Curriculum Development, Revision, and Evaluation Processes

Connections Education has substantial resources for curriculum development and instructional support. The company’s team of talented, experienced curriculum specialists, curriculum project managers, content and copy editors, and multimedia designers work to ensure Connections students are presented content, instructional resources, and activities that prepare them to be active, knowledgeable participants in a global networked society. These individuals apply their deep expertise in online instruction and academic disciplines to the development of curriculum that supports 21st century readiness for every student. Using the Framework for 21st Century Learning\(^1\) process, they work to integrate supportive technologies, inquiry- and problem-based instructional approaches, and higher order thinking skills into all curriculum development efforts.

Connections Education aligns its curriculum to the Common Core State Standards as well as individual state standards, and also reviews and aligns with national standards such as National Council of Teacher of Mathematics (NCTM), National Science Teachers Association (NSTA), National Council for the Social Studies (NCSS), and National Education Technology Standards wherever possible. Finally, Connections curriculum development is guided by iNACOL standards for quality online courses.

Connections curriculum development is guided by these key principles and tenets:

- Curriculum fosters breadth and depth of understanding in subject area.
- Content is aligned to national and state standards.
- Curriculum is supported by quality, reputable, recently published textbooks and/or proven instructional resources and materials.
- Content and assessments are aligned, accurate, and unbiased.
- Content is current, relevant, and provides real-world applications.
- Content is appropriate for the learner (age, ability, background, reading level, learning style, etc.).
- Instructional design is adaptable and flexible in order to best meet individual needs of Learning Coaches and students.
- Instructional design provides students opportunities to improve learning skills using technological tools (e.g., virtual labs, interactive tools, Teachlet\(^*\) tutorials, business software, online calculator).
- Navigation is intuitive and age-appropriate.
- Lesson structure is consistent and supports learning sequence of motivation, instructional content, application activities, review of key concepts and assessment.

- Scope of course is appropriate with regard to amount of content, length of course and lessons, and course requirements.
- Lesson introduction effectively presents lesson objectives, assesses prior knowledge, sets expectations, and motivates.
- Background information prepares students to access new content, skills, and strategies.
- Curriculum includes opportunities for developing problem-solving and critical thinking skills and real-world applications.
- Curriculum includes opportunities for collaboration and independent study.
- Curriculum includes opportunities to develop oral and written communication skills.
- Curriculum incorporates timely and appropriate feedback to students.

Central to the Connections curriculum design process is the systematic analysis of curriculum offerings. The analysis phase consists of formative, summative, qualitative, and quantitative measures to determine the value and effectiveness of the curriculum offerings. This multi-level evaluation system incorporates regular reviews of student performance, user feedback, assessment performance analysis, and district, state, and national content standards and assessments. Connections curriculum development also emphasizes innovation, effective implementation, evaluation of student learning, and continuous improvement, and the company strives to regularly provide new curriculum options that leverage the interactivity and engagement potential of online resources. Connections always seeks to balance enhancements and additional options with the recognition that students have a wide range of learning styles and needs.

Decisions about improvements and updates to curriculum are also guided by feedback from a variety of critical stakeholders: teachers and administrators, students and parents, school boards, and outside evaluators such as accrediting organizations and sponsors. This feedback is collected both daily and annually in a variety of ways, including the Connections StarTrack system and Connexus® feedback tools; annually through Parent, Student, and Staff Satisfaction surveys; and throughout the year from professional development and leadership development activities and seminars with teachers and school administrators. Comments and input from board members and the results of third-party evaluations also often factor into changes to curriculum.

Connections Education understands that clear processes and guidelines that ensure internal consistency, instructional effectiveness, and the appropriate use of intellectual property are essential to the development of quality online courses. Therefore, central to the Connections curriculum development process is a research-based development framework designed to support not only quality course development but a feedback loop that ensures continuous improvement. This systematic instructional design process incorporating the elements of analysis, design, development, implementation, and evaluation often referred to as ADDIE:

1. **Analysis:** Prior to course development, a thorough analysis of state graduation requirements, school or board requests, and competitive positioning is completed. Feedback on current courses from student academic performance, user feedback, usability reviews, and national and state standards alignments are incorporated into the analysis.
2. **Design:** Within the design phase, the curriculum team attends to the set of standards around which the course is written, instructional strategies, content, and visual and technical design of the course. Attention is focused on the course’s purpose and audience, as well as the course’s organization, instructional approach, and instructional resources. Consideration is also given to the role of technology, the level of student engagement, and student learning styles.
3. **Development:** Beginning with a course map which focuses on standards alignment and the identification of the enduring knowledge present in the course, the development lifecycle
incorporates unit-by-unit course development and revision, content analysis and review, editorial review and revision, and a detailed quality assurance appraisal. Procedures for ensuring internal consistency, bias-free content and assessments, instructional effectiveness, and the appropriate use of intellectual property are implemented throughout the development phase.

4. **Implementation:** Each school year brings the implementation of newly developed courses. Before full release, demo courses are created, evaluated by teachers, and suggestions are implemented. When courses are completed, they are presented to students, teachers, and Learning Coaches within Connexus®, and effective implementation is supported by updated and ongoing training for all.

5. **Evaluation:** The intent of the evaluation phase is to determine the level of student success, and the impact of the course design on student performance. Evaluation occurs throughout the delivery of the course and includes student performance, internal lesson and assessment analysis, and feedback from students, Learning Coaches, and teachers. Essential user feedback is gained through WebMail messages, the StarTrack system, the Connexus® feedback tool, and our annual Parent Satisfaction survey.

This process is summarized in the graphic below.

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<th>PROCESS</th>
<th>TASK</th>
<th>ROLES</th>
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<td>Analysis</td>
<td>• Needs Assessment</td>
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<td>• Audience Analysis</td>
<td>• Instructional Designer(s)</td>
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<td></td>
<td>• Content Analysis</td>
<td>• Writers</td>
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<td>• Course Outline</td>
<td>• Subject Matter Experts</td>
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<td>Design</td>
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<td>• Create storyboards</td>
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<td>• Develop assessments</td>
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<td>Development</td>
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<td></td>
<td>• Conduct quality reviews</td>
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<td>• Conduct user testing</td>
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<td>Implementation</td>
<td>• Deploy content in LMS</td>
<td>• Project Manager</td>
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<td>• Communicate availability of learning</td>
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<td>• Communications Specialists</td>
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<td>Evaluation</td>
<td>• Gather feedback</td>
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<td>• Instructional Designers</td>
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Connections’ six-year Course Development and Revision Model includes a continuous evaluation and analysis of data which results in complete course replacements every six years. During this six-year course cycle, daily, yearly, and mid-way revisions are included. In an effort to assess course effectiveness frequently and in multiple
ways, and to use these findings as basis for improvement, Connections continues to implement a multi-level evaluation system that incorporates regular reviews of student performance results, user feedback, assessment performance analysis, and national, state, and district content standards and course requirements.

For each course created, Connections follows a systematic development, review, editing, and quality assurance process. The graphic below represents a typical course development cycle. For existing courses, alignments to state and Common Core State Standards are performed. If a new course is developed, state and Common Core State Standards are used to inform the initial course outline process to ensure the course is appropriately aligned.

Course writers and content editors receive online training on instructional sequence, effective online learning strategies, assessment accuracy, development and revision, and the processes illustrated above. During the development phase, content editors use a content editing checklist to provide feedback and direction to writers. This checklist is designed to ensure that all lesson and assessment content and visuals are unbiased and represent cultural and global diversity.

All feedback and subsequent course revisions are vetted by in-house content editing specialists and curriculum development specialists and managers. Curriculum specialists may confer with assessment specialists on the Research and Assessment Team for feedback on assessment reliability, validity, and absence of bias.
Course development follows a Backward Design Model. This begins with the standards alignment and the identification of the “big ideas” or enduring knowledge present in the standards. Identification and development of assessment frameworks follow to ensure that key concepts are measured in appropriate, unbiased, and varied ways. Moving “backwards” from the assessments is the development of instructional components (i.e., units, lessons, activities, and multimedia) that will ultimately lead the students to demonstrate their learning. A graphic of this model is represented below.

Each course that is developed has a consistent design, structure, instructional sequence, and variety of assessments that measure student learning. Resources, which include texts and vetted assessment items from leading publishers, are chosen to align to standards and to provide students with a variety of learning experiences. Online interactive media and instructional tools may be developed to support key concepts and provide students with multiple opportunities to practice their learning. Additionally, third party resources and
simulations may be included in course content to provide students with a variety of ways to access key concepts.

To ensure teachers have a voice in the curriculum development process and to enable collaboration among teachers who are teaching the same courses, Connections’ Curriculum and Instruction department facilitates a Teacher Course Liaison program. Liaisons are lead teachers in Connections schools who communicate regularly with fellow teachers as well as with members of the Instruction team to provide support, guidance, instructional resources, and differentiation strategies which positively impact student achievement. This partnership enables the Teacher Course Liaisons, as well as their colleagues, to share successes, challenges, and suggestions with the Curriculum Development team at Connections Education; they become the system-wide experts regarding the content, pedagogy, and implementation of Connections courses and they become the voice of their colleagues as the Curriculum Development team enhances and modifies curriculum. As a Teacher Course Liaison, a Connections Education teacher will:

- Participate in Teacher Course Liaison training
- Serve as the lead teacher for an assigned course area (e.g. 3rd grade reading, Algebra, etc.) throughout the academic school year
- Solicit the sharing of instructional resources, content reviews, feedback, suggestions, and recommendations from other Connections Education teachers
- Communicate areas of concern and recommendations to the Instruction team via a issue ticketing, IssueAware (IA), system
- Review courses in development and provide feedback through the StarTrack rating system.
- Develop, review, and coordinate teacher-created instructional resources that are shared with other teachers through the Shared Content area of SharePoint
Curriculum and course evaluation follows the iNACOL - Course Evaluation and Management standard: “Course provider uses multiple ways of assessing course effectiveness.” The following performance indicators are used to evaluate course effectiveness. Based on multiple data points, curriculum is revised, enhanced, or replicated to impact student performance.

- **Student Performance Results – Formative and Summative**
  - LEAP (Longitudinal Evaluation of Academic Progress) proprietary pre and post assessments
  - Course Assessments
  - Exit Exams/State testing
  - AP Results

- **Course/Lesson Performance**
  - User Feedback – Students, Teachers, Learning Coaches
    (Issue Aware tickets, Star Track Ratings, Feedback from Teacher Course Liaisons)

- **Assessment Analysis Reports**

- **Course Review**
  - Standards Alignments
  - Graduation Requirements
  - State and District Requirements

**StarTrack Lesson Rating Summary Reporting**
- For the 2011-2012 school year
  - Total ratings – 829,883
  - Total ratings with comments – 32,492
  - Average rating – 4.2 out of 5.00
  - Total distinct lessons rated – 32,429

The Star Track Lesson Rating and Feedback system is explained below.
Accessibility for Students with Disabilities

Connections Education is compliant with IDEA and has extensive experience in meeting the needs of students with disabilities in a virtual school environment. Not only is parent satisfaction high among Connections Education families with special needs children, but Connections’-affiliated schools which have been audited by their states for special education compliance have passed these audits with great success. The chart below indicates the current distribution of various disabilities among the 12% of Connections Education students nationally with special learning needs. “Other” includes students with vision impairments, hearing impairments, orthopedic impairments, traumatic brain injury, developmental delay and multiple disabilities, some of whom require assistive technologies or alternative curricula to support their daily work, but all of whom participate fully in the program.

Connections Education complies with the National Instructional Materials Accessibility Standard (NIMAS). As of August 2006, federal law requires publishers of K-12 curriculum to provide a digital version of textbooks and other related materials. The Individuals with Disabilities Education Act (IDEA 2004) established the format of these digital versions as the NIMAS. The NIMAS applies to printed textbooks and related printed core materials that are written and published primarily for use in elementary and secondary schools and are required by Connections Education for use by students.

Connections Education coordinates with the National Instructional Materials Access Center (NIMAC) to ensure access to eligible students with disabilities. All contracts with publishers of textbooks and related printed core material include a requirement for NIMAS compliance. Connections Education takes appropriate steps to ensure that only NIMAS eligible students receive these specialized formats. Students eligible to receive specialized formats produced by NIMAS files include students who are (a) blind (a visual acuity of 20/200 or less in the better eye after correction or fields less than 20 degrees), (b) visually impaired (a visual impairment with corrections and regardless of optical measurement that prevents the student from reading standard print), (c) physically disabled (a physical limitation that prevents the student from reading standard print), and (d) print disabled (having a reading disability resulting from an organic brain dysfunction and of sufficient severity that it prevents the student from reading printed materials).

Specialized formats are not provided to students who are not NIMAS eligible, even though they may benefit. The Individualized Education Program (IEP) team determines the instructional program, modifications, and accommodations needed for students with disabilities, including the need for accessible instructional
materials. Connections Education assumes responsibility for providing accessible formats to students who are not eligible, such as students with disabilities other than those specified and students with Section 504 plans who do not qualify for NIMAS-produced materials.

The School Handbook, General Portion includes Connections Education's policy regarding accessibility.

6 Services for Special Populations

6.1 Individuals with Disabilities Education Act (IDEA) Eligible Students*

*See the Handbook Supplement for additional school-specific information.

Subject to any specific state limitations, the school provides a Free Appropriate Public Education (FAPE) to students with special needs. In general, this includes (but is not limited to) identification and evaluation of specific learning needs, planning Individualized Educational Programs (IEPs), and implementing placements in accordance with the legislation. Specific special education policies vary by school.

In addition, Connections Academy complies with the federal National Instructional Materials Accessibility Standard (NIMAS). This Standard requires publishers of K-12 curriculum to provide a digital version of printed textbooks and related printed core materials that are written and published primarily for use in elementary and secondary schools. Connections Academy must provide these digital versions to eligible students if the students are required to use the materials to complete their Connections Academy course work.

Students eligible to receive specialized formats (NIMAS files), include students who are:

- blind (a visual acuity of 20/200 or less in the better eye after correction or fields less than 20 degrees)
- visually impaired (a visual impairment with corrections and regardless of optical measurement that prevents the student from reading standard print)
- physically disabled (a physical limitation that prevents the student from reading standard print)
- print disabled (having a reading disability resulting from an organic brain dysfunction and of sufficient severity that it prevents the student from reading printed materials).

NIMAS formats are not provided to students who are not NIMAS eligible, even though they may benefit. The Individualized Education Program team determines the instructional program, modifications, and accommodations needed for students with disabilities, including the need for NIMAS formatted materials.

Strategies for Addressing Multi-Lingual Learners

Connections Education provides quality language instruction, based on scientific research for English acquisition, in addition to quality academic instruction in reading and math. Children who are becoming fluent in English are also learning academic content in such areas as reading and math. Children receive a planned instructional program of English as a second language instruction (ESL) at their developmental and instructional level to facilitate the acquisition of English language skills. This instruction is usually provided by each school’s ELL Lead. Connections Education provides ELLs with virtual English language acquisition support. Students and Learning Coaches receive support from a highly-qualified ESL teacher via telephone and Live Lesson® sessions. Students receive individualized attention that facilitates fluency in English. This targeted instruction and support is designed to assist the student with attaining English proficiency. Students are encouraged to use both English and their native language to understand and learn the English language. Intensity of service depends solely on the needs of the student.

Connections’ academic content area curriculum will also challenge the student. The academic content areas are taught at the student’s grade level. This immersion will engage and challenge the student academically while
enhancing English language proficiency. Finally, parents have the right to decline ELL enrollment or to remove their child from the ELL program.

To support multi-lingual learners, teachers select and document ESOL strategies in their daily lesson plans and their LiveLesson sessions based on the second language acquisition proficiency level of the students. Teachers document mastery of core curriculum with student work samples. The principal or assistant principal verifies the documentation of the use of ESOL strategies to make instruction comprehensible. For students who are not progressing linguistically and academically, an ANI form is completed to address interventions and a progress monitoring timeline is developed and implemented immediately in an ELL Committee meeting. This monitoring process is ongoing throughout the school year and is done a minimum of 3 times a year by the District Compliance Specialist.

The individualized pace of Connections’ curriculum programs allow students to move more quickly through subjects where language is not a factor and spend more time on reading and writing activities. A Connections Education curriculum specialist with ESL/LEP/ELL training is available to work with teachers, Learning Coaches, and students to adapt the core material for students and provide appropriate supplemental resources, including various technologies that can facilitate language acquisition.

Services that promote language acquisition include instructional support to help ELL students attain proficiency in listening, speaking, reading, and writing. ELL services will be provided through the use of language software, teacher consultation with Learning Coaches to guide instructional practice, teacher modification of content lessons and/or assessments, and direct instruction via LiveLesson® sessions. This hybrid model of ELL support ensures that the individual needs of ELL students are met.

The curriculum specialist will play a key role in ensuring integration of students into the school community. The specialist will maintain ELL student files; provide instructional consultation and modification of lessons, assignments, and assessments to Learning Coach(es) of ELL students on a minimum biweekly basis; develop presentations and provide direct instruction to ELL students in reading, writing, listening, and speaking through LiveLesson® and telephone conference; provide progress monitoring throughout the school year using various progress monitoring tools and curriculum-based measures; create and implement interventions based on student need and data from progress monitoring; monitor exited ELL students for academic progress using state-specific criteria for two years after program exit; and stay current on state legislation pertaining to ELL students.