



Educational Achievement Specifications

Version: 0.42

Date: July 19, 2012

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Version History

Version No.	Date	Changed By	Changes Made
0.1	2012-04-11	Valerie Smothers	Initial draft
0.11	2012-05-01	Valerie Smothers	Added assessment results and more subelements.
0.2	2012-05-16	Valerie Smothers	Revised terminology, removed CompetencyObjectReference from AssessmentResults (redundant). Removed title and description from score (redundant). Changed Reference under Evidence to portfolioReference. Added SubScore, PortfolioReference, SummaryScores, and Sequence. Added Note regarding PESC changes to include score ranges.
0.3	2012-06-01	Valerie Smothers	Added definitions for event, integration block, and sequence block. Removed PerformanceLevelReference from Score and Subscore; added FrameworkScore to Score and SubScore (includes a score, performance framework reference, and competency object reference). Documented FrameworkScore and subelements.
0.4	2012-06-14	Valerie Smothers	Added sources for the terminology definitions, added references, changed SummaryScores to Summary, added Entrustment and EntrustmentEvidence.
0.41	2012-07-03	Valerie Smothers	Added Source element to entrustment, changes summary scores to assessment results. Added ‘without direct supervision’ to the description of entrustment.
0.42	2012-07-19	Valerie Smothers	Added PortfolioReference to AssessmentResults. Harmonized definitions of portfolio reference across document. Corrected typos. Added XML examples.

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1 Acknowledgements

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

- Linda Lewin, M.D., University of Maryland, Co-Chair
- Alan Schwartz, Ph.D., University of Illinois at Chicago, Co-Chair

- Susan Albright, Tufts University
- Michael Barbouche, Odeon Data
- Linda Bell, RN, MSN, American Association of Critical-Care Nurses
- Dana Bostrom, Association of American Medical Colleges
- Rachel Brown, M.D., University of Missouri-Columbia School of Medicine
- Diane Burkhart, Ph.D., American Osteopathic Association
- Timothy Cain, Ph.D., Ohio State University
- Carol Carraccio, M.D., American Board of Pediatrics
- Kelly Caverzagie, University of Nebraska Medical Center
- Christa Chaffinch, National Board of Medical Examiners
- Brian Clare, One45 Software
- Elaine Dannefer, Ph.D., Cleveland Clinic Lerner College of Medicine of Case Western Reserve
- Jeroen Donkers, Ph.D., University of Maastricht
- Mike Dugan, Federation of State Medical Boards
- Robert Englander, Association of American Medical Colleges
- Maria Esquela, Advanced Informatics
- Bob Galbraith, M.D., National Board of Medical Examiners
- Gwen Garrison, Association of American Medical Colleges
- Maureen Garrity, UC Denver
- Simon Grant, Ph.D., JISC
- Hilary Haftel, University of Michigan
- Patricia Hicks, University of Pennsylvania
- Kimberly Hoffman, Ph.D., University of Missouri
- William Iobst, M.D., American Board of Internal Medicine
- Steve Kenney, American Osteopathic Association
- John Jackson, University of Virginia
- Chandler Mayfield, University of California, San Francisco School of Medicine

- Neil Mehta, MD., Cleveland Clinic Lerner College of Medicine of Case Western Reserve University
- David Melamed, M.D., MyEvaluations.com
- 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
- Anita Pokorny, Northeastern Ohio Universities Colleges of Medicine and Pharmacy
- Vijay Rajput, MD., Cooper University Hospital
- Sandhya Samavedam, Wright Center for Graduate Medical Education
- Rosalyn Scott, Wright State University
- Howard Silverman, University of Arizona
- C. Scott Smith, M.D., VA Medical Center, Boise Idaho
- Kirk Smith, M.D., Ph.D., University of Texas Medical Branch at Galveston
- Kevin Souza, University of California, San Francisco School of Medicine
- Anderson Spickard, M.D., Vanderbilt School of Medicine
- Andria Thomas, Ph.D., Medical College of Georgia
- Linda Thomas-Hemak, The Wright Center for Graduate Medical Education
- Hettie Till, University of Dundee
- Janet Trial, University of Southern California
- Loreen Troy, University of Illinois College of Medicine
- Sandra Waters, Federation of State Medical Boards

Specification authors also received technical guidance from members of the MedBiquitous Technical Steering Committee.

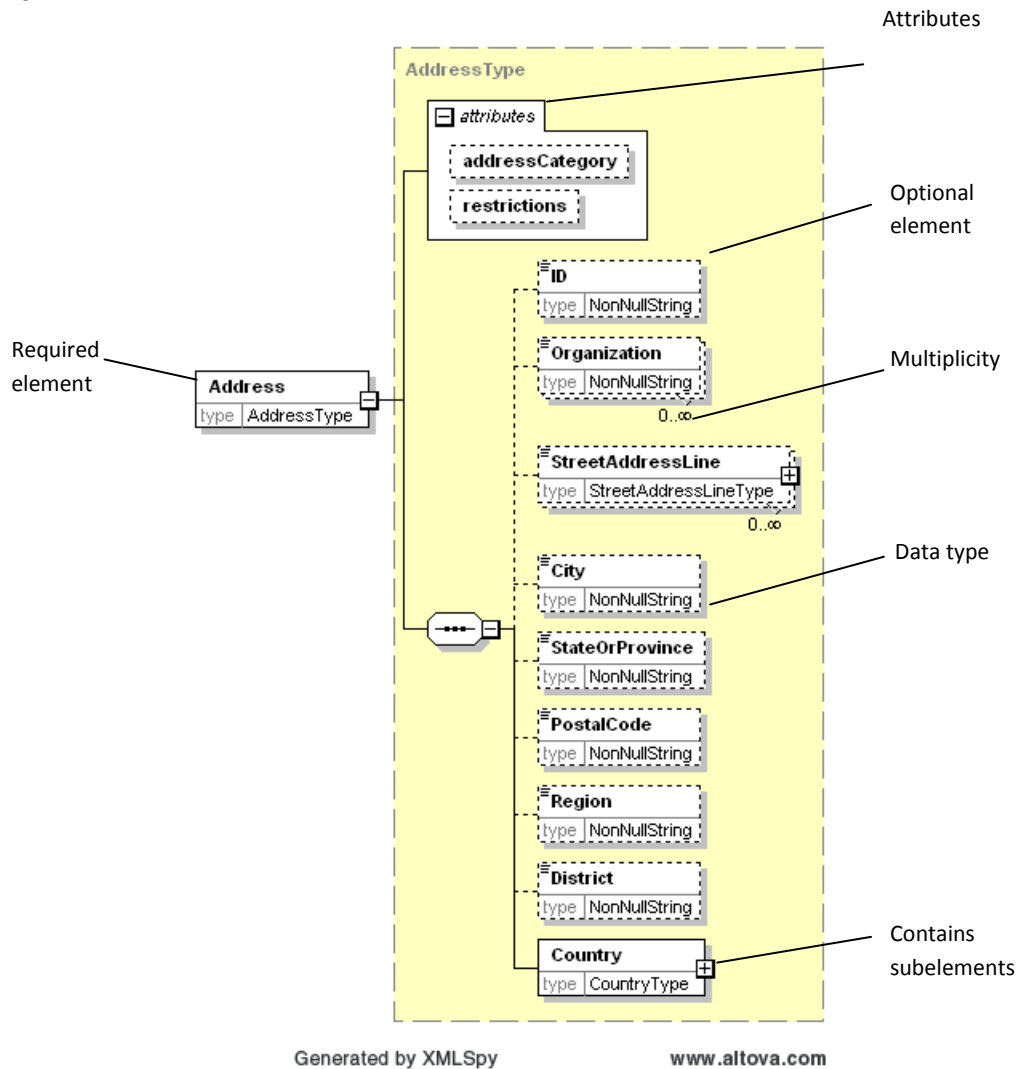
- Joel Farrell, IBM, Technical Steering Committee Chair
- James Fiore, American Board of Surgery
- Steve Kenney, American Osteopathic Association
- Andrew Rabin, CECity
- Dan Rehak, Learning Technologies Architect
- Dan White, American Board of Internal Medicine

2 Documentation Conventions

This document uses the following conventions:

Convention	Description
Bold Text	When used with an XML element name, indicates that the element contains sub-elements.
<i>Italics</i>	When used in an XML element description, an attribute of the XML element.
Monospaced type	Sample XML tags, code, schema, or portion thereof.

The document uses graphics generated by Altova XML Spy® software, which uses the following graphical conventions.



3 Conformance

To conform to the MedBiquitous Educational Achievement specification, an XML document shall:

- Validate against the Educational Achievement XML Schema available at:
<http://ns.medbiq.org/educationalachievement/v1/educationalachievement.xsd>
- Conform to any additional requirements stated in this specification.
- Optionally include elements not defined in this document only in permitted areas and only if those elements are namespace qualified.

4 Common Data Types

Most of the elements and attributes in MedBiquitous XML documents use the data types defined by the W3C XML 1.0 schema definition [XSD]. In some cases MedBiquitous creates its own datatypes as part of its best practices or to meet a specific requirement. Commonly used datatypes are described below.

4.1 Non-null string

Non-null string is a datatype derived from the XML string datatype. Non-null string imposes a minimum length of one character on a string and ensures that required elements are complete.

4.2 Identifying Data through XPath

XPath is a language for finding information in an XML document. XPath is used to navigate through elements and attributes in an XML document. It is a W3C Standard.

The MedBiquitous Curriculum Inventory uses XPath to point to data and resources in a single XML report.

XPath expressions use the following construction:

<code>/SomeElement/SomeSubElement</code>	Selects all SomeSubElements that are sub-elements of SomeElement.
<code>/SomeElement/SomeSubElement[@test='x']</code>	Selects all SomeSubElements that have an attribute named test with a value of 'x' that are sub-elements of SomeElement.
<code>/SomeElement/SomeSubElement/text()</code>	Selects all element content (text) in all SomeSubElements that are sub-elements of SomeElement.

Example:

```
/EducationalAchievement/AchievementInContext/Curriculum/Events/Event[@id='123']
```

This example provides a reference to the Event with an id of 123.

5 Introduction

This document describes MedBiquitous Educational Achievement specification in detail. It is intended for use by anyone who wants to develop tools or implement electronic systems for reporting an individual's achievements, including data about the individual's performance in relation to defined competencies.

Background...

The objective of the specification is to provide a consistent format and data structure for educational achievement data. The standard allows extensions so that data beyond the core set identified in this document may be communicated to other organizations. This specification is intended to work in concert with other specifications.

This specification intentionally excludes the following from its scope:

- Credentials awarded as a result of achievements, including degrees, certifications, licenses, etc.
- Continuing education.
- Activities completed as part of a maintenance of certification or continuous certification process.

Credentials may be described using the MedBiquitous Professional Profile. Continuing education, maintenance of certification, and continuous certification activities may be described using the MedBiquitous Activity Report. Information on these standards is available through the Medbiquitous website: http://medbiq.org/std_specs/standards/index.html

6 Other Standards, Specifications, or Schema Referenced

This standard references the following standards, specifications, or schemas. The informative references here, which describe how these references are used, link to formal references appearing later in this document.

- MedBiquitous Competency Framework [Competency Framework] note about context..
- Curriculum Inventory [Curriculum Inventory]
- Healthcare Professional profile
- Performance Framework
- Others TBD
- XHTML™ 1.0 The Extensible HyperText Markup Language (Second Edition), A Reformulation of HTML 4 in XML 1.0. W3C Recommendation 26 January 2000, revised 1 August 2002. [\[XHTML\]](#) XHTML provides the format for supporting information embedded in the competency framework.

7 Terminology

Much of the terminology in this area is ill-defined or ambiguous, often employed differently (and sometimes interchangeably) by different professionals [[Harden 1](#)] To ensure clarity and consistency we provide working definitions of the terminology we use in the context of this paper:

Note: the Competencies working group is developing many of these definitions. See: <http://groups.medbiq.org/medbiq/display/CWG/Performance+Framework+-+Definitions>

- **Competency** – a statement describing a specific ability, or set of abilities, requiring specific knowledge, skill and/or attitude. Competencies are used to set performance standards that must be met [[Albanese 1](#)]
- **Competency Framework** – an organized and structured representation of a set of interrelated and purposeful competency objects. [[Competency Framework](#)]
- **Competency Object** – an umbrella term used to describe any abstract statement of learning or performance expectations, and information related to the statement. Statements can be learning outcomes, competencies per se, learning objectives, professional roles, topics, classifications/collections, etc. The Competency Object may include additional data to expand on or support the statement. The Object is abstract in the sense that it does not inherently contain information about connections of the statement to individuals or events or other objects. [[Competency Framework](#)]
- **Educational Trajectory** – the path of an individual learner through one or more programs of study. Educational Trajectory may include a sequence of formal curricular activities and events, informal professional development activities and events, and breaks in matriculation. [[Educational Trajectory](#)]
- **Entrustable Professional Activity** – An activity that is part of the essential work of a profession, specialty or subspecialty with the following characteristics: requires the integration of knowledge, skills and attitudes and their demonstration within an authentic context; is independently executable within a given timeframe by qualified personnel; and leads to observable and measurable outputs. An EPA describes a unit of work, while a competency describes an individual. [[tenCate 1](#)] Is a characteristic of an individual
- **Event** – a single education or assessment activity documented in a curriculum. Examples of events include: lecture, problem-based learning activity, virtual patient activity, Simulation activity, seminar, lab, and bedside learning activity, to name a few. [[Curriculum Inventory](#)]
- **Integration Block** – An integrating concept for a curriculum, such as a theme. [[Curriculum Inventory](#)]
- **Performance** – a demonstration of practice, such as patient care. Can be used as evidence of one or more competencies. [[Competency Framework](#)]

- **Performance criteria** – An explicit description of measurable behaviours indicative of achievement of a specific performance level of a specific competency. Note that this is what the pediatrics group refers to as a 'milestone anchor.'
- **Performance level schema** – A generic set of levels of performance (e.g. beginner, novice, expert; or simply 1-2-3-4) that can be used to frame competency progression. Commonly, one performance level schema is applied to all competencies within a competency framework. In undergraduate and postgraduate medical education, the level of performance generally determines the level of supervision required.
- **Performance Framework** – A set of performance levels and criteria associated with a competency framework. **And conditions**
- **Sequence Block** – an organizational component of a curriculum, such as a year, phase, course, module, etc. Sequence blocks can be nested to show a variety of organizational methods. [[Curriculum Inventory](#)]
- **Statement of Awarded Responsibility (STAR):** **A STAR is the point at which entrustment for a specific EPA has been awarded.** Awarding STARs for EPAs over time requires supervisors to make deliberate decisions about their trainees' competence to perform all critical activities for that EPA. [[tenCate 1](#)] **Determined or certified to be competent to perform an EPA with patients in the clinical setting with out supervision**

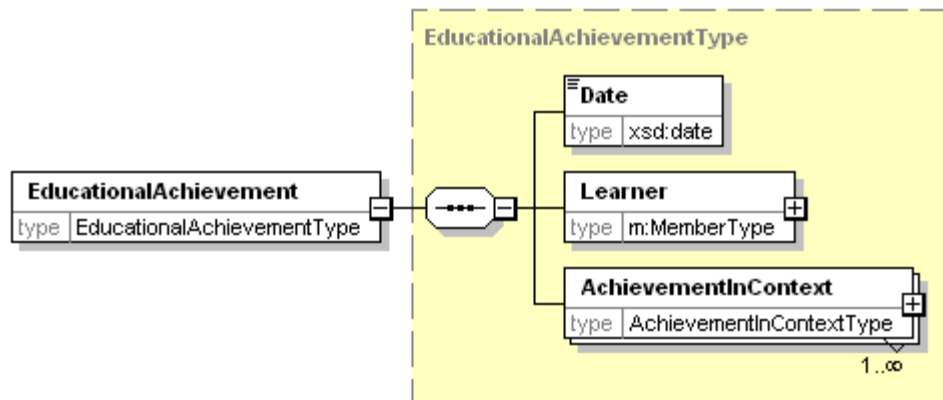
8 Educational Achievement Schema

The following sections explain the Educational Achievement Schema grammar. Values in bold under XML Tags column indicate that the element has sub-elements.

All the elements having sub-elements will be defined in separate sections. All elements without sub-elements will be defined within the appropriate element sections that use them.

8.1 EducationalAchievement

EducationalAchievement is the root element. It contains subelements that describe a learner's achievements in detail. EducationalAchievement must occur once within an Educational Achievement document.



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EducationalAchievement Element Information

Element	Description	Required	Multiplicity	Datatype
EducationalAchievement	EducationalAchievement is the root element. It describes a learner's educational achievements in detail.	Required	1	Container
Date	The date of this educational achievement record.	Required	1	Date

Element	Description	Required	Multiplicity	Datatype
Learner	Information about the learner whose educational achievement data is described. Learner uses the MemberType from the MedBiquitous Healthcare Professional Profile [Professional Profile] .	Required	1	Container For more information, see ANSI/MEDBIQ 10.1-2008 Healthcare Professional Profile.
AchievementInContext	Information about a learner's achievements within the context of a curriculum of instruction and/or assessment.	Required	1 or more	Container

Example:

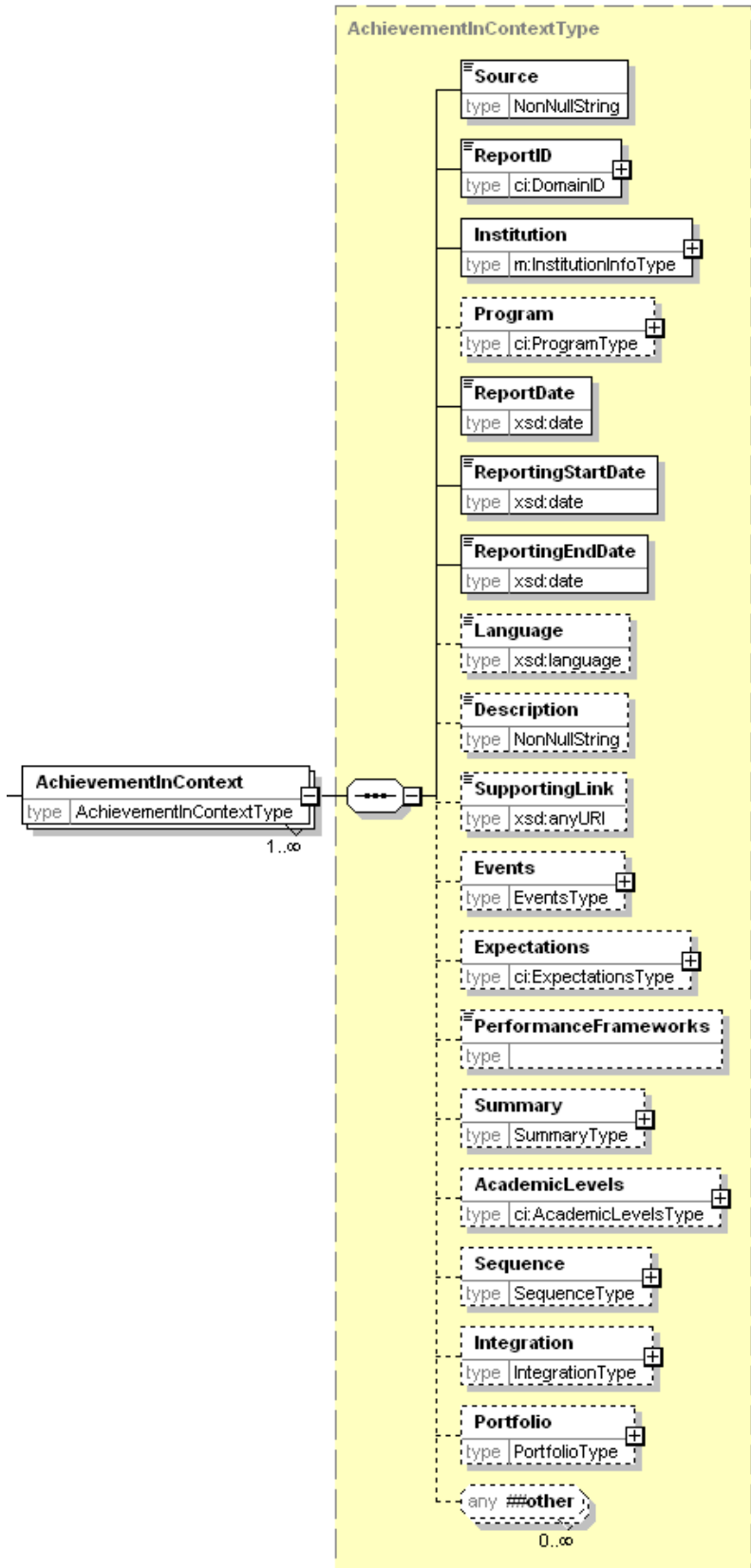
```

<ea:EducationalAchievement>
  <ea:Date>2012-05-31</ea:Date>
  <ea:Learner>
    . . .
  </ea:Learner>
  <ea:AchievementInContext>
    . . .
  </ea:AchievementInContext>
  <ea:AchievementInContext>
    . . .
  </ea:AchievementInContext>
</ea:EducationalAchievement>

```

8.2 AchievementInContext

AchievementInContext is a subelement of EducationalAchievement. It contains subelements that describe a learner's achievements within the context of a curriculum of instruction and/or assessment.



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AchievementInContext Element Information

Element	Description	Required	Multiplicity	Datatype
AchievementInContext	Information about a learner's achievements within the context of a curriculum of instruction and/or assessment.	Required	1 or more	Container
Source	The source of this achievement data.	Required	1	NonNullString
ReportID	<p>A unique identifier for this set of achievement data. ReportID has the following attribute:</p> <p><i>domain</i></p> <p>Defines defines the organization that is the source of the unique identifier. Domain has the following format:</p> <p><i>idd:domainname:localidentifier</i></p> <p>Where:</p> <p><i>domainname</i> is an internet domain name owned by the organization issuing the unique ID and</p> <p><i>localidentifer</i> is a local identifier for the type of unique ID.</p> <p>For example:</p> <p><code>idd:ucsf.edu:somreport</code></p>	Required	1	NonNullString
Institution	<p>Institution contains the name, identifier, and address of the institution where the educational achievements were made.</p> <p>Institution uses the InstitutionInfoType from the MedBiquitous Healthcare Professional Profile [Professional Profile].</p>	Required	1	Container For more information, see ANSI/MEDBIQ 10.1-2008 Healthcare Professional Profile.

Element	Description	Required	Multiplicity	Datatype
Program	<p>Program contains the name and identifier of the program where the achievements were made.</p> <p>Program uses the ProgramType from the MedBiquitous Curriculum Inventory [Curriculum Inventory].</p>	Optional	0 or 1	Container For more information, see MedBiquitous Curriculum Inventory.
ReportDate	The date the report was created.	Required	1	Date
ReportingStartDate	The first day of the period that this achievement data covers.	Required	1	Date
ReportingEndDate	The last day of the period that this achievement data covers.	Required	1	Date
Language	The language of the achievement data. For example, en-US indicates US English.	Optional	0 or 1	Language
Description	A free text description of the curriculum in which the learner was engaged.	Optional	0 or 1	NonNullString
SupportingLink	<p>A link to supporting information, such as a pictorial representation of the curriculum or a document explaining the rationale behind the curriculum structure.</p> <p>The link must be a URN or URL. For example: http://www.example.edu/curriculum.pdf</p>	Optional	0 or 1	anyURI
Events	<p>Events contains information about the education and assessment events the learner experienced.</p> <p>For more information, see section Events.</p>	Optional	0 or 1	Container

Element	Description	Required	Multiplicity	Datatype
Expectations	<p>Expectations contains subelements that describe the competencies, learning objectives, and learning outcomes implemented in a curriculum and how they are organized.</p> <p>Expectations uses the ExpectationsType from the MedBiquitous Curriculum Inventory [Curriculum Inventory].</p>	Optional	0 or 1	Container For more information, see MedBiquitous Curriculum Inventory.
PerformanceFrameworks	<p>PerformanceFrameworks contains subelements that describe sets of performance levels and criteria associated with competency frameworks.</p> <p>For more information, see...</p>	Optional	0 or 1	Container
Summary	<p>Summary contains subelements that describe the learner's performance across the curriculum.</p> <p>For more information, see section Summary.</p>	Optional	0 or 1	Container
AcademicLevels	<p>AcademicLevels contains subelements that describe information about the academic levels defined for this curriculum.</p> <p>Program uses the AcademicLevelsType from the MedBiquitous Curriculum Inventory [Curriculum Inventory].</p>	Optional	0 or 1	Container For more information, see MedBiquitous Curriculum Inventory.
Sequence	<p>Sequence contains subelements that describe information about how the learner's curriculum of study is organized over a period of time.</p> <p>For more information, see section Sequence.</p>	Optional	0 or 1	Container

Element	Description	Required	Multiplicity	Datatype
Integration	Integration contains subelements that describe how a curriculum is integrated. For more information, see section Integration.	Optional	0 or 1	Container
Portfolio	Portfolio includes the learner's educational trajectory and other portfolio data related to this record of achievement.	Optional	0 or 1	Container
Elements from other namespaces	AchievementInContext may include elements from other namespaces provided those elements are namespace qualified.	Optional	0 or 1	Any

Example:

```

<ea:AchievementInContext>
  <ea:Source>University of Toronto</ea:Source>
  <ea:ReportID domain="idd:utoronto.ca:reports">123456</ea:ReportID>
  <ea:Institution>
    <m:InstitutionName>University of Toronto Faculty of
Medicine</m:InstitutionName>
    <m:InstitutionID
domain="idd:ecfmg.org:imed">123456</m:InstitutionID>
  </ea:Institution>
  <ea:Program>
    <ci:ProgramName>MD program</ci:ProgramName>
    <ci:ProgramID domain="idd:aamc.org:program">123456</ci:ProgramID>
    <ci:EducationalContext>undergraduate professional
education</ci:EducationalContext>
    <ci:Profession>physician</ci:Profession>
  </ea:Program>
  <ea:ReportDate>2011-10-05</ea:ReportDate>
  <ea:ReportingStartDate>2005-06-01</ea:ReportingStartDate>
  <ea:ReportingEndDate>2009-05-13</ea:ReportingEndDate>
  <ea:Language>en-us</ea:Language>
  <ea:Events>
    . . .
  </ea:Events>
  <ea:Expectations>
    . . .
  </ea:Expectations>
  <ea:PerformanceFrameworks>

```

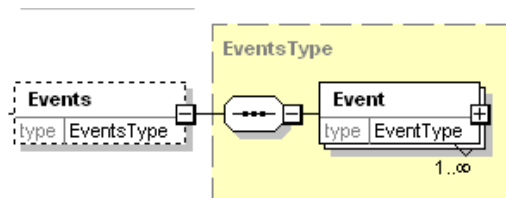
```

. . .
</ea:PerformanceFrameworks>
<ea:Summary>
. . .
</ea:Summary>
<ea:AcademicLevels>
. . .
</ea:AcademicLevels>
<ea:Sequence>
. . .
</ea:Sequence>
<ea:Integration>
. . .
</ea:Integration>
<ea:Portfolio>
. . .
</ea:Portfolio>

```

8.3 Events

Events contains information about the education and assessment events the learner experienced.



Events Element Information

Element	Description	Required	Multiplicity	Datatype
Events	Events contains sub elements that describe information about the education and assessment events that comprise the curriculum	Optional	0 or 1	Container
Event	Event contains subelements that describe a single education or assessment event. Examples of events include: lecture, problem-based learning activity, virtual patient activity, seminar, lab, OSCE, and written exam, to name a few. For more information, see section Event.	Required	1 or more	Container

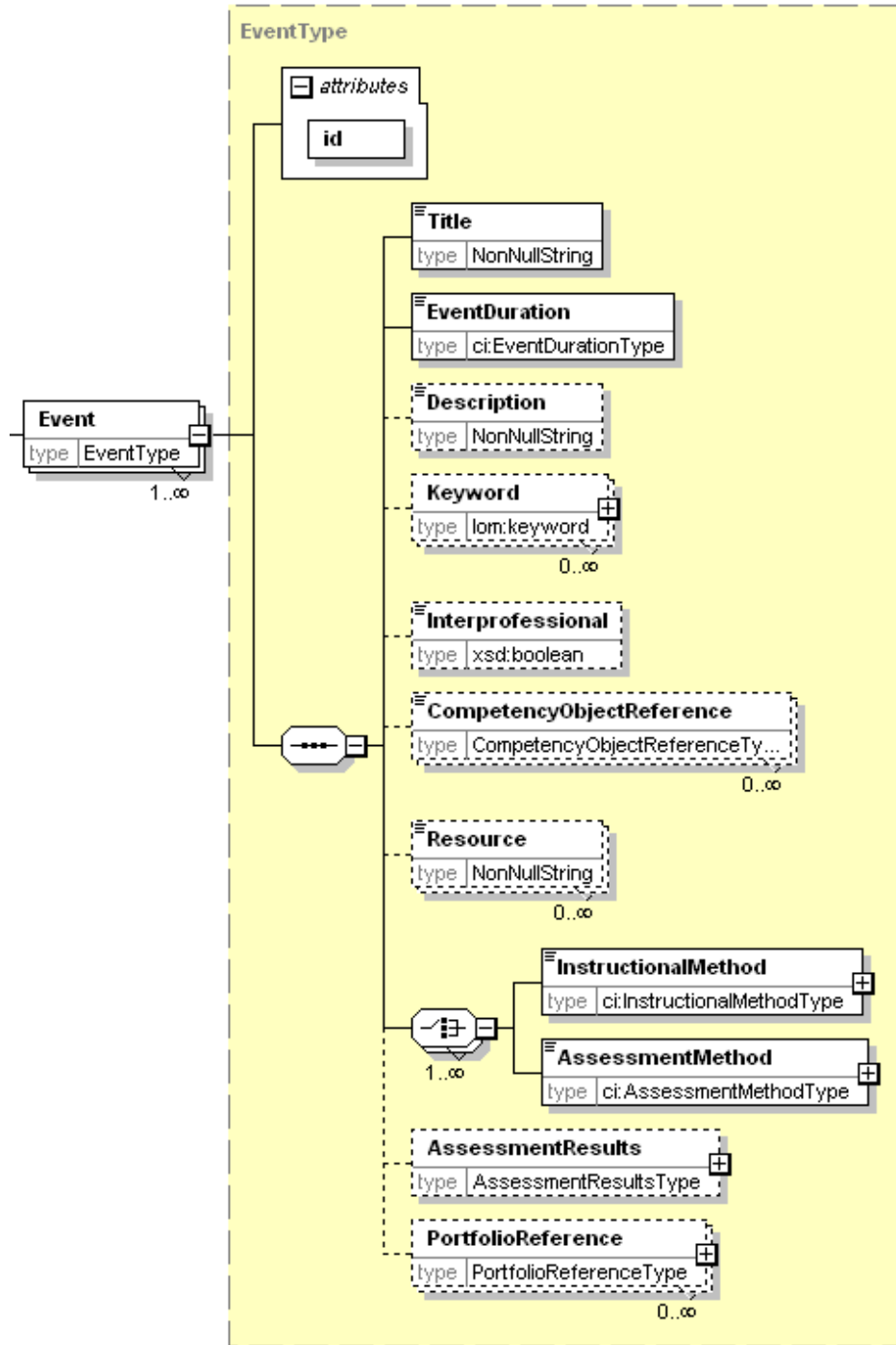
Example:


```
<ea:Events>
  <ea:Event id="e1">
    . . .
  </ea:Event>
  <ea:Event id="e2">
    . . .
  </ea:Event>
  <ea:Event id="e3">
    . . .
  </ea:Event>
  <ea:Event id="e4">
    . . .
  </ea:Event>
  <ea:Event id="e5">
    . . .
  </ea:Event>
</ea:Events>
```

8.3.1 Event

Event is a ~~subelement of Events that contains subelements that describe a~~ single education or assessment event the learner experienced. Examples of events include: lecture, problem-based learning activity, virtual patient activity, Simulation activity, seminar, lab, bedside learning activity, OSCE, and written exam to name a few. Events can be combined to form a sequence block within a curriculum. Events may reference learning objectives, competencies, or learning outcomes captured in expectations, as well as curricular themes, known as integration blocks. Events may contain assessment results.

(NOTE: PESC HAS OFFERED TO ADD THE ABILITY TO INCLUDE SCORE RANGES WITHIN THE NORM REFERENCED VALUES ELEMENT OF THEIR SPECIFICATION. WE WILL REFERENCE THE REVISED SPECIFICATION AS SOON AS IT BECOMES AVAILABLE)



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Event Element Information

Element	Description	Required	Multiplicity	Datatype
Event	<p>Event contains subelements that describe a single education or assessment event. Examples of events include: lecture, problem-based learning activity, virtual patient activity, seminar, lab, OSCE, and written exam, to name a few.</p> <p>Event has the following attribute:</p> <p><i>id</i> A unique identifier for this event. Use of the id attribute is required.</p>	Required	1 or more	Container
Title	A title for this education or assessment event.	Required	1	Non-null string
EventDuration	The duration of the event.in hours. For example, PT20H indicates 20 hours.	Required	1	Duration (restricted to hours)
Description	A free text description of the education or assessment event.	Optional	0 or 1	Non-null string
Keyword	<p>An important concept or topic related to the event.</p> <p>Keyword uses the keyword type and custom attributes from Healthcare Learning Object Metadata [Healthcare LOM].</p>	Optional	0 or more	For more information see ANSI/MEDBIQ LO.10.1-2008.
Interprofessional	An indicator as to whether or not this event is designed to engage students of different health professions as teams. The default value is false.	Optional	0 or 1	Boolean

Element	Description	Required	Multiplicity	Datatype
CompetencyObjectReference	<p>A reference to the unique id for a learning objective, competency, learning outcome, (all of which are known as competency objects) associated with this event. CompetencyObjectReference has the following format:</p> <pre>/EducationalAchievement/AchievementInContext/Expectations/CompetencyObject[lom:lom/lom:general/lom:identifier/lom:entry='X']</pre> <p>All in one line, where X is the id of a Competency Object in this achievement record.</p>	Optional	0 or more	Restricted (to conformant XPath) See section Identifying Data through XPath for more information
Resource	<p>A resource used in this event. A recommended list is available as part of the Curriculum Inventory Standardized Instructional and Assessment Methods and Resources [Vocabularies].</p>	Optional	0 or more	Non-null string
InstructionalMethod	<p>An instructional method used in this event. It is strongly recommended that communities using this specification to share information use an agreed upon set of terms. A recommended list is available as part of the Curriculum Inventory Standardized Instructional and Assessment Methods and Resources [Vocabularies].</p> <p>InstructionalMethod has the following attribute:</p> <p><i>primary</i></p> <p>Indicates whether or not this instructional method is the primary instructional method of the event. Use of the primary attribute is required. Valid values are true and false. One instructional method must be marked as primary for an instructional event.</p>	Either InstructionalMethod or AssessmentMethod is required	0 or more	Non-null string

Element	Description	Required	Multiplicity	Datatype
AssessmentMethod	<p>An assessment method used in this event. It is strongly recommended that communities using this specification to share information use an agreed upon set of terms. A recommended list is available as part of the Curriculum Inventory Standardized Instructional and Assessment Methods and Resources [Vocabularies].</p> <p>AssessmentMethod has the following attribute:</p> <p><i>purpose</i> Indicates whether the assessment is used for formative or summative assessment. Use of the purpose attribute is required. Valid values are Formative and Summative.</p>	Either InstructionalMethod or AssessmentMethod is required	0 or more	Non-null string
AssessmentResults	<p>AssessmentResults contains subelements that provide detailed information on the results of any assessment included in this event.</p> <p>For more information, see section AssessmentResults.</p>	Optional	0 or 1	Container
PortfolioReference	<p>PortfolioReference provides either an XPath reference or a URI reference to a portfolio entry providing supporting information related to this event.</p> <p>For more information, see section PortfolioReference.</p>	Optional	0 or more	Container

Example:

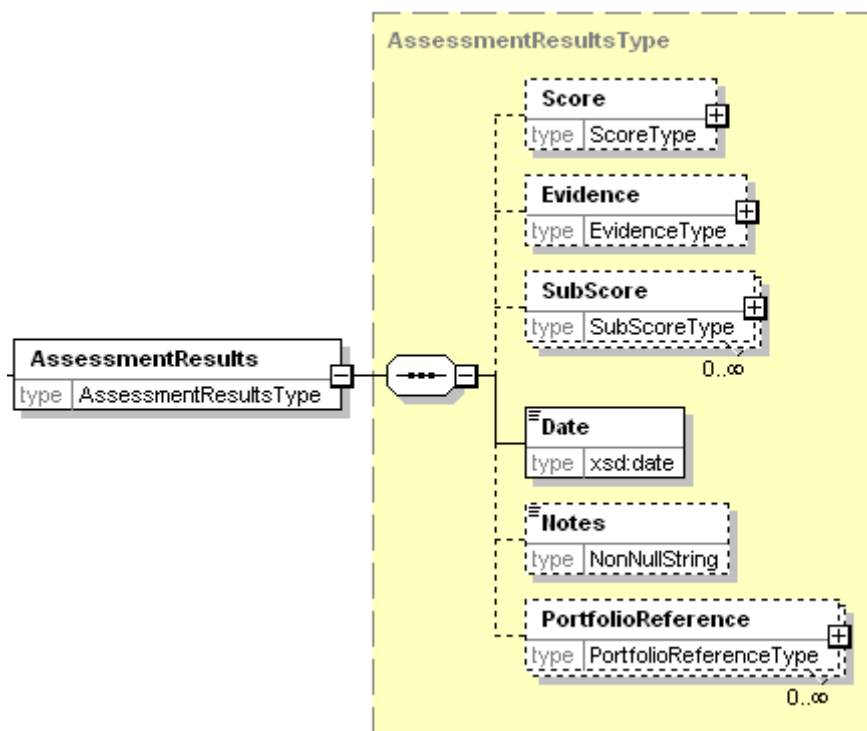
```
<ea:Event id="mde1">
  <ea:Title>Pediatric Level 3 360 Degree Feedback</ea:Title>
  <ea:EventDuration>PT2H</ea:EventDuration>
  <ea:Description>Residents receive feedback from supervisors, peers, nurses, and
patients.</ea:Description>
  <ea:Keyword id="D007318" source="mesh">
    <lom:string>Inservice Training</lom:string>

```

```
</ea:Keyword>
<ea:Interprofessional>false</ea:Interprofessional>
<ea:CompetencyObjectReference>/EducationalAchievement/AchievementInContext/Expectations/CompetencyObj
ect[lom:lom/lom:general/lom:identifier/lom:entry='
http://acgme.org/competencies/PC1']</ea:CompetencyObjectReference>
<ea:Resource>Real Patient</ea:Resource>
<ea:AssessmentMethod purpose="Formative">Multisource Feedback</ea:AssessmentMethod>
<ea:AssessmentResults>
. . .
</ea:AssessmentResults>
<ea:PortfolioReference>
  <ea:URIReference>http://portfolio.umaryland.edu/jdoel/sdgh</ea:URIReference>
</ea:PortfolioReference>
</ea:Event>
```

8.3.2 AssessmentResults

AssessmentResults contains subelements that provide detailed information on the results of any assessment included in an event or sequence block. It may also describe summary results for an educational program. Assessment results include the scores, performance levels achieved, competencies or objectives assessed, evidence reviewed and subscores.



AssessmentResults Element Information

Element	Description	Required	Multiplicity	Datatype
AssessmentResults	AssessmentResults contains subelements that provide detailed information on the results of any assessment.	Optional	0 or 1	Container
Score	Score contains subelements that describe the overall score on this assessment in detail. Several different types of scores may be represented. For more information, see section Score.	Optional	0 or 1	Container
Evidence	Evidence contains a description of and optional reference to the evidence considered when producing these assessment results. For more information, see section Evidence.	Optional	0 or 1	Container
SubScore	SubScore contains subelements that describe a subscore for this assessment in detail. Several different types of subscores may be represented. For more information, see section SubScore.	Optional	0 or more	Container
Date	The date of this assessment.	Required	1	Date
Notes	Any notes or reflections the learner has recorded related to this assessment.	Optional	0 or 1	NonNullString
PortfolioReference	PortfolioReference provides either an XPath reference or a URI reference to a portfolio entry providing supporting information related to these assessment results. For information, see section PortfolioReference.	Optional	0 or more	Container

Example:

```
<ea:AssessmentResults>
  <ea:SubScore>
    <PercentCorrectValue>78</PercentCorrectValue>
```



```

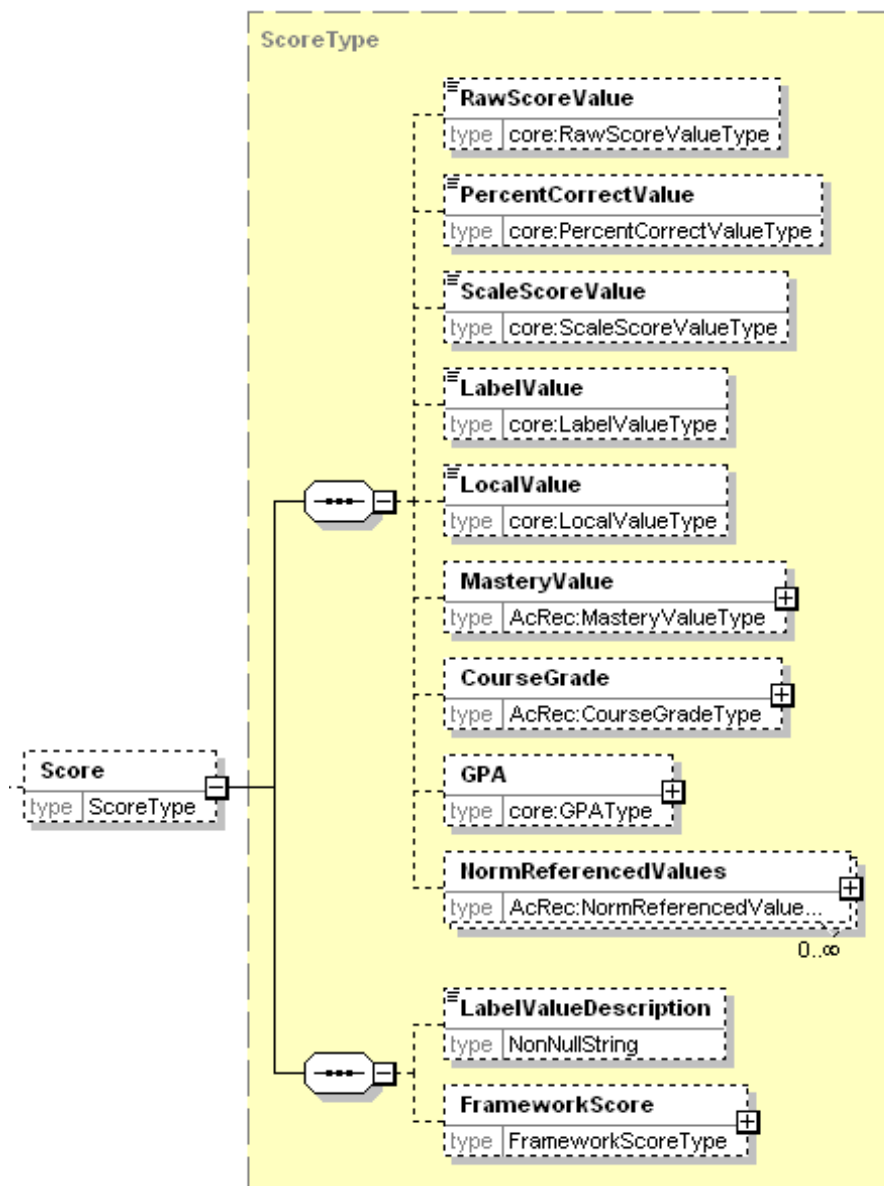
    <ea:Title>Patient Care</ea:Title>
    <ea:CompetencyObjectReference>
/EducationalAchievement/AchievementInContext/Expectations/CompetencyObject[lom:lom/lom:general/lom:ident
ifier/lom:entry=' http://acgme.org/competencies/PC']
    </ea:CompetencyObjectReference>
  </ea:SubScore>
  <ea:SubScore>
    <PercentCorrectValue>75</PercentCorrectValue>
    <ea:Title>Professionalism</ea:Title>
  </ea:SubScore>
  <ea:SubScore>
    <PercentCorrectValue>70</PercentCorrectValue>
    <ea:Title>Communication</ea:Title>
  </ea:SubScore>
  <ea:Date>2011-09-10</ea:Date>
</ea:AssessmentResults>
<ea:PortfolioReference>
  <ea:URIReference>http://portfolio.ucsf.edu/pshelley/qwer</ea:URIReference>
</ea:PortfolioReference>

```

8.3.3 Score

Score contains subelements that describe the overall score on this assessment in detail. Several different types of scores may be represented, including descriptive scores (i.e. proficient) and performance levels or milestones.

ScoreType is an extension of the PESC EducationTestScoresType from the PESC XML Education Test Score Reporting. For more information, visit: http://www.pesc.org/interior.php?page_id=132 [ETS].



Score Element Information

Element	Description	Required	Multiplicity	Datatype
Score	Score contains subelements that describe the overall score on this assessment in detail.	Optional	0 or 1	Container
RawScoreValue PercentCorrectValue ScaleScoreValue LabelValue MasteryValue CourseGrade GPA NormReferencedValues	See the Implementation Guide to the Postsecondary Electronic Standards Council XML Standard Format for Education Test Score Reporting Version 1.0.0.1 description of EducationTestScores [ETS]			
LabelValueDescription	A description of the label that describes the score value. For example, if the label value is proficient, description provides more information about the meaning of that value.	Optional	0 or 1	NonNullString
FrameworkScore	FrameworkScore contains subelements that describe the learner's score in relation to a performance framework. For more information, see section FrameworkScore.	Optional	0 or 1	Container

Example:

```

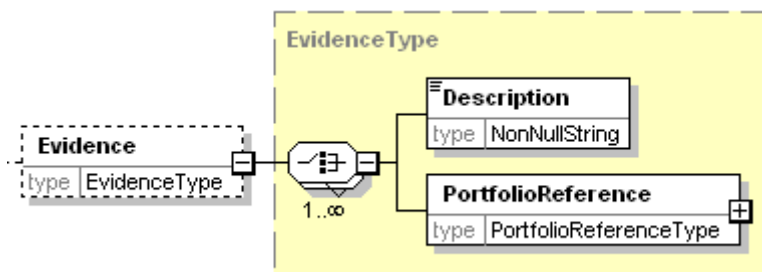
<ea:Score>
  <MasteryValue>
    <MasteredIndicator>true</MasteredIndicator>
    <CutScore>80</CutScore>
  </MasteryValue>
</ea:Score>

```

</MasteryValue>

8.3.4 </ea:Score>Evidence

Evidence contains a description of and optional reference to the evidence considered when producing assessment results.



Evidence Element Information

Element	Description	Required	Multiplicity	Datatype
Evidence	Evidence contains a description of and optional reference to the evidence considered when producing these assessment results.	Optional	0 or 1	Container
Description	A description of the evidence considered when producing these assessment results.	Either Description or PortfolioReference is required. Both may be present.	0 or 1	NonNull String
PortfolioReference	PortfolioReference provides either an XPath reference or a URI reference to a portfolio entry considered when producing these assessment results. There may be multiple PortfolioReference elements to point to multiple portfolio entries considered in this assessment. For information on the structure of PortfolioReference, see section PortfolioReference.	Either Description or PortfolioReference is required. Both may be present.	0 or more	Container

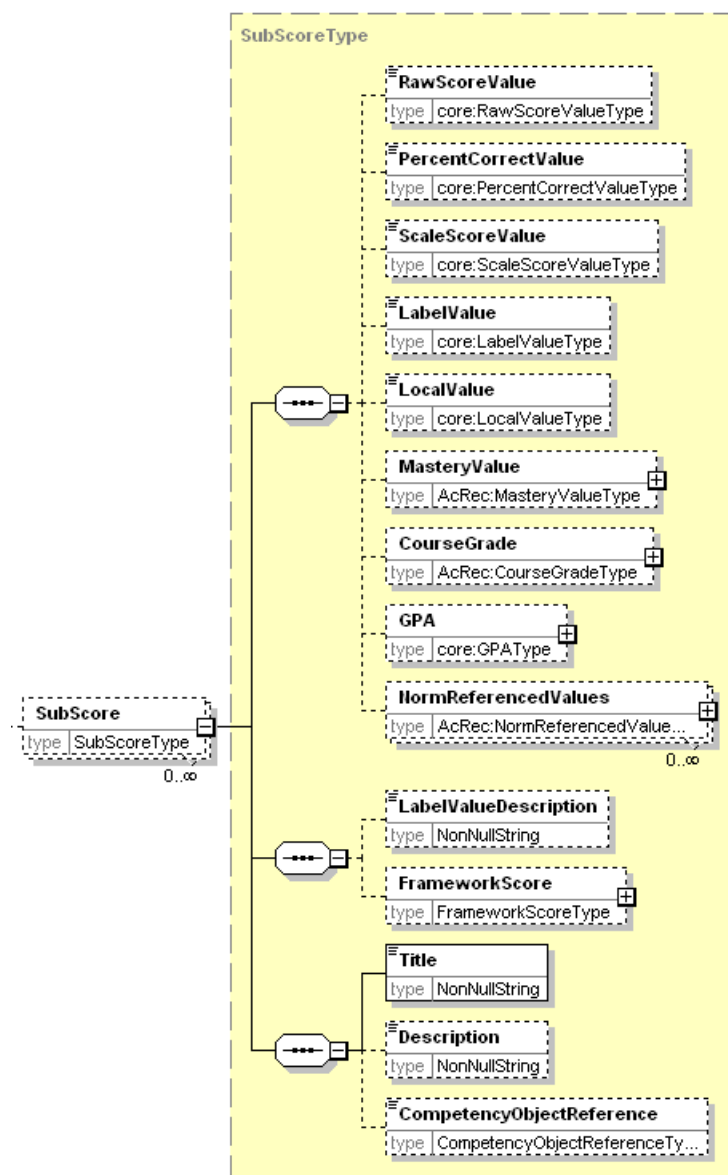
Example:

```
<ea:Evidence>
  <ea:Description>Scores were determined by reviewing assessment results, supervisor ratings and
  notes, and a competency-based portfolio.</ea:Description>
  <ea:PortfolioReference>
    <ea:URIReference>http://www.utoronto.edu/jdoel/portfolio</ea:URIReference>
  </ea:PortfolioReference>
</ea:Evidence>
```

8.3.5 SubScore

SubScore contains subelements that describe a subscore in detail. Several different types of subscores may be represented, including descriptive scores (i.e. proficient) and performance levels or milestones.

SubScoreType extends ScoreType, which is an extension of the PESC EducationTestScoresType from the PESC XML Education Test Score Reporting. For more information, visit: http://www.pesc.org/interior.php?page_id=132 [ETS].



SubScore Element Information

Element	Description	Required	Multiplicity	Datatype
SubScore	SubScore contains subelements that describe a subscore in detail.	Optional	0 or more	Container
RawScoreValue PercentCorrectValue ScaleScoreValue LabelValue MasteryValue CourseGrade GPA NormReferencedValues	See the Implementation Guide to the Postsecondary Electronic Standards Council XML Standard Format for Education Test Score Reporting Version 1.0.0.1 description of EducationTestScores [ETS]			
LabelValueDescription	A description of the label that describes the score value. For example, if the label value is proficient, description provides more information about the meaning of that value.	Optional	0 or 1	NonNullString
FrameworkScore	FrameworkScore contains subelements that describe the learner's score in relation to a performance framework. For more information, see section FrameworkScore.	Optional	0 or 1	Container
Title	A title for the subscore. For example, Clinical skills.	Required	1	NonNullString
Description	A description of what the subscore is for.	Optional	0 or 1	NonNullString

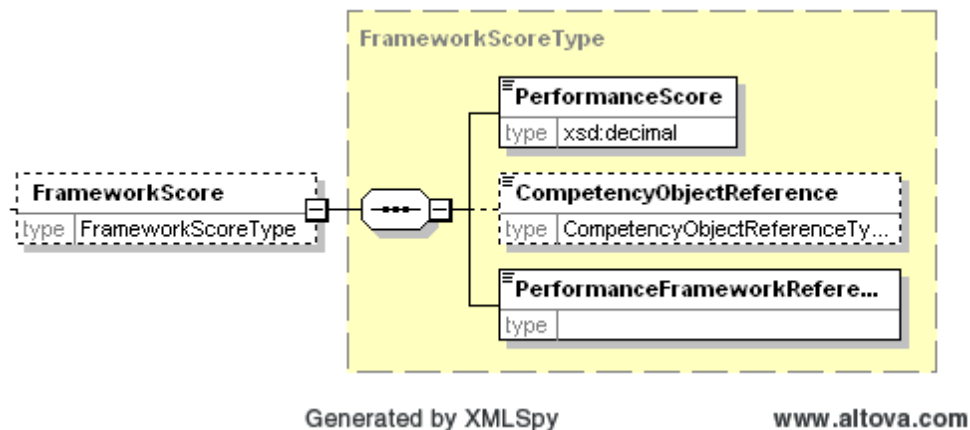
Element	Description	Required	Multiplicity	Datatype
CompetencyObjectReference	<p>A reference to the unique id for a learning objective, competency, learning outcome, (all of which are known as competency objects) associated with this event. CompetencyObjectReference has the following format:</p> <pre>/EducationalAchievement/AchievementInContext/Expectations/CompetencyObject[lom:lom/lom:general/lom:identifier/lom:entry='X']</pre> <p>All in one line, where X is the id of a Competency Object in this achievement record.</p>	Optional	0 or 1	Restricted (to conformant XPath) See section Identifying Data through XPath for more information

Example:

```
<ea:SubScore>
  <LocalValue>2</LocalValue>
  <ea:FrameworkScore>
    <ea:PerformanceScore>2</ea:PerformanceScore>
    <ea:CompetencyObjectReference>
      /EducationalAchievement/AchievementInContext/Expectations/CompetencyObject[lom:lom/lom:general/lom:identifier/lom:entry=' http://royalcollege.ca/canmeds/R1 ']
    </ea:CompetencyObjectReference>
  </ea:PerformanceFrameworkReference>
  /EducationalAchievement/AchievementInContext/PerformanceFrameworks/PerformanceFramework[@='p1']
</ea:PerformanceFrameworkReference>
</ea:FrameworkScore>
<ea:Title>Medical Expert</ea:Title>
<ea:Description>A score summarizing the learner's performance as a medical expert across the curriculum</ea:Description>
</ea:SubScore>
```


8.3.6 FrameworkScore

FrameworkScore contains subelements that describe the learner’s score in relation to a performance framework.



FrameworkScore Element Information

Element	Description	Required	Multiplicity	Datatype
FrameworkScore	PortfolioReference provides either an XPath reference or a URI reference to a portfolio entry providing supporting information.	Optional	0 or more	Container
PerformanceScore	A score on a scale defined within a performance framework. The score maybe the result of a single assessment or a summary score for multiple assessments.	Required	1	Decimal

Element	Description	Required	Multiplicity	Datatype
CompetencyObjectReference	<p>A reference to the unique id for a learning objective, competency, learning outcome, (all of which are known as competency objects) associated with this event. CompetencyObjectReference has the following format:</p> <pre>/EducationalAchievement/AchievementInContext/Expectations/CompetencyObject[lom:lom/lom:general/lom:identifier/lom:entry='X']</pre> <p>All in one line, where X is the id of a Competency Object in this achievement record.</p>	Optional	0 or 1	Restricted (to conformant XPath) See section Identifying Data through XPath for more information
PerformanceFrameworkReference	<p>A reference to the performance framework used for determining the performance score. (MORE DETAILS TO COME)</p>			Restricted (to conformant XPath) See section Identifying Data through XPath for more information

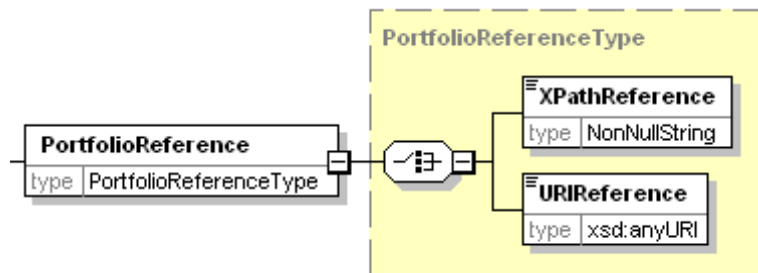
Example:

```
<ea:FrameworkScore>
  <ea:PerformanceScore>2</ea:PerformanceScore>
  <ea:CompetencyObjectReference>
    /EducationalAchievement/AchievementInContext/Expectations/CompetencyObject[lom:lom/lom:general/lom:identifier/lom:entry=' http://royalcollege.ca/canmeds/R1']
  </ea:CompetencyObjectReference>
  <ea:PerformanceFrameworkReference>
    /EducationalAchievement/AchievementInContext/PerformanceFrameworks/PerformanceFramework[@='p1']
  </ea:PerformanceFrameworkReference>
```

</ea:FrameworkScore>

8.3.7 PortfolioReference

PortfolioReference contains subelements that provide an XPath or URI pointer to supporting information or evidence. The URI reference is used to point to an external portfolio. The XPath reference is used to point to the portfolio section of this Educational Achievement data set.



PortfolioReference Element Information

Element	Description	Required	Multiplicity	Datatype
PortfolioReference	PortfolioReference provides either an XPath reference or a URI reference to a portfolio entry providing supporting information.	See one of the following parent elements for details on optionality: AssessmentResults EntrustmentEvidence Event Evidence SequenceBlock	0 or more	Container

Element	Description	Required	Multiplicity	Datatype
XPathReference	<p>A pointer to a portfolio entry in this EducationalAchievement data set providing supporting information. PortfolioReference has the following format:</p> <pre>/EducationalAchievement/AchievementInContext/Portfolio/pathtoentry</pre> <p>All in one line, where <i>pathtoentry</i> provides the path to the specific portfolio entry.</p> <p>See section Identifying Data through XPath for more information</p>	Either XPathReference or URIReference is required.	0 or 1	NonNull String
URIReference	A pointer to an external portfolio entry or supporting evidence providing related information .	Either XPathReference or URIReference is required.	0 or 1	anyURI

Example:

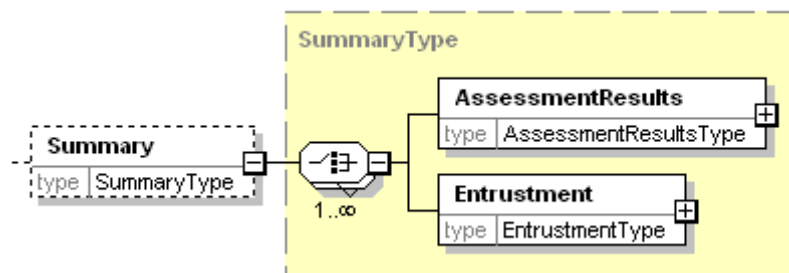
```
<ea:PortfolioReference>
  <ea:URIReference>http://portfolio.umaryland.edu/jdoe1/sdgh</ea:URIReference>
</ea:PortfolioReference>
```

8.4 Performance Frameworks

TBD

8.5 Summary

Summary contains subelements that describe the learner's performance across the curriculum.



Summary Element Information

Element	Description	Required	Multiplicity	Datatype
Summary	Summary contains subelements that describe the learner’s performance across the curriculum.	Optional	0 or 1	Container
Assessment Results	AssessmentResults describes a summary score or scores reflecting the learner’s performance across the curriculum. For more information, see section AssessmentResults.	Either AssessmentResults or Entrustment is required	0 or more	Container (uses the SubScore datatype)
Entrustment	Entrustment describes a decision to entrust the learner to perform certain activities without direct supervision. For more information, see section Entrustment.	Either AssessmentResults or Entrustment is required	0 or more	Container

Example:

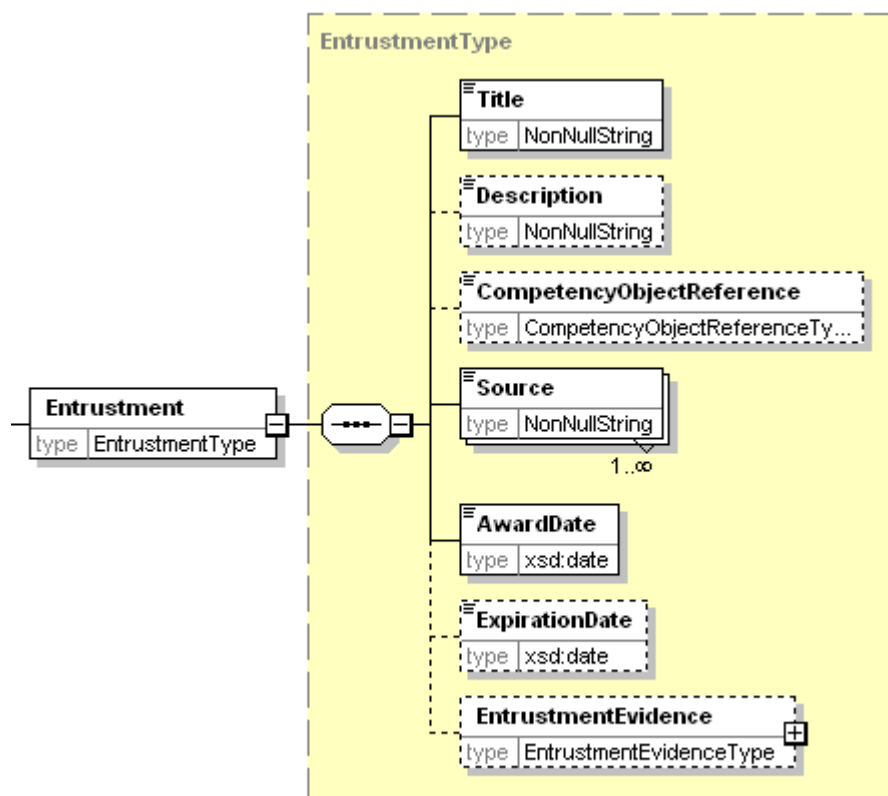
```

<ea:Summary>
  <ea:AssessmentResults>
    . . .
  </ea:AssessmentResults>
  <ea:Entrustment>
    . . .
    
```

```
</ea:Entrustment>
<ea:Entrustment>
. . .
</ea:Entrustment>
<ea:Entrustment>
. . .
</ea:Entrustment>
</ea:Summary>
```

8.5.1 Entrustment

Entrustment describes a decision to entrust the learner to perform certain activities without direct supervision. It is based on ten Cate's notions of Statements of Awarded responsibility and Entrustable Professional Activities [[ten Cate1](#)].



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Entrustment Element Information

Element	Description	Required	Multiplicity	Datatype
Entrustment	Entrustment describes a decision to entrust the learner to perform certain activities without direct supervision.	Either AssessmentResults or Entrusment is required	0 or more	Container

Element	Description	Required	Multiplicity	Datatype
Title	A title for this entrustment decision.	Required	1	NonNull String
Description	A description of this entrustment decision.	Optional	0 or 1	NonNull String
CompetencyObjectReference	<p>A reference to a competency object that describes the activity with which the learner has been entrusted. The competency object may describe an Entrustable Professional Activity.</p> <p>CompetencyObjectReference has the following format:</p> <pre>/EducationalAchievement/AchievementInContext/Expectations/CompetencyObject[lom:lom/lom:general/lom:identifier/lom:entry='X']</pre> <p>All in one line, where X is the id of a Competency Object in this achievement record.</p>	Optional	0 or 1	Restricted (to conformant XPath) See section Identifying Data through XPath for more information
Source	The source of the entrustment decision. This could be an individual, a committee, or a URI to a resource that describes the decision maker in more detail.	Required	1 or more	NonNull String
AwardDate	The date entrustment was awarded to the learner.	Required	1	Date
ExpirationDate	The date this entrustment decision expires.	Optional	0 or 1	Date
EntrustmentEvidence	<p>EntrustmentEvidence contains subelements identifying the evidence weighed in making this entrustment decision.</p> <p>For more information, see section EntrustmentEvidence.</p>	Optional	0 or 1	Container

Example:

```
<ea:Entrustment>
  <ea>Title>Care of a Healthy Newborn</ea>Title>
```

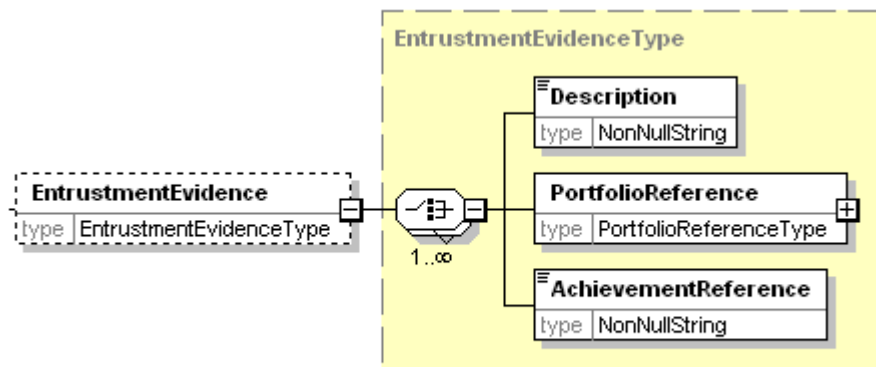


```

<ea:CompetencyObjectReference>
/EducationalAchievement/AchievementInContext/Expectations/CompetencyObject[lom:lom/lom:general/lom:ident
ifier/lom:entry=' http://abp.org/epas/epa1']
</ea:CompetencyObjectReference>
<ea:Source>Thelonius Smith</ea:Source>
<ea:AwardDate>2011-08-18</ea:AwardDate>
</ea:Entrustment>
    
```

8.5.2 EntrustmentEvidence

EntrustmentEvidence identifying the evidence weighed in making this entrustment decision.



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EntrustmentEvidence Element Information

Element	Description	Required	Multiplicity	Datatype
EntrustmentEvidence	EntrustmentEvidence contains subelements identifying the evidence weighed in making this entrustment decision.	Optional	0 or 1	Container

Element	Description	Required	Multiplicity	Datatype
Description	A description of this entrustment decision.	At least one of the following elements is required: Description, PortfolioReference, AchievementReference.	0 or more	NonNull String
PortfolioReference	PortfolioReference provides either an XPath reference or a URI reference to a portfolio entry used as evidence in this entrustment decision. There may be multiple PortfolioReference elements to point to multiple pieces of evidence considered in this decision. For information on the structure of PortfolioReference, see section PortfolioReference.	At least one of the following elements is required: Description, PortfolioReference, AchievementReference	0 or more	Container
AchievementReference	A pointer to an entry (Event, SequenceBlock, or Summary Score) in this EducationalAchievement data set. AchievementReference has the following format: <i>/EducationalAchievement/AchievementInContext/pathtoentry</i> All in one line, where <i>pathtoentry</i> provides the path to the specific educational achievement entry. See section Identifying Data through XPath for more information	At least one of the following elements is required: Description, PortfolioReference, AchievementReference	0 or more	NonNull String

Example:

```

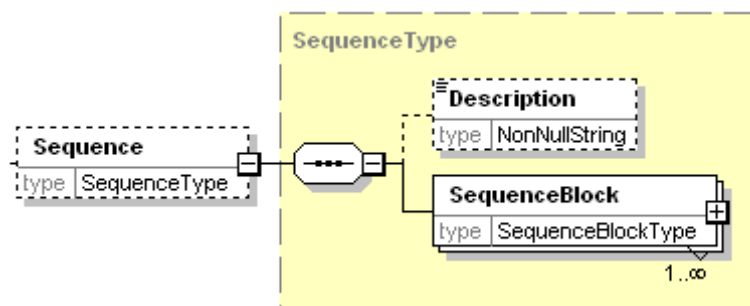
<ea:EntrustmentEvidence>
  <ea:Description>The committee reviewed simulation results, OSCE scores, and supervisor
ratings.</ea:Description>
  <ea:AchievementReference>/EducationalAchievement/AchievementInContext/Events/Event[@id='mdl1']
</ea:AchievementReference>

```

```
<ea:AchievementReference>/EducationalAchievement/AchievementInContext/Events/Event[@id='mde2']
</ea:AchievementReference>
</ea:EntrustmentEvidence>
```

8.6 Sequence

Sequence contains subelements that describe information about how the learner’s curriculum of study is organized over a period of time. The curriculum’s sequence consists of a series of sequence blocks, which correspond to courses or other blocks of curricular content.



Sequence Element Information

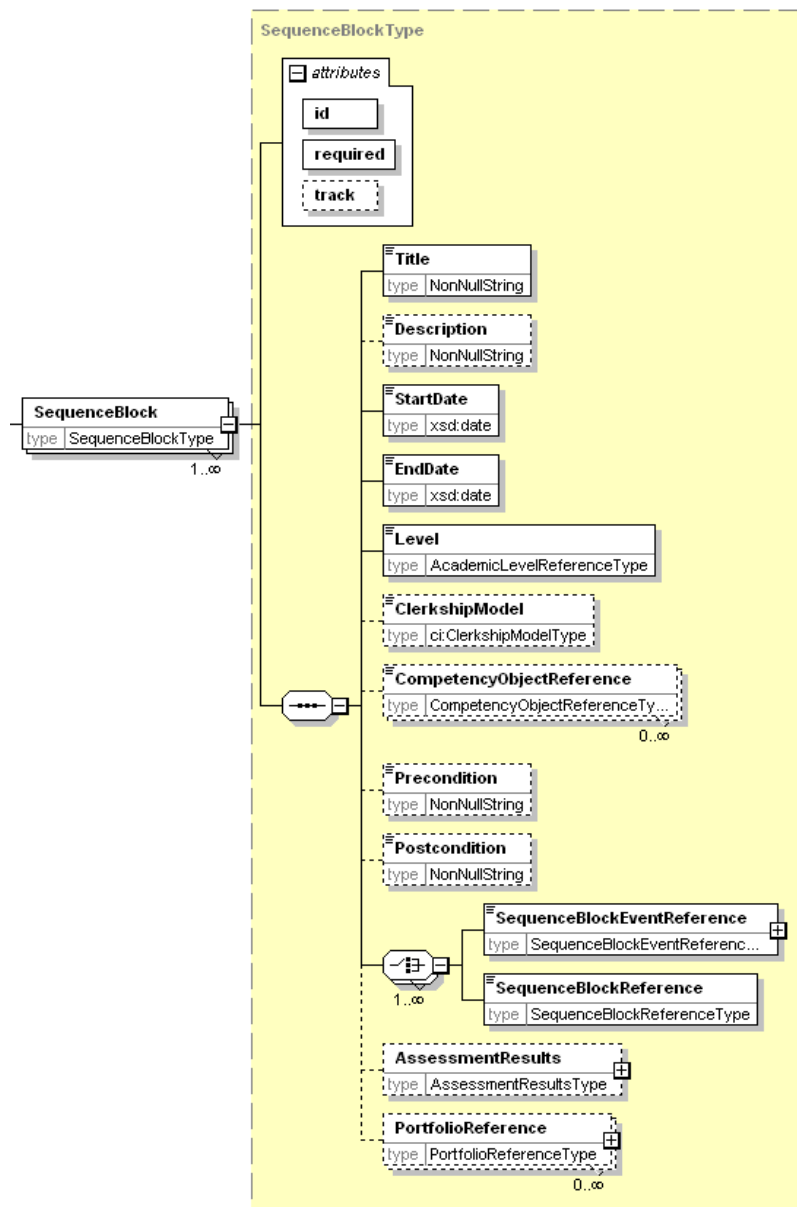
Element	Description	Required	Multiplicity	Datatype
Sequence	Sequence contains subelements that describe information about how the learner’s curriculum of study is organized over a period of time.	Optional	0 or 1	Container
Description	A description of the overall sequence of the curriculum.	Optional	0 or 1	NonNull String
SequenceBlock	Contains sub elements that define an organizational component of the curriculum, such as a year, phase, course module, etc. See section SequenceBlock for more information.	Required	1 or more	Container

Example:

```
<Sequence>
  <Description>There are 2 years of preclinical work followed by 2 years of clinical
work.</Description>
  <SequenceBlock required="true" id="asdfg">
    . . .
  </SequenceBlock>
  <SequenceBlock required="true" id="sdfgh">
    . . .
  </SequenceBlock>
</Sequence>
```

8.6.1 SequenceBlock

SequenceBlock is a sub element of Sequence that contains sub elements that define an organizational component of the curriculum, such as a year, phase, course, module, etc. Sequence blocks can be nested to show a variety of organizational methods.



SequenceBlock Element Information

Element	Description	Required	Multiplicity	Datatype
SequenceBlock	<p>SequenceBlock contains sub elements that define an organizational component of the curriculum, such as a year, phase, course, module, etc.</p> <p>SequenceBlock has the following attributes:</p> <p><i>id</i> A unique identifier for this sequence block. Use of the id attribute is required.</p> <p><i>required</i> Indicates whether this sequence block is a required part of the curriculum. Valid values are Required, Optional, and Required In Track. Use of the required attribute is required.</p> <p><i>track</i> Indicates whether this sequence block is a track within the curriculum. Valid values are true and false; the default value is false.</p>	Required	1	Container
Title	The title of the sequence block.	Required	1	NonNull String
Description	A description of the sequence block.	Optional	0 or 1	NonNull String
StartDate	The date the sequence block began.	Required	1	Date
EndDate	The date the sequence block ended.	Required	1	Date

Element	Description	Required	Multiplicity	Datatype
Level	<p>Level indicates the educational level at which this sequence block occurs. For schools using academic years as the basis for progress through the curriculum, level corresponds to the academic year in which the sequence block occurs. Level has the following format:</p> <pre>/EducationalAchievement/AchievementInContext/AcademicLevels/Level[@number='X']</pre> <p>All in one line, where X is the number 1 through 10 corresponding to an academic level defined for this curriculum.</p>	Required	1	Restricted (to conformant XPath) See section Identifying Data through XPath for more information
ClerkshipModel	<p>If the sequence block represents a clerkship, clerkship model may be used to indicate the type of clerkship. Valid values are: integrated, rotation.</p>	Optional	0 or 1	Restricted See Description for details.
CompetencyObjectReference	<p>A reference to the unique id for a learning objective, competency, learning outcome, (all of which are known as competency objects) associated with this event. CompetencyObjectReference has the following format:</p> <pre>/EducationalAchievement/AchievementInContext/Expectations/CompetencyObject[lom:lom/lom:general/lom:identifier/lom:entry='X']</pre> <p>All in one line, where X is the id of a Competency Object in this Curriculum Inventory.</p>	Optional	0 or more	Restricted (to conformant XPath) See section Identifying Data through XPath for more information
Precondition	<p>Describes preconditions that the learner met to take this course.</p>	Optional	0 or 1	NonNull String

Element	Description	Required	Multiplicity	Datatype
Postcondition	Describes how the curriculum changes depending on the learner's performance in the sequence block.	Optional	0 or 1	NonNull String
SequenceBlockEventReference	<p>A reference to an education or assessment event included in the sequence block. SequenceBlockEventReference has the following format:</p> <pre>/EducationalAchievement/AchievementInContext /Events/Event[@id = 'x']</pre> <p>All in one line, where X is the id of an event in this curriculum.</p> <p>SequenceBlockEventReference has the following attribute:</p> <p><i>required</i></p> <p>Indicates whether this event is a required part of the sequence block. The required attribute uses the Boolean datatype; valid values are true and false. Use of the required attribute is required.</p>	Either SequenceBlockEventReference or SequenceBlockReference is required	0 or more	Restricted (to conformant XPath) See section Identifying Data through XPath for more information
SequenceBlockReference	<p>A reference to a nested sequence block. SequenceBlockReference has the following format:</p> <pre>/EducationalAchievement/AchievementInContext /Sequence/SequenceBlock[@id='X']</pre> <p>All in one line, where X is the id of a sequence block in this curriculum.</p>	Either SequenceBlockEventReference or SequenceBlockReference is required	0 or more	Restricted (to conformant XPath) See section Identifying Data through XPath for more information

Element	Description	Required	Multiplicity	Datatype
AssessmentResults	<p>AssessmentResults contains subelements that provide detailed information on the results of any assessment included in this sequence block.</p> <p>For more information, see section AssessmentResults.</p>	Optional	0 or 1	Container
PortfolioReference	<p>PortfolioReference provides either an XPath reference or a URI reference to a portfolio entry providing supporting information related to this sequence block. There may be multiple PortfolioReference elements to point to multiple portfolio entries related to this sequence block.</p> <p>See section PortfolioReference for more information.</p>	Optional	0 or more	Container

Example:

```

<ea:SequenceBlock id="mds4" required="Required">
  <ea:Title>Infant and Toddler Rotation</ea:Title>
  <ea:StartDate>2012-01-15</ea:StartDate>
  <ea:EndDate>2012-03-15</ea:EndDate>
  <ea:Level>/EducationalAchievement/AchievementInContext/AcademicLevels/Level[@number='3']</ea:Level>
  <ea:SequenceBlockEventReference required="true">
    /EducationalAchievement/AchievementInContext/Events/Event[@id='mdex']
  </ea:SequenceBlockEventReference>
  <ea:AssessmentResults>
    <ea:SubScore>
      <ea:FrameworkScore>
        <ea:PerformanceScore>3</ea:PerformanceScore>
        <ea:PerformanceFrameworkReference>
          /EducationalAchievement/AchievementInContext/PerformanceFramework[@id='x']
        </ea:PerformanceFrameworkReference>
      </ea:FrameworkScore>
    </ea:SubScore>
  </ea:AssessmentResults>
  <ea:Title>

```

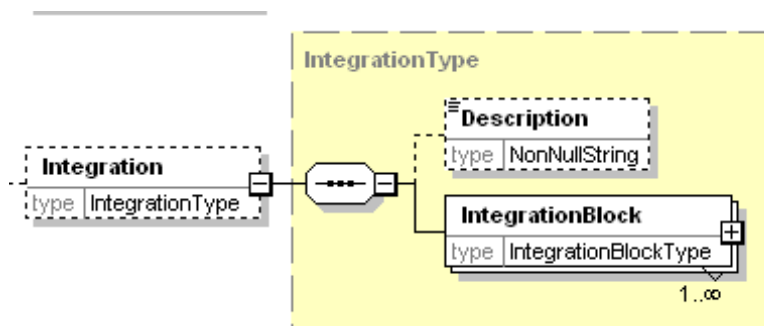
```

    Manage patients with common, single system diagnoses who require a hospital setting,
  Observation
    </ea:Title>
    <ea:CompetencyObjectReference>
      /EducationalAchievement/AchievementInContext/Expectations/CompetencyObject[lom:lom/lom:general/lom:id
entifier/lom:entry=' http://acgme.org/competencies/epa2']
    </ea:CompetencyObjectReference>
    </ea:SubScore>
    <ea:Date>2012-03-01</ea:Date>
  </ea:AssessmentResults>
</ea:SequenceBlock>

```

8.7 Integration

Integration contains subelements that describe how a curriculum is integrated. In many cases curricula are structured around organ systems or other organizing concepts, and within that context, content related to a specific topic, discipline, or theme is incorporated. For example, a course on the cardiovascular system may contain content related to themes of anatomy, pharmacology, etc.



Integration Element Information

Element	Description	Required	Multiplicity	Datatype
Integration	Integration contains sub elements that describe how a curriculum is integrated.	Optional	1	Container
Description	A description of the approach to integrating the curriculum.	Optional	0 or 1	Non-null string
IntegrationBlock	Contains sub elements that define an integrating concept for this curriculum, such as a theme. See section IntegrationBlock for more information.	Required	1 or more	Container

Example:

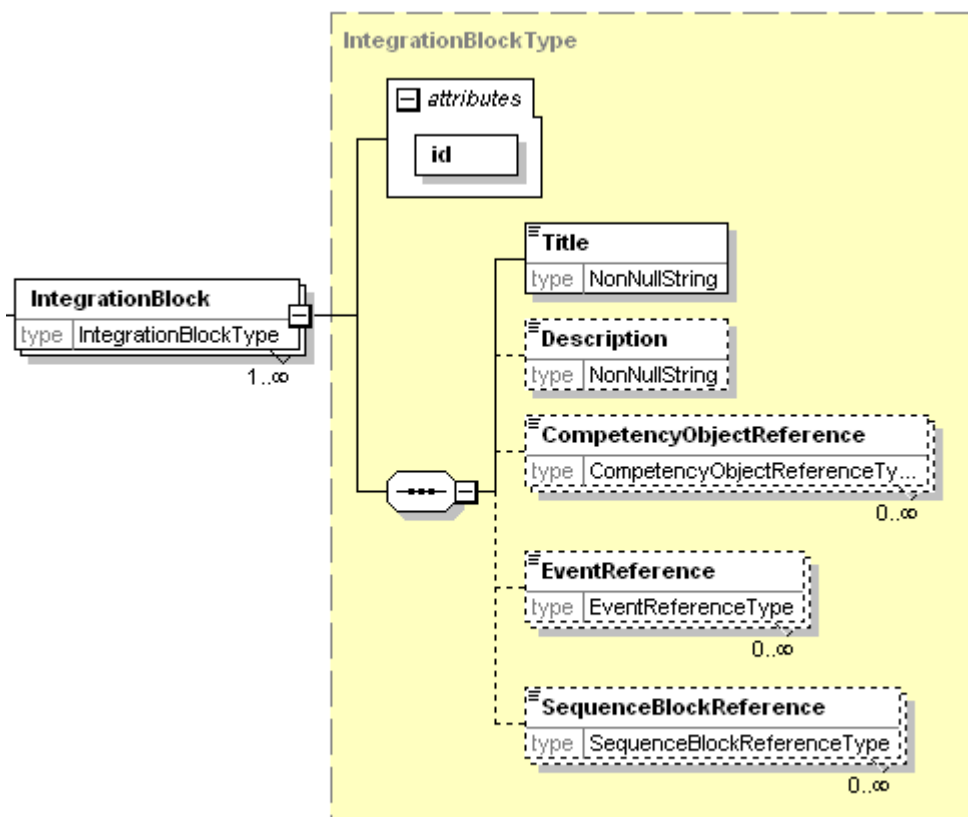
```

<Integration>
  <Description>We have themes woven throughout the curriculum</Description>
  <IntegrationBlock id="8765">
    .
  </IntegrationBlock>
  <IntegrationBlock id="7654">
    .
  </IntegrationBlock>
</Integration>

```

8.7.1 Integration Block

IntegrationBlock contains subelements that define an integrating concept for this curriculum. Many curricula have several integrating concepts, or themes, that apply to many courses, competencies, objectives, and events.



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IntegrationBlock Element Information

Element	Description	Required	Multiplicity	Datatype
IntegrationBlock	<p>Contains sub elements that define an integrating concept for this curriculum, such as a theme. IntegrationBlock has the following attribute:</p> <p><i>id</i> A unique identifier for this integration block. Use of the id attribute is required.</p>	Required	1 or more	Container
Title	The title of the integration block. For example, Rural Health.	Required	1	Non-null string
Description	A description of the integrating concept.	Optional	0 or 1	Non-null string
CompetencyObjectReference	<p>A reference to the unique id for a learning objective, competency, learning outcome, (all of which are known as competency objects) associated with this integration block.</p> <p>CompetencyObjectReference has the following format:</p> <pre>/EducationalAchievement/AchievementInContext /Expectations/CompetencyObject [lom:lom/lom:general/lom:identifier/lom:entry='X']</pre> <p>All in one line, where <i>X</i> is the id of a Competency Object in this curriculum.</p>	Optional	0 or more	Restricted (to conformant XPath) See section Identifying Data through XPath for more information
EventReference	<p>A reference to an event associated with this integration block.</p> <p>EventReference has the following format:</p> <pre>/EducationalAchievement/AchievementInContext /Events/Event[@id='X']</pre> <p>All in one line, where <i>X</i> is the id of an event in this curriculum.</p>	Optional	0 or more	Restricted (to conformant XPath) See section Identifying Data through XPath for

				more information
SequenceBlockReference	<p>A reference to a sequence block associated with this integration block. SequenceBlockReference has the following format:</p> <pre>/EducationalAchievement/AchievementInContext /Sequence/SequenceBlock[@id='X']</pre> <p>All in one line, where X is the id of an event in this curriculum.</p>	Optional	0 or more	<p>Restricted (to conformant XPath)</p> <p>See section Identifying Data through XPath for more information</p>

Example:

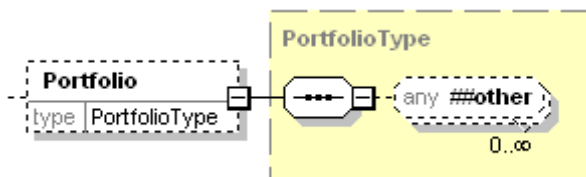
```
<ea:IntegrationBlock id="text">
  <ea:Title>a</ea:Title>
  <ea:Description>a</ea:Description>
  <ea:CompetencyObjectReference>
/EducationalAchievement/AchievementInContext/Expectations/CompetencyObject[lom:lom/lom:general/lom:identifier/lom:entry=' ']
  </ea:CompetencyObjectReference>
  <ea:EventReference>
/EducationalAchievement/AchievementInContext/Events/Event[@id='mde1']
  </ea:EventReference>
  <ea:EventReference>
/EducationalAchievement/AchievementInContext/Events/Event[@id='mde3']
  </ea:EventReference>
  <ea:SequenceBlockReference>
/EducationalAchievement/AchievementInContext/Sequence/SequenceBlock[@id='mds1']
  </ea:SequenceBlockReference>
  <ea:SequenceBlockReference>
/EducationalAchievement/AchievementInContext/Sequence/SequenceBlock[@id='mds4']
  </ea:SequenceBlockReference>
```

```

<ea:SequenceBlockReference>
  /EducationalAchievement/AchievementInContext/Sequence/SequenceBlock[@id='mds6']
</ea:SequenceBlockReference>
.
.
.
</ea:IntegrationBlock>
    
```

8.8 Portfolio

Portfolio includes the learner’s educational trajectory and other portfolio data related to this record of achievement. Portfolio may contain any elements from other namespaces provided those elements are namespace qualified.



9 Sample XML Documents

```

<?xml version="1.0" encoding="UTF-8"?>
<!--Sample XML file generated by XMLSpy v2012 rel. 2 sp1
(http://www.altova.com)-->
<ea:EducationalAchievement
xsi:schemaLocation="http://ns.medbiq.org/educationalachievement/v1/
educationalachievement.xsd"
xmlns:ea="http://ns.medbiq.org/educationalachievement/v1/"
xmlns:lom="http://ltsc.ieee.org/xsd/LOM"
xmlns:a="http://ns.medbiq.org/address/v1/"
xmlns:cf="http://ns.medbiq.org/competencyframework/v1/"
xmlns:co="http://ns.medbiq.org/competencyobject/v1/"
xmlns:ci="http://ns.medbiq.org/curriculuminventory/v1/"
xmlns:m="http://ns.medbiq.org/member/v1/"
xmlns:n="http://ns.medbiq.org/name/v1/"
xmlns:AcRec="urn:org:pesc:sector:AcademicRecord:v1.6.0"
xmlns:pesc="urn:org:pesc:core:CoreMain:v1.7.0"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <!--modified July 19, 2012-->
  <ea:Date>2012-05-31</ea:Date>
  <ea:Learner>
    <m:UniqueID domain="idd:aamc.org:student">123456</m:UniqueID>
    <m:Name>
      <n:GivenName>John</n:GivenName>
      <n:FamilyName>Doe</n:FamilyName>
      <n:Degree>MD</n:Degree>
    </m:Name>
    <m:EducationInfo>
      <m:Degree>MD</m:Degree>
      <m:InstitutionInfo>
        <m:InstitutionName>University of Toronto Faculty of
Medicine</m:InstitutionName>
        <m:InstitutionID
domain="idd:ecfmg.org:imed">123456</m:InstitutionID>
        </m:InstitutionInfo>
        <m:EducationStatus>Graduated</m:EducationStatus>
        <m:StartDate>2005-06-01</m:StartDate>
        <m:EndDate>2009-05-13</m:EndDate>
        <m:GraduationDate>2009-05-13</m:GraduationDate>
      </m:EducationInfo>
      <m:TrainingInfo>
        <m:ProgramInfo>
          <m:ProgramName type="Residency">University of Maryland
Pediatric Residency Program</m:ProgramName>
          <m:ProgramID
domain="idd:aamc.org:residencies">123456</m:ProgramID>

```



```

        <m:Accreditation>ACGME</m:Accreditation>
        <m:Specialty>Pediatrics</m:Specialty>
        <m:InstitutionInfo>
            <m:InstitutionName>University of Maryland School of
Medicine</m:InstitutionName>
            <m:InstitutionID
domain="idd:ecfmg.org:imed">123456</m:InstitutionID>
            </m:InstitutionInfo>
        </m:ProgramInfo>
        <m:TrainingStatus>year 2</m:TrainingStatus>
        <m:StartDate>2009-06-01</m:StartDate>
    </m:TrainingInfo>
    <m:PersonalInfo>
        <m:Gender>Male</m:Gender>
        <m:EmailAddress>john.doe@example.org</m:EmailAddress>
    </m:PersonalInfo>
</ea:Learner>
<ea:AchievementInContext>
    <ea:Source>University of Toronto</ea:Source>
    <ea:ReportID domain="idd:utoronto.ca:reports">123456</ea:ReportID>
    <ea:Institution>
        <m:InstitutionName>University of Toronto Faculty of
Medicine</m:InstitutionName>
        <m:InstitutionID
domain="idd:ecfmg.org:imed">123456</m:InstitutionID>
    </ea:Institution>
    <ea:Program>
        <ci:ProgramName>MD program</ci:ProgramName>
        <ci:ProgramID domain="idd:aamc.org:program">123456</ci:ProgramID>
        <ci:EducationalContext>undergraduate professional
education</ci:EducationalContext>
        <ci:Profession>physician</ci:Profession>
    </ea:Program>
    <ea:ReportDate>2011-10-05</ea:ReportDate>
    <ea:ReportingStartDate>2005-06-01</ea:ReportingStartDate>
    <ea:ReportingEndDate>2009-05-13</ea:ReportingEndDate>
    <ea:Language>en-us</ea:Language>
    <ea:Events>
        <ea:Event id="e1">
            <ea:Title>History Taking</ea:Title>
            <ea:EventDuration>PT4H</ea:EventDuration>
            <ea:Description>Practical experience history
taking</ea:Description>
            <ea:InstructionalMethod primary="true">Clinical Experience -
Ambulatory</ea:InstructionalMethod>
        </ea:Event>
    </ea:Events>
    <ea:Expectations>
        <ci:CompetencyObject>

```

```

    <lom:lom>
      <lom:general uniqueElementName="general">
        <lom:identifier>
          <lom:catalog
uniqueElementName="catalog">URI</lom:catalog>

      <lom:entry>http://royalcollege.ca/canmeds/R1</lom:entry>
        </lom:identifier>
        <lom:title>
          <lom:string>Medical Expert</lom:string>
        </lom:title>
      </lom:general>
    </lom:lom>
    <co:Status>Active</co:Status>
  </ci:CompetencyObject>
  <ci:CompetencyObject>
    <lom:lom>
      <lom:general uniqueElementName="general">
        <lom:identifier>
          <lom:catalog
uniqueElementName="catalog">URI</lom:catalog>

      <lom:entry>http://royalcollege.ca/canmeds/R2</lom:entry>
        </lom:identifier>
        <lom:title>
          <lom:string>Professional</lom:string>
        </lom:title>
      </lom:general>
    </lom:lom>
    <co:Status>Active</co:Status>
  </ci:CompetencyObject>
  <ci:CompetencyObject>
    <lom:lom>
      <lom:general uniqueElementName="general">
        <lom:identifier>
          <lom:catalog
uniqueElementName="catalog">URI</lom:catalog>

      <lom:entry>http://royalcollege.ca/canmeds/R3</lom:entry>
        </lom:identifier>
        <lom:title>
          <lom:string>Communicator</lom:string>
        </lom:title>
        <lom:description>
          <lom:string>As Communicators, physicians effectively
facilitate the doctor-patient relationship and the dynamic exchanges that
occur before, during, and after the medical encounter.
        </lom:string>
      </lom:description>

```



```

        </lom:lom>
        <co:Status>Active</co:Status>
    </ci:CompetencyObject>
    <ci:CompetencyObject>
        <lom:lom>
            <lom:general uniqueElementName="general">
                <lom:identifier>
                    <lom:catalog
uniqueElementName="catalog">URI</lom:catalog>

        <lom:entry>http://royalcollege.ca/canmeds/R7</lom:entry>
            </lom:identifier>
            <lom:title>
                <lom:string>Scholar</lom:string>
            </lom:title>
            </lom:general>
        </lom:lom>
        <co:Status>Active</co:Status>
    </ci:CompetencyObject>
    <ci:CompetencyFramework>
        <lom:lom>
            <lom:general uniqueElementName="general">
                <lom:identifier>
                    <lom:catalog
uniqueElementName="catalog">URI</lom:catalog>
                <lom:entry>http://royalcollege.ca/canmeds</lom:entry>
            </lom:identifier>
            </lom:general>
        </lom:lom>
        <cf:EffectiveDate>2005-01-01</cf:EffectiveDate>
        <cf:SupportingInformation>

        <cf:Link>http://www.royalcollege.ca/shared/documents/canmeds/the_7_cann
eds_roles_e.pdf</cf:Link>
        </cf:SupportingInformation>
        <cf:Includes>
            <cf:Catalog>URI</cf:Catalog>
            <cf:Entry>http://royalcollege.ca/canmeds/R1</cf:Entry>
        </cf:Includes>
        <cf:Includes>
            <cf:Catalog>URI</cf:Catalog>
            <cf:Entry>http://royalcollege.ca/canmeds/R2</cf:Entry>
        </cf:Includes>
        <cf:Includes>
            <cf:Catalog>URI</cf:Catalog>
            <cf:Entry>http://royalcollege.ca/canmeds/R3</cf:Entry>
        </cf:Includes>
        <cf:Includes>
            <cf:Catalog>URI</cf:Catalog>

```

```

        <cf:Entry>http://royalcollege.ca/canmeds/R4</cf:Entry>
    </cf:Includes>
    <cf:Includes>
        <cf:Catalog>URI</cf:Catalog>
        <cf:Entry>http://royalcollege.ca/canmeds/R5</cf:Entry>
    </cf:Includes>
    <cf:Includes>
        <cf:Catalog>URI</cf:Catalog>
        <cf:Entry>http://royalcollege.ca/canmeds/R6</cf:Entry>
    </cf:Includes>
    <cf:Includes>
        <cf:Catalog>URI</cf:Catalog>
        <cf:Entry>http://royalcollege.ca/canmeds/R7</cf:Entry>
    </cf:Includes>
    </ci:CompetencyFramework>
</ea:Expectations>
<ea:Summary>
    <ea:AssessmentResults>
        <ea:Evidence>
            <ea:Description>Scores were determined by reviewing
assessment results, supervisor ratings and notes, and a competency-based
portfolio.</ea:Description>
            <ea:PortfolioReference>

                <ea:URIReference>http://www.utoronto.edu/jdoel/portfolio</ea:URIReferen
ce>

            </ea:PortfolioReference>
        </ea:Evidence>
        <ea:SubScore>
            <LocalValue>2</LocalValue>
            <ea:FrameworkScore>
                <ea:PerformanceScore>2</ea:PerformanceScore>

            <ea:CompetencyObjectReference>/EducationalAchievement/AchievementInCont
ext/Expectations/CompetencyObject[lom:lom/lom:general/lom:identifier/lom:e
ntry=' http://royalcollege.ca/canmeds/R1']</ea:CompetencyObjectReference>

            <ea:PerformanceFrameworkReference>/EducationalAchievement/AchievementIn
Context/PerformanceFrameworks/PerformanceFramework[@='p1']</ea:Performance
FrameworkReference>
                </ea:FrameworkScore>
                <ea:Title>Medical Expert</ea:Title>
                <ea:Description>A score summarizing the learner's
performance as a medical expert across the curriculum</ea:Description>

            </ea:SubScore>
        </ea:SubScore>
        <ea:FrameworkScore>
            <ea:PerformanceScore>1.8</ea:PerformanceScore>

```

```
<ea:CompetencyObjectReference>/EducationalAchievement/AchievementInContext/Expectations/CompetencyObject[lom:lom/lom:general/lom:identifier/lom:entry=' http://royalcollege.ca/canmeds/R2']</ea:CompetencyObjectReference>
```

```
<ea:PerformanceFrameworkReference>/EducationalAchievement/AchievementInContext/PerformanceFrameworks/PerformanceFramework[@='p1']</ea:PerformanceFrameworkReference>
```

```
</ea:FrameworkScore>
<ea:Title>Communicator</ea:Title>
<ea:Description>A score summarizing the learner's
performance as a communicator across the curriculum</ea:Description>
</ea:SubScore>
<ea:SubScore>
<ea:FrameworkScore>
<ea:PerformanceScore>2.2</ea:PerformanceScore>
```

```
<ea:CompetencyObjectReference>/EducationalAchievement/AchievementInContext/Expectations/CompetencyObject[lom:lom/lom:general/lom:identifier/lom:entry=' http://royalcollege.ca/canmeds/R3']</ea:CompetencyObjectReference>
```

```
<ea:PerformanceFrameworkReference>/EducationalAchievement/AchievementInContext/PerformanceFrameworks/PerformanceFramework[@='p1']</ea:PerformanceFrameworkReference>
```

```
</ea:FrameworkScore>
<ea:Title>Collaborator</ea:Title>
<ea:Description>A score summarizing the learner's
performance as a collaborator across the curriculum</ea:Description>
</ea:SubScore>
<ea:Date>2009-05-31</ea:Date>
</ea:AssessmentResults>
```

```
</ea:Summary>
```

```
<ea:AcademicLevels>
```

```
<ci:LevelsInProgram>4</ci:LevelsInProgram>
<ci:Level number="1">
<ci:Label>Year 1</ci:Label>
<ci:Description>The first year of study -
preclerkship.</ci:Description>
</ci:Level>
<ci:Level number="2">
<ci:Label>Year 2</ci:Label>
<ci:Description>The second year of study -
preclerkship.</ci:Description>
</ci:Level>
<ci:Level number="3">
<ci:Label>Year 3</ci:Label>
<ci:Description>The third year of study -
clerkship.</ci:Description>
</ci:Level>
```

```

    <ci:Level number="4">
      <ci:Label>Year 4</ci:Label>
      <ci:Description>The fourth year of study -
clerkship.</ci:Description>
    </ci:Level>
  </ea:AcademicLevels>
  <ea:Sequence>
    <ea:SequenceBlock id="S1" required="Required" track="false">
      <ea:Title>The Art and Science of Medicine</ea:Title>
      <ea:Description>This course is organized in hospital-based
groups of 5-6 students, and will take place .5 day each week of the
academic year.</ea:Description>
      <ea:StartDate>2005-09-01</ea:StartDate>
      <ea:EndDate>2006-07-30</ea:EndDate>

    <ea:Level>/EducationalAchievement/AchievementInContext/AcademicLevels/L
evel[@number='1']</ea:Level>

    <ea:CompetencyObjectReference>/EducationalAchievement/AchievementInCont
ext/Expectations/CompetencyObject[lom:lom/lom:general/lom:identifier/lom:e
ntry=' http://royalcollege.ca/canmeds/R1']</ea:CompetencyObjectReference>

    <ea:CompetencyObjectReference>/EducationalAchievement/AchievementInCont
ext/Expectations/CompetencyObject[lom:lom/lom:general/lom:identifier/lom:e
ntry=' http://royalcollege.ca/canmeds/R2']</ea:CompetencyObjectReference>

    <ea:CompetencyObjectReference>/EducationalAchievement/AchievementInCont
ext/Expectations/CompetencyObject[lom:lom/lom:general/lom:identifier/lom:e
ntry=' http://royalcollege.ca/canmeds/R3']</ea:CompetencyObjectReference>

    <ea:CompetencyObjectReference>/EducationalAchievement/AchievementInCont
ext/Expectations/CompetencyObject[lom:lom/lom:general/lom:identifier/lom:e
ntry=' http://royalcollege.ca/canmeds/R5']</ea:CompetencyObjectReference>

    <ea:CompetencyObjectReference>/EducationalAchievement/AchievementInCont
ext/Expectations/CompetencyObject[lom:lom/lom:general/lom:identifier/lom:e
ntry=' http://royalcollege.ca/canmeds/R7']</ea:CompetencyObjectReference>
    <ea:Postcondition>Students deemed to have failed the course by
the Board of Examiners will be required to repeat the course in the
following academic year.</ea:Postcondition>
    <ea:SequenceBlockEventReference
required="text"/>/EducationalAchievement/AchievementInContext/Events/Event[
@id='ex']</ea:SequenceBlockEventReference>
    <ea:AssessmentResults>
      <ea:Score>
        <MasteryValue>
          <MasteredIndicator>true</MasteredIndicator>
          <CutScore>80</CutScore>
        </MasteryValue>
      </ea:Score>
    </ea:AssessmentResults>
  </ea:Sequence>

```

```

        </ea:Score>
        <ea:Date>2006-07-30</ea:Date>
    </ea:AssessmentResults>
</ea:SequenceBlock>
<ea:SequenceBlock id="S2" required="Required">
    <ea:Title>Medicine Clerkship</ea:Title>
    <ea:StartDate>2007-09-25</ea:StartDate>
    <ea:EndDate>2007-12-15</ea:EndDate>

    <ea:Level>/EducationalAchievement/AchievementInContext/AcademicLevels/Level[@number='3']</ea:Level>

    <ea:CompetencyObjectReference>/EducationalAchievement/AchievementInContext/Expectations/CompetencyObject[lom:lom/lom:general/lom:identifier/lom:entry=' http://royalcollege.ca/canmeds/R1']</ea:CompetencyObjectReference>

    <ea:CompetencyObjectReference>/EducationalAchievement/AchievementInContext/Expectations/CompetencyObject[lom:lom/lom:general/lom:identifier/lom:entry=' http://royalcollege.ca/canmeds/R2']</ea:CompetencyObjectReference>
    <ea:SequenceBlockEventReference
required="true">/EducationalAchievement/AchievementInContext/Events/Event[@id='e1']</ea:SequenceBlockEventReference>
        <ea:AssessmentResults>
            <ea:Score>

    <ea:LabelValueDescription>Proficient</ea:LabelValueDescription>
        </ea:Score>
        <ea:Date>2007-12-15</ea:Date>
        <ea:Notes>Interacted exceptionally well with patients and staff.</ea:Notes>
    </ea:AssessmentResults>
</ea:SequenceBlock>
</ea:Sequence>
<ea:Integration>
    <ea:Description>a</ea:Description>
    <ea:IntegrationBlock id="text">
        <ea:Title>a</ea:Title>
        <ea:Description>a</ea:Description>

    <ea:CompetencyObjectReference>/EducationalAchievement/AchievementInContext/Expectations/CompetencyObject[lom:lom/lom:general/lom:identifier/lom:entry=' ']</ea:CompetencyObjectReference>

    <ea:EventReference>/EducationalAchievement/AchievementInContext/Events/Event[@id=' ']</ea:EventReference>

    <ea:SequenceBlockReference>/EducationalAchievement/AchievementInContext/Sequence/SequenceBlock[@id=' ']</ea:SequenceBlockReference>
</ea:IntegrationBlock>

```



```

    </ea:Integration>
    <ea:Portfolio/>
  </ea:AchievementInContext>
  <ea:AchievementInContext>
    <ea:Source>University of Maryland</ea:Source>
    <ea:ReportID
domain="idd:medschool.umaryland.edu:reports">98765</ea:ReportID>
    <ea:Institution>
      <m:InstitutionName>University of Maryland</m:InstitutionName>
      <m:InstitutionID
domain="idd:ecfmg.org:imed">98765</m:InstitutionID>
    </ea:Institution>
    <ea:Program>
      <ci:ProgramName>Pediatric Residency Program</ci:ProgramName>
      <ci:ProgramID domain="idd:acgme.org:program">98765</ci:ProgramID>
      <ci:EducationalContext>graduate professional
education</ci:EducationalContext>
      <ci:Profession>physician</ci:Profession>
      <ci:Specialty>pediatrics</ci:Specialty>
    </ea:Program>
    <ea:ReportDate>2011-10-05</ea:ReportDate>
    <ea:ReportingStartDate>2009-07-01</ea:ReportingStartDate>
    <ea:ReportingEndDate>2011-10-05</ea:ReportingEndDate>
    <ea:Events>
      <ea:Event id="mdel1">
        <ea:Title>Pediatric Level 3 360 Degree Feedback</ea:Title>
        <ea:EventDuration>PT2H</ea:EventDuration>
        <ea:Description>Residents receive feedback from supervisors,
peers, nurses, and patients.</ea:Description>
        <ea:Keyword id="D007318" source="mesh">
          <lom:string>Inservice Training</lom:string>
        </ea:Keyword>
        <ea:Interprofessional>>false</ea:Interprofessional>

        <ea:CompetencyObjectReference>/EducationalAchievement/AchievementInCont
ext/Expectations/CompetencyObject[lom:lom/lom:general/lom:identifier/lom:e
ntry=' http://acgme.org/competencies/PC1']</ea:CompetencyObjectReference>
        <ea:Resource>Real Patient</ea:Resource>
        <ea:AssessmentMethod purpose="Formative">Multisource
Feedback</ea:AssessmentMethod>
        <ea:AssessmentResults>
          <ea:SubScore>
            <PercentCorrectValue>78</PercentCorrectValue>
            <ea:Title>Patient Care</ea:Title>

        <ea:CompetencyObjectReference>/EducationalAchievement/AchievementInCont
ext/Expectations/CompetencyObject[lom:lom/lom:general/lom:identifier/lom:e
ntry=' http://acgme.org/competencies/PC']</ea:CompetencyObjectReference>
        </ea:SubScore>

```



```

        <co:Status>Active</co:Status>
    </ci:CompetencyObject>
    <ci:CompetencyObject>
        <lom:lom>
            <lom:general uniqueElementName="general">
                <lom:identifier>
                    <lom:catalog
uniqueElementName="catalog">URI</lom:catalog>

        <lom:entry>http://acgme.org/competencies/PC2</lom:entry>
            </lom:identifier>
            <lom:title>
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10 References (to be fixed)

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