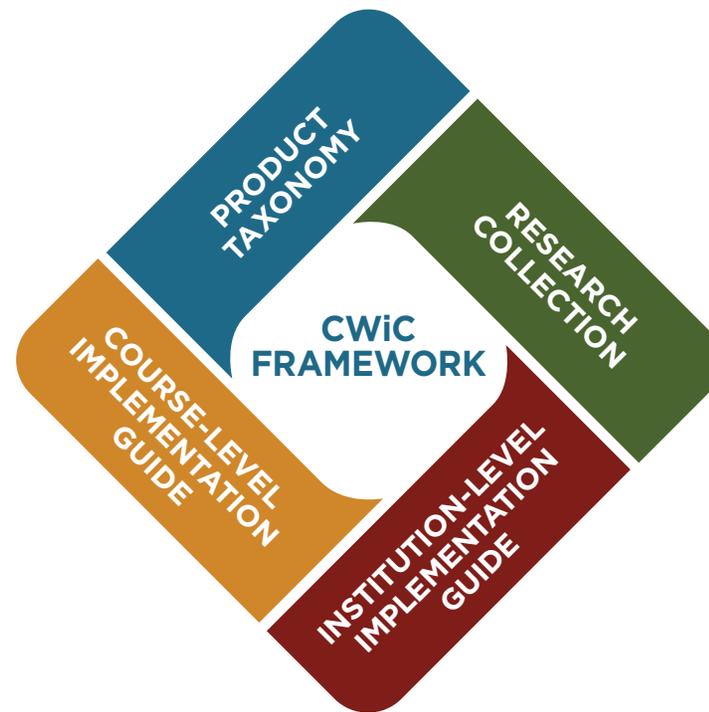


# **COURSEWARE**

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## IN CONTEXT



## **HOW TO USE THE CWiC FRAMEWORK:** DESIGNER

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## BACKGROUND

Research suggests that a primary hurdle in the ongoing expansion of digital courseware adoption is the inability to identify and implement a quality courseware product within a dynamic sea of evolving digital learning solutions. The CWiC Framework was developed in response to this challenge by a working group comprised of Tyton Partners and the Online Learning Consortium (OLC) through funding from the Bill & Melinda Gates Foundation. In addition, SRI International provided critical input to the working group in aligning the Framework to efficacy research.

### WHAT IS THE CWIC FRAMEWORK?

The CWiC Framework supports postsecondary decision-makers in effectively navigating the market of courseware solutions. It is designed to help you make better-informed adoption and implementation decisions with the goal of advancing the adoption of high-quality digital courseware in higher education and ultimately achieving improved outcomes for students. As a guide for broadening your awareness and equipping you with helpful decision making tools, the Framework offers an inventory of product capabilities, as well as implementation considerations foundational to enhancing and improving blended and online teaching and learning with digital courseware.

As the context for digital courseware evolves in this dynamic market, so too will the components of the Framework. Feedback from the community of users will guide future iterations and applications of this tool.

### WHAT IS DIGITAL COURSEWARE?

*Digital courseware is **instructional content that is scoped and sequenced to support delivery of an entire course through purpose-built software**. It includes **assessment to inform personalization of instruction** and is equipped for adoption across a range of institutional types and learning environments.*

Specifically, digital courseware has three core elements:

1. Instructional content that is scoped and sequenced to support delivery of an entire course
2. Purpose-built software
3. Assessment to inform personalization of instruction

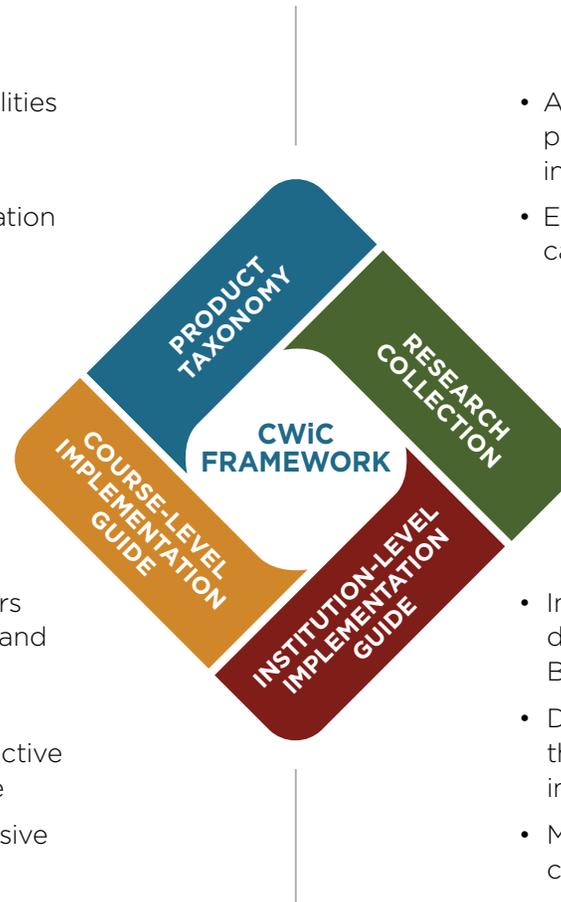
These three elements can be delivered in a single product or by the thoughtful integration of different products that collectively deliver a complete course.



## COMPONENTS OF THE CWiC FRAMEWORK

- A collection of courseware product capabilities and attributes
- Designed to aid in the understanding of product functionality to support differentiation among solutions
- Includes teaching and learning capabilities in addition to considerations related to courseware procurement and delivery

- Includes selected **course-specific** indicators derived from indicators in the OLC Online and Blended Learning Scorecards
- Designed to assess selected practices and policies that impact the conditions for effective courseware implementation in your course
- May serve as an “on-ramp” for more extensive course reviews using OLC Scorecards



- A list of published research tagged to selected product capabilities and / or features identified in the Taxonomy
- Establishes connections between courseware capabilities and / or features and efficacy research

- Includes selected **institution-specific** indicators derived from indicators in the OLC Online and Blended Learning Scorecards
- Designed to assess selected practices and policies that impact the conditions for effective courseware implementation at your institution
- May serve as an “on-ramp” for more extensive course reviews using OLC Scorecards

## ONE FRAMEWORK, THREE INSTRUMENTS

The CWiC Framework was designed for users involved in the selection and adoption of courseware at postsecondary institutions, including faculty, instructional designers, and academic administrators.

Because we anticipate different base-knowledge of digital courseware, appetite for detail, time-availability, and goals, **three different instruments** have been developed to support use of the CWiC Framework.

- **THE CWiC PRODUCT PRIMER.**

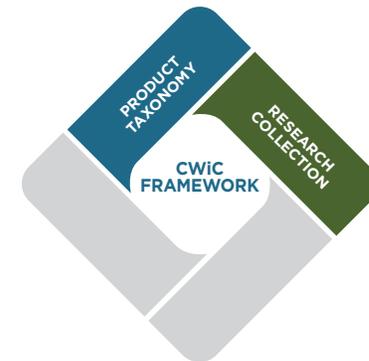
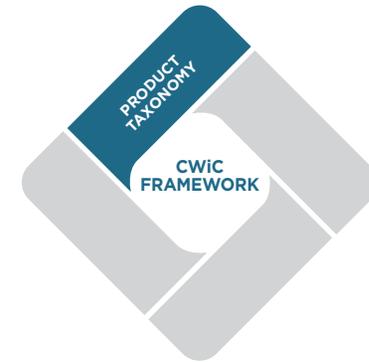
This abbreviated tool helps users identify priority courseware capabilities during the product exploration and evaluation phase of selection. It is ideal for faculty just beginning to explore courseware products.

- **THE CWiC DESIGNER.**

This resource is designed to support deeper understanding of a courseware product and the learning science principles that underpin product capabilities and features, among other factors. It is ideal for instructional designers completing a more thorough review of a courseware product, and may be useful for informing future product selection. It is only focused on product-related dynamics.

- **THE CWiC FRAMEWORK.**

The complete framework includes the Product Taxonomy and Research Collection, plus Course- and Institution Level Implementation Guides. It is ideal for administrators completing course reviews, and is focused on both product- and implementation-related dynamics.



## GETTING STARTED WITH THE CWIC DESIGNER

The CWiC Designer includes the Product Taxonomy. The Product Taxonomy includes three types of capabilities, Functional, Procurement and Delivery Platform, each with underlying product attributes. Capabilities are listed below, along with a description of each of the Functional Capabilities, which are the primary focus of the taxonomy.

### FUNCTIONAL CAPABILITIES



**DEPTH OF INTERACTION**

The presence of variety and higher-order learning skills in instruction



**MEASUREMENT & STRUCTURE**

The presence of academic structures and the capacity to assess learning in relation to them



**SCAFFOLDING**

Support structures to help learners achieve and grow beyond their current proficiencies



**ADAPTIVITY**

The adjustment of presentations of content in relation to knowledge of learners



**FEEDBACK**

The deployment of reports, notifications, or visualizations to learners or educators



**LEARNER AUTONOMY**

The ability for learners to impact or augment instruction based on their choices



**COLLABORATION**

Collaboration is a requirement or opportunity for learners to engage with other people in the context of learning: peers, mentors, or educators



**CUSTOMIZATION CONFIGURATION**

The ability for educators or course designers to alter learning or assessment content



**USABILITY**

Features of software and user-centered design that support sustained engagement

### PROCUREMENT CAPABILITIES

ACCESSIBILITY

BROWSER / OS COMPATIBILITY

INTEROPERABILITY

PRIVACY & SECURITY

SCALABILITY

### DELIVERY PLATFORM CAPABILITIES

CONTENT MANAGEMENT

COURSE ADMINISTRATION

REPORTING

- **Functional Capabilities** include aspects of instructional design, software interaction design, and user experience design. There are 9 capabilities and 45 corresponding product attributes. Capabilities in this category describe practices that attempt to maximize student engagement and enhance educator support of learning. For instance:
  - Depth of Interaction, Learner Autonomy, and Collaboration represent varying contexts for learning activities and experiences
  - Scaffolding, Adaptivity, and Feedback all work to sustain student engagement and support progress toward learning outcomes
  - Measurement and Structure help to define the course and enable adaptations, feedback, and scaffolding
  - Customization and Configuration enables educators to adjust courseware to fit their courses
  - Usability supports ease of use and keeps students and educators on task

- **Procurement Capabilities** include technical considerations to support product selection, including accessibility features and interoperability. There are 5 capabilities and 37 corresponding product attributes. For the purposes of completing the CWiC Framework, procurement capabilities are included for informational purposes only and are not factored into the final results of a product review.
- **Delivery Platform Capabilities** include selected attributes related to course management. There are 3 capabilities and 28 corresponding product attributes. For the purposes of completing the CWiC Framework, delivery platform capabilities are included for informational purposes only and are not factored into the final results of a product review.

Emphasis in the CWiC Designer is placed on Functional Capabilities, as these are driving teaching and learning activities. Only Functional Capabilities are factored into the final results of your product review.

Accompanying the Product Taxonomy, the CWiC Framework also includes insights drawn from the **Research Collection**. Alignment to efficacy research is only factored in to the review of a product's functional attributes, which are mapped to peer-reviewed research in pedagogy and learning science.

## TARGET AUDIENCE

Instructional Designers completing a more thorough review of a courseware product to inform selection / use decisions

## GOALS

The purpose of the CWiC Designer is to help you:

- Understand areas of emphasis of a courseware product (e.g. adaptivity vs. depth of interaction) across 9 Functional Capabilities
- Understand connection between product capabilities and evidence of efficacy
- Assess the fit of a courseware product against your needs for a course

## INSTRUCTIONS

Before using the CWiC Designer, we recommend you first:

1. **Select a courseware product for review.** Ensure that the product under review is “course complete,” meaning that it is sufficient to serve as the primary content source for the course regardless of the modality of the course (online or blended). If you do not have an offering or implementation in mind, or want to learn more, refer to the CWiC Product Primer and the Edsurge Index to continue exploring courseware.
2. **Build your review team.** Identify 1-2 colleagues to assist with this process. Colleagues may include, for instance, an instructional designer / technologist / instructor who is familiar with the courseware product. Others who may be helpful include program-leads or department-heads leading online and blended course review efforts, or academic administrators with awareness of issues related to student, educator, and technology support.
3. **Gather relevant information.** Ensure that you have access to product documentation such as contracts, feature sets, and documented use cases. You may also wish to refer to notes from demos and product reviews.
4. **Gain demo-level or complete access to the courseware instance under review.** It is helpful to be able to view the courseware experience both from a student and an instructor perspective.
5. **Confirm product details.** Ensure you have the name of the product under review, whether any or all content was developed internally.

When you are ready to complete your review of the courseware product selected:

1. Download the Excel version of the CWiC Designer [here](#).
2. Go first to the in the Product Taxonomy - **Functional Capabilities** tab and select “yes” or “no” for each attribute.
3. Navigate to the Product Taxonomy - **Procurement tab** and select “yes” or “no” for each attribute (Note: these results are not factored into the final results of a product review).
4. Navigate to the Product Taxonomy - **Delivery tab** and select “yes” or “no” for each attribute (Note: these results are not factored into the final results of a product review).
5. Navigate to the Results tab to review the product’s coverage across both the Functional Capabilities and Design Principles categories, as well as a selected number of product application scenarios

Please provide responses for all questions; if you do not know the answer, please provide an educated guess based on your familiarity with the product.

## VIEWING AND INTERPRETING YOUR RESULTS

Upon completion of the CWiC Designer in Excel, users will receive an output on the Results tab, which includes the product's:

- **Functional Capabilities Coverage:** Presented as a grid aggregating results from inputs in the Functional Capabilities tab. These results describe the product's coverage of attributes that maximize learner engagement and enhance educator support of learning
- **Design Principles Coverage:** Presented as coverage across three measures: evidence of efficacy, alignment to learning science principles, and ease of use
- **Scenarios for Application of Courseware:** Provide further context for product review (and potential next steps) by enabling you to select a desired application of courseware, which may then be used to evaluate against the results of a product's Functional Capabilities coverage.

Your results will help to build transparency into product features and functions, and provide a framework for decision makers to make better-informed decisions related to the adoption of courseware products. Results may also be a useful input for product reviews and demos, and for building awareness and consensus around the use and benefits of courseware.

You are also encouraged to complete the entire CWiC Framework to arrive at a fuller picture of not just product, but also implementation-related dynamics.

## PREVIEW THE CWiC DESIGNER

The following includes the CWiC Designer. This version is not interactive, and is provided here for informational and review purposes.

To complete the interactive version of the CWiC Designer, go to [coursewareincontext.org](http://coursewareincontext.org) to download (available in interactive Excel format).

### FUNCTIONAL CAPABILITIES

Details: Instrument is completed by selecting “yes” or “no” for each attribute of the courseware product under review. Design Principles columns map functional capabilities to peer-reviewed research in pedagogy and learning science.

PRODUCT TAXONOMY (FUNCTIONAL CAPABILITIES ONLY)			DESIGN PRINCIPLES		
CAPABILITY	ATTRIBUTE	RESPONSE (YES / NO)	EVIDENCE OF EFFICACY	ALIGNS WITH LEARNING SCIENCE PRINCIPLES	EASE OF USE
Adaptivity	Does the courseware adapt the goals or standards for learner completion based on more inputs than a single correct response to the previous item or activity?		X		
Adaptivity	Does the courseware adapt the presentation of content based on learner-declared goals?			X	
Adaptivity	Does the courseware adapt the complexity or presentation of content based on a learner pre-test?		X		
Adaptivity	Does the courseware adapt the complexity or presentation of content based on a learner’s affective state?		X		
Adaptivity	Does the courseware adapt the scope of instruction (breadth and depth of content) based on more inputs than a single correct response to the previous item or activity?			X	
Adaptivity	Can educators or course designers override or change the parameters of adaptive protocols?				X

**FUNCTIONAL CAPABILITIES CONTINUED**

PRODUCT TAXONOMY (FUNCTIONAL CAPABILITIES ONLY)			DESIGN PRINCIPLES		
CAPABILITY	ATTRIBUTE	RESPONSE (YES / NO)	EVIDENCE OF EFFICACY	ALIGNS WITH LEARNING SCIENCE PRINCIPLES	EASE OF USE
Collaboration	Are learners prompted to act as a tutor or mentor?		X		
Collaboration	Can learners interact with peers during learning activities?		X		X
Collaboration	Are learners prompted to provide or receive feedback on or from peers?		X		
Collaboration	Can educators or mentors and learners initiate contact with one another within the courseware interface?			X	X
Customization & Configuration	Can educators or course designers change learning content and assessments (i.e. add, edit, re-order, delete)?				X
Customization & Configuration	Can educators or course designers change learning objectives or outcomes (i.e. add, edit, re-order, delete)?				X
Customization & Configuration	Is there a collection of supplemental content or assessments for educators or course designers to use?				X
Depth of Interaction	Are game-based activities or motivational strategies (e.g., competitions, rewards, level-based experiences) a part of the learner experience?		X		
Depth of Interaction	Do learners need to make predictions or explain their reasoning in order to complete one or more learning activities?		X		
Depth of Interaction	Are learners prompted to recall or apply prior learning?		X	X	
Depth of Interaction	Does the courseware offer varying means of learner action and expression (e.g., physical actions, use of multiple media, interactive objects, and executive functions)?			X	
Depth of Interaction	Do learners have the option to select from different representations of the same content in learning modules?			X	X

**FUNCTIONAL CAPABILITIES CONTINUED**

PRODUCT TAXONOMY (FUNCTIONAL CAPABILITIES ONLY)			DESIGN PRINCIPLES		
CAPABILITY	ATTRIBUTE	RESPONSE (YES / NO)	EVIDENCE OF EFFICACY	ALIGNS WITH LEARNING SCIENCE PRINCIPLES	EASE OF USE
<b>Depth of Interaction</b>	Does the courseware UI expose learning content or assessments from third party APIs?				X
<b>Feedback</b>	Do educators or mentors receive notifications of learner performance that could trigger an intervention?		X		X
<b>Feedback</b>	Do learners receive gradation (or multiple-try) feedback within a single activity?		X		
<b>Feedback</b>	Does the learner receive diagnoses of likely missing skills or knowledge components?		X		
<b>Feedback</b>	Can an educator track the progress of student cohorts and individual students in a single view?				X
<b>Feedback</b>	Can a learner track one's progress and remaining tasks in the same interface?				X
<b>Feedback</b>	Do learners receive feedback on socio-emotional factors related to learning (e.g. persistence)?			X	
<b>Learner Autonomy</b>	Are learners prompted for self-reflection or evaluation?		X		
<b>Learner Autonomy</b>	Can learners markup content and save these markups to support their own learning?		X		X
<b>Learner Autonomy</b>	Do learners have on-demand access to assessments, simulations, or interactive objects that are not a required element of planned instruction?		X		
<b>Learner Autonomy</b>	Can learners share their work or evidence of learning outside of the course (e.g. digital badges, e-portfolio artifacts)?				X
<b>Learner Autonomy</b>	Can learners associate external resources with assessments, learning content, objectives, or outcomes in the courseware?				X
<b>Measurement &amp; Structure</b>	Do one or more modules include a pre-test that results in feedback to the learner?		X		

**FUNCTIONAL CAPABILITIES CONTINUED**

PRODUCT TAXONOMY (FUNCTIONAL CAPABILITIES ONLY)			DESIGN PRINCIPLES		
CAPABILITY	ATTRIBUTE	RESPONSE (YES / NO)	EVIDENCE OF EFFICACY	ALIGNS WITH LEARNING SCIENCE PRINCIPLES	EASE OF USE
Measurement & Structure	Is there content that is intended for use as a summative assessment and is explicitly associated with the course's learning objectives?				X
Measurement & Structure	Have learning outcomes been mapped to learning objectives?			X	
Measurement & Structure	Are there assessments in most or all learning modules?			X	
Measurement & Structure	Are there measurements of a learner's confidence or disposition in relation to learning?			X	
Measurement & Structure	Does the courseware return grade and other performance data to the LMS and other enterprise systems as configured?				X
Measurement & Structure	Does the courseware have the ability to instrument (or generate) new or alternate assessment items or activities based on learner experiences or performance?				X
Scaffolding	Are there hints or prompts that support learners during learning activities or assessment items?		X		X
Scaffolding	Are there prompts for mental practice?		X		
Scaffolding	Are there narrative structures that act as guidelines or organizers of learning activities?		X		
Scaffolding	Are learners prompted to generate explanations of how they have approached an activity?		X		
Scaffolding	Does the courseware incorporate socio-emotional interventions (e.g. growth mindset, to overcome a stereotype threat)?		X		
Usability	Are there design features or assets to help users orient themselves with the interface and software in general?		X		X

**FUNCTIONAL CAPABILITIES CONTINUED**

PRODUCT TAXONOMY (FUNCTIONAL CAPABILITIES ONLY)			DESIGN PRINCIPLES		
CAPABILITY	ATTRIBUTE	RESPONSE (YES / NO)	EVIDENCE OF EFFICACY	ALIGNS WITH LEARNING SCIENCE PRINCIPLES	EASE OF USE
Usability	Can a learner save one's partial progress within a module and return to that point in a subsequent session?				x
Usability	Is there a glossary of terms specific to the learning content of the course?				x

**PROCUREMENT CAPABILITIES**

Details: Instrument is completed by selecting “yes” or “no” for each attribute of the courseware product under review.  
(Note: Procurement capabilities are included for informational purposes only and is not factored into the final results of a product review)

CAPABILITY	ATTRIBUTE	RESPONSE (YES / NO)
<b>Accessibility</b>	Alternate assessment options (mode of representation)	
<b>Accessibility</b>	Alternate assessment options (mode of response)	
<b>Accessibility</b>	Ability to download learning content for offline access	
<b>Accessibility</b>	Tools for minimizing distractions in the user interface	
<b>Accessibility</b>	Alternate language support for UI elements	
<b>Accessibility</b>	Alternate language support for some or most learning content	
<b>Browser / OS Compatibility</b>	Explicit support of most recent version of Google Chrome	
<b>Browser / OS Compatibility</b>	Explicit support of prior versions of Google Chrome	
<b>Browser / OS Compatibility</b>	Explicit support of most recent version of Apple Safari	
<b>Browser / OS Compatibility</b>	Explicit support of prior versions of Apple Safari	
<b>Browser / OS Compatibility</b>	Explicit support of most recent version of Internet Explorer	
<b>Browser / OS Compatibility</b>	Explicit support of prior versions of Internet Explorer	
<b>Browser / OS Compatibility</b>	Explicit support of most recent version of Mozilla Firefox	

**PROCUREMENT CAPABILITIES CONTINUED**

CAPABILITY	ATTRIBUTE	RESPONSE (YES / NO)
<b>Browser / OS Compatibility</b>	Explicit support of prior versions of Mozilla Firefox	
<b>Browser / OS Compatibility</b>	Native mobile iOS application	
<b>Browser / OS Compatibility</b>	Native mobile Android application	
<b>Browser / OS Compatibility</b>	Native Windows Mobile application	
<b>Browser / OS Compatibility</b>	No browser plug-ins or extensions required	
<b>Interoperability</b>	SCORM compatibility	
<b>Interoperability</b>	IMS Caliper Learning Sensor API integration	
<b>Interoperability</b>	xAPI Learning Relationship Store	
<b>Interoperability</b>	ePUB support	
<b>Interoperability</b>	SAML 2.0 Identity Provider or Service Provider	
<b>Interoperability</b>	Oauth 2.0 or OpenID ConnectService Provider or Relying Party	
<b>Interoperability</b>	LDAP authentication	
<b>Interoperability</b>	IMS Global LTI 2.x Tool Consumer	
<b>Interoperability</b>	IMS Global LTI 2.x Tool Provider	
<b>Privacy &amp; Security</b>	FERPA compliance certification by a third party	

**PROCUREMENT CAPABILITIES CONTINUED**

CAPABILITY	ATTRIBUTE	RESPONSE (YES / NO)
<b>Privacy &amp; Security</b>	US / EU Safe Harbor certification by a third party	
<b>Privacy &amp; Security</b>	Ability to ensure that data will not reside in foreign data centers	
<b>Privacy &amp; Security</b>	Documented disaster recovery procedures	
<b>Privacy &amp; Security</b>	Documented security policies and training programs for vendor staff	
<b>Scalability</b>	Documented support of peak concurrency levels	
<b>Scalability</b>	Clustering elasticity (i.e. the ability to add or remove nodes from a distributed data store)	
<b>Scalability</b>	NoSQL data store that supports data model elasticity	

**DELIVERY PLATFORM CAPABILITIES**

Description: Instrument is completed by selecting “yes” or “no” for each attribute of the courseware product under review. (Note: Delivery Platform Capabilities are included for informational purposes only and is not factored into the final results of a product review)

CAPABILITY	ATTRIBUTE	RESPONSE (YES / NO)
Content Management	Resource sharing among educators, mentors, or course designers	
Content Management	Batch file uploads	
Content Management	Support of multimedia content in assessment items	
Content Management	Content discovery and sharing among courses	
Content Management	Learner portfolio tools	
Content Management	Ability to add ALT tags for uploaded media	
Content Management	Ability to upload SCORM learning objects	
Content Management	Combination of templates and customizable interactions	
Content Management	Ability to parse uploaded files into learning or assessment content	
Content Management	More than 1GB of storage per student / course	
Content Management	Integrated cloud storage for end users to manage	
Course Administration	Online submission of assignments	

**DELIVERY PLATFORM CAPABILITIES CONTINUED**

CAPABILITY	ATTRIBUTE	RESPONSE (YES / NO)
Course Administration	Flexible group assignments (e.g. the ability to assign work to specific individuals)	
Course Administration	Calendar links to assignments	
Course Administration	Calendar standard protocol compliance (e.g. .ics file)	
Course Administration	Real-time progress monitoring during assessments	
Course Administration	Ability to tag content as required or optional	
Course Administration	Ability to generate or analyze a syllabus based on collected course content	
Course Administration	Ability to support faculty, mentors, or course designers interacting in relation to shared students	
Reporting	Single views of learner performance or grades among courses	
Reporting	Support of standards- or rubric-based grading	
Reporting	Competency-based reporting	
Reporting	Ability to view student workload	
Reporting	Views of course, program, and institutional information in the same software system	
Reporting	Reports on learner or educator evaluations of course content or administration	
Reporting	Reports on usage or performance of external and integrated software systems	
Reporting	Reports on performance of curriculum objects by author or source	
Reporting	Ability to add data from external systems and create single-view reports	

## GLOSSARY

### ADAPTIVITY

Any changes made by a software product to the scope, sequence, or completion criteria of a student's learning experiences based on knowledge of that student's proficiency or disposition.

### AFFECTIVE STATE

Any emotional response or disposition that can have a measurable impact on engagement or attainment

### ALT TAGS

Alternate descriptions of images or other objects on a user interface that exist in the programming code, most commonly used to comply with accessibility guidelines such as WCAG or Section 508 of the American Disabilities Act. Alt Tags, for example, allow a vision-impaired user to read or hear a description of an image.

### FERPA

Family Educational Rights Protection Act, a law governing data privacy rights in educational contexts

### GAME-BASED ACTIVITIES

Activities that use some form of game design (e.g. Competition, goal-based rewards) to motivate students

### GRADATION FEEDBACK

Feedback in two types of contexts:

- Allowing students multiple attempts at the same task
- Providing feedback to students that incorporates recent student actions on a preceding task

### IMS GLOBAL

A professional association with the goal of ensuring interoperability among technology systems in education. They build and maintain open standards such as LTI (Learning Tools Interoperability) and QTI (Question & Item Interoperability).

### INSTRUMENT (OR INSTRUMENTATION)

The ability to dynamically create assessment items or activities based on machine-readable content, typically content that the student has been viewing

### LDAP AUTHENTICATION

Lightweight Directory Access Protocol is a technology used to expose user directory lists (usually Microsoft's Active Directory) from a Student Information System or other "database of record" operated by an institution. LDAP authentication refers to a courseware product's practice of logging in its users by confirming that they are on regularly updated directory lists.

### LTI

Learning Tools Interoperability, an interoperability standard that supports integrations between courseware delivery platforms (e.g., LMSs) and software applications (e.g., courseware products)

### MENTAL PRACTICE

The act of imagining the performance of a learning task in contrast to physically performing that task. Visualizations of successfully completing a complex task, particularly one that includes psychomotor skills, are a common example of mental practice that can help reduce performance anxiety or better understand complex tasks.

## MODE OF REPRESENTATION

The manner in which instructional content is presented to students. Instructional design practices (e.g., Universal Design for Learning) endorse varied modalities of presenting content in order to encourage student engagement.

## MODE OF RESPONSE

The manner in which a student can respond to or interact with instructional content in order to complete a task. Instructional design practices (e.g., Universal Design for Learning) endorse varied means of student response in order to support a greater range of student demonstrations of skills and successful outcomes.

## PARAMETERS (OF ADAPTIVE PROTOCOLS)

Inputs to adaptive algorithms or protocols, which often include a student's proficiency and the difficulty of a learning or assessment task

## SAML

Security Assertion Markup Language, a standard for securely logging in software users and supporting Single Sign On among multiple applications

## SCORM

An open interoperability standard meant to facilitate the publication of, delivery of, and analytics on digital instructional content. SCORM is a standard that courseware products support to be compatible with Learning Management Systems and similar platforms.

## SOCIO-EMOTIONAL FACTORS

Abilities students have to regulate their emotions, have self-awareness, have social awareness, and act responsibly or appropriately within an instructional context

## SUMMATIVE ASSESSMENT

An assessment that impacts a student's course results (e.g. Pass or Fail), also indicating an assessment that does not provide actionable feedback to students beyond a score or grade

## THIRD PARTY APIS

Technologies that expose data from software systems other than those belonging to the courseware provider, which indicates an ability for a courseware product to expose a wider variety of content

## US / EU SAFE HARBOR

A set of data security principles that help US companies gain compliance with European Union data privacy laws. Safe Harbor is not a law but rather a guide to identify good practices in information security.