY % lcSequenceOptionGroup2     "lcSequenceOptionGroup2">
<!ENTITY % lcSequenceOption2          "lcSequenceOption2">
<!ENTITY % lcSequence2                "lcSequence2">
<!ENTITY % lcMatchTable2              "lcMatchTable2">
<!ENTITY % lcMatchingHeader2          "lcMatchingHeader2">
<!ENTITY % lcMatchingPair2            "lcMatchingPair2">
<!ENTITY % lcItem2                    "lcItem2">
<!ENTITY % lcMatchingItem2            "lcMatchingItem2">
<!ENTITY % lcMatchingItemFeedback2    "lcMatchingItemFeedback2">

<!ENTITY % lcFeedback2                "lcFeedback2">
<!ENTITY % lcAsset2                   "lcAsset2">
<!ENTITY % lcHotspotMap2              "lcHotspotMap2">
<!ENTITY % lcCorrectResponse2         "lcCorrectResponse2">
<!ENTITY % lcArea2                    "lcArea2">
<!ENTITY % lcAreaShape2               "lcAreaShape2">
<!ENTITY % lcAreaCoords2              "lcAreaCoords2">

<!-- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -
   - INTERACTION DEFINITIONS
   - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -->
<!ENTITY % lcTrueFalse2.content
                      "((%lcInteractionLabel2;)?,
                        (%lcQuestion2;),
                        (%lcAsset2;)*,
                        (%lcAnswerOptionGroup2;),
                        (%lcFeedbackIncorrect2;)?,
                        (%lcFeedbackCorrect2;)?,
                        (%data;)*)"
>
<!ENTITY % lcTrueFalse2.attributes
             "id
                        NMTOKEN
                                  #IMPLIED
              %univ-atts;
              %select-atts;
              %localization-atts;
              outputclass
                        CDATA
                                  #IMPLIED"
>
<!ELEMENT lcTrueFalse2    %lcTrueFalse2.content;>
<!ATTLIST lcTrueFalse2    %lcTrueFalse2.attributes;>


<!ENTITY % lcSingleSelect2.content
                      "((%lcInteractionLabel2;)?,
                        (%lcQuestion2;),
                        (%lcAsset2;)*,
                        (%lcAnswerOptionGroup2;),
                        (%lcFeedbackIncorrect2;)?,
                        (%lcFeedbackCorrect2;)?,
                        (%data;)*)"
>
<!ENTITY % lcSingleSelect2.attributes
             "id
                        NMTOKEN
```

```
                                    #IMPLIED
              %univ-atts;
              outputclass
                        CDATA
                                    #IMPLIED"
>
<!ELEMENT lcSingleSelect2    %lcSingleSelect2.content;>
<!ATTLIST lcSingleSelect2    %lcSingleSelect2.attributes;>


<!ENTITY % lcMultipleSelect2.content
                       "((%lcInteractionLabel2;)?,
                         (%lcQuestion2;),
                         (%lcAsset2;)*,
                         (%lcAnswerOptionGroup2;),
                         (%lcFeedbackIncorrect2;)?,
                         (%lcFeedbackCorrect2;)?,
                         (%data;)*)"
>
<!ENTITY % lcMultipleSelect2.attributes
             "id
                        NMTOKEN
                                    #IMPLIED
              %univ-atts;
              outputclass
                        CDATA
                                    #IMPLIED"
>
<!ELEMENT lcMultipleSelect2    %lcMultipleSelect2.content;>
<!ATTLIST lcMultipleSelect2    %lcMultipleSelect2.attributes;>


<!ENTITY % lcSequencing2.content
                       "((%lcInteractionLabel2;)?,
                         (%lcQuestion2;),
                         (%lcAsset2;)*,
                         (%lcSequenceOptionGroup2;),
                         (%lcFeedbackIncorrect2;)?,
                         (%lcFeedbackCorrect2;)?,
                         (%data;)*)"
>
<!ENTITY % lcSequencing2.attributes
             "id
                        NMTOKEN
                                    #IMPLIED
              %univ-atts;
              outputclass
                        CDATA
                                    #IMPLIED"
>
<!ELEMENT lcSequencing2    %lcSequencing2.content;>
<!ATTLIST lcSequencing2    %lcSequencing2.attributes;>


<!ENTITY % lcMatching2.content
                       "((%lcInteractionLabel2;)?,
                         (%lcQuestion2;),
                         (%lcAsset2;)*,
                         (%lcMatchTable2;),
                         (%lcFeedbackIncorrect2;)?,
                         (%lcFeedbackCorrect2;)?,
                         (%data;)*)"
>
<!ENTITY % lcMatching2.attributes
```

```
             "id
                       NMTOKEN
                                 #IMPLIED
              %univ-atts;
              outputclass
                       CDATA
                                 #IMPLIED"
>
<!ELEMENT lcMatching2    %lcMatching2.content;>
<!ATTLIST lcMatching2    %lcMatching2.attributes;>

<!ENTITY % lcMatchTable2.content
                      "((%lcMatchingHeader2;)?,
                        (%lcMatchingPair2;)+)"
>
<!ENTITY % lcMatchTable2.attributes
             "%univ-atts;
              outputclass
                       CDATA
                                 #IMPLIED"
>
<!ELEMENT lcMatchTable2    %lcMatchTable2.content;>
<!ATTLIST lcMatchTable2    %lcMatchTable2.attributes;>


<!ENTITY % lcMatchingHeader2.content
                      "((%lcItem2;),
                        (%lcMatchingItem2;))"
>
<!ENTITY % lcMatchingHeader2.attributes
             "%univ-atts;
              outputclass
                       CDATA
                                 #IMPLIED"
>
<!ELEMENT lcMatchingHeader2    %lcMatchingHeader2.content;>
<!ATTLIST lcMatchingHeader2    %lcMatchingHeader2.attributes;>


<!ENTITY % lcMatchingPair2.content
                      "((%lcItem2;),
                        (%lcMatchingItem2;),
                        (%lcMatchingItemFeedback2;)?)">
<!ENTITY % lcMatchingPair2.attributes
             "%univ-atts;
              outputclass
                       CDATA
                                 #IMPLIED"
>
<!ELEMENT lcMatchingPair2    %lcMatchingPair2.content;>
<!ATTLIST lcMatchingPair2    %lcMatchingPair2.attributes;>


<!ENTITY % lcMatchingItem2.content
 "(#PCDATA |
   %basic.block; |
   %basic.ph; |
   %data.elements.incl; |
   %foreign.unknown.incl; |
   %txt.incl;)*"
>
<!ENTITY % lcMatchingItem2.attributes
             "%univ-atts;
              outputclass
```

```
                        CDATA
                                #IMPLIED"
>
<!ELEMENT lcMatchingItem2    %lcMatchingItem2.content;>
<!ATTLIST lcMatchingItem2    %lcMatchingItem2.attributes;>

<!ENTITY % lcMatchingItemFeedback2.content
                      "((%lcFeedback2;) |
                        (%lcFeedbackCorrect2;) |
                        (%lcFeedbackIncorrect2;))*"
>
<!ENTITY % lcMatchingItemFeedback2.attributes
             "%univ-atts;
              outputclass
                        CDATA
                                #IMPLIED"
>
<!ELEMENT lcMatchingItemFeedback2    %lcMatchingItemFeedback2.content;>
<!ATTLIST lcMatchingItemFeedback2    %lcMatchingItemFeedback2.attributes;>


<!ENTITY % lcHotspot2.content
                      "((%lcInteractionLabel2;)?,
                        (%lcQuestion2;),
                        (%lcHotspotMap2;),
                        (%lcFeedbackIncorrect2;)?,
                        (%lcFeedbackCorrect2;)?,
                        (%data;)*)"
>
<!ENTITY % lcHotspot2.attributes
             "id
                        NMTOKEN
                                #IMPLIED
              %univ-atts;
              outputclass
                        CDATA
                                #IMPLIED"
>
<!ELEMENT lcHotspot2    %lcHotspot2.content;>
<!ATTLIST lcHotspot2    %lcHotspot2.attributes;>


<!ENTITY % lcOpenQuestion2.content
                      "((%lcInteractionLabel2;)?,
                        (%lcQuestion2;),
                        (%lcAsset2;)*,
                        (%lcOpenAnswer2;)?,
                        (%lcFeedbackIncorrect2;)?,
                        (%lcFeedbackCorrect2;)?,
                        (%data;)*)"
>
<!ENTITY % lcOpenQuestion2.attributes
             "id
                        NMTOKEN
                                #IMPLIED
              %univ-atts;
              outputclass
                        CDATA
                                #IMPLIED"
>
<!ELEMENT lcOpenQuestion2    %lcOpenQuestion2.content;>
<!ATTLIST lcOpenQuestion2    %lcOpenQuestion2.attributes;>
```

```
<!-- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -
   - OPTION DEFINITIONS
   - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -->
<!ENTITY % lcQuestion2.content
  "%lcQuestionBase2.content;"
>
<!ENTITY % lcQuestion2.attributes
"
              %univ-atts;
              outputclass
                        CDATA
                                  #IMPLIED"
>
<!ELEMENT lcQuestion2    %lcQuestion2.content;>
<!ATTLIST lcQuestion2    %lcQuestion2.attributes;>


<!ENTITY % lcOpenAnswer2.content
 "(#PCDATA |
   %basic.block; |
   %basic.ph; |
   %data.elements.incl; |
   %foreign.unknown.incl; |
   %txt.incl;)*
 "
>
<!ENTITY % lcOpenAnswer2.attributes
"
              %univ-atts;
              outputclass
                        CDATA
                                  #IMPLIED"
>
<!ELEMENT lcOpenAnswer2    %lcOpenAnswer2.content;>
<!ATTLIST lcOpenAnswer2    %lcOpenAnswer2.attributes;>


<!ENTITY % lcAnswerOptionGroup2.content
                      "((%lcAnswerOption2;)+)"
>
<!ENTITY % lcAnswerOptionGroup2.attributes
"
              %univ-atts;
              outputclass
                        CDATA
                                  #IMPLIED"
>
<!ELEMENT lcAnswerOptionGroup2    %lcAnswerOptionGroup2.content;>
<!ATTLIST lcAnswerOptionGroup2    %lcAnswerOptionGroup2.attributes;>


<!ENTITY % lcSequenceOptionGroup2.content
                      "((%lcSequenceOption2;)+)"
>
<!ENTITY % lcSequenceOptionGroup2.attributes
"
              %univ-atts;
              outputclass
                        CDATA
                                  #IMPLIED"
>
<!ELEMENT lcSequenceOptionGroup2    %lcSequenceOptionGroup2.content;>
```

```
<!ATTLIST lcSequenceOptionGroup2    %lcSequenceOptionGroup2.attributes;>

<!ENTITY % lcSequenceOption2.content
                      "((%lcAnswerContent2;),
                        (%lcSequence2;))"
>
<!ENTITY % lcSequenceOption2.attributes
"
              %univ-atts;
              outputclass
                        CDATA
                                  #IMPLIED"
>
<!ELEMENT lcSequenceOption2    %lcSequenceOption2.content;>
<!ATTLIST lcSequenceOption2    %lcSequenceOption2.attributes;>

<!ENTITY % lcFeedback2.content
 "(#PCDATA |
   %basic.block; |
   %basic.ph; |
   %data.elements.incl; |
   %foreign.unknown.incl; |
   %txt.incl;)*
 "
>
<!ENTITY % lcFeedback2.attributes
"
              %univ-atts;
              outputclass
                        CDATA
                                  #IMPLIED"
>
<!ELEMENT lcFeedback2    %lcFeedback2.content;>
<!ATTLIST lcFeedback2    %lcFeedback2.attributes;>


<!ENTITY % lcFeedbackCorrect2.content
  "%lcFeedback2.content;"
>
<!ENTITY % lcFeedbackCorrect2.attributes
"
              %univ-atts;
              outputclass
                        CDATA
                                  #IMPLIED"
>
<!ELEMENT lcFeedbackCorrect2    %lcFeedbackCorrect2.content;>
<!ATTLIST lcFeedbackCorrect2    %lcFeedbackCorrect2.attributes;>


<!ENTITY % lcFeedbackIncorrect2.content
  "%lcFeedback2.content;"
>
<!ENTITY % lcFeedbackIncorrect2.attributes
"
              %univ-atts;
              outputclass
                        CDATA
                                  #IMPLIED"
>
<!ELEMENT lcFeedbackIncorrect2    %lcFeedbackIncorrect2.content;>
<!ATTLIST lcFeedbackIncorrect2    %lcFeedbackIncorrect2.attributes;>
```

```
<!ENTITY % lcAnswerOption2.content
                      "((%lcAnswerContent2;),
                        (%lcCorrectResponse2;)?,
                        (%lcFeedback2;)? )"
>
<!ENTITY % lcAnswerOption2.attributes
"
              %univ-atts;
              outputclass
                        CDATA
                                  #IMPLIED"
>
<!ELEMENT lcAnswerOption2    %lcAnswerOption2.content;>
<!ATTLIST lcAnswerOption2    %lcAnswerOption2.attributes;>


<!ENTITY % lcAnswerContent2.content
 "(#PCDATA |
   %basic.block; |
   %basic.ph; |
   %data.elements.incl; |
   %foreign.unknown.incl; |
   %txt.incl;)*
 "
>
<!ENTITY % lcAnswerContent2.attributes
"
              %univ-atts;
              outputclass
                        CDATA
                                  #IMPLIED"
>
<!ELEMENT lcAnswerContent2    %lcAnswerContent2.content;>
<!ATTLIST lcAnswerContent2    %lcAnswerContent2.attributes;>

<!ENTITY % lcItem2.content
 "(#PCDATA |
   %basic.block; |
   %basic.ph; |
   %data.elements.incl; |
   %foreign.unknown.incl; |
   %txt.incl;)*
 "
>
<!ENTITY % lcItem2.attributes
"
              %univ-atts;
              outputclass
                        CDATA
                                  #IMPLIED"
>
<!ELEMENT lcItem2    %lcItem2.content;>
<!ATTLIST lcItem2    %lcItem2.attributes;>


<!ENTITY % lcAsset2.content
                      "((%imagemap; |
                        %image; |
                        %object;)*)"
>
<!ENTITY % lcAsset2.attributes
             "%univ-atts;
              outputclass
                        CDATA
```

```
                                    #IMPLIED"
>
<!ELEMENT lcAsset2    %lcAsset2.content;>
<!ATTLIST lcAsset2    %lcAsset2.attributes;>

<!ENTITY % lcHotspotMap2.content
                      "((%image;),
                        (%lcArea2;)+)"
>
<!ENTITY % lcHotspotMap2.attributes
              "%univ-atts;
              outputclass
                        CDATA
                                    #IMPLIED"
>
<!ELEMENT lcHotspotMap2    %lcHotspotMap2.content;>
<!ATTLIST lcHotspotMap2    %lcHotspotMap2.attributes;>

<!ENTITY % lcArea2.content
                      "((%lcAreaShape2;),
                        (%lcAreaCoords2;),
                        (%xref;)?,
                        (%lcCorrectResponse2;)?,
                        (%lcFeedback2;)?)"
>
<!ENTITY % lcArea2.attributes
              "%univ-atts;
              outputclass
                        CDATA
                                    #IMPLIED"
>
<!ELEMENT lcArea2    %lcArea2.content;>
<!ATTLIST lcArea2    %lcArea2.attributes;>

<!ENTITY % lcAreaShape2.content
                      "(#PCDATA |
                        %text;)*
">
<!ENTITY % lcAreaShape2.attributes
             "keyref
                        CDATA
                                    #IMPLIED
              %univ-atts-translate-no;
              outputclass
                        CDATA
                                    #IMPLIED"
>


<!ELEMENT lcAreaShape2    %lcAreaShape2.content;>
<!ATTLIST lcAreaShape2    %lcAreaShape2.attributes;>



<!--                      LONG NAME: Coordinates of the Hotspot      -->
<!ENTITY % lcAreaCoords2.content
                      "(%words.cnt;)*"
>
<!ENTITY % lcAreaCoords2.attributes
             "keyref
                        CDATA
                                    #IMPLIED
              %univ-atts-translate-no;
              outputclass
```

```
                        CDATA
                                  #IMPLIED"
>
<!ELEMENT lcAreaCoords2    %lcAreaCoords2.content;>
<!ATTLIST lcAreaCoords2    %lcAreaCoords2.attributes;>


<!ENTITY % lcSequence2.content
                       "EMPTY">
<!ENTITY % lcSequence2.attributes
            "name
                       CDATA
                                 'lcSequence'
             value
                        CDATA
                                  #REQUIRED
             %univ-atts;
             outputclass
                        CDATA
                                  #IMPLIED"
>
<!ELEMENT lcSequence2    %lcSequence2.content;>
<!ATTLIST lcSequence2    %lcSequence2.attributes;>

<!ENTITY % lcCorrectResponse2.content
                       "EMPTY">
<!ENTITY % lcCorrectResponse2.attributes
            "name
                        CDATA
                                  'lcCorrectResponse2'
             value
                        CDATA
                                  'lcCorrectResponse2'
             %univ-atts;
             outputclass
                        CDATA
                                  #IMPLIED"
>
<!ELEMENT lcCorrectResponse2    %lcCorrectResponse2.content;>
<!ATTLIST lcCorrectResponse2    %lcCorrectResponse2.attributes;>

<!-- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -
   - CHOICE DEFINITIONS
   - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -->
<!-- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -
   - CLASS ATTRIBUTES FOR ANCESTRY DECLARATION
   - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 -->
<!ATTLIST lcTrueFalse2 %global-atts;
    class CDATA "+ topic/div learningInteractionBase2-d/lcInteractionBase
 learning2-d/lcTrueFalse2 ">
<!ATTLIST lcSingleSelect2 %global-atts;
    class CDATA "+ topic/div learningInteractionBase2-d/lcInteractionBase
 learning2-d/lcSingleSelect2 ">
<!ATTLIST lcMultipleSelect2 %global-atts;
    class CDATA "+ topic/div learningInteractionBase2-d/lcInteractionBase
 learning2-d/lcMultipleSelect2 ">
<!ATTLIST lcSequencing2 %global-atts;
    class CDATA "+ topic/div learningInteractionBase2-d/lcInteractionBase
 learning2-d/lcSequencing2 ">
<!ATTLIST lcMatching2 %global-atts;
```

```
    class CDATA "+ topic/div learningInteractionBase2-d/lcInteractionBase
 learning2-d/lcMatching2 ">
<!ATTLIST lcHotspot2 %global-atts;
    class CDATA "+ topic/div learningInteractionBase2-d/lcInteractionBase
 learning2-d/lcHotspot2 ">
<!ATTLIST lcOpenQuestion2 %global-atts;
    class CDATA "+ topic/div learningInteractionBase2-d/lcInteractionBase
 learning2-d/lcOpenQuestion2 ">

<!ATTLIST lcQuestion2 %global-atts;
    class CDATA "+ topic/div learningInteractionBase2-d/lcQuestionBase
 learning2-d/lcQuestion2 ">
<!ATTLIST lcOpenAnswer2 %global-atts;
    class CDATA "+ topic/div learningInteractionBase2-d/div learning2-d/
lcOpenAnswer2 ">
<!ATTLIST lcAsset2 %global-atts;
    class CDATA "+ topic/div learningInteractionBase2-d/div learning2-d/
lcAsset2 ">
<!ATTLIST lcFeedback2 %global-atts;
    class CDATA "+ topic/div learningInteractionBase2-d/div learning2-d/
lcFeedback2 ">
<!ATTLIST lcFeedbackCorrect2 %global-atts;
    class CDATA "+ topic/div learningInteractionBase2-d/div learning2-d/
lcFeedbackCorrect2 ">
<!ATTLIST lcFeedbackIncorrect2 %global-atts;
    class CDATA "+ topic/div learningInteractionBase2-d/div learning2-d/
lcFeedbackIncorrect2 ">
<!ATTLIST lcAnswerOption2 %global-atts;
    class CDATA "+ topic/li learningInteractionBase2-d/li learning2-d/
lcAnswerOption2 ">
<!ATTLIST lcAnswerOptionGroup2 %global-atts;
    class CDATA "+ topic/ul learningInteractionBase2-d/ul learning2-d/
lcAnswerOptionGroup2 ">
<!ATTLIST lcAnswerContent2 %global-atts;
    class CDATA "+ topic/div learningInteractionBase2-d/div learning2-d/
lcAnswerContent2 ">
<!ATTLIST lcMatchTable2 %global-atts;
    class CDATA "+ topic/div learningInteractionBase2-d/simpletable
 learning2-d/lcMatchTable2 ">
<!ATTLIST lcMatchingHeader2 %global-atts;
    class CDATA "+ topic/div learningInteractionBase2-d/sthead learning2-
d/lcMatchingHeader2 ">
<!ATTLIST lcMatchingPair2 %global-atts;
    class CDATA "+ topic/div learningInteractionBase2-d/strow learning2-d/
lcMatchingPair2 ">
<!ATTLIST lcItem2 %global-atts;
    class CDATA "+ topic/div learningInteractionBase2-d/stentry learning2-
d/lcItem2 ">
<!ATTLIST lcMatchingItem2 %global-atts;
    class CDATA "+ topic/div learningInteractionBase2-d/stentry learning2-
d/lcMatchingItem2 ">
<!ATTLIST lcMatchingItemFeedback2 %global-atts;
    class CDATA "+ topic/div learningInteractionBase2-d/stentry learning2-
d/lcMatchingItemFeedback2 ">
<!ATTLIST lcSequenceOptionGroup2 %global-atts;
    class CDATA "+ topic/ol learningInteractionBase2-d/ol learning2-d/
lcSequenceOptionGroup2 ">
<!ATTLIST lcSequenceOption2 %global-atts;
    class CDATA "+ topic/li learningInteractionBase2-d/li learning2-d/
lcSequenceOption2 ">
<!ATTLIST lcSequence2 %global-atts;
    class CDATA "+ topic/data learningInteractionBase2-d/data learning-d/
lcSequence2 ">
<!ATTLIST lcArea2       %global-atts;
```

```
    class CDATA "+ topic/figgroup learningInteractionBase-d/figgroup
 learning-d/lcArea2 ">
<!ATTLIST lcHotspotMap2 %global-atts;
    class CDATA "+ topic/fig learningInteractionBase2-d/figgroup
 learning2-d/lcHotspotMap2 " >
<!ATTLIST lcCorrectResponse2 %global-atts;
    class CDATA "+ topic/data learningInteractionBase2-d/data learning2-d/
lcCorrectResponse2 ">
<!ATTLIST lcAreaShape2    %global-atts;
    class CDATA "+ topic/keyword learningInteractionBase2-d/keyword
 learning-d/lcAreaShape2 ">
<!ATTLIST lcAreaCoords2   %global-atts;
    class CDATA "+ topic/ph learningInteractionBase2-d/ph learning-d/
lcAreaCoords2 "    >

<!-- End of declaration set -->
```

learningInteractionBase2Domain.ent

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- ============================================================= -->
<!--                    HEADER                                     -->
<!-- ============================================================= -->
<!--  MODULE:    DITA Interaction Base 2 Domain                    -->
<!--  VERSION:   1.3                                               -->
<!--  DATE:      November 2012                                     -->
<!--                                                               -->
<!-- ============================================================= -->

<!-- ============================================================= -->
<!--                    PUBLIC DOCUMENT TYPE DEFINITION            -->
<!--                    TYPICAL INVOCATION                         -->
<!--                                                               -->
<!--  Refer to this file by the following public identifier or an
      appropriate system identifier
PUBLIC "-//OASIS//ENTITIES DITA Learning Domain//EN"
      Delivered as file "learningDomain.ent"                     -->

<!-- ============================================================= -->
<!-- SYSTEM:     Darwin Information Typing Architecture (DITA)     -->
<!--                                                               -->
<!-- PURPOSE:    Declaring the substitution context and domain     -->
<!--             entity declarations for the learning domain       -->
<!--                                                               -->
<!-- ORIGINAL CREATION DATE:                                       -->
<!--             March 2012                                        -->
<!--                                                               -->
<!--             (C) Copyright OASIS Open 2012.                    -->
<!--             All Rights Reserved.                              -->
<!--                                                               -->
<!--  UPDATES:                                                     -->
<!-- ============================================================= -->

<!-- ============================================================= -->
<!--                    LEARNING DOMAIN ENTITIES                   -->
<!-- ============================================================= -->

<!ENTITY learningInteractionBase2-d-att "(topic learningInteractionBase2-
d)">


<!-- NOTE: The interactionBase2 element type is intended to be used
           for specialization and should never be used directly
```

```
           in DITA documents. This parameter entity should always
           be redefined in shell DTDs to list only specializations
           of lcInteractionBase
  -->

<!ENTITY % learningInteractionBase2-d-div
                      "lcInteractionBase2"
>

<!-- ==== End Learning Interaction Base 2 Domain Entities ========== -->
```

learningInteractionBase2Domain.mod

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- ============================================================= -->
<!--                    HEADER                                     -->
<!-- ============================================================= -->
<!--  MODULE:    DITA Learning Interaction Base 2 Domain           -->
<!--  VERSION:   1.3                                               -->
<!--  DATE:      March 2012                                        -->
<!--                                                               -->
<!-- ============================================================= -->

<!-- ============================================================= -->
<!--                    PUBLIC DOCUMENT TYPE DEFINITION            -->
<!--                    TYPICAL INVOCATION                         -->
<!--                                                               -->
<!--  Refer to this file by the following public identfier or an
      appropriate system identifier
PUBLIC "-//OASIS//ELEMENTS DITA Learning Domain//EN"
      Delivered as file "learningDomain.mod"                     -->

<!-- ============================================================= -->
<!-- SYSTEM:     Darwin Information Typing Architecture (DITA)     -->
<!--                                                               -->
<!-- PURPOSE:    Declaring the elements and specialization         -->
<!--             attributes for Learning Domain                    -->
<!--                                                               -->
<!-- ORIGINAL CREATION DATE:                                       -->
<!--             March 2012                                        -->
<!--                                                               -->
<!--             (C) Copyright OASIS Open 2012                     -->
<!--             All Rights Reserved.                              -->
<!--                                                               -->
<!-- ============================================================= -->



<!-- ============================================================================
     ENTITY DECLARATIONS FOR DOMAIN SUBSTITUTION
     ============================================================================
 -->

<!ENTITY % lcInteractionBase2        "lcInteractionBase2">
<!ENTITY % lcInteractionLabel2       "lcInteractionLabel2">
<!ENTITY % lcQuestionBase2           "lcQuestionBase2">

<!-- ============================================================================
     INTERACTION BASE 2 DEFINITIONS
     ============================================================================
 -->
     <!-- NOTE: Intent is that content is same as defined for 1.3 <div>
 element
```

```
                following lcQuestionBase2 -->
<!--ENTITY % lcInteractionBase2.content
 "((%lcInteractionLabel;)?,
   (%lcQuestionBase2;),
   (#PCDATA |
    %basic.block; |
    %basic.ph; |
    %data.elements.incl; |
    %foreign.unknown.incl; |
    %txt.incl;)*
   )"
-->
<!ENTITY % lcInteractionBase2.content
 "((%lcInteractionLabel2;)?,
   (%lcQuestionBase2;),
   (%basic.block; |
    %basic.ph; |
    %data.elements.incl; |
    %foreign.unknown.incl; |
    %txt.incl;)*
   )"
>
<!ENTITY % lcInteractionBase2.attributes
             "id
                        NMTOKEN
                                   #IMPLIED
              %conref-atts;
              %select-atts;
              %localization-atts;
              outputclass
                        CDATA
                                   #IMPLIED"
>
<!ELEMENT lcInteractionBase2    %lcInteractionBase2.content;>
<!ATTLIST lcInteractionBase2    %lcInteractionBase2.attributes;>

<!ENTITY % lcInteractionLabel2.content
 "(%title.cnt;)*"
>
<!ENTITY % lcInteractionLabel2.attributes
             "%id-atts;
              %localization-atts;
              base
                        CDATA
                                   #IMPLIED
              %base-attribute-extensions;
              outputclass
                        CDATA
                                   #IMPLIED"
>
<!ELEMENT lcInteractionLabel2    %lcInteractionLabel2.content;>
<!ATTLIST lcInteractionLabel2    %lcInteractionLabel2.attributes;>

<!ENTITY % lcQuestionBase2.content
 "(#PCDATA |
   %basic.block; |
   %basic.ph; |
   %data.elements.incl; |
   %foreign.unknown.incl; |
   %txt.incl;)*
 "
>
<!ENTITY % lcQuestionBase2.attributes
             "%univ-atts;
```

```
              outputclass
                        CDATA
                                    #IMPLIED"
>
<!ELEMENT lcQuestionBase2    %lcQuestionBase2.content;>
<!ATTLIST lcQuestionBase2    %lcQuestionBase2.attributes;>

<!-- ============================================================
     CLASS ATTRIBUTES FOR ANCESTRY DECLARATION
     ============================================================
 -->
<!ATTLIST lcInteractionBase2 %global-atts;
    class CDATA "+ topic/div learningInteractionBase2-d/lcInteractionBase2
 ">
<!ATTLIST lcInteractionLabel2 %global-atts;
    class CDATA "+ topic/p learningInteractionBase2-d/lcInteractionLabel2
 ">
<!ATTLIST lcQuestionBase2 %global-atts;
    class CDATA "+ topic/div   learningInteractionBase2-d/lcQuestionBase2
 ">

<!--============= End of learning interaction base 2 module
 ==================-->
```

learningAssessment-learning1.dtd

Integrates learning1, which is the DITA 1.2 support, and uses a constraint to remove %lcInteraction2; from the content model of learningAssessmentBody (or wherever it's included).

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- ============================================================ -->
<!--                    HEADER                                    -->
<!-- ============================================================ -->
<!--  MODULE:    DITA Learning Assessment 2 DTD                   -->
<!--  VERSION:   1.3                                              -->
<!--  DATE:      March 2012                                       -->
<!--                                                              -->
<!-- ============================================================ -->

<!-- ============================================================ -->
<!--                    PUBLIC DOCUMENT TYPE DEFINITION           -->
<!--                    TYPICAL INVOCATION                        -->
<!--                                                              -->
<!--  Refer to this file by the following public identifier or an
      appropriate system identifier
PUBLIC "-//OASIS//DTD DITA Learning Assessment//EN"
      Delivered as file "learningAssessment.dtd"                  -->

<!-- ============================================================ -->
<!-- SYSTEM:     Darwin Information Typing Architecture (DITA)    -->
<!--                                                              -->
<!-- PURPOSE:    DTD to describe DITA learning Assessment topic   -->
<!--                                                              -->
<!-- ORIGINAL CREATION DATE:                                      -->
<!--             March 2012                                       -->
<!--                                                              -->
<!--             (C) Copyright OASIS Open 2012.                   -->
<!--             All Rights Reserved.                             -->
<!--                                                              -->
<!--  UPDATES:                                                    -->
<!-- ============================================================ -->

<!-- ============================================================ -->
<!--                    TOPIC ENTITY DECLARATIONS                 -->
```

```
<!-- ============================================================= -->

<!ENTITY % learningBase-dec
  PUBLIC "-//OASIS//ENTITIES DITA 1.3 Learning Base//EN"
         "learningBase.ent"
>%learningBase-dec;

<!ENTITY % learningAssesment-dec
  PUBLIC "-//OASIS//ENTITIES DITA 1.2 Learning Assessment//EN"
         "learningAssessment.ent"
>%learningAssesment-dec;

<!-- ============================================================= -->
<!--                    DOMAIN ENTITY DECLARATIONS                 -->
<!-- ============================================================= -->

<!ENTITY % learningInteractionBase-d-dec
  PUBLIC "-//OASIS//ENTITIES DITA 1.2 Learning Interaction Base Domain//
EN"
         "learningInteractionBaseDomain.ent">
  %learningInteractionBase-d-dec;


<!ENTITY % learning-d-dec
  PUBLIC "-//OASIS//ENTITIES DITA 1.2 Learning Domain//EN"
         "learningDomain.ent">
  %learning-d-dec;

<!ENTITY % learningmeta-d-dec
  PUBLIC "-//OASIS//ENTITIES DITA 1.2 Learning Metadata Domain//EN"
         "learningMetadataDomain.ent">
  %learningmeta-d-dec;

<!ENTITY % hi-d-dec
  PUBLIC "-//OASIS//ENTITIES DITA 1.2 Highlight Domain//EN"
         "../../base/dtd/highlightDomain.ent"
>%hi-d-dec;

<!ENTITY % ut-d-dec
  PUBLIC "-//OASIS//ENTITIES DITA 1.2 Utilities Domain//EN"
         "../../base/dtd/utilitiesDomain.ent"

>%ut-d-dec;

<!ENTITY % indexing-d-dec
  PUBLIC "-//OASIS//ENTITIES DITA 1.2 Indexing Domain//EN"
         "../../base/dtd/indexingDomain.ent"

>%indexing-d-dec;


<!-- ============================================================= -->
<!--                    DOMAIN EXTENSIONS                          -->
<!-- ============================================================= -->
<!--                    One for each extended base element, with
                        the name of the domain(s) in which the
                        extension was declared                     -->
<!ENTITY % ph           "ph |
                         %hi-d-ph;
                        ">
<!ENTITY % fig          "fig |
                         %learning-d-fig; |
                         %learningInteractionBase-d-fig; |
                         %ut-d-fig;
```

```
                          ">
<!ENTITY % lcInteractionBase "lcInteractionBase |
                           %learning-d-lcInteractionBase;
                          ">
<!ENTITY % index-base    "index-base |
                           %indexing-d-index-base;
                          ">
<!ENTITY % note          "note
                          ">
<!--                            | %learning-d-note;-->
<!ENTITY % metadata      "metadata |
                           %learningmeta-d-metadata;
                           ">


<!ENTITY % p "p |
              div"
>


<!-- ============================================================= -->
<!--                    TOPIC NESTING OVERRIDE                     -->
<!-- ============================================================= -->

<!--                    Redefine the infotype entity to exclude
                        other topic types and disallow nesting     -->

<!--Redefine the infotype entity to exclude other topic types and disallow
 nesting-->
<!ENTITY % learningAssessment-info-types "no-topic-nesting">

<!-- ============================================================= -->
<!--                    DOMAINS ATTRIBUTE OVERRIDE                 -->
<!-- ============================================================= -->
<!--                    Must be declared ahead of the DTDs, which
                        puts @domains first in order               -->

<!ENTITY included-domains
                            "&hi-d-att;
                             &ut-d-att;
                             &indexing-d-att;
                             &learningInteractionBase-d-att;
                             &learningBase-att;
                             &learning-d-att;
                             &learningmeta-d-att;
                             &learningAssessment-att;
  "
>

<!-- ============================================================= -->
<!--                    CONSTRAINT MODULE INTEGRATION              -->
<!-- ============================================================= -->

<!ENTITY % learningNoLearning2Constraint
PUBLIC "-//OASIS//ELEMENTS DITA 1.3 Learning No Learning2 Constraint//EN"
  "learningNoLearning2Constraint.mod"
>%learningNoLearning2Constraint;

<!ENTITY % lcInteractionBase "required-cleanup" >

<!-- ============================================================= -->
<!--                    TOPIC ELEMENT INTEGRATION                  -->
<!-- ============================================================= -->
```

```
<!--                      Embed topic to get generic elements        -->
<!ENTITY % topic-type   PUBLIC
"-//OASIS//ELEMENTS DITA 1.2 Topic//EN"
"../../base/dtd/topic.mod"
    >
%topic-type;

<!--Embed learningBase to get specific elements -->
<!ENTITY % learningBase-typemod PUBLIC
"-//OASIS//ELEMENTS DITA 1.3 Learning Base//EN"
"learningBase.mod">
  %learningBase-typemod;

<!--Embed learningAssessment to get specific elements -->
<!ENTITY % learningAssessment-typemod PUBLIC
"-//OASIS//ELEMENTS DITA 1.2 Learning Assessment//EN"
"learningAssessment.mod">
  %learningAssessment-typemod;

<!-- ============================================================= -->
<!--                      DOMAIN ELEMENT INTEGRATION               -->
<!-- ============================================================= -->

<!ENTITY % hi-d-def
  PUBLIC "-//OASIS//ELEMENTS DITA 1.2 Highlight Domain//EN"
         "../../base/dtd/highlightDomain.mod"
>%hi-d-def;

<!ENTITY % ut-d-def
  PUBLIC "-//OASIS//ELEMENTS DITA 1.2 Utilities Domain//EN"
         "../../base/dtd/utilitiesDomain.mod"
>%ut-d-def;

<!ENTITY % indexing-d-def
  PUBLIC "-//OASIS//ELEMENTS DITA 1.2 Indexing Domain//EN"
         "../../base/dtd/indexingDomain.mod"
>%indexing-d-def;

<!ENTITY % learningInteractionBase-d-def
  PUBLIC "-//OASIS//ELEMENTS DITA 1.2 Learning Interaction Base Domain//
EN"
         "learningInteractionBaseDomain.mod">
  %learningInteractionBase-d-def;

<!ENTITY % learning-d-def
  PUBLIC "-//OASIS//ELEMENTS DITA 1.2 Learning Domain//EN"
         "learningDomain.mod">
  %learning-d-def;

<!ENTITY % learningmeta-d-def
  PUBLIC "-//OASIS//ELEMENTS DITA 1.2 Learning Metadata Domain//EN"
         "learningMetadataDomain.mod">
  %learningmeta-d-def;


<!-- This is a temporary definition of the <div> element
     in advance of its inclusion in the base DITA
     vocabulary.
  -->

<!ELEMENT div
 (#PCDATA |
  %basic.phandblock;)*
>
```

```
<!ATTLIST div
  %univ-atts;
  class CDATA "- topic/div "
  outputclass CDATA #IMPLIED
>
```

learningAssessment-learning2.dtd

Integrates learning2 and uses a constraint to remove %lcInteraction; from the content model of learningAssessmentBody.

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- ============================================================= -->
<!--                    HEADER                                     -->
<!-- ============================================================= -->
<!--  MODULE:    DITA Learning Assessment 2 DTD                    -->
<!--  VERSION:   1.3                                               -->
<!--  DATE:      March 2012                                        -->
<!--                                                               -->
<!-- ============================================================= -->

<!-- ============================================================= -->
<!--                    PUBLIC DOCUMENT TYPE DEFINITION            -->
<!--                    TYPICAL INVOCATION                         -->
<!--                                                               -->
<!--  Refer to this file by the following public identifier or an
      appropriate system identifier
PUBLIC "-//OASIS//DTD DITA Learning Assessment//EN"
      Delivered as file "learningAssessment.dtd"                   -->

<!-- ============================================================= -->
<!-- SYSTEM:     Darwin Information Typing Architecture (DITA)     -->
<!--                                                               -->
<!-- PURPOSE:    DTD to describe DITA learning Assessment topic    -->
<!--                                                               -->
<!-- ORIGINAL CREATION DATE:                                       -->
<!--             March 2012                                        -->
<!--                                                               -->
<!--             (C) Copyright OASIS Open 2012.                    -->
<!--             All Rights Reserved.                              -->
<!--                                                               -->
<!--  UPDATES:                                                     -->
<!-- ============================================================= -->

<!-- ============================================================= -->
<!--                    TOPIC ENTITY DECLARATIONS                  -->
<!-- ============================================================= -->

<!ENTITY % learningBase-dec
  PUBLIC "-//OASIS//ENTITIES DITA 1.3 Learning Base//EN"
         "learningBase.ent"
>%learningBase-dec;

<!ENTITY % learningAssesment-dec
  PUBLIC "-//OASIS//ENTITIES DITA 1.2 Learning Assessment//EN"
         "learningAssessment.ent"
>%learningAssesment-dec;

<!-- ============================================================= -->
<!--                    DOMAIN ENTITY DECLARATIONS                 -->
<!-- ============================================================= -->

<!--<!ENTITY % learningInteractionBase-d-dec
```

```
  PUBLIC "-//OASIS//ENTITIES DITA 1.2 Learning Interaction Base Domain//
EN"
         "learningInteractionBaseDomain.ent">
  %learningInteractionBase-d-dec;
-->
<!ENTITY % learningInteractionBase2-d-dec
  PUBLIC "-//OASIS//ENTITIES DITA 1.3 Learning Interaction Base 2 Domain//
EN"
         "learningInteractionBase2Domain.ent">
  %learningInteractionBase2-d-dec;

<!--<!ENTITY % learning-d-dec
  PUBLIC "-//OASIS//ENTITIES DITA 1.2 Learning Domain//EN"
         "learningDomain.ent">
  %learning-d-dec;

--><!ENTITY % learning2-d-dec
  PUBLIC "-//OASIS//ENTITIES DITA 1.3 Learning 2 Domain//EN"
         "learning2Domain.ent">
  %learning2-d-dec;

<!ENTITY % learningmeta-d-dec
  PUBLIC "-//OASIS//ENTITIES DITA 1.2 Learning Metadata Domain//EN"
         "learningMetadataDomain.ent">
  %learningmeta-d-dec;

<!ENTITY % hi-d-dec
  PUBLIC "-//OASIS//ENTITIES DITA 1.2 Highlight Domain//EN"
         "../../base/dtd/highlightDomain.ent"
>%hi-d-dec;

<!ENTITY % ut-d-dec
  PUBLIC "-//OASIS//ENTITIES DITA 1.2 Utilities Domain//EN"
         "../../base/dtd/utilitiesDomain.ent"

>%ut-d-dec;

<!ENTITY % indexing-d-dec
  PUBLIC "-//OASIS//ENTITIES DITA 1.2 Indexing Domain//EN"
         "../../base/dtd/indexingDomain.ent"

>%indexing-d-dec;


<!-- ============================================================= -->
<!--                    DOMAIN EXTENSIONS                          -->
<!-- ============================================================= -->
<!--                    One for each extended base element, with
                        the name of the domain(s) in which the
                        extension was declared                     -->
<!ENTITY % ph           "ph |
                         %hi-d-ph;
                        ">
<!ENTITY % div          "div |
                         %learning2-d-div; |
                         %learningInteractionBase2-d-div;
                        ">
<!ENTITY % fig          "fig |
                         %ut-d-fig;
                        ">
 <!--|
                         %learningInteractionBase-d-fig; |
        -->
<!ENTITY % lcInteractionBase "lcInteractionBase
```

```
                        ">
<!--                         |
                         %learning-d-lcInteractionBase;
--><!ENTITY % lcInteractionBase2 "lcInteractionBase2 |
                         %learning-d-lcInteractionBase2;
                        ">
<!ENTITY % index-base   "index-base |
                         %indexing-d-index-base;
                        ">
<!ENTITY % note         "note
                        ">
<!--                          | %learning-d-note;-->
<!ENTITY % metadata     "metadata |
                         %learningmeta-d-metadata;
                         ">


<!ENTITY % p "p |
              div"
>


<!-- ============================================================= -->
<!--                    TOPIC NESTING OVERRIDE                     -->
<!-- ============================================================= -->

<!--                    Redefine the infotype entity to exclude
                        other topic types and disallow nesting     -->

<!--Redefine the infotype entity to exclude other topic types and disallow
 nesting-->
<!ENTITY % learningAssessment-info-types "no-topic-nesting">

<!-- ============================================================= -->
<!--                    DOMAINS ATTRIBUTE OVERRIDE                 -->
<!-- ============================================================= -->
<!--                    Must be declared ahead of the DTDs, which
                        puts @domains first in order               -->

<!ENTITY included-domains
                          "&hi-d-att;
                           &ut-d-att;
                           &indexing-d-att;
                           &learningInteractionBase2-d-att;
                           &learningBase-att;
                           &learning2-d-att;
                           &learningmeta-d-att;
                           &learningAssessment-att;
  "
>
<!--
                           &learning-d-att;
-->

<!-- ============================================================= -->
<!--                    CONSTRAINT MODULE INTEGRATION              -->
<!-- ============================================================= -->

<!ENTITY % learningNoLearning1Constraint
PUBLIC "-//OASIS//ELEMENTS DITA 1.3 Learning No Learning1 Constraint//EN"
  "learningNoLearning1Constraint.mod"
>%learningNoLearning1Constraint;

<!-- ============================================================= -->
```

```
<!--                      TOPIC ELEMENT INTEGRATION                  -->
<!-- ============================================================= -->

<!--                      Embed topic to get generic elements        -->
<!ENTITY % topic-type   PUBLIC
"-//OASIS//ELEMENTS DITA 1.2 Topic//EN"
"../../base/dtd/topic.mod"
    >
%topic-type;

<!--Embed learningBase to get specific elements -->
<!ENTITY % learningBase-typemod PUBLIC
"-//OASIS//ELEMENTS DITA 1.3 Learning Base//EN"
"learningBase.mod">
  %learningBase-typemod;

<!--Embed learningAssessment to get specific elements -->
<!ENTITY % learningAssessment-typemod PUBLIC
"-//OASIS//ELEMENTS DITA 1.2 Learning Assessment//EN"
"learningAssessment.mod">
  %learningAssessment-typemod;

<!-- ============================================================= -->
<!--                      DOMAIN ELEMENT INTEGRATION                 -->
<!-- ============================================================= -->

<!ENTITY % hi-d-def
  PUBLIC "-//OASIS//ELEMENTS DITA 1.2 Highlight Domain//EN"
         "../../base/dtd/highlightDomain.mod"
>%hi-d-def;

<!ENTITY % ut-d-def
  PUBLIC "-//OASIS//ELEMENTS DITA 1.2 Utilities Domain//EN"
         "../../base/dtd/utilitiesDomain.mod"
>%ut-d-def;

<!ENTITY % indexing-d-def
  PUBLIC "-//OASIS//ELEMENTS DITA 1.2 Indexing Domain//EN"
         "../../base/dtd/indexingDomain.mod"
>%indexing-d-def;

<!--<!ENTITY % learningInteractionBase-d-def
  PUBLIC "-//OASIS//ELEMENTS DITA 1.2 Learning Interaction Base Domain//
EN"
         "learningInteractionBaseDomain.mod">
  %learningInteractionBase-d-def;
-->
<!ENTITY % learningInteractionBase2-d-def
  PUBLIC "-//OASIS//ELEMENTS DITA 1.3 Learning Interaction Base 2 Domain//
EN"
         "learningInteractionBase2Domain.mod">
  %learningInteractionBase2-d-def;

<!--<!ENTITY % learning-d-def
  PUBLIC "-//OASIS//ELEMENTS DITA 1.2 Learning Domain//EN"
         "learningDomain.mod">
  %learning-d-def;
-->
<!ENTITY % learning2-d-def
  PUBLIC "-//OASIS//ELEMENTS DITA 1.3 Learning 2 Domain//EN"
         "learning2Domain.mod">
  %learning2-d-def;

<!ENTITY % learningmeta-d-def
```

```
  PUBLIC "-//OASIS//ELEMENTS DITA 1.2 Learning Metadata Domain//EN"
         "learningMetadataDomain.mod">
  %learningmeta-d-def;


<!-- This is a temporary definition of the <div> element
     in advance of its inclusion in the base DITA
     vocabulary.
  -->

<!ELEMENT div
 (#PCDATA |
  %basic.phandblock;)*
>
<!ATTLIST div
  %univ-atts;
  class CDATA "- topic/div "
  outputclass CDATA #IMPLIED
>
```

learningNoLearning1Constraint.mod

Constraint to use only the learning2Domain elements. This allows authoring tools to display only the learning2Domain elements and avoid confusion by having two instances of every learning element.

```
  <!-- Constraint to override the content model for learningInteraction
       to only allow lcInteractionBase2 elements:
    -->
<!ENTITY % lcInteraction.content
                       "(%lcInteractionBase2;)*"
>
<!ENTITY % lcInteractionBase "required-cleanup" >

<!-- End of declaration set -->
```

learningNoLearning2Constraint

Constraint to use only the learning elements. This allows authoring tools to display only the learning elements and avoid confusion by having two instances of every learning element.

```
  <!-- Constraint to override the content model for learningInteraction
       to only allow lcInteractionBase elements:
    -->
<!ENTITY % lcInteraction.content
                       "(%lcInteractionBase;)*"
>

<!ENTITY % lcInteractionBase2 "required-cleanup" >
<!-- End of declaration set -->
```

Modified language reference specification documentation

The specification impact is small.

Location	Text in 1.2	Proposed changes for 1.3
2.3 Architectural Specification: Learning and Training Version	DITA 1.2 introduces the Learning and Training specialization, which is designed for developing instructional materials. It contains all of base DITA and some (but not all) parts of the Technical Content package.	The DITA Learning and Training specialization is designed for developing instructional materials. It contains all of base DITA and some (but not all) parts of the Technical Content package.

Location	Text in 1.2	Proposed changes for 1.3
2.3.1 Overview	The DITA 1.2 Learning and Training specialization addresses several key problems facing developers and consumers of instructional content.	The DITA Learning and Training specialization addresses several key problems facing developers and consumers of instructional content.
2.3.5 Summary of learning topic, map, and domain designs	The DITA 1.2 Learning and Training specialization provides a set of specialized DITA topics, a learning interactions domain, a learning metadata domain, and a learning map domain to support creating and delivering structured learning content. The learning interactions domain defines a set of basic learning interaction elements as a DITA domain. **lcOpenQuestion** Poses an open-ended question in an assessment interaction. **lcTrueFalse** Presents the learner with two choices, one correct, the other incorrect, often presented as true/false or yes/no responses. **lcSingleSelect** Presents three or more choices, only one of which is correct. **lcMultipleSelect** Presents two or more choices, two or more of which are correct. **lcMatching** In a list of paired choices, the learner identifies the correct choice that matches another choice. **lcHotspot** Presents an image, and the learner clicks on one or more regions to indicate a choice. **lcSequencing** Presents choices in a list that the learner must arrange in a correct ordered sequence.	The DITA Learning and Training specialization provides a set of specialized DITA topics, a learning interactions domain, a learning metadata domain, and a learning map domain to support creating and delivering structured learning content. The learning interactions domain defines a set of basic learning interaction elements as a DITA domain. Although there are two sets of elements for interaction support, the recommended set is defined in the learningDomain2 support provided in DITA 1.3, which supports block elements. This support deprecates original DITA 1.2 elements, which do not support including block elements in many of the elements. See *for information about the DITA 1.3 domains.* **lcOpenQuestion2** Poses an open-ended question in an assessment interaction. **lcTrueFalse2** Presents the learner with two choices, one correct, the other incorrect, often presented as true/false or yes/no responses. **lcSingleSelect2** Presents three or more choices, only one of which is correct. **lcMultipleSelect2** Presents two or more choices, two or more of which are correct. **lcMatching2** In a list of paired choices, the learner identifies the correct choice that matches another choice. **lcHotspot2** Presents an image, and the learner clicks on one or more regions to indicate a choice. **lcSequencing2** Presents choices in a list that the learner must arrange in a correct ordered sequence.
2.3.5 (new topic) learningDomain1	N/A	Add new topic *learningDomain1 and learningDomain2 Support* on page 36

Location	Text in 1.2	Proposed changes for 1.3
and learningDomain2 Support		
2.3.6 (new topic) Learning and Training Specialization Usage	N/A	Add new topic *Learning and Training Specialization Usage* on page 36
3.3.3.2 DITA learning interaction base domain elements	The learning interaction base domain defines an "abstract" base type for all learning assessments. This base type enables recognition of elements as interactions as distinct from other topic/fig elements. The lcInteractionBase element is intended to be used only as a base for specialization. It should not be used directly as an element type in DITA documents.	The learning interaction base 2 domain defines an "abstract" base type for all learning assessments. This element replaces the learning interaction base domain in DITA 1.2. This base type enables recognition of elements as interactions as distinct from other topic/div elements. The <lcInteractionBase2> element is intended to be used only as a base for specialization. It should not be used directly as an element type in DITA documents.
3.3.3 (all learning interaction base domain element topics)	See topics. 	Include the following deprecation statement: The *element* element was deprecated in DITA version 1.3. It was replaced with the *element2* element. It was originally intended to... • *lcAnswerContent* lcAnswerContent • *lcAnswerOption* lcAnswerOption • *lcAnswerOptionGroup* lcAnswerOpenGroup • *lcArea* lcArea • *lcAreaCoords* lcAreaCoords • *lcAreaShape* lcAreaShape • *lcCorrectResponse* lcCorrectResponse • *lcFeedback* lcFeedback • *lcFeedbackCorrect* lcFeedbackCorrect • *lcFeedbackIncorrect* lcFeedbackIncorrect • *lcHotspot* lcHotspot • *lcHotspotMap* lcHotspotMap • *lcInstructornote* lcInstructorNote • *lcInteractionBase* lcInteractionBase • *lcItem* lcItem • *lcMatching* lcMatching • *lcMatchingItem* lcMatchingItem • *lcMatchingItemFeedback* lcMatchingItemFeedback • *lcMatchingPair* lcMatchingPair • *lcMatchTable* lcMatchTable • *lcMultipleSelect* lcMultipleSelect • *lcOpenAnswer* lcOpenAnswer • *lcOpenQuestion* lcOpenQuestion • *lcQuestion* lcQuestion • *lcQuestionBase* lcQuestionBase

Location	Text in 1.2	Proposed changes for 1.3
		• *lcSequence* lcSequence • *lcSequenceOption* lcSequenceOption • *lcSequenceOptionGroup* lcSequenceOptionGroup • *lcSequencing* lcSequencing • *lcSingleSelect* lcSingleSelect • *lcTrueFalse* lcTrueFalse
3.3.3 (new topics)	NA	Add new topics • *lcAnswerContent2* on page 39 lcAnswerContent2 • *lcAnswerOption2* on page 40 lcAnswerOption2 • *lcAnswerOptionGroup2* on page 41 lcAnswerOptionGroup2 • *lcArea2* on page 42 lcArea2 • *lcAreaCoords2* on page 43 lcAreaCoords2 • *lcAreaShape2* on page 45 lcAreaShape2 • *lcCorrectResponse2* on page 47 lcCorrectResponse2 • *lcFeedback2* on page 48 lcFeedback2 • *lcFeedbackCorrect2* on page 49 lcFeedbackCorrect2 • *lcFeedbackIncorrect2* on page 50 lcFeedbackIncorrect2 • *lcHotspot2* on page 51 lcHotspot2 • *lcHotspotMap2* on page 52 lcHotspotMap2 • *lcInstructornote2* on page 53 lcInstructorNote2 • *lcInteractionBase2* on page 54 lcInteractionBase2 • *lcItem2* on page 55 lcItem2 • *lcMatching2* on page 56 lcMatching2 • *lcMatchingItem2* on page 58 lcMatchingItem2 • *lcMatchingItemFeedback2* on page 59 lcMatchingItemFeedback2 • *lcMatchingPair2* on page 60 lcMatchingPair2 • *lcMatchTable2* on page 62 lcMatchTable2 • *lcMultipleSelect2* on page 63 lcMultipleSelect2 • *lcOpenAnswer2* on page 65 lcOpenAnswer2 • *lcOpenQuestion2* on page 65 lcOpenQuestion2 • *lcQuestion2* on page 66 lcQuestion2

Location	Text in 1.2	Proposed changes for 1.3
		• *lcQuestionBase2* on page 67 lcQuestionBase2 • *lcSequence2* on page 68 lcSequence2 • *lcSequenceOption2* on page 69 lcSequenceOption2 • *lcSequenceOptionGroup2* on page 70 lcSequenceOptionGroup2 • *lcSequencing2* on page 71 lcSequencing2 • *lcSingleSelect2* on page 72 lcSingleSelect2 • *lcTrueFalse2* on page 73 lcTrueFalse2
3.5.3 Learning and training elements, A to Z		Add new element references
3.5.4 All DITA 1.2 elements, A to Z		Add new element references

Overview

The DITA Learning and Training specialization addresses several key problems facing developers and consumers of instructional content.

Today's learners confront a complex world with many inter-related bits and pieces of information, many different ways to access that information, and a strong need to identify the connection points, the objectives, and the context for what to know and what to learn.

In this environment, developers of learning and training content face many challenges, including:

- How to find the context for developing and delivering the right content to the right person at the right time?
- How to identify the learning goals and objectives?
- Who and how many are the audiences?
- How to pull together and integrate content from many different sources and content providers?
- How to enable customers and partners to add, integrate, assemble, and deliver their own content?

These key challenges and issues for delivery of learning and training content mirror long-standing pain points and requirements for content delivery in general.

- Content consumers value consistency of content and learning experiences.
- They desire management of content to make it shareable across and within teams.
- They seek to simplify the information needed to support the complex environments.
- Finally, they want a content development process that can enable the assembly and delivery of custom content that addresses specific learning contexts and use cases.

Objectives of the DITA Learning and Training Specialization

The DITA Learning and Training specialization builds on best practices for modular content design, following DITA principles.

The objectives of the specialization include the following:

1. Provide a general top-level design for authoring of education content with good learning architecture, following DITA principles and best practices.

   Some specifics of good DITA design for learning content include:

   1. offers a starter set of specialized topic types that support structured, intent-based authoring of content for learning and training, including assessments
   2. provides a map domain for structuring the specialized learning topics as reusable learning objects, and for managing the linking and relationships among them
   3. offers basic map-driven processing to support topic linking, relationships, and simple sequencing
   4. includes a starter set of commonly-used learning interactions, for use in testing and assessment
   5. provides support for learning metadata based on the IEEE standard for learning objects metadata (LOM), for use in both topics and maps
2. Establish guidelines that promote best practices for applying standard DITA approaches to learning content, which include:

   a. separation of presentation and content (as much as possible)
   b. separation of content and context
   c. single sourcing, repurposing, and reuse
3. Provide basic support for processing DITA content for delivery as learning and training in a variety of forms, including print and presentation delivery to support instructor-led training (ILT) and web delivery for distance learning.
4. Provide a framework for developing targeted support for processing DITA learning content for delivery with standards-based learning, specifically targeting SCORM. Extend DITA processing to support basic SCORM packaging and required SCORM LMS runtime behaviors. Build on best practices for behaviors to drive and present the interactions.
5. Build on existing DITA infrastructures as much as possible, so learning content developers do not have to start from scratch because with minimal adaptation they can use standard approaches for DITA content and reuse content previously developed for other purposes.

Note: Simply using the content models described in this specification, of course, does not ensure quality learning content. Quality learning content only results from good instructional design and in-depth learning needs analysis.

A learning objects approach to learning and training content

The DITA Learning and Training specialization applies DITA principles and best practices for using topic-based and modular content to plan, develop, and deliver learning and training content.

The reusable learning objects, or RLO, approach to learning content derives from the pioneering work of learning content designers at several companies, including Autodesk®, Oracle®, and Cisco®. Author Peder Jacobsen defines an RLO as "a discrete reusable collection of content used to present and support a single learning objective." With this approach, it is possible to gather a pool of information objects and make them available for reuse and repurposing in a variety of learning delivery contexts.

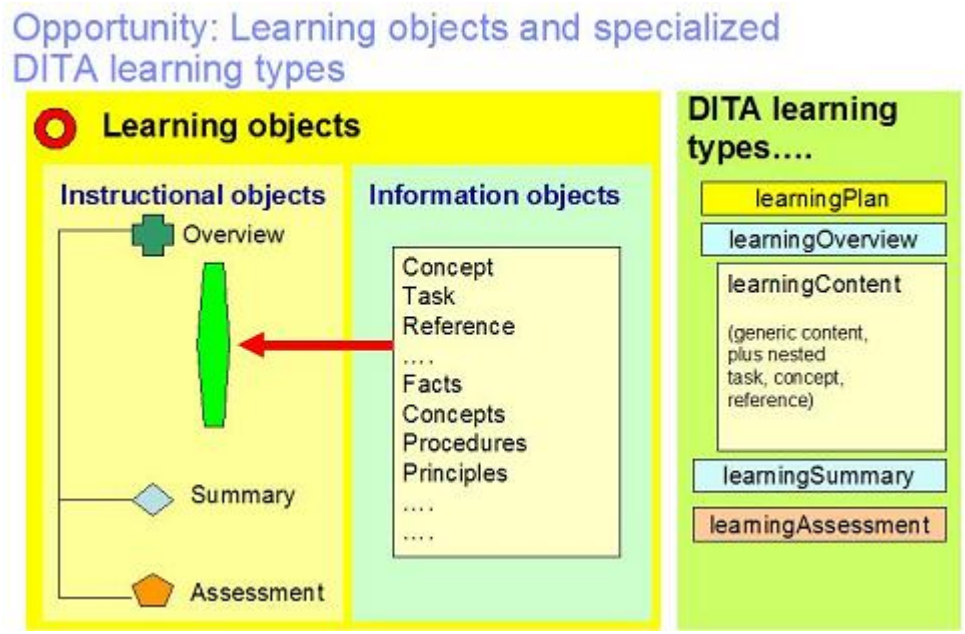
There is a strong affinity between the DITA topic-based, modular approach to content in general, and the learning objects approach to learning content in particular.

Working assumptions about learning content and how to support authoring and delivering it with DITA include the following:

- The DITA Learning and Training specialization builds on a reusable learning objects (RLO) approach to learning content.
- DITA **topic types** are the basic building blocks for learning objects and specify the meaning and intention of content provided in instructional and information objects.
- DITA **domains** provide the mechanism for defining *interactions*, which can be used across the learning topic types.

- DITA **domains** also provide the mechanism for defining learning *metadata*, which can be assigned either in topics or in maps.
- DITA **maps** arrange the DITA learning topics into a hierarchy of learning objects and group such content for delivery as lessons, modules, and courses.
- DITA **specialization** provides the mechanism for creating the learning-based topic types, domains, and maps needed for instructional and information object content requirements.

This figure shows the composition of learning objects as a) instructional objects, b) information objects, and c) the specialized DITA topic types to support them.

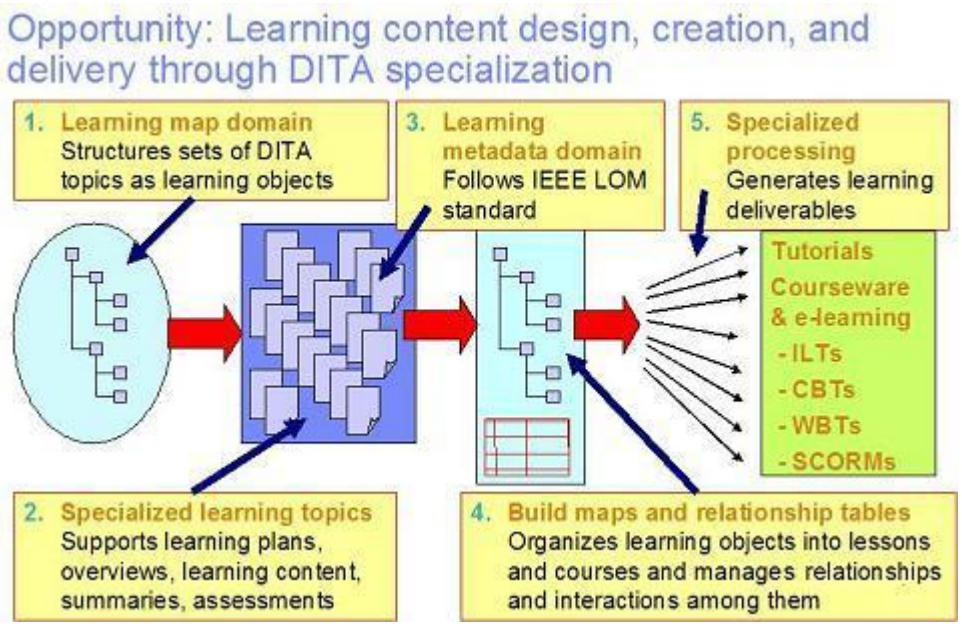


In this approach, a learning object comprises a "discrete reusable collection of content used to present and support a single learning objective," and consists of two primary information components:

- **instructional objects**, which provide the structured framework for a learning experience. The learningOverview, learningSummary, and learningAssassessment topic types provide content for instructional objects.
- **information objects**, which provide the source learning content - the topic-based learning content and other supplemental content that supports the learning goals identified in the instructional objects. The learningContent topic type provides content for information objects.
- **instructional plans**, which identify the learning goals, needs, and objectives. The learningPlan topic type provides content for instructional plans.

Figure 1: Learning objects and specialized DITA learning and training topic types

This picture shows the end-to-end process for designing, authoring, and delivering specialized learning content with DITA.



In this approach, a learning content developer:

1. Uses **learning map elements** to identify the learning objects and the supporting content needed to address specific learning goals and objectives.
2. Uses **learning topic elements** to structure the learning content.
3. Applies **learning metadata elements** to describe specific characteristics of the learning content, following a subset of the IEEE LOM standard.
4. Constructs **specific build maps and relationship tables** to organize learning objects for delivery as a course with specific output and delivery needs.
5. Invokes **processing** to generate specific learning deliverables, based on the default processing available with DITA content and specialized as needed for learning-specific purposes and delivery formats.

Figure 2: Learning content design, authoring, and delivery through DITA specialization

Use cases

Several use cases inform the design and development of the DITA Learning and Training Specialization.

Enable indexing, searching, and retrieval of learning content

By structuring content with DITA topics and maps as self-contained learning objects matched with appropriate DITA metadata, it is possible to enable fast indexing, search, and retrieval of learning content that meets specific learning goals and objectives.

Creating custom courses quickly

A company has a large inventory of topic-based content that is used to provide technical and troubleshooting information about a set of componentized software products. It desires to enable field engineers to quickly identify technical content that is suitable for providing on-site training. The DITA Learning and Training Specialization enables field engineers to draw on their inventory of topics and quickly assemble learning content to meet specific customer needs.

Making technical content available for direct sharing and reuse in learning and training

A DITA learning specialization makes it possible to define a context for and directly assemble and use existing technical content for delivery as learning and training. The DITA approach identifies consistent structures and patterns and leverages them to enable a consistent approach for sharing content across teams. The result is much more opportunity to share content between different providers and across areas of expertise, to learn from each

other, and to deliver content and the learning experience consistently. As a result, instead of copy, paste, and make unique as the norm, we have write once and share with others as the new norm.

learningDomain1 and learningDomain2 Support

Many questions require multiple block elements for the question statement ("prompt" or "stimulus" in instructional design parlance) and for feedback. The DITA 1.2 interaction, learningDomain1, design only allows for a single paragraph question and single-paragraph feedback. The learningDomain2 design uses the topic/div element as the base type for interaction elements to provide block element support in question statements, answer content and feedback.

The DITA 1.3 learningDomain2 support deprecates the DITA 1.2 learningDomain1, but enables backward compatibility by redefining the learningAssessment topic with the option of using either the DITA 1.2 support or the DITA 1.3 support or both.

learningDomain2

DITA 1.3 defines two new domains for the Learning and Training vocabulary: interactionBase2Domain and learning2Domain. These two new domains mirror the existing interactionBase and learning domains, but provide a base model that allows multi-paragraph questions and multi-paragraph feedback. The new domains are otherwise semantically identical to the original domains.

learningInteractionBase2Domain

lcInteractionBase2

The lcInteractionBase2 element differs from lcInteractionBase as follows:

- Is a specialization of div, not fig, which removes the content limitations that fig imposes, such as that fig cannot directly contain table, and therefore, allows the same content as div whereas lcInteractionBase only allows figure content.
- Uses lcQuestionBase2 in place of lcQuestionBase to allow multiple paragraphs within its content.
- Makes @id attribute optional for all interactions.

lcQuestionBase2

The lcQuestionBase2 element is also a specialization of div and allows the same conte div, which is anything that can occur in body except section or bodydiv.

lcInteractionLabel2

The lcInteractionLabel2 is a specialization of p and replaces the use of title. This element is necessary because div does not allow title.

learning2Domain

The learning2Domain is a clone of the 1.2 learningDomain that defines new versions of each of the built-in interaction types, each of which are specialized from lcInteractionBase2. In addition, the content models for the interactions now allow multiple lcAssets elements.

Note: The learning2Domain uses elements from the learningDomain when the content models of those elements are unchanged.

Learning and Training Specialization Usage

The DITA 1.3 learning and training support includes new domains that deprecate the DITA 1.2 interactions, but provide a path for backward compatibility.

The key changes in the DITA 1.3 support are:

- Support block elements in question content, answer content, and feedback.
- Allow multiple assets.

- Make the @id attribute for interactions optional.

New implementations

If you are implementating learning and training support in DITA for the first time, use the DITA 1.3 support, use the learning2Domain in document types that need assessments, as demonstrated by the learningAssessment-learning2.dtd.

Existing implementations to continue DITA 1.2 assessment support

If you have already implemented learning and training support with DITA 1.2 and none of the limitations adversely affected your support, then you can continue to use the learningDomain in document types that need assessments, as demonstrated by the learningAssessement.dtd and learningAssessment-learning2.dtd document type shells.

Summary of learning topic, map, and domain designs

The DITA Learning and Training specialization provides a set of specialized DITA topics, a learning interactions domain, a learning metadata domain, and a learning map domain to support creating and delivering structured learning content.

Learning topic types

The following specialized DITA topic types provide support for creating learning and training content.

Learning Plan topic type

Describes learning needs and goals, instructional design models, task analyses, learning taxonomies, and other information necessary to the lesson planning process.

Learning Overview topic type

Identifies the learning objectives and includes other information helpful to the learner, such prerequisites, duration, and intended audience.

Learning Content topic type

Provides the learning content itself and enables direct use of content from DITA task, concept, and reference topics, as well as additional content of any topic type that supports specific objectives declared in the Learning Overview topic type.

Learning Summary topic type

Recaps and provides context for the learning objectives and provides guidance to reinforce learning and long-term memory.

Learning Assessment topic type

Presents instruments that measure progress, encourage retrieval, and stimulate reinforcement of the learning content and can be presented before the content as a pre-assessment or after the content as a post-assessment checkpoint or test.

Learning map domain

Use the learning map domain to organize groups of topics as learning objects.

Note: The learning map domain is part of the learningMap and the learningBookmap document types. As these learning map structures are delivered as a domain specialization rather than as a structural specialization, it is possible to extend any type of DITA map to include these structures.

learningGroup

A map container and optional topic reference to introduce and group learning objects into higher-level organizations, such as course-level, module-level, or lesson-level. A learningGroup can contain other learningGroup elements, allowing you to organize learning content at course, module, or other higher levels of hierarchy.

learningObject

A map container and optional topic reference to introduce and group the topic references for a learning object.

learningPlanRef

A topic reference to a learning plan or other topic that provides the learning plan.

learningOverviewRef

A topic reference to a learning overview or other topic that introduces the learning object.

learningContentRef

A topic reference to a learning content topic, or a topic, task, concept, reference or other specialized topic.

learningContentComponentRef

A topic reference to a learning content topic, or a topic, task, concept, reference or other specialized topic.

learningSummaryRef

A topic reference to a learning summary or other topic that provides the summary.

learningPreAssessmentRef

A topic reference to a learning assessment or other topic that is used as a pre-assessment.

learningPostAssessmentRef

A topic reference to a learning assessment or other topic that is used as a post-assessment.

Learning interactions domain

The learning interactions domain defines a set of basic learning interaction elements as a DITA domain. Although there are two sets of elements for interaction support, the recommended set is defined in the learningDomain2 provided in DITA 1.3, which supports block elements. The original DITA 1.2 learningDomain is deprecated, as they do not support including block elements in many of the elements. See *for information about the DITA 1.3 domains*.

lcOpenQuestion2

Poses an open-ended question in an assessment interaction.

lcTrueFalse2

Presents the learner with two choices, one correct, the other incorrect, often presented as true/false or yes/no responses.

lcSingleSelect2

Presents three or more choices, only one of which is correct.

lcMultipleSelect2

Presents two or more choices, two or more of which are correct.

lcMatching2

In a list of paired choices, the learner identifies the correct choice that matches another choice.

lcHotspot2

Presents an image, and the learner clicks on one or more regions to indicate a choice.

lcSequencing2

Presents choices in a list that the learner must arrange in a correct ordered sequence.

Learning metadata domain

The learning metadata domain defines a set of basic learning metadata elements as a DITA domain and available for use in the learning topic types, as specialized prolog metadata and in the learning map domain, as specialized topicmeta.

lcLom makes the learning metadata elements available in the learning topics and learning map domain.

Elements in lcLom include:

- lomAggregationLevel

- lomContext
- lomCoverage
- lomDifficulty
- lomInstallationRemarks
- lomIntendedUserRole
- lomInteractivityLevel
- lomInteractivityType
- lomLearningResourceType
- lomOtherPlatformRequirements
- lomSemanticDensity
- lomStructure
- lomTechRequirement
- lomTypicalAgeRange
- lomTypicalLearningTime

Instructor notes

The learning interactions domain also makes available an lcInstructornote element for providing instructor-specific information.

lcAnswerContent2

The <lcAnswerContent2> element in a learning assessment interaction provides the content for an answer option, which the learner can select as correct or incorrect. This element replaces the <lcAnswerContent> element in DITA 1.2.

Inheritance

topic/div learningInteractionBase2-d/div learning2-d/lcAnswerContent2

Example

```
   <!--True - False Interaction                    -->
   <lcTrueFalse2>
    <lcInteractionLabel2>True - False sun rising</
lcInteractionLabel2>
    <lcQuestion2>On Earth, the sun rises in the West and sets in
 the East.</lcQuestion2>
    <lcAnswerOptionGroup2>
     <lcAnswerOption2>
      <lcAnswerContent2>True</lcAnswerContent2>
     </lcAnswerOption2>
     <lcAnswerOption2>
      <lcAnswerContent2>False</lcAnswerContent2>
      <lcCorrectResponse2/>
     </lcAnswerOption2>
    </lcAnswerOptionGroup2>
    <lcFeedbackIncorrect2>No, look to the East.</
lcFeedbackIncorrect2>
    <lcFeedbackCorrect2>Yes, look to the East.</
lcFeedbackCorrect2>
   </lcTrueFalse2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
univ-atts attribute group (includes select-atts, id-atts, and localization-atts groups)	A set of related attributes, described in *univ-atts attribute group*			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcAnswerOption2

The <lcAnswerOption2> element in an assessment interaction provides the content and feedback for a question option, and can indicate the correct option. This element replaces the <lcAnswerOption> element in DITA 1.2.

Inheritance

+ topic/li learningInteractionBase2-d/li learning2-d/lcAnswerOption2

Example

```
   <!--Single select Interaction                    -->
   <lcSingleSelect2 id="singleselect">
    <lcInteractionLabel2>Multiple Choice - IEEE standards
 trivia</lcInteractionLabel2>
    <lcQuestion2>Which one of the listed standards committees is
 responsible for
developing the token ring specification?</lcQuestion2>
    <lcAnswerOptionGroup2>
     <lcAnswerOption2>
      <lcAnswerContent2>IEEE 802.3</lcAnswerContent2>
      <lcFeedback2>Sorry. A little low.</lcFeedback2>
     </lcAnswerOption2>
     <lcAnswerOption2>
      <lcAnswerContent2>IEEE 802.5</lcAnswerContent2>
      <lcCorrectResponse2/>
      <lcFeedback2>That's the one.</lcFeedback2>
     </lcAnswerOption2>
     <lcAnswerOption2>
      <lcAnswerContent2>IEEE 802.6</lcAnswerContent2>
      <lcFeedback2>Nope. Too high.</lcFeedback2>
     </lcAnswerOption2>
     <lcAnswerOption2>
      <lcAnswerContent2>IEEE 802.11</lcAnswerContent2>
      <lcFeedback2>Nope. Way too high.</lcFeedback2>
     </lcAnswerOption2>
    </lcAnswerOptionGroup2>
   </lcSingleSelect2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
univ-atts attribute group (includes select-atts, id-atts, and localization-atts groups)	A set of related attributes, described in *univ-atts attribute group*			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcAnswerOptionGroup2

The <lcAnswerOptionGroup2> element provides a container for the options for a true-false, single-select, or multiple-select assessment interaction. This element replaces the <lcAnswerOptionGroup> element in DITA 1.2.

Inheritance

+ topic/ul learningInteractionBase2-d/ul learning2-d/lcAnswerOptionGroup2

Example

```
   <!--Single select Interaction                    -->
   <lcSingleSelect2 id="singleselect">
    <lcInteractionLabel2>Multiple Choice - IEEE standards
 trivia</lcInteractionLabel2>
    <lcQuestion2>Which one of the listed standards committees is
 responsible for
developing the token ring specification?</lcQuestion2>
    <lcAnswerOptionGroup2>
     <lcAnswerOption2>
      <lcAnswerContent2>IEEE 802.3</lcAnswerContent2>
      <lcFeedback2>Sorry. A little low.</lcFeedback2>
     </lcAnswerOption2>
     <lcAnswerOption2>
      <lcAnswerContent2>IEEE 802.5</lcAnswerContent2>
      <lcCorrectResponse2/>
      <lcFeedback2>That's the one.</lcFeedback2>
     </lcAnswerOption2>
     <lcAnswerOption2>
      <lcAnswerContent2>IEEE 802.6</lcAnswerContent2>
      <lcFeedback2>Nope. Too high.</lcFeedback2>
     </lcAnswerOption2>
     <lcAnswerOption2>
      <lcAnswerContent2>IEEE 802.11</lcAnswerContent2>
      <lcFeedback2>Nope. Way too high.</lcFeedback2>
     </lcAnswerOption2>
    </lcAnswerOptionGroup2>
   </lcSingleSelect2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
univ-atts attribute group (includes select-atts, id-atts, and localization-atts groups)	A set of related attributes, described in *univ-atts attribute group*			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcArea2

A <lcArea2> defines an area of a hotspot image that contains a correct or incorrect choice in a hotspot assessment interaction. This element replaces the <lcArea> element in DITA 1.2.

Inheritance

+ topic/figgroup learningInteractionBase2-d/figgroup learning2-d/lcArea2

Example

```
   <!--Hotspot Interaction    -->
   <lcHotspot2>
    <lcInteractionLabel2>Team logos hotspot</
lcInteractionLabel2>
    <lcQuestion2>Which of the following is the logo for the
 Cleveland Indians?</lcQuestion2>
    <lcHotspotMap2>
     <image href="hotlogos.gif"/>
     <lcArea2 id="indians">
      <lcAreaShape2>rect</lcAreaShape2>
      <lcAreaCoords2>0,0,50,50</lcAreaCoords2>
      <lcCorrectResponse2 value="indians"/>
      <lcFeedback2>Yes.</lcFeedback2>
     </lcArea2>
     <lcArea2 id="giants">
      <lcAreaShape2>rect</lcAreaShape2>
      <lcAreaCoords2>50,0,100,50</lcAreaCoords2>
      <lcFeedback2>No.</lcFeedback2>
     </lcArea2>
     <lcArea2 id="cardinals">
      <lcAreaShape2>rect</lcAreaShape2>
      <lcAreaCoords2>0,50,50,100</lcAreaCoords2>
      <lcFeedback2>No.</lcFeedback2>
     </lcArea2>
     <lcArea2 id="orioles">
      <lcAreaShape2>rect</lcAreaShape2>
      <lcAreaCoords2>50,50,100,100</lcAreaCoords2>
      <lcFeedback2>No.</lcFeedback2>
     </lcArea2>
    </lcHotspotMap2>
   </lcHotspot2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
univ-atts attribute group (includes select-atts, id-atts, and localization-atts groups)	A set of related attributes, described in *univ-atts attribute group*			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcAreaCoords2

The <lcAreaCoords2> element specifies the coordinates of a linkable hotspot in a learning image. This element replaces the <lcAreaCoords> element in DITA 1.2.

This element contains text data representing coordinate data for learning images with linkable hotspots. Pixels are the recommended units for describing coordinates. The syntax of the coordinate data depends on the shape described by the coordinates, and is based on the image map definition in HTML. It uses the following data for the appropriate shapes:

Shape

Data format

rect

left-x, top-y, right-x, bottom-y

circle

center-x, center-y, radius

poly

x1, y1, x2, y2, ..., xN, yN. The first x and y coordinate pair and the last should be the same to close the polygon.

Inheritance

+ topic/ph learningInteractionBase2-d/ph learning2-d/lcAreaCoords2

Example

```
   <!--Hotspot Interaction    -->
   <lcHotspot2>
    <lcInteractionLabel2>Team logos hotspot</
lcInteractionLabel2>
    <lcQuestion2>Which of the following is the logo for the
 Cleveland Indians?</lcQuestion2>
    <lcHotspotMap2>
     <image href="hotlogos.gif"/>
     <lcArea2 id="indians">
      <lcAreaShape2>rect</lcAreaShape2>
      <lcAreaCoords2>0,0,50,50</lcAreaCoords2>
      <lcCorrectResponse2 value="indians"/>
      <lcFeedback2>Yes.</lcFeedback2>
     </lcArea2>
     <lcArea2 id="giants">
      <lcAreaShape2>rect</lcAreaShape2>
      <lcAreaCoords2>50,0,100,50</lcAreaCoords2>
```

```
      <lcFeedback2>No.</lcFeedback2>
     </lcArea2>
     <lcArea2 id="cardinals">
      <lcAreaShape2>rect</lcAreaShape2>
      <lcAreaCoords2>0,50,50,100</lcAreaCoords2>
      <lcFeedback2>No.</lcFeedback2>
     </lcArea2>
     <lcArea2 id="orioles">
      <lcAreaShape2>rect</lcAreaShape2>
      <lcAreaCoords2>50,50,100,100</lcAreaCoords2>
      <lcFeedback2>No.</lcFeedback2>
     </lcArea2>
    </lcHotspotMap2>
   </lcHotspot2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
translate	Indicates whether the content of the element should be translated or not. Setting to "yes" will override the default. The DITA architectural specification contains a list of each OASIS DITA element and its common processing default for the translate value; because this element uses an actual default, it will always be treated as translate="no" unless overridden as described.	yes | no | *-dita-use-conref-target*	"no"	No
xml:lang	Specifies the language of the element content. The xml:lang attribute and its values are described in the XML Recommendation at *http://www.w3.org/TR/REC-xml/#sec-lang-tag*.	language token or the null string	#IMPLIED	No
dir	Specifies the directionality of text: left-to-right (ltr, the processing default) or right-to-left (rtl). The value lro indicates an override of normal bidi text presentation, forcing the element into left-to-right mode; rlo overrides normal rules to force right-to-left presentation. See *The dir attribute* for more information.	(ltr | rtl | lro | rlo | *-dita-use-conref-target*)	#IMPLIED	No
id-atts attribute group (id, conref, conrefend, conaction, conkeyref)	A set of related attributes, described in *id-atts attribute group*			
select-atts attribute group (props, base, platform, product, audience, otherprops, importance, rev, status)	A set of related attributes, described in *select-atts attribute group*			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			

Name	Description	Data Type	Default Value	Required?
class, outputclass, keyref	Keyref provides a redirectable reference based on a key defined within a map. See *The keyref attribute* for information on using this attribute. Class and outputclass are described in *Other common DITA attributes*			

lcAreaShape2

The <lcAreaShape2> element defines the shape of a linkable hotspot in a learning image. This element replaces the <lcAreaShape> element in DITA 1.2.

The <lcAreaShape2> element supports these values:

rect

Define a rectangular region. If you leave the shape element blank, this is assumed.

circle

Define a circular region.

poly

Define a polygonal region.

default

Indicates the entire diagram.

Inheritance

+ topic/keyword learningInteractionBase2-d/keyword learning2-d/lcAreaShape2

Example

```
   <!--Hotspot Interaction    -->
   <lcHotspot2>
    <lcInteractionLabel2>Team logos hotspot</
lcInteractionLabel2>
    <lcQuestion2>Which of the following is the logo for the
 Cleveland Indians?</lcQuestion2>
    <lcHotspotMap2>
     <image href="hotlogos.gif"/>
     <lcArea2 id="indians">
      <lcAreaShape2>rect</lcAreaShape2>
      <lcAreaCoords2>0,0,50,50</lcAreaCoords2>
      <lcCorrectResponse2 value="indians"/>
      <lcFeedback2>Yes.</lcFeedback2>
     </lcArea2>
     <lcArea2 id="giants">
      <lcAreaShape2>rect</lcAreaShape2>
      <lcAreaCoords2>50,0,100,50</lcAreaCoords2>
      <lcFeedback2>No.</lcFeedback2>
     </lcArea2>
     <lcArea2 id="cardinals">
      <lcAreaShape2>rect</lcAreaShape2>
      <lcAreaCoords2>0,50,50,100</lcAreaCoords2>
      <lcFeedback2>No.</lcFeedback2>
     </lcArea2>
     <lcArea2 id="orioles">
      <lcAreaShape2>rect</lcAreaShape2>
```

```
      <lcAreaCoords2>50,50,100,100</lcAreaCoords2>
      <lcFeedback2>No.</lcFeedback2>
    </lcArea2>
  </lcHotspotMap2>
</lcHotspot2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
translate	Indicates whether the content of the element should be translated or not. Setting to "yes" will override the default. The DITA architectural specification contains a list of each OASIS DITA element and its common processing default for the translate value; because this element uses an actual default, it will always be treated as translate="no" unless overridden as described.	yes | no | *-dita-use-conref-target*	"no"	No
xml:lang	Specifies the language of the element content. The xml:lang attribute and its values are described in the XML Recommendation at *http://www.w3.org/TR/REC-xml/#sec-lang-tag*.	language token or the null string	#IMPLIED	No
dir	Specifies the directionality of text: left-to-right (ltr, the processing default) or right-to-left (rtl). The value lro indicates an override of normal bidi text presentation, forcing the element into left-to-right mode; rlo overrides normal rules to force right-to-left presentation. See *The dir attribute* for more information.	(ltr | rtl | lro | rlo | *-dita-use-conref-target*)	#IMPLIED	No
id-atts attribute group (id, conref, conrefend, conaction, conkeyref)	A set of related attributes, described in *id-atts attribute group*			
select-atts attribute group (props, base, platform, product, audience, otherprops, importance, rev, status)	A set of related attributes, described in *select-atts attribute group*			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass, keyref	Keyref provides a redirectable reference based on a key defined within a map. See *The keyref attribute* for information on using this attribute. Class and outputclass are described in *Other common DITA attributes*			

lcCorrectResponse2

The <lcCorrectResponse2> element in an assessment interaction indicates a correct response. This element replaces the <lcCorrectResponse> element in DITA 1.2.

In a <lcHotspot> interaction, indicate the correct hotspot by setting the value attribute of <lcCorrectResponse2> to the id of the "correct" area in the imagemap.

Inheritance

+ topic/data learningInteractionBase2-d/data learning2-d/lcCorrectResponse2

Example

```
   <!--True - False Interaction                    -->
   <lcTrueFalse2>
    <lcInteractionLabel2>True - False sun rising</
lcInteractionLabel2>
    <lcQuestion2>On Earth, the sun rises in the West and sets in
 the East.</lcQuestion2>
    <lcAnswerOptionGroup2>
     <lcAnswerOption2>
      <lcAnswerContent2>True</lcAnswerContent2>
     </lcAnswerOption2>
     <lcAnswerOption2>
      <lcAnswerContent2>False</lcAnswerContent2>
      <lcCorrectResponse2/>
     </lcAnswerOption2>
    </lcAnswerOptionGroup2>
    <lcFeedbackIncorrect2>No, look to the East.</
lcFeedbackIncorrect2>
    <lcFeedbackCorrect2>Yes, look to the East.</
lcFeedbackCorrect2>
   </lcTrueFalse2>
```

Example

```
   <!--Hotspot Interaction    -->
   <lcHotspot2>
    <lcInteractionLabel2>Team logos hotspot</
lcInteractionLabel2>
    <lcQuestion2>Which of the following is the logo for the
 Cleveland Indians?</lcQuestion2>
    <lcHotspotMap2>
     <image href="hotlogos.gif"/>
     <lcArea2 id="indians">
      <lcAreaShape2>rect</lcAreaShape2>
      <lcAreaCoords2>0,0,50,50</lcAreaCoords2>
      <lcCorrectResponse2 value="indians"/>
      <lcFeedback2>Yes.</lcFeedback2>
     </lcArea2>
     <lcArea2 id="giants">
      <lcAreaShape2>rect</lcAreaShape2>
      <lcAreaCoords2>50,0,100,50</lcAreaCoords2>
      <lcFeedback2>No.</lcFeedback2>
     </lcArea2>
     <lcArea2 id="cardinals">
```

```
      <lcAreaShape2>rect</lcAreaShape2>
      <lcAreaCoords2>0,50,50,100</lcAreaCoords2>
      <lcFeedback2>No.</lcFeedback2>
     </lcArea2>
     <lcArea2 id="orioles">
      <lcAreaShape2>rect</lcAreaShape2>
      <lcAreaCoords2>50,50,100,100</lcAreaCoords2>
      <lcFeedback2>No.</lcFeedback2>
     </lcArea2>
    </lcHotspotMap2>
   </lcHotspot2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
name	The name used to indicate this data.	CDATA	lcCorrectResponse2	Required
value	The value.	PCDATA	In an lcHotspot2 interaction, set the value to the id corresponding to the correct area in the imagemap.	Required
univ-atts attribute group (includes select-atts, id-atts, and localization-atts groups)	A set of related attributes, described in *univ-atts attribute group*			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcFeedback2

The <lcFeedback2> element in an assessment interaction provides information to the learner about a correct or incorrect response. This element replaces the <lcFeedback> element in DITA 1.2.

Inheritance

+ topic/div learningInteractionBase2-d/div learning2-d/lcFeedback2

Example

```
   <!--Single select Interaction                    -->
   <lcSingleSelect2 id="singleselect">
    <lcInteractionLabel2>Multiple Choice - IEEE standards
trivia</lcInteractionLabel2>
```

```
    <lcQuestion2>Which one of the listed standards committees is
 responsible for
developing the token ring specification?</lcQuestion2>
    <lcAnswerOptionGroup2>
     <lcAnswerOption2>
      <lcAnswerContent2>IEEE 802.3</lcAnswerContent2>
      <lcFeedback2>Sorry. A little low.</lcFeedback2>
     </lcAnswerOption2>
     <lcAnswerOption2>
      <lcAnswerContent2>IEEE 802.5</lcAnswerContent2>
      <lcCorrectResponse2/>
      <lcFeedback2>That's the one.</lcFeedback2>
     </lcAnswerOption2>
     <lcAnswerOption2>
      <lcAnswerContent2>IEEE 802.6</lcAnswerContent2>
      <lcFeedback2>Nope. Too high.</lcFeedback2>
     </lcAnswerOption2>
     <lcAnswerOption2>
      <lcAnswerContent2>IEEE 802.11</lcAnswerContent2>
      <lcFeedback2>Nope. Way too high.</lcFeedback2>
     </lcAnswerOption2>
    </lcAnswerOptionGroup2>
   </lcSingleSelect2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
univ-atts attribute group (includes select-atts, id-atts, and localization-atts groups)	A set of related attributes, described in *univ-atts attribute group*			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcFeedbackCorrect2

The <lcFeedbackCorrect2> element in an assessment interaction provides feedback to the learner about a correct response. This element replaces the <lcFeedbackCorrect> element in DITA 1.2.

Inheritance

+ topic/div learningInteractionBase2-d/div learning2-d/lcFeedbackCorrect2

Example

```
   <!--True - False Interaction                    -->
   <lcTrueFalse2>
    <lcInteractionLabel2>True - False sun rising</
lcInteractionLabel2>
```

```
    <lcQuestion2>On Earth, the sun rises in the West and sets in
 the East.</lcQuestion2>
    <lcAnswerOptionGroup2>
     <lcAnswerOption2>
      <lcAnswerContent2>True</lcAnswerContent2>
     </lcAnswerOption2>
     <lcAnswerOption2>
      <lcAnswerContent2>False</lcAnswerContent2>
      <lcCorrectResponse2/>
     </lcAnswerOption2>
    </lcAnswerOptionGroup2>
    <lcFeedbackIncorrect2>No, look to the East.</
lcFeedbackIncorrect2>
    <lcFeedbackCorrect2>Yes, look to the East.</
lcFeedbackCorrect2>
   </lcTrueFalse2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
univ-atts attribute group (includes select-atts, id-atts, and localization-atts groups)	A set of related attributes, described in *univ-atts attribute group*			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcFeedbackIncorrect2

The <lcFeedbackIncorrect2> element in an assessment interaction provides feedback about incorrect response. This element replaces the <lcFeedbackIncorrect> element in DITA 1.2.

Inheritance

+ topic/div learningInteractionBase2-d/div learning2-d/lcFeedbackIncorrect2

Example

```
   <!--True - False Interaction                    -->
   <lcTrueFalse2>
    <lcInteractionLabel2>True - False sun rising</
lcInteractionLabel2>
    <lcQuestion2>On Earth, the sun rises in the West and sets in
 the East.</lcQuestion2>
    <lcAnswerOptionGroup2>
     <lcAnswerOption2>
      <lcAnswerContent2>True</lcAnswerContent2>
     </lcAnswerOption2>
     <lcAnswerOption2>
      <lcAnswerContent2>False</lcAnswerContent2>
```

```
      <lcCorrectResponse2/>
     </lcAnswerOption2>
    </lcAnswerOptionGroup2>
    <lcFeedbackIncorrect2>No, look to the East.</
lcFeedbackIncorrect2>
    <lcFeedbackCorrect2>Yes, look to the East.</
lcFeedbackCorrect2>
   </lcTrueFalse2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
univ-atts attribute group (includes select-atts, id-atts, and localization-atts groups)	A set of related attributes, described in *univ-atts attribute group*			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcHotspot2

In a <lcHotspot2> interaction, the learner clicks on a region of the screen to indicate a choice. This element replaces the <lcHotspot> element in DITA 1.2.

Inheritance

+ topic/div learningInteractionBase2-d/lcInteractionBase learning2-d/lcHotspot2

Example

```
   <!--Hotspot Interaction    -->
   <lcHotspot2>
    <lcInteractionLabel2>Team logos hotspot</
lcInteractionLabel2>
    <lcQuestion2>Which of the following is the logo for the
 Cleveland Indians?</lcQuestion2>
    <lcHotspotMap2>
     <image href="hotlogos.gif"/>
     <lcArea2 id="indians">
      <lcAreaShape2>rect</lcAreaShape2>
      <lcAreaCoords2>0,0,50,50</lcAreaCoords2>
      <lcCorrectResponse2 value="indians"/>
      <lcFeedback2>Yes.</lcFeedback2>
     </lcArea2>
     <lcArea2 id="giants">
      <lcAreaShape2>rect</lcAreaShape2>
      <lcAreaCoords2>50,0,100,50</lcAreaCoords2>
      <lcFeedback2>No.</lcFeedback2>
     </lcArea2>
     <lcArea2 id="cardinals">
      <lcAreaShape2>rect</lcAreaShape2>
```

```
      <lcAreaCoords2>0,50,50,100</lcAreaCoords2>
      <lcFeedback2>No.</lcFeedback2>
     </lcArea2>
     <lcArea2 id="orioles">
      <lcAreaShape2>rect</lcAreaShape2>
      <lcAreaCoords2>50,50,100,100</lcAreaCoords2>
      <lcFeedback2>No.</lcFeedback2>
     </lcArea2>
    </lcHotspotMap2>
   </lcHotspot2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
id	Defines an ID by which the element may be referenced.	NMTOKEN	#REQUIRED	Yes
conref-atts attribute group (conref, conrefend, conaction, conkeyref)	A set of related attributes; includes all of the attributes described in *id-atts attribute group* *except* for the id attribute.			
select-atts attribute group (props, base, platform, product, audience, otherprops, importance, rev, status)	A set of related attributes, described in *select-atts attribute group*			
localization-atts attribute group (translate, xml:lang, dir)	A set of related attributes, described in *localization-atts attribute group*.			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcHotspotMap2

A <lcHotspotMap2> interaction lets you designate an action area or region over an image, allowing a click in that region to get scored as correct or incorrect in response to an interaction question. This element replaces the <lcHotspotMap> element in DITA 1.2.

Inheritance

+ topic/fig learningInteractionBase2-d/figgroup learning2-d/lcHotspotMap2

Example

```
   <!--Hotspot Interaction    -->
   <lcHotspot2>
    <lcInteractionLabel2>Team logos hotspot</
lcInteractionLabel2>
    <lcQuestion2>Which of the following is the logo for the
 Cleveland Indians?</lcQuestion2>
    <lcHotspotMap2>
```

```
      <image href="hotlogos.gif"/>
      <lcArea2 id="indians">
       <lcAreaShape2>rect</lcAreaShape2>
       <lcAreaCoords2>0,0,50,50</lcAreaCoords2>
       <lcCorrectResponse2 value="indians"/>
       <lcFeedback2>Yes.</lcFeedback2>
      </lcArea2>
      <lcArea2 id="giants">
       <lcAreaShape2>rect</lcAreaShape2>
       <lcAreaCoords2>50,0,100,50</lcAreaCoords2>
       <lcFeedback2>No.</lcFeedback2>
      </lcArea2>
      <lcArea2 id="cardinals">
       <lcAreaShape2>rect</lcAreaShape2>
       <lcAreaCoords2>0,50,50,100</lcAreaCoords2>
       <lcFeedback2>No.</lcFeedback2>
      </lcArea2>
      <lcArea2 id="orioles">
       <lcAreaShape2>rect</lcAreaShape2>
       <lcAreaCoords2>50,50,100,100</lcAreaCoords2>
       <lcFeedback2>No.</lcFeedback2>
      </lcArea2>
     </lcHotspotMap2>
    </lcHotspot2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
univ-atts attribute group (includes select-atts, id-atts, and localization-atts groups)	A set of related attributes, described in *univ-atts attribute group*			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcInstructornote2

Use the <lcInstructornote2> element to provide information or notes you want to provide to the course instructor. These notes can be conditionalized out of content you intend to deliver to the learner. This element replaces the <lcInstructornote> element in DITA 1.2.

Inheritance

+ topic/note learningInteractionBase2-d/note learning2-d/lcInstructornote2

Example

```
<lcIntro>
  <title>Introduction</title>
  <p>If you need an introduction, you would
    include it here.</p>
```

```
  <note>You can have notes, tables, all kinds of things
    like that here, if you desire.</note>
  <lcInstructornote>You can provide tips for instructors in an
    instructor note, like this one.</lcInstructornote>
</lcIntro>
```

Attributes

Name	Description	Data Type	Default Value	Required?
univ-atts attribute group (includes select-atts, id-atts, and localization-atts groups)	A set of related attributes, described in *univ-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcInteractionBase2

Use <lcInteractionBase2> as the base for more specialized assessment types. This element replaces the <lcInteractionBase> element in DITA 1.2.

Inheritance

+ topic/div learningInteractionBase2-d/lcInteractionBase2

> <lcInteractionBase2> should only be used as a base for further specialization.

Attributes

Name	Description	Data Type	Default Value	Required?
id	Defines an ID by which the element may be referenced.	NMTOKEN	#REQUIRED	Yes
conref-atts attribute group (conref, conrefend, conaction, conkeyref)	A set of related attributes; includes all of the attributes described in *id-atts attribute group except* for the id attribute.			
select-atts attribute group (props, base, platform, product, audience, otherprops, importance, rev, status)	A set of related attributes, described in *select-atts attribute group*			
localization-atts attribute group (translate, xml:lang, dir)	A set of related attributes, described in *localization-atts attribute group*.			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			

Name	Description	Data Type	Default Value	Required?
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcItem2

The <lcItem2> element in an assessment interaction provides the content for an item that matches the match item in a match table. This element replaces the <lcItem> element in DITA 1.2.

Inheritance

+ topic/div learningInteractionBase2-d/stentry learning2-d/lcItem2

Example

```
<!--Matching Interaction                    -->
<lcMatching2>
  <lcInteractionLabel2>Matching teams with cities</
lcInteractionLabel2>
  <lcQuestion2>Match the team with the city.</lcQuestion2>
  <lcMatchTable2>
    <lcMatchingHeader2>
      <lcItem2>Team</lcItem2>
      <lcMatchingItem2>City</lcMatchingItem2>
    </lcMatchingHeader2>
    <lcMatchingPair2>
      <lcItem2>Boston</lcItem2>
      <lcMatchingItem2>Red Sox</lcMatchingItem2>
      <lcMatchingItemFeedback2>
        <lcFeedbackCorrect2>The Red Sox play in Boston's Fenway
 Park</lcFeedbackCorrect2>
        <lcFeedbackIncorrect2>That is not Boston's home team</
lcFeedbackIncorrect2>
      </lcMatchingItemFeedback2>
    </lcMatchingPair2>
    <lcMatchingPair2>
      <lcItem2>San Francisco</lcItem2>
      <lcMatchingItem2>Giants</lcMatchingItem2>
      <lcMatchingItemFeedback2>
        <lcFeedbackCorrect2>The Giants play in San Franciso's
 Candlestick Park</lcFeedbackCorrect2>
        <lcFeedbackIncorrect2>That is not San Franciso's home
 team</lcFeedbackIncorrect2>
      </lcMatchingItemFeedback2>
    </lcMatchingPair2>
    <lcMatchingPair2>
      <lcItem2>Chicago</lcItem2>
      <lcMatchingItem2>Cubs</lcMatchingItem2>
      <lcMatchingItemFeedback2>
        <lcFeedbackCorrect2>The Cubs play in Chicago's Wrigley
 Field</lcFeedbackCorrect2>
        <lcFeedbackIncorrect2>That is not Chicago's home team.</
lcFeedbackIncorrect2>
      </lcMatchingItemFeedback2>
    </lcMatchingPair2>
    <lcMatchingPair2>
      <lcItem2>Toronto</lcItem2>
      <lcMatchingItem2>Blue Jays</lcMatchingItem2>
```

```
      <lcMatchingItemFeedback2>
        <lcFeedbackCorrect2>The Blue Jays play in Toronto's
 SkyDome</lcFeedbackCorrect2>
        <lcFeedbackIncorrect2>That is not Toronto's home team.</
lcFeedbackIncorrect2>
      </lcMatchingItemFeedback2>
    </lcMatchingPair2>
  </lcMatchTable2>
</lcMatching2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
univ-atts attribute group (includes select-atts, id-atts, and localization-atts groups)	A set of related attributes, described in *univ-atts attribute group*			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcMatching2

In a <lcMatching2> interaction, the learner identifies the correct choice that matches another choice and, optionally, any feedback for the pair or for correct or incorrect matches. This element replaces the <lcMatching> element in DITA 1.2.

Inheritance

+ topic/div learningInteractionBase2-d/lcInteractionBase learning2-d/lcMatching2

Example

```
<!--Matching Interaction                    -->
<lcMatching2>
  <lcInteractionLabel2>Matching teams with cities</
lcInteractionLabel2>
  <lcQuestion2>Match the team with the city.</lcQuestion2>
  <lcMatchTable2>
    <lcMatchingHeader2>
      <lcItem2>Team</lcItem2>
      <lcMatchingItem2>City</lcMatchingItem2>
    </lcMatchingHeader2>
    <lcMatchingPair2>
      <lcItem2>Boston</lcItem2>
      <lcMatchingItem2>Red Sox</lcMatchingItem2>
      <lcMatchingItemFeedback2>
        <lcFeedbackCorrect2>The Red Sox play in Boston's Fenway
 Park</lcFeedbackCorrect2>
        <lcFeedbackIncorrect2>That is not Boston's home team</
lcFeedbackIncorrect2>
      </lcMatchingItemFeedback2>
```

```
    </lcMatchingPair2>
    <lcMatchingPair2>
      <lcItem2>San Francisco</lcItem2>
      <lcMatchingItem2>Giants</lcMatchingItem2>
      <lcMatchingItemFeedback2>
        <lcFeedbackCorrect2>The Giants play in San Franciso's
 Candlestick Park</lcFeedbackCorrect2>
        <lcFeedbackIncorrect2>That is not San Franciso's home
 team</lcFeedbackIncorrect2>
      </lcMatchingItemFeedback2>
    </lcMatchingPair2>
    <lcMatchingPair2>
      <lcItem2>Chicago</lcItem2>
      <lcMatchingItem2>Cubs</lcMatchingItem2>
      <lcMatchingItemFeedback2>
        <lcFeedbackCorrect2>The Cubs play in Chicago's Wrigley
 Field</lcFeedbackCorrect2>
        <lcFeedbackIncorrect2>That is not Chicago's home team.</
lcFeedbackIncorrect2>
      </lcMatchingItemFeedback2>
    </lcMatchingPair2>
    <lcMatchingPair2>
      <lcItem2>Toronto</lcItem2>
      <lcMatchingItem2>Blue Jays</lcMatchingItem2>
      <lcMatchingItemFeedback2>
        <lcFeedbackCorrect2>The Blue Jays play in Toronto's
 SkyDome</lcFeedbackCorrect2>
        <lcFeedbackIncorrect2>That is not Toronto's home team.</
lcFeedbackIncorrect2>
      </lcMatchingItemFeedback2>
    </lcMatchingPair2>
  </lcMatchTable2>
</lcMatching2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
id	Defines an ID by which the element may be referenced.	NMTOKEN	#REQUIRED	Yes
conref-atts attribute group (conref, conrefend, conaction, conkeyref)	A set of related attributes; includes all of the attributes described in *id-atts attribute group* *except* for the id attribute.			
select-atts attribute group (props, base, platform, product, audience, otherprops, importance, rev, status)	A set of related attributes, described in *select-atts attribute group*			
localization-atts attribute group (translate, xml:lang, dir)	A set of related attributes, described in *localization-atts attribute group*.			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			

Name	Description	Data Type	Default Value	Required?
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcMatchingItem2

The <lcMatchingItem2> element in an assessment interaction provides the content for the matching side of a matching pair of items in a match table interaction. This element replaces the <lcMatchingItem> element in DITA 1.2.

Inheritance

+ topic/div learningInteractionBase2-d/stentry learning2-d/lcMatchingItem2

Example

```
<!--Matching Interaction                    -->
<lcMatching2>
  <lcInteractionLabel2>Matching teams with cities</
lcInteractionLabel2>
  <lcQuestion2>Match the team with the city.</lcQuestion2>
  <lcMatchTable2>
    <lcMatchingHeader2>
      <lcItem2>Team</lcItem2>
      <lcMatchingItem2>City</lcMatchingItem2>
    </lcMatchingHeader2>
    <lcMatchingPair2>
      <lcItem2>Boston</lcItem2>
      <lcMatchingItem2>Red Sox</lcMatchingItem2>
      <lcMatchingItemFeedback2>
        <lcFeedbackCorrect2>The Red Sox play in Boston's Fenway
 Park</lcFeedbackCorrect2>
        <lcFeedbackIncorrect2>That is not Boston's home team</
lcFeedbackIncorrect2>
      </lcMatchingItemFeedback2>
    </lcMatchingPair2>
    <lcMatchingPair2>
      <lcItem2>San Francisco</lcItem2>
      <lcMatchingItem2>Giants</lcMatchingItem2>
      <lcMatchingItemFeedback2>
        <lcFeedbackCorrect2>The Giants play in San Franciso's
 Candlestick Park</lcFeedbackCorrect2>
        <lcFeedbackIncorrect2>That is not San Franciso's home
 team</lcFeedbackIncorrect2>
      </lcMatchingItemFeedback2>
    </lcMatchingPair2>
    <lcMatchingPair2>
      <lcItem2>Chicago</lcItem2>
      <lcMatchingItem2>Cubs</lcMatchingItem2>
      <lcMatchingItemFeedback2>
        <lcFeedbackCorrect2>The Cubs play in Chicago's Wrigley
 Field</lcFeedbackCorrect2>
        <lcFeedbackIncorrect2>That is not Chicago's home team.</
lcFeedbackIncorrect2>
      </lcMatchingItemFeedback2>
    </lcMatchingPair2>
    <lcMatchingPair2>
      <lcItem2>Toronto</lcItem2>
```

```
      <lcMatchingItem2>Blue Jays</lcMatchingItem2>
      <lcMatchingItemFeedback2>
        <lcFeedbackCorrect2>The Blue Jays play in Toronto's
 SkyDome</lcFeedbackCorrect2>
        <lcFeedbackIncorrect2>That is not Toronto's home team.</
lcFeedbackIncorrect2>
      </lcMatchingItemFeedback2>
    </lcMatchingPair2>
  </lcMatchTable2>
</lcMatching2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
univ-atts attribute group (includes select-atts, id-atts, and localization-atts groups)	A set of related attributes, described in *univ-atts attribute group*			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcMatchingItemFeedback2

The <lcMatchingItemFeedback2> element in an assessment interaction provides feedback on the match as a whole or on correct and incorrect matches or both. This element replaces the <lcMatchingItemFeedback> element in DITA 1.2.

Inheritance

+ topic/div learningInteractionBase2-d/stentry learning2-d/lcMatchingItemFeedback2

Example

```
<!--Matching Interaction                    -->
<lcMatching2>
  <lcInteractionLabel2>Matching teams with cities</
lcInteractionLabel2>
  <lcQuestion2>Match the team with the city.</lcQuestion2>
  <lcMatchTable2>
    <lcMatchingHeader2>
      <lcItem2>Team</lcItem2>
      <lcMatchingItem2>City</lcMatchingItem2>
    </lcMatchingHeader2>
    <lcMatchingPair2>
      <lcItem2>Boston</lcItem2>
      <lcMatchingItem2>Red Sox</lcMatchingItem2>
      <lcMatchingItemFeedback2>
        <lcFeedbackCorrect2>The Red Sox play in Boston's Fenway
 Park</lcFeedbackCorrect2>
        <lcFeedbackIncorrect2>That is not Boston's home team</
lcFeedbackIncorrect2>
      </lcMatchingItemFeedback2>
```

```
    </lcMatchingPair2>
    <lcMatchingPair2>
      <lcItem2>San Francisco</lcItem2>
      <lcMatchingItem2>Giants</lcMatchingItem2>
      <lcMatchingItemFeedback2>
        <lcFeedbackCorrect2>The Giants play in San Franciso's
 Candlestick Park</lcFeedbackCorrect2>
        <lcFeedbackIncorrect2>That is not San Franciso's home
 team</lcFeedbackIncorrect2>
      </lcMatchingItemFeedback2>
    </lcMatchingPair2>
    <lcMatchingPair2>
      <lcItem2>Chicago</lcItem2>
      <lcMatchingItem2>Cubs</lcMatchingItem2>
      <lcMatchingItemFeedback2>
        <lcFeedbackCorrect2>The Cubs play in Chicago's Wrigley
 Field</lcFeedbackCorrect2>
        <lcFeedbackIncorrect2>That is not Chicago's home team.</
lcFeedbackIncorrect2>
      </lcMatchingItemFeedback2>
    </lcMatchingPair2>
    <lcMatchingPair2>
      <lcItem2>Toronto</lcItem2>
      <lcMatchingItem2>Blue Jays</lcMatchingItem2>
      <lcMatchingItemFeedback2>
        <lcFeedbackCorrect2>The Blue Jays play in Toronto's
 SkyDome</lcFeedbackCorrect2>
        <lcFeedbackIncorrect2>That is not Toronto's home team.</
lcFeedbackIncorrect2>
      </lcMatchingItemFeedback2>
    </lcMatchingPair2>
  </lcMatchTable2>
</lcMatching2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
univ-atts attribute group (includes select-atts, id-atts, and localization-atts groups)	A set of related attributes, described in *univ-atts attribute group*			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcMatchingPair2

The <lcMatchingPair2> element in an assessment interaction provides a table row with the pair of items that comprise a correct match in a matching interaction and, optionally, feedback on the pair or correct and incorrect matches. This element replaces the <lcMatchingPair> element in DITA 1.2.

Inheritance

+ topic/div learningInteractionBase2-d/strow learning2-d/lcMatchingPair2

Example

```
<!--Matching Interaction                    -->
<lcMatching2>
  <lcInteractionLabel2>Matching teams with cities</
lcInteractionLabel2>
  <lcQuestion2>Match the team with the city.</lcQuestion2>
  <lcMatchTable2>
    <lcMatchingHeader2>
      <lcItem2>Team</lcItem2>
      <lcMatchingItem2>City</lcMatchingItem2>
    </lcMatchingHeader2>
    <lcMatchingPair2>
      <lcItem2>Boston</lcItem2>
      <lcMatchingItem2>Red Sox</lcMatchingItem2>
      <lcMatchingItemFeedback2>
        <lcFeedbackCorrect2>The Red Sox play in Boston's Fenway
 Park</lcFeedbackCorrect2>
        <lcFeedbackIncorrect2>That is not Boston's home team</
lcFeedbackIncorrect2>
      </lcMatchingItemFeedback2>
    </lcMatchingPair2>
    <lcMatchingPair2>
      <lcItem2>San Francisco</lcItem2>
      <lcMatchingItem2>Giants</lcMatchingItem2>
      <lcMatchingItemFeedback2>
        <lcFeedbackCorrect2>The Giants play in San Franciso's
 Candlestick Park</lcFeedbackCorrect2>
        <lcFeedbackIncorrect2>That is not San Franciso's home
 team</lcFeedbackIncorrect2>
      </lcMatchingItemFeedback2>
    </lcMatchingPair2>
    <lcMatchingPair2>
      <lcItem2>Chicago</lcItem2>
      <lcMatchingItem2>Cubs</lcMatchingItem2>
      <lcMatchingItemFeedback2>
        <lcFeedbackCorrect2>The Cubs play in Chicago's Wrigley
 Field</lcFeedbackCorrect2>
        <lcFeedbackIncorrect2>That is not Chicago's home team.</
lcFeedbackIncorrect2>
      </lcMatchingItemFeedback2>
    </lcMatchingPair2>
    <lcMatchingPair2>
      <lcItem2>Toronto</lcItem2>
      <lcMatchingItem2>Blue Jays</lcMatchingItem2>
      <lcMatchingItemFeedback2>
        <lcFeedbackCorrect2>The Blue Jays play in Toronto's
 SkyDome</lcFeedbackCorrect2>
        <lcFeedbackIncorrect2>That is not Toronto's home team.</
lcFeedbackIncorrect2>
      </lcMatchingItemFeedback2>
    </lcMatchingPair2>
  </lcMatchTable2>
</lcMatching2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
univ-atts attribute group (includes select-atts, id-atts, and localization-atts groups)	A set of related attributes, described in *univ-atts attribute group*			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcMatchTable2

The <lcMatchTable2> element in an assessment interaction provides a format for matching items. This element replaces the <lcMatchTable> element in DITA 1.2.

Inheritance

+ topic/div learningInteractionBase2-d/simpletable learning2-d/lcMatchTable2

Example

```
<!--Matching Interaction                    -->
<lcMatching2>
  <lcInteractionLabel2>Matching teams with cities</
lcInteractionLabel2>
  <lcQuestion2>Match the team with the city.</lcQuestion2>
  <lcMatchTable2>
    <lcMatchingHeader2>
      <lcItem2>Team</lcItem2>
      <lcMatchingItem2>City</lcMatchingItem2>
    </lcMatchingHeader2>
    <lcMatchingPair2>
      <lcItem2>Boston</lcItem2>
      <lcMatchingItem2>Red Sox</lcMatchingItem2>
      <lcMatchingItemFeedback2>
        <lcFeedbackCorrect2>The Red Sox play in Boston's Fenway
 Park</lcFeedbackCorrect2>
        <lcFeedbackIncorrect2>That is not Boston's home team</
lcFeedbackIncorrect2>
      </lcMatchingItemFeedback2>
    </lcMatchingPair2>
    <lcMatchingPair2>
      <lcItem2>San Francisco</lcItem2>
      <lcMatchingItem2>Giants</lcMatchingItem2>
      <lcMatchingItemFeedback2>
        <lcFeedbackCorrect2>The Giants play in San Franciso's
 Candlestick Park</lcFeedbackCorrect2>
        <lcFeedbackIncorrect2>That is not San Franciso's home
 team</lcFeedbackIncorrect2>
      </lcMatchingItemFeedback2>
    </lcMatchingPair2>
    <lcMatchingPair2>
      <lcItem2>Chicago</lcItem2>
      <lcMatchingItem2>Cubs</lcMatchingItem2>
```

```
      <lcMatchingItemFeedback2>
        <lcFeedbackCorrect2>The Cubs play in Chicago's Wrigley
 Field</lcFeedbackCorrect2>
        <lcFeedbackIncorrect2>That is not Chicago's home team.</
lcFeedbackIncorrect2>
      </lcMatchingItemFeedback2>
    </lcMatchingPair2>
    <lcMatchingPair2>
      <lcItem2>Toronto</lcItem2>
      <lcMatchingItem2>Blue Jays</lcMatchingItem2>
      <lcMatchingItemFeedback2>
        <lcFeedbackCorrect2>The Blue Jays play in Toronto's
 SkyDome</lcFeedbackCorrect2>
        <lcFeedbackIncorrect2>That is not Toronto's home team.</
lcFeedbackIncorrect2>
      </lcMatchingItemFeedback2>
    </lcMatchingPair2>
  </lcMatchTable2>
</lcMatching2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
univ-atts attribute group (includes select-atts, id-atts, and localization-atts groups)	A set of related attributes, described in *univ-atts attribute group*			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcMultipleSelect2

In a <lcMultipleSelect2> interaction, the learner must indicate two or more correct answers from a list of choices.This element replaces the <lcMultipleSelect> element in DITA 1.2.

Inheritance

+ topic/div learningInteractionBase2-d/lcInteractionBase learning2-d/lcMultipleSelect2

Example

```
     <!--Multiple select Interaction                    -->
     <lcMultipleSelect2>
       <lcInteractionLabel2>Finding Major League Baseball
 logos</lcInteractionLabel2>
       <lcQuestion2>Which one of the following is a logo of a
 Major League Baseball team? (You may
         choose more than one.)</lcQuestion2>
       <lcAnswerOptionGroup2>
         <lcAnswerOption2 id="A">
```

```
            <lcAnswerContent2>
              <image href="logo1.gif"/>
            </lcAnswerContent2>
            <lcCorrectResponse2/>
            <lcFeedback2>Yes, that's one.</lcFeedback2>
          </lcAnswerOption2>
          <lcAnswerOption2 id="B">
            <lcAnswerContent2>
              <image href="logo2.gif"/>
            </lcAnswerContent2>
            <lcCorrectResponse2/>
            <lcFeedback2>Yes, that's one.</lcFeedback2>
          </lcAnswerOption2>
          <lcAnswerOption2 id="C">
            <lcAnswerContent2>
              <image href="logo3.gif"/>
            </lcAnswerContent2>
            <lcFeedback2>No, not that one. Sorry!</lcFeedback>
          </lcAnswerOption2>
          <lcAnswerOption2 id="D">
            <lcAnswerContent2>
              <image href="logo4.gif"/>
            </lcAnswerContent2>
            <lcCorrectResponse2/>
            <lcFeedback2>Yes, that's one.</lcFeedback2>
          </lcAnswerOption2>
        </lcAnswerOptionGroup2>
      </lcMultipleSelect2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
id	Defines an ID by which the element may be referenced.	NMTOKEN	#REQUIRED	Yes
conref-atts attribute group (conref, conrefend, conaction, conkeyref)	A set of related attributes; includes all of the attributes described in *id-atts attribute group except* for the id attribute.			
select-atts attribute group (props, base, platform, product, audience, otherprops, importance, rev, status)	A set of related attributes, described in *select-atts attribute group*			
localization-atts attribute group (translate, xml:lang, dir)	A set of related attributes, described in *localization-atts attribute group*.			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcOpenAnswer2

Use <lcOpenAnswer2> to provide a suggested answer for an <lcOpenQuestion2> interaction. This element replaces the <lcOpenAnswer> element in DITA 1.2.

Inheritance

+ topic/div learningInteractionBase2-d/div learning2-d/lcOpenAnswer2

Example

```
   <!--Open Question sample -->
   <lcOpenQuestion2 id="oq1">
    <lcInteractionLabel2>Cows and moon jumps</
lcInteractionLabel2>
    <lcQuestion2>Describe how it might be possible for a cow to
 jump over the moon.</lcQuestion2>
    <lcOpenAnswer2>Cows can only jump over the moon in nursery
 rhymes.<lcOpenAnswer2>
   </lcOpenQuestion2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
univ-atts attribute group (includes select-atts, id-atts, and localization-atts groups)	A set of related attributes, described in *univ-atts attribute group*			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcOpenQuestion2

Use <lcOpenQuestion2> to pose an open-ended question in an assessment interaction. This element replaces the <lcOpenQuestion> element in DITA 1.2.

Inheritance

+ topic/div learningInteractionBase2-d/lcInteractionBase learning2-d/lcOpenQuestion2

Example

```
   <!--Open Question sample -->
   <lcOpenQuestion2 id="oq1">
    <lcInteractionLabel2>Cows and moon jumps</
lcInteractionLabel2>
```

```
    <lcQuestion2>Describe how it might be possible for a cow to
 jump over the moon.</lcQuestion2>
    <lcOpenAnswer2>Cows can only jump over the moon in nursery
 rhymes.<lcOpenAnswer2>
   </lcOpenQuestion2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
id	Defines an ID by which the element may be referenced.	NMTOKEN	#REQUIRED	Yes
conref-atts attribute group (conref, conrefend, conaction, conkeyref)	A set of related attributes; includes all of the attributes described in *id-atts attribute group except* for the id attribute.			
select-atts attribute group (props, base, platform, product, audience, otherprops, importance, rev, status)	A set of related attributes, described in *select-atts attribute group*			
localization-atts attribute group (translate, xml:lang, dir)	A set of related attributes, described in *localization-atts attribute group*.			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcQuestion2

Use the <lcQuestion2> element in an interaction to ask the question. This element replaces the <lcQuestion> element in DITA 1.2.

Inheritance

+ topic/div learningInteractionBase2-d/lcQuestionBase learning2-d/lcQuestion2

Example

```
   <!--True - False Interaction                    -->
   <lcTrueFalse2>
    <lcInteractionLabel2>True - False sun rising</
lcInteractionLabel2>
    <lcQuestion2>On Earth, the sun rises in the West and sets in
 the East.</lcQuestion2>
    <lcAnswerOptionGroup2>
     <lcAnswerOption2>
      <lcAnswerContent2>True</lcAnswerContent2>
     </lcAnswerOption2>
     <lcAnswerOption2>
```

```
      <lcAnswerContent2>False</lcAnswerContent2>
      <lcCorrectResponse2/>
     </lcAnswerOption2>
    </lcAnswerOptionGroup2>
    <lcFeedbackIncorrect2>No, look to the East.</
lcFeedbackIncorrect2>
    <lcFeedbackCorrect2>Yes, look to the East.</
lcFeedbackCorrect2>
   </lcTrueFalse2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
univ-atts attribute group (includes select-atts, id-atts, and localization-atts groups)	A set of related attributes, described in *univ-atts attribute group*			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcQuestionBase2

The <lcQuestionBase2> element is the base for <lcQuestion2> in the learning2Domain domain. This is an "abstract" element type intended only for use as a base for specialization. This element replaces the <lcQuestion> element in DITA 1.2.

Inheritance

+ topic/div learningInteractionBase2-d/lcQuestionBase2

Example

See *lcQuestion2*.

Attributes

Name	Description	Data Type	Default Value	Required?
univ-atts attribute group (includes select-atts, id-atts, and localization-atts groups)	A set of related attributes, described in *univ-atts attribute group*			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcSequence2

The <lcSequence2> element in an assessment interaction provides the position of a sequence option in a sequence. This element replaces the <lcSequence> element in DITA 1.2.

Inheritance

+ topic/data learningInteractionBase2-d/data learning2-d/lcSequence2

Example

```
      <lcSequencing2>
        <lcInteractionLabel2>Sequencing City Populations in the
 U.S.</lcInteractionLabel2>
        <lcQuestion2>Order the following U.S. cities according
 to population, from
          largest to smallest.</lcQuestion2>
        <lcSequenceOptionGroup2>
          <lcSequenceOption2>
            <lcAnswerContent2>Portland, Oregon</
lcAnswerContent2>
            <lcSequence2 name="lcSequence2" value="2"/>
          </lcSequenceOption2>
          <lcSequenceOption2>
            <lcAnswerContent2>Chicago, Illinois</
lcAnswerContent2>
            <lcSequence2 name="lcSequence2" value="1"/>
          </lcSequenceOption2>
          <lcSequenceOption2>
            <lcAnswerContent2>Portland, Maine</lcAnswerContent2>
            <lcSequence2 name="lcSequence2" value="4"/>
          </lcSequenceOption2>
          <lcSequenceOption2>
            <lcAnswerContent2>Syracuse, New York</
lcAnswerContent2>
            <lcSequence2 name="lcSequence2" value="3"/>
          </lcSequenceOption2>
        </lcSequenceOptionGroup2>
        <lcFeedbackIncorrect2>No, try again, please.     </
lcFeedbackIncorrect2>
        <lcFeedbackCorrect2>Very good.</lcFeedbackCorrect2>
      </lcSequencing2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
name	The name used to indicate this data.	CDATA	lcSequence2	Required
datatype	The datatype for this data.	CDATA	Use numbers for sequence.	Required
value	The position of an option in a sequence of options.	PCDATA	Use a number.	Required

Name	Description	Data Type	Default Value	Required?
univ-atts attribute group (includes select-atts, id-atts, and localization-atts groups)	A set of related attributes, described in *univ-atts attribute group*			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcSequenceOption2

The <lcSequenceOption2> element in an assessment interaction provides the contents of an item in a sequence interaction. This element replaces the <lcSequenceOption> element in DITA 1.2.

Inheritance

+ topic/li learningInteractionBase2-d/li learning2-d/lcSequenceOption2

Example

```
      <lcSequencing2>
        <lcInteractionLabel2>Sequencing City Populations in the
 U.S.</lcInteractionLabel2>
        <lcQuestion2>Order the following U.S. cities according
 to population, from
          largest to smallest.</lcQuestion2>
        <lcSequenceOptionGroup2>
          <lcSequenceOption2>
            <lcAnswerContent2>Portland, Oregon</
lcAnswerContent2>
            <lcSequence2 name="lcSequence2" value="2"/>
          </lcSequenceOption2>
          <lcSequenceOption2>
            <lcAnswerContent2>Chicago, Illinois</
lcAnswerContent2>
            <lcSequence2 name="lcSequence2" value="1"/>
          </lcSequenceOption2>
          <lcSequenceOption2>
            <lcAnswerContent2>Portland, Maine</lcAnswerContent2>
            <lcSequence2 name="lcSequence2" value="4"/>
          </lcSequenceOption2>
          <lcSequenceOption2>
            <lcAnswerContent2>Syracuse, New York</
lcAnswerContent2>
            <lcSequence2 name="lcSequence2" value="3"/>
          </lcSequenceOption2>
        </lcSequenceOptionGroup2>
        <lcFeedbackIncorrect2>No, try again, please.     </
lcFeedbackIncorrect2>
        <lcFeedbackCorrect2>Very good.</lcFeedbackCorrect2>
      </lcSequencing2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
univ-atts attribute group (includes select-atts, id-atts, and localization-atts groups)	A set of related attributes, described in *univ-atts attribute group*			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcSequenceOptionGroup2

The <lcSequenceOptionGroup2> element provides the options for an assessment sequence interaction. This element replaces the <lcSequenceOptionGroup> element in DITA 1.2.

Inheritance

+ topic/ol learningInteractionBase2-d/ol learning2-d/lcSequenceOptionGroup2

Example

```
      <lcSequencing2>
        <lcInteractionLabel2>Sequencing City Populations in the
 U.S.</lcInteractionLabel2>
        <lcQuestion2>Order the following U.S. cities according
 to population, from
          largest to smallest.</lcQuestion2>
        <lcSequenceOptionGroup2>
          <lcSequenceOption2>
            <lcAnswerContent2>Portland, Oregon</
lcAnswerContent2>
            <lcSequence2 name="lcSequence2" value="2"/>
          </lcSequenceOption2>
          <lcSequenceOption2>
            <lcAnswerContent2>Chicago, Illinois</
lcAnswerContent2>
            <lcSequence2 name="lcSequence2" value="1"/>
          </lcSequenceOption2>
          <lcSequenceOption2>
            <lcAnswerContent2>Portland, Maine</lcAnswerContent2>
            <lcSequence2 name="lcSequence2" value="4"/>
          </lcSequenceOption2>
          <lcSequenceOption2>
            <lcAnswerContent2>Syracuse, New York</
lcAnswerContent2>
            <lcSequence2 name="lcSequence2" value="3"/>
          </lcSequenceOption2>
        </lcSequenceOptionGroup2>
        <lcFeedbackIncorrect2>No, try again, please.     </
lcFeedbackIncorrect2>
        <lcFeedbackCorrect2>Very good.</lcFeedbackCorrect2>
      </lcSequencing2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
univ-atts attribute group (includes select-atts, id-atts, and localization-atts groups)	A set of related attributes, described in *univ-atts attribute group*			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcSequencing2

A <lcSequencing2> interaction asks the learner to arrange a list of choices into a predefined order, such as small to large. This element replaces the <lcSequencing> element in DITA 1.2.

Inheritance

+ topic/div learningInteractionBase2-d/lcInteractionBase learning2-d/lcSequencing2

Example

```
      <lcSequencing2>
        <lcInteractionLabel2>Sequencing City Populations in the
 U.S.</lcInteractionLabel2>
        <lcQuestion2>Order the following U.S. cities according
 to population, from
          largest to smallest.</lcQuestion2>
        <lcSequenceOptionGroup2>
          <lcSequenceOption2>
            <lcAnswerContent2>Portland, Oregon</
lcAnswerContent2>
            <lcSequence2 name="lcSequence2" value="2"/>
          </lcSequenceOption2>
          <lcSequenceOption2>
            <lcAnswerContent2>Chicago, Illinois</
lcAnswerContent2>
            <lcSequence2 name="lcSequence2" value="1"/>
          </lcSequenceOption2>
          <lcSequenceOption2>
            <lcAnswerContent2>Portland, Maine</lcAnswerContent2>
            <lcSequence2 name="lcSequence2" value="4"/>
          </lcSequenceOption2>
          <lcSequenceOption2>
            <lcAnswerContent2>Syracuse, New York</
lcAnswerContent2>
            <lcSequence2 name="lcSequence2" value="3"/>
          </lcSequenceOption2>
        </lcSequenceOptionGroup2>
```

```
        <lcFeedbackIncorrect2>No, try again, please.     </
lcFeedbackIncorrect2>
        <lcFeedbackCorrect2>Very good.</lcFeedbackCorrect2>
      </lcSequencing2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
id	Defines an ID by which the element may be referenced.	NMTOKEN	#REQUIRED	Yes
conref-atts attribute group (conref, conrefend, conaction, conkeyref)	A set of related attributes; includes all of the attributes described in *id-atts attribute group except* for the id attribute.			
select-atts attribute group (props, base, platform, product, audience, otherprops, importance, rev, status)	A set of related attributes, described in *select-atts attribute group*			
localization-atts attribute group (translate, xml:lang, dir)	A set of related attributes, described in *localization-atts attribute group*.			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcSingleSelect2

A <lcSingleSelect2> interaction presents three or more choices, only one of which is correct. This element replaces the <lcSingleSelect> element in DITA 1.2.

Inheritance

+ topic/div learningInteractionBase2-d/lcInteractionBase learning2-d/lcSingleSelect2

Example

```
   <!--Single select Interaction                    -->
   <lcSingleSelect2 id="singleselect">
    <lcInteractionLabel2>Multiple Choice - IEEE standards
 trivia</lcInteractionLabel2>
    <lcQuestion2>Which one of the listed standards committees is
 responsible for
developing the token ring specification?</lcQuestion2>
    <lcAnswerOptionGroup2>
     <lcAnswerOption2>
      <lcAnswerContent2>IEEE 802.3</lcAnswerContent2>
      <lcFeedback2>Sorry. A little low.</lcFeedback2>
     </lcAnswerOption2>
```

```
    <lcAnswerOption2>
     <lcAnswerContent2>IEEE 802.5</lcAnswerContent2>
     <lcCorrectResponse2/>
     <lcFeedback2>That's the one.</lcFeedback2>
    </lcAnswerOption2>
    <lcAnswerOption2>
     <lcAnswerContent2>IEEE 802.6</lcAnswerContent2>
     <lcFeedback2>Nope. Too high.</lcFeedback2>
    </lcAnswerOption2>
    <lcAnswerOption2>
     <lcAnswerContent2>IEEE 802.11</lcAnswerContent2>
     <lcFeedback2>Nope. Way too high.</lcFeedback2>
    </lcAnswerOption2>
   </lcAnswerOptionGroup2>
  </lcSingleSelect2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
id	Defines an ID by which the element may be referenced.	NMTOKEN	#REQUIRED	Yes
conref-atts attribute group (conref, conrefend, conaction, conkeyref)	A set of related attributes; includes all of the attributes described in *id-atts attribute group except* for the id attribute.			
select-atts attribute group (props, base, platform, product, audience, otherprops, importance, rev, status)	A set of related attributes, described in *select-atts attribute group*			
localization-atts attribute group (translate, xml:lang, dir)	A set of related attributes, described in *localization-atts attribute group*.			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			

lcTrueFalse2

A <lcTrueFalse2> interaction presents the learner with two choices, one correct, the other incorrect, often presented as true/false or yes/no responses. This element replaces the <lcTrueFalse> element in DITA 1.2.

Inheritance

+ topic/div learningInteractionBase2-d/lcInteractionBase learning2-d/lcTrueFalse2

Example

```
<!--True - False Interaction                    -->
```

```
   <lcTrueFalse2>
    <lcInteractionLabel2>True - False sun rising</
lcInteractionLabel2>
    <lcQuestion2>On Earth, the sun rises in the West and sets in
 the East.</lcQuestion2>
    <lcAnswerOptionGroup2>
     <lcAnswerOption2>
      <lcAnswerContent2>True</lcAnswerContent2>
     </lcAnswerOption2>
     <lcAnswerOption2>
      <lcAnswerContent2>False</lcAnswerContent2>
      <lcCorrectResponse2/>
     </lcAnswerOption2>
    </lcAnswerOptionGroup2>
    <lcFeedbackIncorrect2>No, look to the East.</
lcFeedbackIncorrect2>
    <lcFeedbackCorrect2>Yes, look to the East.</
lcFeedbackCorrect2>
   </lcTrueFalse2>
```

Attributes

Name	Description	Data Type	Default Value	Required?
id	Defines an ID by which the element may be referenced.	NMTOKEN	#REQUIRED	Yes
conref-atts attribute group (conref, conrefend, conaction, conkeyref)	A set of related attributes; includes all of the attributes described in *id-atts attribute group* *except* for the id attribute.			
select-atts attribute group (props, base, platform, product, audience, otherprops, importance, rev, status)	A set of related attributes, described in *select-atts attribute group*			
localization-atts attribute group (translate, xml:lang, dir)	A set of related attributes, described in *localization-atts attribute group*.			
global-atts attribute group (xtrf, xtrc)	A set of related attributes, described in *global-atts attribute group*			
class, outputclass	Common attributes described in *Other common DITA attributes*			