MedBiquitous Educational Trajectory Profile

Version: 0.62
Date: July 21, 2011
Author: Valerie Smothers
Author email: vsmothers@jhmi.edu

Version History

<table>
<thead>
<tr>
<th>Version No.</th>
<th>Date</th>
<th>Changed By</th>
<th>Changes Made</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1</td>
<td>11 Feb 2010</td>
<td></td>
<td>Initial draft</td>
</tr>
<tr>
<td>0.2</td>
<td>5 Mar 2010</td>
<td>Valerie Smothers</td>
<td>Integrated person entries, added introduction, created sections for each</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>type of activity, publications, people.</td>
</tr>
<tr>
<td>0.3</td>
<td>22 Mar 2010</td>
<td>Valerie Smothers</td>
<td>Clarified language related to the author of withdrawal and dismissal entries,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>formatting of activity descriptions, supervisor testimonials, and leave of</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>absence categories.</td>
</tr>
<tr>
<td>0.31</td>
<td>5 May 2010</td>
<td>Valerie Smothers</td>
<td>Updates to format of publication. Updates to scheme location for MedBiquitous</td>
</tr>
<tr>
<td></td>
<td></td>
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<td>categories.</td>
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<tr>
<td>0.32</td>
<td>11 May 2010</td>
<td>Valerie Smothers</td>
<td>Corrected leave of absence category.</td>
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<tr>
<td>0.4</td>
<td>14 Jul 2010</td>
<td>Valerie Smothers</td>
<td>Added categories for publications and presentations. Added an element for</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>learner role in creating a publication. Removed .html from category scheme</td>
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<td>0.41</td>
<td>28 July 2010</td>
<td>Valerie Smothers</td>
<td>Change to definition of end date for primary degree, description of coursework</td>
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<td></td>
<td></td>
<td></td>
<td>beyond primary degree and definition of end date,</td>
</tr>
<tr>
<td>Version</td>
<td>Date</td>
<td>Author</td>
<td>Description</td>
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<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>0.5</td>
<td>5 August 2010</td>
<td>Valerie Smothers</td>
<td>Changes to primary degree and coursework beyond primary degree: orgdata used to indicate institution, activetime used to indicate length of program, degree category added, use of target date described for anticipated date of graduation. Addition of categories for degree programs. Definition of date for enrichment activities modified to be consistent.</td>
</tr>
</tbody>
</table>
| 0.6     | 30 August 2010 | Valerie Smothers | Changed mechanism for referencing an institution, new programLength element for indicating the length of a program (activetime no longer used) 
Update to Leap2A 2010:  
- Change namespaces and version  
- Use enclosure for referencing files in a zip archive  
- Use leap2a publication type for publications  
- Use leap2a Intermission for leave of absence  
- Change content type for supervisor testimonials to include a description of a scanned letter.  
- Use of leap2a myrole element for publications |
| 0.61    | 15 September 2010 | Valerie Smothers | Added sponsor acknowledgement, Added leap2a status element to primary degree and coursework to help indicate successful completion of a degree vs non-successful completion. Added link to withdrawal and dismissal to establish relationship to degree program or coursework; changed rdf type to entry. Added text indicating program length maps to metadata of learning opportunities duration element but is more restricted. |
| 0.62    | 21 July 2011 | Valerie Smothers | Removed independent description of the joint degree program. |
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This profile is based on, and portions of it are from, 2010-07/Leap2A specification: http://wiki.leapspecs.org/2A/specification

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1 Acknowledgements

The development of the MedBiquitous Educational Trajectory Profile was supported by an Accelerated Standards Development Project funded by the Association of American Medical Colleges, the National Board of Medical Examiners, and the Federation of State Medical Boards. MedBiquitous is grateful for their leadership and support.

The MedBiquitous Consortium wishes to acknowledge the help of the MedBiquitous Educational Trajectory Working Group members, staff, and other individuals that contributed to the creation of this document, including:

- Kim Hoffman, Ph.D., University of Missouri, Chair
- Brownell Anderson, Association of American Medical Colleges
- Michael Barbouche, Odeon Data
- Linda Bell, RN, MSN, American Association of Critical-Care Nurses
- Carol Carraccio, M.D., University of Maryland
- Carol Clothier, Federation of State Medical Boards
- Elaine Dannefer, Ph.D., Cleveland Clinic Lerner College of Medicine of Case Western Reserve
- Jeroen Donkers, Ph.D., University of Maastricht
- Dennis Donohue, Educational Commission for Foreign Medical Graduates
- Erik Driessen, Ph.D., University of Maastricht
- Jesse Friedman, University of California, San Francisco School of Medicine
- Bob Galbraith, M.D., National Board of Medical Examiners
- Gwen Garrison, Association of American Medical Colleges
- Maureen Garrity, Ph.D., University of Colorado, Denver
- Simon Grant, Ph.D., JISC
- Lindsey Henson, M.D., University of Minnesota
- Linda Lewin, M.D., University of Maryland
- Debra Litzelman, M.D., Indiana University
- Chandler Mayfield, University of California, San Francisco School of Medicine
- Neil Mehta, MD, Cleveland Clinic Lerner College of Medicine of Case Western Reserve University
- Amber Montañano, National Board of Medical Examiners
- John Norcini, M.D., Foundation for the Advancement of International Medical Education and Research
- Patricia O'Sullivan, Ed.D., University of California, San Francisco School of Medicine
- Morgan Passiment, Association of American Medical Colleges
- Valerie Smothers, MedBiquitous
- Kevin Souza, University of California, San Francisco School of Medicine
- Claire Tochel Ph.D., NHS Education for Scotland
• Paula Wales, Ed.D., Indiana University

Joel Farrell, IBM, Chair of the MedBiquitous Technical Steering Committee, and Dan Rehak, Learning Technologies Architect for MedBiquitous, have contributed their expertise to ensure that this specification is well-designed and interoperable with related industry standards.
2 Introduction

This document describes the MedBiquitous Educational Trajectory Profile in detail. It is intended for use by anyone who wants to develop tools or implement electronic systems for tracking or transferring the educational trajectory of physicians and other medical professionals. The status of the document is indicated at the bottom of the page; draft documents are subject to review and approval through the MedBiquitous Consortium Process (see [http://www.medbiq.org/std_specs/devprocess/MedBiquitousANSIProcess.pdf](http://www.medbiq.org/std_specs/devprocess/MedBiquitousANSIProcess.pdf)).

An educational trajectory is the path of individual learners through one or more programs of study, including extracurricular learning, dates of study, gaps in study, and academic withdrawal or dismissal. Educational trajectory data can be enriching and important, but it is difficult to access, compare, and quickly comprehend. This profile is intended to change that, allowing learners to share the data on their strongest activities and accomplishments with residency directors and mentors. Learners may also carry their data forward throughout their careers, making the data part of a lifelong learning portfolio.
3 Other Schema Referenced

Rather than developing this specification from scratch, the Educational Trajectory Working Group is leveraging a set of existing specifications that meet its requirements. The working group is developing a specification profile that describes how to use the following existing specifications to clearly define a learner’s educational trajectory:

- Atom Syndication Format – a publishing standard for personal content and weblogs
- Leap2A – a specification for the transfer of e-portfolio information
- Resource Description Framework (RDF) – a standard for data interchange that supports semantic relationships between linked resources.

The following image shows how the three specifications fit together in an educational trajectory.

![Educational Trajectory Profile Architecture](image)

3.1 Atom Syndication Format

**Atom Syndication Format** is an XML standard for web feeds developed by the Internet Engineering Task Force (IETF). A wide variety of content management systems, browsers, and newsreaders support the atom format. Primarily, web feeds have been used by website publishers to distribute information such as news headlines and article summaries to their readership. More recently feeds have been used to draw readers to weblogs and podcasts, audio broadcasts distributed via the internet. Atom and RSS feeds are typically identified by the following icon on the web page or appearing as a button in the web browser interface:

![Atom Feed Icon](image)

The following is a screenshot of the University of Saskatchewan Medical Education Blog Atom feed as it appears in Internet Explorer:
3.2 Leap2A

Leap2A is a specification for e-portfolios supported by CETIS, funded by JISC, and developed by Simon Grant and colleagues. Leap2A e-portfolios may contain:

- digital artifacts, including documents, audio, video, etc, made or jointly made by the portfolio holder
- expressions or text entries by the portfolio holder, including learner reflections
- information about the portfolio holder, their abilities, achievements, experiences, activities, goals, plans etc.

3.3 RDF

RDF supports semantic relationships between linked resources. Leap2A uses RDF to indicate what type of information is being conveyed: data about a person, an activity, a resource, etc.
3.4 Underlying Concepts

Both Atom and Leap2A concepts are key to the architecture of the educational trajectory. The page below shows some key components of the atom architecture.

Feed – a feed is a collection of content on a specific topic. Within the Educational trajectory, the feed is the collection of activities and related items that comprise the educational trajectory. Each feed has an identifier, an author, a date, and a title.

Entry – An entry is a piece of content within a feed. Within the Educational trajectory, the entry is a description of an activity in which the learner engaged while pursuing their primary degree. Entries may also describe an artifact, such as a document or publication, or a competency. Each entry has a title, identifier, a date, and some content. If the entry is describing an activity within the educational trajectory, it should also have a start date and an end date. An entry may have links to related information and categories. For the educational trajectory, the categories are important as they would form the basis of a visual trajectory that shows the activities against the time frame of the learner’s education.
## 4 Documentation Conventions

This document uses the following conventions.

<table>
<thead>
<tr>
<th>Documentation Conventions</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>monospaced type</strong></td>
<td>Sample XML tags, code, schema, or portion thereof</td>
</tr>
<tr>
<td><strong>BoldText</strong></td>
<td>When used with an XML tag name, indicates that the element contains sub-elements</td>
</tr>
<tr>
<td><strong>Italicized Text</strong></td>
<td>When used in an XML tag description, an attribute of the XML tag.</td>
</tr>
</tbody>
</table>
5 Educational Trajectory Elements

The Educational Trajectory profile includes the following elements. Elements are taken from the Atom specification unless otherwise specified. Elements with the leap2: prefix are taken from Leap2A; elements with the rdf: prefix are taken from Resource Description Framework (see http://www.w3.org/RDF/).

1. feed
2. id
3. title
4. author
5. updated
6. published
7. entry
8. content
9. rdf:type
10. et:programLength
11. leap2:persondata
12. leap2:orgdata
13. leap2:spatial
14. leap2:date
15. link
16. category

The root element is feed. All Educational Trajectory files are conformant Atom Syndication files and conformant Leap2A files.
6 Educational Trajectory Grammar

Because Educational Trajectory builds on Leap2A and Atom, the bulk of the elements used to describe an Educational Trajectory are Atom elements. In some cases, Leap2A extends Atom elements adding custom elements and attributes. MedBiquitous leverages these customizations and adds customizations specific to the health professions education community.

The structure of an Educational Trajectory is described in the tables below. The tables indicate whether an item is Required by Atom, Required by Leap2A, or Recommended by MedBiquitous.

Note that there are additional Atom elements not described in this guideline. This guideline focuses on those elements most useful for representing the Educational Trajectory. For more information on Atom, see: http://www.ietf.org/rfc/rfc4287.txt

Feed Element Information

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Required</th>
<th>Multiplicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>feed</td>
<td>Feed is the root element. It contains information on a learner’s program of study, formal and informal learning activities outside a program of study, academic dismissal or withdrawal, and gaps in study.</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>title</td>
<td>The title of the educational trajectory. For example, William Blake’s Educational Trajectory. Title may have a type attribute that indicates the text formatting. Text may be of type text, html, or xhtml. Text titles are recommended.</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>updated</td>
<td>The date the feed was last modified. Use the xml date time format. For example: 2009-12-13T18:30:02Z</td>
<td>Required</td>
<td>1</td>
</tr>
<tr>
<td>author</td>
<td>Author is a container element. Use the name subelement to identify the author of the educational trajectory. The author of the educational trajectory should be the learner that it describes.</td>
<td>Author is required by Atom and recommended by MedBiquitous.</td>
<td>0 or more (only 1 recommended)</td>
</tr>
<tr>
<td>id</td>
<td>A globally unique and permanent resource identifier for the educational trajectory. The URL of the educational trajectory document is often used as the id.</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
</tbody>
</table>
| entry    | Entry contains one of the following:  
- Information related to a single activity within the learner’s educational trajectory.  
- Description of a person, such as the learner (name, id, etc)  
- Description of an organization or institution  
- Attachments, including publications. For more information, see one of the following sections:  
  - Referencing People  
  - Referencing Organizations  
  - Representing Specific Types of Activities  
  - Including Supervisor Testimonials  
  - Including Publications | Recommended by MedBiquitous | 0 or more |
7 Referencing People

Every educational trajectory should reference the learner to provide their name and other identifying information. In some cases, supervisors may be referenced as well, if, for example, a supervisor provided a testimonial for a learner’s enrichment activity. Use the following entry elements to describe a person.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Required</th>
<th>Multiplicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>entry</td>
<td>Entry contains information related to a single person. There should be at least one person entry that provides the learner’s name and identifying information. Additional entries can be provided to reference other people, such as supervisors.</td>
<td>Recommended by MedBiquitous</td>
<td>1 or more</td>
</tr>
<tr>
<td>title</td>
<td>When describing a person, the title should be the person’s name.</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>id</td>
<td>A globally unique and permanent resource identifier identifying the entry.</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>updated</td>
<td>The date the entry was last modified. Use the xml date time format. For example: 2009-12-13T18:30:02Z</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>author</td>
<td>Author is a container element. Use the name subelement to identify the author of the entry. The author will likely be the learner.</td>
<td>Recommended by MedBiquitous</td>
<td>1 recommended</td>
</tr>
<tr>
<td>content</td>
<td>Content contains a short description of the person. For example: “Mary Wollenstonecraft Godwin, University of Dundee.”</td>
<td>Recommended by MedBiquitous</td>
<td>0 or 1</td>
</tr>
<tr>
<td>rdf:type</td>
<td>rdf:type indicates the type of entry being described. For entries describing people, the type is person, which is represented as:</td>
<td>Recommended by Leap2A</td>
<td>1 recommended</td>
</tr>
<tr>
<td></td>
<td>&lt;rdf:type rdf:resource=&quot;leap2:person&quot; /&gt;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The **leap2:persondata** element provides name or contact information for an individual, such as a learner or their supervisor for a given activity.

**leap2:persondata** has the following attributes:

- **leap2:field**
  Defines what the persondata element is defining. MedBiquitous recommends defining persondata elements for the following fields: `legal_given_name`, `legal_family_name`, `email`, `id`.

- **leap2:service**
  Defines the domain or service associated with an id. **leap2:service** is required when defining an id. MedBiquitous recommends using the Internet domain of the university with which the learner or supervisor is associated.

**Example:**

```xml
<leap2:persondata
leap2:field="legal_given_name">Mary</leap2:persondata>
<leap2:persondata
leap2:field="legal_given_name">Wollstonecraft</leap2:persondata>
<leap2:persondata
leap2:field="legal_family_name">Godwin</leap2:persondata>
<leap2:persondata
leap2:field="email">mwgodwin@example.org</leap2:persondata>
<leap2:persondata
leap2:field="id"
leap2:service="dundee.ac.uk">1234567</leap2:persondata>
```
Example:

```xml
<entry>
<title>Mary Godwin</title>
<id>portfolio:people/0001</id>
<updated>2009-12-13T00:00:00Z</updated>
<author>Mary Wollenstonecraft Godwin</author>
<content type="text">Mary Wollenstonecraft Godwin, University of Dundee</content>
<rdf:type rdf:resource="leap2:person" />
<leap2:persondata leap2:field="legal_given_name">Mary</leap2:persondata>
<leap2:persondata leap2:field="legal_given_name">Wollstonecraft</leap2:persondata>
<leap2:persondata leap2:field="legal_family_name">Godwin</leap2:persondata>
<leap2:persondata leap2:field="email">mwgodwin@example.org</leap2:persondata>
<leap2:persondata leap2:field="id" leap2:service="dundee.ac.uk">1234567</leap2:persondata>
</entry>
```
8 Referencing Organizations

An educational trajectory will often reference an organization, such as an institution where the learner has taken a program or course. Use the following entry elements to describe an organization.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Required</th>
<th>Multiplicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>entry</td>
<td>Entry contains information related to a single institution. Include an entry that provides the information about the institution the learner attended. Additional entries can be provided to reference other organizations, such as those where enrichment activities took place.</td>
<td>Recommended by MedBiquitous</td>
<td>1 or more</td>
</tr>
<tr>
<td>title</td>
<td>When describing an organization, the title should be the organization’s name.</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>id</td>
<td>A globally unique and permanent resource identifier identifying the entry.</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>updated</td>
<td>The date the entry was last modified. Use the xml date time format. For example: 2009-12-13T18:30:02Z</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>author</td>
<td>Author is a container element. Use the name subelement to identify the author of the entry. The author will likely be the institution.</td>
<td>Recommended by MedBiquitous</td>
<td>1 recommended</td>
</tr>
<tr>
<td>content</td>
<td>Content contains a short description of the organization. For example: “University of Missouri.”</td>
<td>Recommended</td>
<td>0 or 1</td>
</tr>
<tr>
<td>rdf:type</td>
<td>rdf:type indicates the type of entry being described. For entries describing organizations, the type is organization, which is represented as:</td>
<td>Recommended by Leap2A</td>
<td>1 recommended</td>
</tr>
</tbody>
</table>

<rdf:type rdf:resource="leaptype2:organization" />
leap2:orgdata

The leap2:orgdata element allows for the inclusion of website, email, telephone, and other details about the organization.

Educational trajectory uses the following attributes of leap2:orgdata:

- **field**: Defines what the orgdata element is defining. The following fields may be used in an educational trajectory: website, email, and workphone.

- **label**: A label for the data used in the originating system. Label is optional.

For details on other possible fields, see: [http://wiki.leapspecs.org/2A/organizational_data#orgdata](http://wiki.leapspecs.org/2A/organizational_data#orgdata)

Example:

```xml
<leap2:orgdata leap2:field="email">
  info@somecity.ac.uk
</leap2:orgdata>
<leap2:orgdata leap2:field="website">
  http://www.dundee.ac.uk/cmdn/
</leap2:orgdata>
```

leap2:spatial

The leap2:spatial element provides subelements for describing an institution’s address. See section leap2:spatial subelements for more details.

Optional

| 0 or more |

### 8.1 Leap2:spatial subelements

The leap2:spatial element has subelements that allow you to define address details for an organization.
<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Required</th>
<th>Multiplicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>leap2:addressline</td>
<td>The addressline element is used for a single line of a postal address. Use multiple addressline elements to represent a complete address. The order of appearance indicates the order in which the lines should be used.</td>
<td>Optional</td>
<td>0 or more</td>
</tr>
<tr>
<td></td>
<td><strong>Addressline has the following attribute:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>label</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>An optional label for the address line.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="">leap2:addressline</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>420 Delaware St. S.E.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;/leap2:addressline&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;leap2:addressline leap2:label=&quot;City and State&quot;&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Minneapolis, MN</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;/leap2:addressline&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>leap2:postcode</td>
<td>The postcode address is used for postal codes or zipcodes.</td>
<td>Optional</td>
<td>0 or 1</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="">leap2:postcode</a>55455&lt;/leap2:postcode&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>leap2:country</td>
<td>The country element contains a text string representing the name of a country. Country has the following optional attribute:</td>
<td>Optional</td>
<td>0 or 1</td>
</tr>
<tr>
<td></td>
<td><strong>countrycode</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The 3 letter country code as defined by ISO 3166-1. See the following page for details:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="">leap2:country</a>USA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;/leap2:country&gt;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9 Representing Specific Types of Activities

Several different types of activities and related academic events may be represented as an entry. Use the sections that follow to understand the entry elements within the context of specific types of educational trajectory activities.

9.1 Primary Degree

Learners should indicate some basic information about the primary degree program, the primary degree serves as the backbone of an educational trajectory. The educational trajectory should contain general information about the degree program rather than details of coursework completed. All coursework leading to the primary degree are considered part of the degree program and should not be listed separately. Coursework is defined as any credit bearing activity from an accredited academic institution OR any activity from an accredited academic institution put on an official transcript. Use the following entry elements to describe a primary degree program.

Entry Element Information for the Primary Degree Activity

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Required</th>
<th>Multiplicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>entry</td>
<td>Entry contains information related to a single activity within the learner’s educational trajectory.</td>
<td>Recommended</td>
<td>0 or more</td>
</tr>
<tr>
<td>title</td>
<td>The title of the activity. For example, University of California San Francisco Medical Degree Program.</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>id</td>
<td>A globally unique and permanent resource identifier identifying the entry.</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>published</td>
<td>The date the entry was first published. Use the xml date time format. For example: 2009-12-13T18:30:02Z</td>
<td>Optional</td>
<td>0 or 1</td>
</tr>
<tr>
<td>updated</td>
<td>The date the entry was last modified. Use the xml date time format. For example: 2009-12-13T18:30:02Z</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>author</td>
<td>Author is a container element. Use the name subelement to identify the author of the entry. For the primary degree program, the author will likely be the institution if they are providing the data.</td>
<td>Recommended by MedBiquitous</td>
<td>1 recommended</td>
</tr>
<tr>
<td>content</td>
<td>Content should contain a one paragraph</td>
<td>Recommended</td>
<td>0 or 1</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td><strong>Recommended by</strong></td>
<td><strong>Recommended</strong></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------</td>
<td>--------------------</td>
<td>-----------------</td>
<td></td>
</tr>
<tr>
<td>description of the program completed that is written by the institution. If the learner is engaged in an elective program such as pathways to discovery, the description should indicate that.</td>
<td>Recommended by Leap2A</td>
<td>1 recommended</td>
<td></td>
</tr>
<tr>
<td>rdf:type indicates the type of entry being described. For the primary degree program, the type is an activity, which is represented as:</td>
<td>Optional</td>
<td>0 or 1</td>
<td></td>
</tr>
<tr>
<td><code>&lt;rdf:type rdf:resource=&quot;leap2:activity&quot; /&gt;</code></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>et:programLength indicates the length of the program as indicated by the institution. The programLength element uses the XML schema duration type to indicate the length of the program.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The following example shows a program duration of 4 years.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Example:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><code>&lt;et:programLength&gt;</code></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P4Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><code>&lt;/et:programLength&gt;</code></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The programLength element is defined by the Educational Trajectory Extension schema at <a href="http://ns.medbiq.org/educationaltrajectory/v1/">http://ns.medbiq.org/educationaltrajectory/v1/</a></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>leap2:status The leap2:status element clarifies whether the program has been completed successfully, is in progress, or has been</td>
<td>Recommended by MedBiquitous</td>
<td>0 or 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
suspended due to withdrawal or dismissal.

The following are potential values of the stage attribute:

progressing – the learner is currently enrolled in the program.

completed – the learner successfully completed the program.

suspended – the activity ended, but the learner did not complete the program successfully. Use suspended for learners that have withdrawn or were dismissed from the program.

Example:

```xml
<leap2:status
  leap2:stage="completed"/>
```

<table>
<thead>
<tr>
<th>leap2:date</th>
<th>The leap2:date element indicates the start, end, or target date for an activity. For the primary degree program, the start date is that date of matriculation and the end date is the graduation date. If the student has not yet graduated, omit the end date. Primary degree activities should contain a start date at a minimum. Activities with a start date and no end date should be considered ongoing unless a withdrawal dismissal, or leave of absence is shown. Withdrawal, dismissal, and leave of absence indicate a temporary or permanent end to the activity, but not successful completion. A target date may be shown to indicate the anticipated date of graduation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended by MedBiquitous</td>
<td>2 recommended (one start and one end date)</td>
</tr>
</tbody>
</table>

Example:

```xml
<leap2:date
  leap2:point="start">2005-08-01</leap2:date>```
A link to a web resource or attachment. Link must contain an href attribute whose value is a resource identifier, such as a URL. MedBiquitous recommends:

- Linking to an entry for the institution where the degree program took place. Use the rel attribute with the relationship type leap2:supported_by.
- Linking to an attachment included in the educational trajectory package (ie zip file) or linking to a publicly accessible and permanent URL. Use the Atom enclosure relationship type for any files included in an educational trajectory package.
- Using the rel attribute with Leap2A relationship types to indicate the relationship of the link to the primary degree program.

Example:

```
<link rel="leap2:supported_by" href="http://www.example.edu/portfolio/1234/umn.edu/12345" />
<link rel="leap2:enclosure" href="NeuroResearchPublication.pdf" />
<link rel="leap2:has_outcome" href="http://www.example.edu/portfolio/1234/umn.edu/23456" />
```

Leap2A provides the following relationship types:

- supports
- supported_by
- has evidence
is_evidence_of  reflects_on  reflected_on_by  has_part  is_part_of  has_outcome  is_outcome_of

A link to the transcript may be provided.

Use has_outcome to link the primary degree program to a withdrawal or dismissal if applicable.

category

For the primary degree program, the category is primary degree:

<category scheme="http://www.medbiq.org/edtrajectory/trajectorycategory#" term="primary_degree"/>

The category should also be used to indicate the type of degree:

<category scheme="http://www.medbiq.org/edtrajectory/degree_type#" term="M.D."/>

---

9.2 Leave of Absence

If there is a Leave of Absence, learners should include information about that leave in their educational trajectory along with an explanation for the leave. Leave of absence may have a parallel enrichment activity, such as a research fellowship, that provides additional explanation for the leave.

Entry Element Information for a Leave of Absence

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Required</th>
<th>Multiplicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>entry</td>
<td>Entry contains information related to a single activity within the learner’s educational trajectory.</td>
<td>Recommended</td>
<td>0 or more</td>
</tr>
<tr>
<td>title</td>
<td>The title of the entry. For example,</td>
<td>Required by</td>
<td>1</td>
</tr>
<tr>
<td>Field</td>
<td>Description</td>
<td>Recommended by</td>
<td>Recommended by Leap 2A</td>
</tr>
<tr>
<td>-------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>id</td>
<td>A globally unique and permanent resource identifier identifying the entry.</td>
<td>Required by Atom</td>
<td></td>
</tr>
<tr>
<td>published</td>
<td>The date the entry was first published. Use the xml date time format. For example: 2009-12-13T18:30:02Z</td>
<td>Optional</td>
<td></td>
</tr>
<tr>
<td>updated</td>
<td>The date the entry was last modified. Use the xml date time format. For example: 2009-12-13T18:30:02Z</td>
<td>Required by Atom</td>
<td></td>
</tr>
<tr>
<td>author</td>
<td>Author is a container element. Use the name subelement to identify the author of the entry. For the leave of absence, the author will likely be the institution.</td>
<td>Recommended</td>
<td></td>
</tr>
<tr>
<td>content</td>
<td>Content should contain information about the leave, including the reason.</td>
<td>Recommended</td>
<td></td>
</tr>
<tr>
<td>rdf:type</td>
<td>rdf:type indicates the type of entry being described. For the leave of absence, the type is an activity, which is represented as:</td>
<td>Recommended</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;rdf:type rdf:resource=&quot;leap2:activity&quot; /&gt;</td>
<td>Recommended</td>
<td></td>
</tr>
<tr>
<td>leap2:date</td>
<td>The leap2:date element indicates the start, end, or target date for an activity. For the leave of absence, the start date is the date leave started and the end date is the actual end date for the leave. The target date indicates a planned end date for the leave. Leave of absence activities should contain a start and end date. If there is no end date, the leave should be considered ongoing.</td>
<td>Recommended</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Example:</td>
<td>Recommended</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;leap2:date leap2:point=&quot;start&quot;&gt;2008-08-01&lt;/leap2:date&gt;</td>
<td>Recommended</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;leap2:date leap2:point=&quot;end&quot;&gt;2009-01-10&lt;/leap2:date&gt;</td>
<td>Recommended</td>
<td></td>
</tr>
<tr>
<td>Element</td>
<td>Description</td>
<td>Required</td>
<td>Multiplicity</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
<td>----------</td>
<td>--------------</td>
</tr>
</tbody>
</table>
| link    | Use the link element to indicate that the leave of absence is related to the primary degree activity.  
Example:  
<link rel="leap2:is_part_of" href="portfolio:activity_010" />  
Where portfolio:activity_010 is the identifier of the primary degree activity. | Optional | 0 or more |
| category | For the leave of absence, use the category Intermission:  
<category scheme="categories:common_item#" term="Intermission" />  
An additional category is used to indicate whether the leave occurred at the institution request or the learner request.  
Example:  
<category scheme="http://www.medbiq.org/edtrajectory/leave_request_type#" term="personal_request"/> | Recommended by MedBiquitous | 1 recommended |

### 9.3 Dismissal

If the learner was dismissed, the learner should include that information in their educational trajectory.

**Entry Element Information for a Dismissal**

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Required</th>
<th>Multiplicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>entry</td>
<td>Entry contains information related to a single activity within the learner’s educational trajectory.</td>
<td>Recommended</td>
<td>0 or more</td>
</tr>
<tr>
<td>title</td>
<td>The title of the activity. For example, Dismissal.</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>id</td>
<td>A globally unique and permanent resource identifier identifying the entry.</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>----------</td>
<td>--------------------------------------------------------------------------</td>
<td>------------------</td>
<td>---</td>
</tr>
<tr>
<td>published</td>
<td>The date the entry was first published. Use the xml date time format. For example: 2009-12-13T18:30:02Z</td>
<td>Optional</td>
<td>0 or 1</td>
</tr>
<tr>
<td>updated</td>
<td>The date the entry was last modified. Use the xml date time format. For example: 2009-12-13T18:30:02Z</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>author</td>
<td>Author is a container element. Use the name subelement to identify the author of the entry. For the dismissal, the author will likely be the institution if they are providing the data.</td>
<td>Recommended by MedBiquitous</td>
<td>1</td>
</tr>
<tr>
<td>content</td>
<td>Content could contain information about the dismissal, including the reason.</td>
<td>Recommended</td>
<td>0 or 1</td>
</tr>
<tr>
<td>rdf:type</td>
<td>rdf:type indicates the type of entry being described. For the dismissal, the type is an entry, which is represented as: &lt;rdf:type rdf:resource=&quot;leap2:entry&quot; /&gt;</td>
<td>Recommended by Leap 2A</td>
<td>1</td>
</tr>
<tr>
<td>leap2:date</td>
<td>The leap2:date element indicates the start, end, or target date for an activity. For the dismissal, the start date is the date of the dismissal.</td>
<td>Recommended by MedBiquitous</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Example: &lt;leap2:date leap2:point=&quot;start&quot;&gt;2008-08-01&lt;/leap2:date&gt; If the learner was dismissed and then re-admitted, include an end date for the dismissal. &lt;leap2:date leap2:point=&quot;end&quot;&gt;2010-08-01&lt;/leap2:date&gt;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 9.4 Withdrawal

If the learner withdrew from the primary degree program, the learner should include that information in their educational trajectory.

#### Entry Element Information for a Withdrawal

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Required</th>
<th>Multiplicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>entry</td>
<td>Entry contains information related to a single activity within the learner’s educational trajectory.</td>
<td>Recommended</td>
<td>0 or more</td>
</tr>
<tr>
<td>title</td>
<td>The title of the activity. For example, Withdrawal.</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>id</td>
<td>A globally unique and permanent resource identifier identifying the entry.</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>published</td>
<td>The date the entry was first published. Use the xml date time format. For example: 2009-12-13T18:30:02Z</td>
<td>Optional</td>
<td>0 or 1</td>
</tr>
<tr>
<td>updated</td>
<td>The date the entry was last modified. Use</td>
<td>Required by</td>
<td>1</td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
<td>Recommended</td>
<td>Status</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-------------</td>
<td>--------</td>
</tr>
<tr>
<td>author</td>
<td>Author is a container element. Use the name subelement to identify the author of the entry. For the withdrawal, the author will likely be the institution if they are providing the data.</td>
<td>Recommended by MedBiquitous 1 recommended</td>
<td></td>
</tr>
<tr>
<td>content</td>
<td>Content could contain information about the withdrawal, including the reason.</td>
<td>Recommended 0 or 1</td>
<td></td>
</tr>
<tr>
<td>rdf:type</td>
<td>rdf:type indicates the type of entry being described. For the withdrawal, the type is entry, which is represented as:</td>
<td>Recommended by Leap2A 1 recommended</td>
<td></td>
</tr>
<tr>
<td>leap2:date</td>
<td>The leap2:date element indicates the start, end, or target date for an activity. For the withdrawal, the start date is the date of the withdrawal.</td>
<td>Recommended by MedBiquitous 1 recommended (start date)</td>
<td></td>
</tr>
<tr>
<td>link</td>
<td>Use the link element to indicate that the withdrawal is related to the primary degree program or coursework beyond primary degree.</td>
<td>Optional 0 or more</td>
<td></td>
</tr>
</tbody>
</table>
9.5 Coursework beyond primary degree

Learners should include information about any coursework beyond the primary degree, including joint degree programs and coursework that does not lead to another degree, such as a single Spanish class at community college or class within a School of Business.

If the joint degree program is fully integrated into the primary degree, the dates for the two programs may overlap to reflect that. If the joint degree program is discrete from the primary degree, such as a PhD program that takes place in years 3 and 4 of a six year MD/PhD program, the dates of the both entries should indicate that.

Use the following entry elements to describe any coursework beyond the primary degree.

**Entry Element Information for Coursework Beyond the Primary Degree**

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Required</th>
<th>Multiplicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>entry</td>
<td>Entry contains information related to a single activity within the learner’s educational trajectory.</td>
<td>Recommended</td>
<td>0 or more</td>
</tr>
<tr>
<td>title</td>
<td>The title of the activity. For example, Doctor of Philosophy in Public Health, Bloomberg School of Public Health.</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>id</td>
<td>A globally unique and permanent resource identifier identifying the entry.</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>published</td>
<td>The date the entry was first published. Use the xml date time format. For example: 2009-12-13T18:30:02Z</td>
<td>Optional</td>
<td>0 or 1</td>
</tr>
<tr>
<td>Field</td>
<td>Description</td>
<td>Required by</td>
<td>Value</td>
</tr>
<tr>
<td>--------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------</td>
<td>-------</td>
</tr>
<tr>
<td>updated</td>
<td>The date the entry was last modified. Use the xml date time format. For example: 2009-12-13T18:30:02Z</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>author</td>
<td>Author is a container element. Use the name subelement to identify the author of the entry. For coursework beyond the primary degree program, the author will likely be learner.</td>
<td>Recommended by MedBiquitous</td>
<td>1 recommended</td>
</tr>
<tr>
<td>content</td>
<td>Content should contain a one paragraph description of the program completed.</td>
<td>Recommended</td>
<td>0 or 1</td>
</tr>
</tbody>
</table>
| rdf:type     | rdf:type indicates the type of entry being described. For coursework beyond the primary degree, the type is an activity, which is represented as:<br>\[<rdf:type rdf:resource="leap2:activity"/>
| Recommended by Leap2A | 1 recommended |
| et:programLength | et:programLength indicates the length of the program as indicated by the institution. The programLength element uses the XML schema duration type to indicate the length of the program.                             | Optional    | 0 or 1 |
|              | The following example shows a program duration of 4 years.                                                                                                                                                   |             |       |
|              | Example:<br>\[<et:programLength>P4Y</et:programLength]\]                                                                                                                                                     |             |       |
|              | The programLength element is defined by the Educational Trajectory Extension schema at [http://ns.medbiq.org/educationaltrajectory/v1/](http://ns.medbiq.org/educationaltrajectory/v1/)                        |             |       |
| leap2:status | The leap2:status element clarifies whether the coursework has been completed successfully, is in progress, or has been suspended due to withdrawal or dismissal.                                              | Recommended by MedBiquitous | 0 or 1 |
The following are potential values of the stage attribute:

- progressing – the learner is currently enrolled in the program.
- completed – the learner successfully completed the program.
- suspended – the activity ended, but the learner did not complete the program successfully. Use suspended for learners that have withdrawn or were dismissed from the program.

Example:

```xml
<leap2:status
leap2:stage="completed"/>
```

| leap2:date | The leap2:date element indicates the start, end, or target date for an activity. For coursework beyond the primary degree program, the start date is the date the learner started the coursework and the end date is the actual completion date. Omit the end date if the coursework in ongoing. Coursework beyond primary degree should contain start date at a minimum. Activities with a start date and no end date should be considered ongoing unless a withdrawal, dismissal, or leave of absence is shown. Withdrawal, dismissal, and leave of absence indicate a temporary or permanent end to the activity, but not successful completion.
| Recommended by MedBiquitous | 2 recommended (1 start and one end date) |
| A target date may be shown to indicate the anticipated date of graduation.
| Example: |

```xml
<leap2:date
leap2:point="start">2005-08-
```
<table>
<thead>
<tr>
<th>link</th>
<th>A link to a web resource or attachment. Link must contain an href attribute whose value is a resource identifier, such as a URL. MedBiquitous recommends:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Linking to an entry for the institution where the coursework took place. Use the rel attribute with the relationship type leap2:supported_by.</td>
</tr>
<tr>
<td></td>
<td>• Linking to an attachment included in the educational trajectory package (ie zip file) or linking to a publicly accessible and permanent URL. Use the Atom enclosure relationship type for any files included in an educational trajectory package.</td>
</tr>
<tr>
<td></td>
<td>• Using the rel attribute with Leap2A relationship types to indicate the relationship of the link to the coursework.</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong></td>
</tr>
<tr>
<td></td>
<td>&lt;link rel=&quot;leap2:supported_by&quot; href=&quot;http://www.example.edu/portfolio/1234/umn.edu/12345&quot; /&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;link rel=&quot;enclosure&quot; href=&quot;NeuroResearchPublication.pdf&quot; /&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;link rel=&quot;leap2:has_outcome&quot; href=&quot;http://www.example.edu/portfolio/1234/umn.edu/23456&quot; /&gt;</td>
</tr>
<tr>
<td></td>
<td><strong>Leap2A provides the following relationship types:</strong></td>
</tr>
<tr>
<td></td>
<td>• supports</td>
</tr>
<tr>
<td></td>
<td>• supported_by</td>
</tr>
<tr>
<td></td>
<td>• has_evidence</td>
</tr>
<tr>
<td></td>
<td>• is_evidence_of</td>
</tr>
</tbody>
</table>

| Optional | 0 or more |

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Version: 0.62
Status: Draft
Date: 11 July 2011
Page: 37
• reflects_on
• reflected_on_by
• has_part
• is_part_of
• has_outcome
• is_outcome_of

A link to the transcript may be provided.

Use has_outcome to link coursework to a withdrawal or dismissal if applicable.

category

For coursework beyond the primary degree program, the category is coursework beyond primary degree:

```xml
<category scheme="http://www.medbiq.org/edtrajectory/trajectorycategory#" term="coursework_beyond_primary_degree"/>
```

The category should also be used to indicate the type of degree:

```xml
<category scheme="http://www.medbiq.org/edtrajectory/degree_type#" term="Ph.D."/>
```

9.6 Enrichment

Learners should include information about enrichment activities in the educational trajectory. Enrichment activities are any activities outside of official coursework that enrich a learner and contribute to their overall education and development.

Entry Element Information for Enrichment Activities

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Required</th>
<th>Multiplicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>entry</td>
<td>Entry contains information related to a single activity within the learner's educational trajectory.</td>
<td>Recommended</td>
<td>0 or more</td>
</tr>
<tr>
<td>title</td>
<td>The title of the activity. For example, Creation of Student Run Free Clinic.</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>id</td>
<td>A globally unique and permanent resource identifier identifying the entry.</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>Published</td>
<td>The date the entry was first published. Use the xml date time format. For example: 2009-12-13T18:30:02Z</td>
<td>Optional</td>
<td>0 or 1</td>
</tr>
<tr>
<td>Updated</td>
<td>The date the entry was last modified. Use the xml date time format. For example: 2009-12-13T18:30:02Z</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>Author</td>
<td>Author is a container element. Use the name subelement to identify the author of the entry. For enrichment activities, the author will likely be learner.</td>
<td>Recommended by MedBiquitous</td>
<td>1 recommended</td>
</tr>
<tr>
<td>Content</td>
<td>Content should contain a description of the enrichment activity. Plain text is recommended for this activity description.</td>
<td>Recommended</td>
<td>0 or 1</td>
</tr>
<tr>
<td>RDF:Type</td>
<td>RDF:type indicates the type of entry being described. For enrichment activities, the type is an activity, which is represented as:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leap2:Date</td>
<td>The leap2:date element indicates the start, end, or target date for an activity. For enrichment activities, the start date is the date the learner started and the end date is the actual or planned end date. Enrichment activities should contain start dates. Activities with a start date and no end date should be considered ongoing. A target date may be shown to indicate the anticipated date of completion.</td>
<td>Recommended by MedBiquitous</td>
<td>2 recommended (1 start and one end date)</td>
</tr>
</tbody>
</table>

Example:

```xml
<leap2:date
    leap2:point="start">2005-08-01</leap2:date>
<leap2:date
    leap2:point="end">2009-05-20</leap2:date>
```
<table>
<thead>
<tr>
<th>link</th>
<th>A link to a web resource or attachment. Link must contain an href attribute whose value is a resource identifier, such as a URL. MedBiquitous recommends:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Linking to an entry for the organization where the activity took place. Use the rel attribute with the relationship type leap2:supported_by.</td>
</tr>
<tr>
<td></td>
<td>• Provide links to work products associated with the activity or to supervisor testimonials.</td>
</tr>
<tr>
<td></td>
<td>• Linking to an attachment included in the educational trajectory package (ie zip file) or linking to a publicly accessible and permanent URL. Use the Atom enclosure relationship type for any files included in an educational trajectory package.</td>
</tr>
<tr>
<td></td>
<td>• Using the rel attribute with Leap2A relationship types to indicate the relationship of the link to the enrichment activity.</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
</tr>
<tr>
<td></td>
<td>&lt;link rel=&quot;leap2:supported_by&quot; href=&quot;http://www.example.edu/portfolio/1234/umn.edu/12345&quot; /&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;link rel=&quot;enclosure&quot; href=&quot;NeuroResearchPublication.pdf&quot; /&gt;</td>
</tr>
<tr>
<td></td>
<td>&lt;link rel=&quot;leap2:has_outcome&quot; href=&quot;http://www.example.edu/portfolio/1234/umn.edu/23456&quot; /&gt;</td>
</tr>
<tr>
<td></td>
<td>Leap2A provides the following relationship types:</td>
</tr>
<tr>
<td></td>
<td>• supports</td>
</tr>
<tr>
<td></td>
<td>• supported_by</td>
</tr>
<tr>
<td></td>
<td>• has_evidence</td>
</tr>
<tr>
<td></td>
<td>• is_evidence_of</td>
</tr>
<tr>
<td></td>
<td>• reflects_on</td>
</tr>
<tr>
<td>Optional</td>
<td>0 or more</td>
</tr>
</tbody>
</table>
- reflected_on_by
- has_part
- is_part_of
- has_outcome
- is_outcome_of

If the link points to a supervisor testimonial of the activity, use the `has_evidence` relationship.

| category | For enrichment activities, the category is enrichment:
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><code>&lt;category scheme=&quot;http://www.medbiq.org/edtrajectory/trajectorycategory#&quot; term=&quot;enrichment&quot;/&gt;</code></td>
</tr>
</tbody>
</table>

Enrichment activities should also indicate whether they were paid or unpaid using the payment category:

|          | `<category scheme="http://www.medbiq.org/edtrajectory/payment_type#" term="unpaid"/>` |
|          | Recommended by MedBiquitous 1 recommended |
## 10 Including Supervisor Testimonials

Learners may include supervisor testimonials as documentation relative to an enrichment activity. A scanned letter on organization letterhead is recommended.

### Entry Elements for Supervisor Testimonials

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Required</th>
<th>Multiplicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>entry</td>
<td>Entry contains information related to a single testimonial.</td>
<td>Recommended</td>
<td>0 or more</td>
</tr>
<tr>
<td>title</td>
<td>The title of the testimonial. For example, Testimonial for Student Run Free Clinic.</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>id</td>
<td>A globally unique and permanent resource identifier identifying the entry.</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>published</td>
<td>The date the entry was first published. Use the xml date time format. For example: 2009-12-13T18:30:02Z</td>
<td>Optional</td>
<td>0 or 1</td>
</tr>
<tr>
<td>updated</td>
<td>The date the entry was last modified. Use the xml date time format. For example: 2009-12-13T18:30:02Z</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
<tr>
<td>author</td>
<td>Author is a container element. Use the name subelement to identify the author of the entry. For testimonials, the author should be the supervisor. If more detailed information describing the supervisor is necessary, create an entry describing the supervisor and reference that entry. See section Referencing People for more information.</td>
<td>Recommended by MedBiquitous</td>
<td>1 recommended</td>
</tr>
<tr>
<td>content</td>
<td>Content should contain the supervisor’s testimonial of the activity. Testimonial’s should make the student’s role in the project clear and provide some idea of the outcome/impact the project had. If the testimonial is in the form of a scanned letter, provide a brief description of the scanned letter, for example, “Testimonial from Dr. Jordan, clinic supervisor.”</td>
<td>Recommended</td>
<td>0 or 1</td>
</tr>
<tr>
<td>rdf:type</td>
<td>rdf:type indicates the type of entry being described. For testimonials, the type is a resource, which is represented as:</td>
<td>Recommended by Leap2A</td>
<td>1 recommended</td>
</tr>
<tr>
<td>------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Link</td>
<td>A link to a web resource or attachment, such as a scanned supervisor letter. Link must contain an href attribute whose value is a resource identifier, such as a URL. MedBiquitous recommends linking to an attachment included in the educational trajectory package (ie zip file) or linking to a publicly accessible and permanent URL. Use the Atom enclosure relationship type for any files included in an educational trajectory package. Example:</td>
<td>Recommended by MedBiquitous</td>
<td>1 or more recommended</td>
</tr>
<tr>
<td>category</td>
<td>For testimonials, the category is testimonial:</td>
<td>Recommended by MedBiquitous</td>
<td>1 recommended</td>
</tr>
</tbody>
</table>
11 Including Publications

MedBiquitous recommends including publications in the educational trajectory as separate entries. These publication entries can then be linked to the activities with which they are associated. In addition, educational trajectory programs can develop a list of publications. Use the following entry elements to include a publication.

### Entry Elements for Publications

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Required</th>
<th>Multiplicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>entry</td>
<td>Entry contains information related to a single publication.</td>
<td>Recommended</td>
<td>0 or more</td>
</tr>
<tr>
<td>title</td>
<td>The title of the publication. For example, Social Networking and Medical Student Perceptions of Professionalism.</td>
<td>Required by Atom</td>
<td>1</td>
</tr>
</tbody>
</table>
| link    | A link to the publication. The link may point to the file or to a permanent, publicly accessible URI for the publication. Including the file is recommended if copyright permissions allow. Use the following attributes of link:

- **rel**
  The relation of the link. The value of rel should be “enclosure” if pointing to a file included in the educational trajectory package. If pointing to a URI, rel should be “related.”

- **Href**
  The URI for the resource. For documents included in an educational trajectory zip file, this may be the file name or relative path to the file.

Example pointing to a local file:

```
<link rel="enclosure" href="files/1219345.doc "/>
```

Example pointing to a URL:

```
<link rel="related" href=http://www.example.org/pub1>
```
<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
<th>Required by</th>
<th>Recommended by</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>id</td>
<td>A globally unique and permanent resource identifier identifying the entry.</td>
<td>Required by Atom</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>published</td>
<td>The date the entry was first published. Use the xml date time format. For example: 2009-12-13T18:30:02Z</td>
<td>Recommended by MedBiquitous</td>
<td>1 recommended</td>
<td></td>
</tr>
<tr>
<td>updated</td>
<td>The date the entry was last modified. Use the xml date time format. For example: 2009-12-13T18:30:02Z</td>
<td>Required by Atom</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>author</td>
<td>Author is a container element. Use the name subelement to identify the author of the entry. This will usually be the learner.</td>
<td>Recommended by MedBiquitous</td>
<td>1 or more recommended</td>
<td></td>
</tr>
<tr>
<td>content</td>
<td>Content should include the citation in a text format. Example:</td>
<td>Recommended by MedBiquitous</td>
<td>1 recommended</td>
<td></td>
</tr>
<tr>
<td>summary</td>
<td>A short description of the publication. For example, “A study of medical student online behavior funded by Robert Wood Johnson.”</td>
<td>Recommended by MedBiquitous</td>
<td>1 recommended</td>
<td></td>
</tr>
<tr>
<td>rdf:type</td>
<td>rdf:type indicates the type of entry being described. For publications, the type is a resource, which is represented as:</td>
<td>Recommended by Leap2A</td>
<td>1 recommended</td>
<td></td>
</tr>
<tr>
<td>category</td>
<td>Use the category element to indicate whether the entry describes a publication or presentation.</td>
<td>Recommended by MedBiquitous</td>
<td>1 or more recommended</td>
<td></td>
</tr>
</tbody>
</table>
For publications, the category is publication:

```xml
<category scheme="http://www.medbiq.org/edtrajectory/evidence_type#" term="publication"/>
```

For presentations, the category is presentation. Examples of presentations include abstracts, posters, oral presentations, and workshops.

```xml
<category scheme="http://www.medbiq.org/edtrajectory/evidence_type#" term="presentation"/>
```

You may also use the category element to indicate whether or not a publication is peer reviewed.

For peer review:

```xml
<category scheme="http://www.medbiq.org/edtrajectory/review_type#" term="peer_reviewed"/>
```

To indicate that a publication is not peer reviewed:

```xml
<category scheme="http://www.medbiq.org/edtrajectory/review_type#" term="not_peer_reviewed"/>
```

| leap2:myrole | The leap2:myrole element allows the learner to describe his or her role in producing a publication. | Optional | 0 or 1 |
12 MedBiquitous Categories

Atom allows developers to create categories for entries in an Atom feed. Categories are an essential part of the educational trajectory profile: the working group authoring the specification anticipates that educational trajectory readers will provide visual displays of learner trajectories based on the category element. Categories also allow those reading a trajectory to find relevant activities more quickly. For more information on the use of categories for visual display, see section Visual Trajectory.

The category element of Leap2A has the following format:

```
<category scheme="URI" term="term" label="label" />
```

Where:

- `URI` is the web address or identifier of the page defining the categorization scheme
- `term` is the name of the term within that categorization scheme
- `label` is a human readable label for the term.

Example:

```
<category scheme="http://www.medbiq.org/edtrajectory/trajectorycategory" term="primary_degree"/>
```

The definition for MedBiquitous categories can be found by combining the scheme and the term. For example:

```
http://www.medbiq.org/edtrajectory/trajectorycategory#primarydegree
```

MedBiquitous has defined four categorization schemes: trajectory category, leave request type, payment type, and evidence type. MedBiquitous also uses some categories defined by Leap2A as shown in the entry descriptions.

12.1 trajectorycategory

Trajectory category provides a categorization scheme for the various types of activities and events represented in an educational trajectory. The categories and their definitions are described in the following table. There is no default value.

<table>
<thead>
<tr>
<th>Trajectory category</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>primary_degree</td>
<td>Any credit bearing activity or activity from an accredited academic institution put on an official</td>
</tr>
</tbody>
</table>
transcript which leads to the primary degree.

<table>
<thead>
<tr>
<th>dismissal</th>
<th>A judgment directing the learner to leave the program of study.</th>
</tr>
</thead>
<tbody>
<tr>
<td>withdrawal</td>
<td>Voluntary discontinuation of the program of study.</td>
</tr>
<tr>
<td>coursework_beyond_primary_degree</td>
<td>Any credit bearing activity from an accredited academic institution that does not lead to the primary degree OR any activity from an accredited academic institution put on an official transcript that does not lead to the primary degree.</td>
</tr>
<tr>
<td>enrichment</td>
<td>Activities that enrich a learner’s development that are non-credit bearing and do not show up on an official transcript.</td>
</tr>
</tbody>
</table>

### 12.2 degree_type

The degree_type indicates the type of degree a learner pursued. The categories and their definitions are defined in the following table. There is no default value.

<table>
<thead>
<tr>
<th>Degree Type</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.S.N.</td>
<td>Bachelor of Science in Nursing</td>
</tr>
<tr>
<td>D.N.P.</td>
<td>Doctor of Nursing Practice</td>
</tr>
<tr>
<td>D.O.</td>
<td>Doctor of Osteopathy</td>
</tr>
<tr>
<td>M.B.A.</td>
<td>Master of Business Administration</td>
</tr>
<tr>
<td>M.D.</td>
<td>Doctor of Medicine</td>
</tr>
<tr>
<td>M.H.A.</td>
<td>Master of Health Administration</td>
</tr>
<tr>
<td>M.P.H.</td>
<td>Master of Public Health</td>
</tr>
<tr>
<td>M.S.</td>
<td>Master of Science</td>
</tr>
<tr>
<td>M.S.N.</td>
<td>Master of Science in Nursing</td>
</tr>
<tr>
<td>Pharm.D.</td>
<td>Doctor of Pharmacy</td>
</tr>
<tr>
<td>Ph.D.</td>
<td>Doctor of Philosophy</td>
</tr>
</tbody>
</table>

### 12.3 leave_request_type

The leave_request_type indicates whether a leave of absence was at the request of the learner or the institution. The categories and their definitions are described in the following table. There is no default value.

<table>
<thead>
<tr>
<th>Leave Request Type</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>institution_request</td>
<td>Indicates that the institution requested the leave of</td>
</tr>
</tbody>
</table>
12.4 payment_type

The payment type indicates whether an activity was paid or unpaid. The categories and their definitions are described in the following table. There is no default value.

<table>
<thead>
<tr>
<th>Payment Type</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>paid</td>
<td>Indicates that the learner received payment for the activity.</td>
</tr>
<tr>
<td>unpaid</td>
<td>Indicates that the learner received no payment for the activity.</td>
</tr>
</tbody>
</table>

12.5 evidence_type

evidence_type indicates whether a resource included in an educational trajectory is a supervisor testimonial or citation/reference to a publication. The categories and their definitions are described in the following table. There is no default value.

<table>
<thead>
<tr>
<th>Evidence Type</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>testimonial</td>
<td>A written statement from a supervisor elucidating the student’s role in an activity and the overall outcome/impact of the activity.</td>
</tr>
<tr>
<td>publication</td>
<td>A resource offered for distribution to the public.</td>
</tr>
<tr>
<td>presentation</td>
<td>Examples of presentations include abstracts, posters, oral presentations, and workshops.</td>
</tr>
</tbody>
</table>

12.6 review_type

review_type indicates whether a publication is peer reviewed or not. The categories and their definitions are described in the following table. There is no default value.

<table>
<thead>
<tr>
<th>Review Type</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>peer_reviewed</td>
<td>Indicates that a resource that has undergone the peer review process as defined by the International Committee of Medical Journal Editors: &quot;Peer review is the critical assessment of manuscripts submitted to journals by experts who are not part of the editorial staff.&quot;</td>
</tr>
<tr>
<td>not_peer_reviewed</td>
<td>Indicates that a resource has not undergone the above process.</td>
</tr>
</tbody>
</table>
12.7 Highlighting Activities in a Profile

Categories can be used to highlight a certain number of activities within an educational trajectory. MedBiquitous recommends highlighting no more than 3 activities. Use the priority category as shown to highlight an activity (note that 5 indicates the highest level of priority).

<category scheme="http://wiki.cetis.ac.uk/2009-03/Leap2A_categories/priority#" term="5" />

This category may be added to any activity within an educational trajectory.
13 Visual Trajectory

The following figures show what an educational trajectory for an individual may look like if visually represented by a computer program. The first figure shows a starting point; subsequent figures show how the image would look with mouseovers of specific activities. The final figure shows a list of publications.

![John Doe's Educational Trajectory](http://www.example.edu/portfolio/1234)

<table>
<thead>
<tr>
<th>Year</th>
<th>Quarter 1 (Jun - Aug)</th>
<th>Quarter 2 (Sep - Nov)</th>
<th>Quarter 3 (Dec - Feb)</th>
<th>Quarter 4 (Mar - May)</th>
</tr>
</thead>
<tbody>
<tr>
<td>05–06</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>06–07</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>07–08</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>08–09</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09–10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Coursework leading to MD/primary degree
- Coursework beyond MD/primary degree
- Enrichment, priority
- Enrichment
### John Doe's Educational Trajectory

**John Doe, December 8, 2009**  
[http://www.example.edu/portfolio/1234](http://www.example.edu/portfolio/1234)

<table>
<thead>
<tr>
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<tr>
<td>06 – 07</td>
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<tr>
<td>09-10</td>
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#### University of California, San Francisco MD Program  
Institution: University of California, San Francisco  
Degree: M.D.  
Length of program: 4 years  
Jun 2005 –

The MD program consists of two integrated phases. During the first two "pre-clerkship" years, students take an essential core curriculum that consists of eight block courses organized around a range of themes and systems. The third and fourth years offer significant in-patient and ambulatory clinical experiences.

Author: UCSF  
ID: ucsf.edu/23456  
Updated: 12/8/2009

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### John Doe's Educational Trajectory

**John Doe, December 8, 2009**  
[http://www.example.edu/portfolio/1234](http://www.example.edu/portfolio/1234)

<table>
<thead>
<tr>
<th>Year</th>
<th>Quarter 1 (Jun - Aug)</th>
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</table>

#### UC Berkeley Suitcase Clinic and HIV Prevention Project  
June 2005 – May 2010  
Unpaid

While in medical school, Mr. Doe volunteered at the student-run UC Berkeley Suitcase Clinic, which provides basic medical care to the underserved in the East Bay, and at the HIV Prevention Project, a syringe exchange program in San Francisco.

ID: ucsf.edu/23456  
Updated: 12/8/2009

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### MedBiquitous Educational Trajectory Profile

**Visual Trajectory**
### John Doe's Educational Trajectory

**John Doe, December 8, 2009**  
[http://www.example.edu/portfolio/1234](http://www.example.edu/portfolio/1234)

<table>
<thead>
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- **Public Healthcare – China**  
  June 2005 – August 2005
- **Unpaid**
- **Mr. Doe traveled to rural areas of China to shadow healthcare workers and volunteer in public healthcare clinics**
- **ID: ucsf.edu/34567**  
  **Updated: 12/8/2009**

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### John Doe's Educational Trajectory

**John Doe, December 8, 2009**  
[http://www.example.edu/portfolio/1234](http://www.example.edu/portfolio/1234)

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- **Master of Science, UCSF UC Berkeley Joint Medical Program (JMP)**
  - **Institution**: University of California, Berkeley
  - **Degree**: M.S.
  - **Length of program**: 1 years  
  - **June 2005 – May 2008**
- **The M.S. degree is an academic degree in Health and Medical Sciences and requires writing a research thesis. Thus, the M.S. portion of the JMP offers students the opportunity to do academic research while in medical school.**
- **Outcome**
  - **Author**: UCSF
  - **ID: ucsf.edu/45678**  
  **Updated: 12/8/2009**
### John Doe's Educational Trajectory

**John Doe, December 8, 2009**  
http://www.example.edu/portfolio/1234

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</table>
| 06 – 07 | Master of Science, UCSF UC Berkley Joint Program (JMP)  
Institution: University of California  
Degree: M.S.  
Length of program: June 2005 – May 2008  
The M.S. degree is an academic degree in Medical Sciences and requires writing a thesis. Thus, the M.S. portion of the students the opportunity to do academic while in medical school. **Outcome**  
Author: UCSF  
ID: ucsf.edu/45678  
Updated: 12/8/2009 | ![Image](image5.png) | ![Image](image6.png) | ![Image](image7.png) | ![Image](image8.png) |
| 07 – 08 | ![Image](image9.png) | ![Image](image10.png) | ![Image](image11.png) | ![Image](image12.png) |
| 08 – 09 | ![Image](image13.png) | ![Image](image14.png) | ![Image](image15.png) | ![Image](image16.png) |
| 09-10 | ![Image](image17.png) | ![Image](image18.png) | ![Image](image19.png) | ![Image](image20.png) |

**John Doe's Educational Trajectory**  
**John Doe, December 8, 2009**  
http://www.example.edu/portfolio/1234

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<td><img src="image24.png" alt="Image" /></td>
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</table>
| 06 – 07 | Smoking cessation class for homeless  
June 2008 – November 2009  
Unpaid  
During his clerkship years, Mr. Doe partnered with a classmate to design and lead a smoking cessation class for homeless men. **Testimonial**  
ID: ucsf.edu/23456  
Updated: 12/8/2009 | ![Image](image25.png) | ![Image](image26.png) | ![Image](image27.png) | ![Image](image28.png) |
| 07 – 08 | ![Image](image29.png) | ![Image](image30.png) | ![Image](image31.png) | ![Image](image32.png) |
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| 09-10 | ![Image](image37.png) | ![Image](image38.png) | ![Image](image39.png) | ![Image](image40.png) |
**Publications**

   
   **Summary:** On-screen simulations of clinical settings have been used for educational purposes since the 1970s. Despite this, it is only now that these 'virtual patients' are increasingly forming a part of the medical education mainstream.

   **Role:** Performed data analysis and error checking

   **Reflection:** Analyzing data for this paper gave e a new appreciation for education...

   
   **Summary:** A review of how diabetic patients use social networking tools to help manage their condition.

   **Is outcome of:** University of California San Francisco MD Program
The following shows what the interface for entering a publication might look like:

Publication

**Citation:**

**Your role:**

**Reflection:**

**Is peer reviewed?**
- [ ] Yes
- [ ] No

**Summary:**

**Publication or presentation?**
- [ ] Publication
- [ ] Presentation (ex. abstracts, posters, oral presentations, and workshops)

**Is this related to an activity in your portfolio?**
- Relationship: Is outcome of
- Activity: UCSF MD Program . . .
14 Sample XML Documents

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  <name>John Doe</name>
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</author>
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  <content>The MD program consists of two integrated phases. During the first two "pre-clerkship" years, students take an essential core curriculum that consists of eight block courses organized around a range of themes and systems. The third and fourth years offer significant in-patient and ambulatory clinical experiences.</content>
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<author>
  <name>Rachel Ellaway</name>
</author>
<contributor>
  <name>John Doe</name>
</contributor>
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15 Validation Notes

No official XSD schema exists for Atom syndication format or for Leap2A, but other validation options are available.

Sam Ruby, Mark Pilgrim, Joseph Walton, and Phil Ringnalda developed a website to validate publicly accessible atom feeds at: http://beta.feedvalidator.org/ The validator can also be downloaded and run locally (see http://beta.feedvalidator.org/about.html).

A Leap2A XSLT validation website is available at: http://www.niallbarr.me.uk/leap2a/xslt/index.php

Other validation options will be added to this document as they emerge.
16 References

