HOW TO USE THE CWiC FRAMEWORK:
PRODUCT PRIMER
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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.
Rather than a simple, one-size fits all buying guide, the CWiC Product Primer starts first with the important contextual question: “what instructional challenge are you seeking to solve?”

Product-level considerations are drawn from functional capabilities within the Product Taxonomy, which include aspects of instructional design, software interaction design, and user experience design. There are 9 capabilities included in the Primer.

**Functional Capabilities** include aspects of instructional design, software interaction design, and user experience design. There are 9 capabilities and 45 corresponding product attributes in the product taxonomy, which is the primary basis for the product primer. 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 helps 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

### 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
TARGET AUDIENCE

Educators and administrators evaluating courseware for a new course or update of existing courses.

GOALS

The purpose of the CWiC Primer is to help you:

- Develop a “short-list” of capabilities to look for in your courseware product exploration
- Compile questions to support a conversation with a vendor or self-led review of a product
- Prepare to use the CWiC Designer Framework or CWiC Framework should you wish to seek additional detail on product attributes or courseware implementation

INSTRUCTIONS

1. Start with the self assessment on page 8. In response to the prompt, select the application (scenario and goal) that best reflects your intended use of courseware.

2. Based on the recommendation from the self assessment, review your priority capability set and questions to use in your independent courseware exploration or vendor conversations.

3. Evaluate your next steps based on the results of your product exploration. Suggestions are provided on page 14.
The CWiC Product Primer

Self Assessment

Scenario: One Course, One Instructor

- Implement active learning strategies (e.g. flipped classroom)
- Simplify course development and instruction and save instructor time
- Develop a competency-based education (CBE) course
- Ensure consistency of student experience across sections
- Improve student success and engagement across sections
- Simplify course development and instruction and save instructor time

Priority Capability Set: Set 3

Scenario: One Course, Many Instructors

- Implement active learning strategies (e.g. flipped classroom)
- Simplify course development and instruction and save instructor time
- Develop a competency-based education (CBE) course
- Ensure consistency of student experience across sections
- Improve student success and engagement across sections
- Simplify course development and instruction and save instructor time

Priority Capability Set: Set 5

Scenario: Program/Multiple Courses

- Implement active learning strategies (e.g. flipped classroom)
- Simplify course development and instruction and save instructor time
- Develop a competency-based education (CBE) course
- Ensure consistency of student experience across sections
- Improve student success and engagement across sections
- Simplify course development and instruction and save instructor time

Follow “One course, many instructors,” but beware that attributes of the same product may vary across disciplines and courses

Priority Capability Set: Set 1, Set 2, Set 4
## PRIORITY CAPABILITY SET 1

### IMPROVE STUDENT SUCCESS & ENGAGEMENT ACROSS SECTIONS

<table>
<thead>
<tr>
<th>PRIORITY CAPABILITY</th>
<th>DESCRIPTION AND VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measurement &amp; Structure</td>
<td>Defines courses in terms of outcomes and objectives, assesses learner proficiencies, and enables the evaluation student learning against those objectives. Supports assessment of student learning relative to decisions made by instructors and designers.</td>
</tr>
<tr>
<td>Scaffolding</td>
<td>Helps learners complete tasks that are beyond their actual proficiencies so that learners can better perform on subsequent activities. Valuable in courses seeking broader and more rapid learner attainment through supports for learners.</td>
</tr>
<tr>
<td>Adaptivity</td>
<td>Refers to changing a learner’s experiences or tasks based on a courseware product’s knowledge of a learner’s context or knowledge level. Buyers of courseware products that feature adaptivity may value increased engagement, more rapid attainment, and increased meta-cognition among learners.</td>
</tr>
<tr>
<td>Collaboration</td>
<td>A requirement or opportunity for learners to engage with other people in the context of learning: peers, mentors, or educators. These interactions may augment learning activities and add elements of socio-emotional learning to coursework.</td>
</tr>
</tbody>
</table>

### QUESTIONS FOR YOUR INDEPENDENT EXPLORATION OR VENDOR CONVERSATIONS

**Measurement & Structure**: How does the courseware product allow learners to demonstrate growth and proficiency, and does the variety of assessment tasks allow learners to show mastery of all learning outcomes in the course?

**Scaffolding**: How does the courseware product afford learners hints, alternate version or feedback when learners struggle with a task or ask for help?

**Adaptivity**: How does this courseware product use adaptivity to deepen or hasten learning?

**Collaboration**: To what degree do learners need to cooperate, compete, or collaborate with other learners in order to ensure successful outcomes?
### PRIORITY CAPABILITY SET 2

**ENSURE CONSISTENCY OF STUDENT EXPERIENCE ACROSS SECTIONS**

<table>
<thead>
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<tr>
<td><strong>MEASUREMENT &amp; STRUCTURE</strong></td>
<td>Defines courses in terms of outcomes and objectives, assesses learner proficiencies, and enables the evaluation student learning against those objectives. Supports assessment of student learning relative to decisions made by instructors and designers.</td>
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<tr>
<td><strong>FEEDBACK</strong></td>
<td>Includes any observation, evaluation, or suggestion by a courseware product to a learner or educator. Courseware’s ability to respond to learner actions, provide meaningful reports, and encourage a learner’s self-awareness and motivation are a fundamental part of the value proposition of digital learning.</td>
</tr>
<tr>
<td><strong>CUSTOMIZATION CONFIGURATION</strong></td>
<td>Enables educator or course designer control so that courseware aligns with postsecondary course and program objectives. Courseware can aid this alignment by offering functionality to change configuration or add / remove / edit content and resources.</td>
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### QUESTIONS FOR YOUR INDEPENDENT EXPLORATION OR VENDOR CONVERSATIONS

**Measurement & Structure:** How does the courseware product allow learners to demonstrate growth and proficiency, and does the variety of assessment tasks allow learners to show mastery of all learning outcomes in the course?

**Feedback:** How does the courseware product use or share its knowledge of learners and content in order to sustain engagement and encourage completion?

**Customization / Configuration:** How can educators or course designers change a courseware product so that it aligns with their course and program objectives?
PRIORITY CAPABILITY SET 3
IMPLEMENT ACTIVE LEARNING STRATEGIES

PRIORITY CAPABILITY | DESCRIPTION AND VALUE
--- | ---
DEPTH OF INTERACTION | Refers to a variety of interactions in order to ensure knowledge beyond recognition and comprehension. Signature activities and interaction models can help define the brand of a courseware product and, by extension, of the institutions that adopt.
FEEDBACK | Includes any observation, evaluation, or suggestion by a courseware product to a learner or educator. Courseware’s ability to respond to learner actions, provide meaningful reports, and encourage a learner’s self-awareness and motivation are a fundamental part of the value proposition of digital learning.
COLLABORATION | A requirement or opportunity for learners to engage with other people in the context of learning: peers, mentors, or educators. These interactions may augment learning activities and add elements of socio-emotional learning to coursework.

QUESTIONS FOR YOUR INDEPENDENT EXPLORATION OR VENDOR CONVERSATIONS

Depth of Interaction: How does the courseware product allow learners to demonstrate growth and proficiency, and does the variety of assessment tasks allow learners to show mastery of all learning outcomes in the course?

Feedback: How does the courseware product use or share its knowledge of learners and content in order to sustain engagement and encourage attainment?

Collaboration: To what degree do learners need to cooperate, compete, or collaborate with other learners in order to ensure successful outcomes?
## PRIORITY CAPABILITY SET 4
### SIMPLIFY COURSE DEVELOPMENT / INSTRUCTION AND SAVE TIME

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<td><strong>SCAFFOLDING</strong></td>
<td>Helps learners complete tasks that are beyond their actual proficiencies so that learners can better perform on subsequent activities. Valuable in courses seeking broader and more rapid learner attainment through supports for learners.</td>
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## QUESTIONS FOR YOUR INDEPENDENT EXPLORATION OR VENDOR CONVERSATIONS

**Measurement & Structure**: How does the courseware product allow learners to demonstrate growth and proficiency, and does the variety of assessment tasks allow learners to show mastery of all learning outcomes in the course?

**Scaffolding**: How does the courseware product afford learners hints, alternate version or feedback when learners struggle with a task or ask for help?

**Feedback**: How does the courseware product use or share its knowledge of learners and content in order to sustain engagement and encourage attainment?

**Customization / Configuration**: How can educators or course designers change a courseware product so that it aligns with their course and program objectives?
WHY THESE NINE CAPABILITIES?

Priority capabilities are selected that attempt to maximize learner engagement and user experience design. All are disciplines instructional design, software interaction design, and enhance educator support of learning. These nine capabilities include aspects of courses.

Customization & Configuration enables educators to adjust courseware to fit their courses and enable adaptations, feedback, and scaffolding.

Collaboration is a way to sustain learner engagement and work to grow learning skills. The ability for learners or educators to engage with other people in the context of learning: peers, mentors, or educators.

Measurement & Structure articulates academic structures and visualizations to the capacity to assess learner proficiencies and objectives, and enables the deployment of reports, notifications, and user-centered instructions that support learner proficiencies and objectives.

Adaptivity: How does this courseware product use adaptivity to deepen or accelerate learning?

Scaffolding: How does the courseware product afford learners hints, alternate version or feedback when learners struggle with a task or ask for help?

Questions for your independent exploration or vendor conversations.

Measurement & Structure: How does the courseware product allow learners to demonstrate growth and proficiency, and does the variety of assessment tasks allow learners to show mastery of all learning outcomes in the course?

Scaffolding: How does the courseware product afford learners hints, alternate version or feedback when learners struggle with a task or ask for help?

Learner Autonomy represent varying contexts for learning activities and experiences.
WHERE DO YOU GO FROM HERE?

Once you have explored this instrument, potential questions to ask and next steps may include:

Did you find a product with good functionality in your priority capabilities?

Consider whether the product meets your course and institutional standards in key areas like Accessibility, Privacy and Security, and Interoperability. A list of product features is included in the Procurement and Delivery Platform sections of the product taxonomy as part of the CWiC Framework.

Were there gaps between the products you evaluated and the functionality you desire in priority capabilities?

If these product features are important to you, consider whether they can be delivered through integration with your LMS or another teaching and learning product. If not, you may want to continue your courseware search.

Looking for more information and a deeper examination of the courseware products?

Try the CWiC Designer, which expands the examination to 45 product attributes, plus procurement and delivery platform considerations, and includes links to relevant efficacy research.

These options are not mutually exclusive and you may want to explore aspects of all three in your courseware exploration.

You are also encouraged to complete the entire CWiC Framework to arrive at a fuller picture of product-level details and implementation-related dynamics that impact courseware quality. Faculty members seeking to learn more about improving their teaching practices in online / blended environments using courseware are invited to check out OLC’s Digital Courseware Facilitation tool, accessible on CoursewareInContext.org’s resources page, a hub for supplemental resources for the postsecondary community.