

2023 Instructional Material Summer Review Institute

Review Team Appraisal of Title
Grades K-12 Computer Science

This appraisal form is provided for use by educators responsible for the selection of instructional materials for implementation with districts and charter schools across New Mexico to meet the need of their student populations.

[NMPED Adoption Information](#)

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|-------------------|--|----------------------------|---|
| Text Title | New Mexico Computer Science Applications (6-8) | Publisher | Coder Kids, Inc. DBA Ellipsis Education |
| SE ISBN | | TE ISBN | 2256836453968 |
| SW ISBN | | Grade Level/Content | 6-8 Computer Science |

Core Instructional Material Designation (Core instructional material (CIM) is the comprehensive print and/or digital educational material, including basal material, which constitutes the necessary instructional components of a full academic course of study in those subjects for which the department has adopted content standards and benchmarks.)

Recommended
(90% and above)

Recommended with Reservations (80-89%)

Not Recommended and Not Adopted
(below 80%)

Total Score - The final score for the materials is averaged between the team of reviewers.

Average Score

86%

Cultural and Linguistic Relevance Recognition - Materials are reviewed for relevant criteria pertaining to the support for teachers and students in the material regarding cultural relevance and the inclusion of a culturally responsive lens. Those materials receiving a score of 85% or above on the CLR portion of the review are recognized as culturally and linguistically relevant.

CLR Recognized

Average Score

42%

FOCUS AREA 3 CULTURAL AND LINGUISTIC PERSPECTIVES AND RESPONSIVENESS:

Instructional materials represent a variety of cultural and linguistic perspectives and highlight diversity in culture and language through multiple perspectives.

Statements of appraisal and supporting evidence:

Materials provide opportunities for students to share ideas they already know from home, community, or school and respect the views of others through feedback. However, there is no evidence of encouragement for students to share their cultural and linguistic background as assets in cultural expressions nor of the materials including representations of culture and traditions that include photos, illustrations, food, or charts. There is also no evidence of instructional materials addressing multiple ethnic descriptions such as portrayals of people and groups that show respect for their race, religion, socioeconomic status, and orientations. Also, there is no evidence of asset-based perspectives and representations of people who live or have lived in NM.

Computer Science Standards Review - Materials are reviewed for alignment with the state adopted content standards, benchmarks and performance standards.

Average Score

91%

OVERALL ALIGNMENT

Materials align with the computer science standards overall.

Statements of appraisal and supporting evidence:

Overall, materials align with the computer science standards. Students are provided many opportunities to practice debugging and provide peer feedback with a two-fold purpose: 1. to respect others' opinions and 2. to enhance quality of projects. Students also practice giving attribution to creators when remixing, reusing, or incorporating existing code into personal projects. However, materials provide little evidence for incorporating related videos with closed captioning and student examples.

COMPUTING SYSTEMS

Materials align to the computing systems standards for computer science.

Statements of appraisal and supporting evidence:

Materials align to the computing systems standards for computer science. For example, materials allow students to suggest improvements to familiar devices and technology to allow for greater accessibility of diverse users. Students use the Engineering Design Process as a framework for proposing and vetting solutions. Materials provide activities for students to create, identify, troubleshoot, and fix problems in programs.

NETWORKS AND THE INTERNET

Materials align to the networks and internet standards for computer science.

Statements of appraisal and supporting evidence:

Materials align to the network and internet standards for computer science. For example, students model the role of protocols in transmitting data during an unplugged activity. In this activity, students review how routers transmit packets of data over networks and potential issues that can arise when packets are sent over the Internet. Students explain the purpose of user accounts and describe different methods to obtain access to specific websites. The materials provide students with an opportunity for discussing types of authentication and creating a website that provides services to authenticated users. Materials also allow students to decrypt ciphertext to interpret its meaning.

DATA AND ANALYSIS

Materials align to the data and analysis standards for computer science.

Statements of appraisal and supporting evidence:

Materials align to the data and analysis standards for computer science. For example, materials provide an activity for students to create their own pixel art using RGB or HEX color code system. To make data more useful and reliable, students use data cleaning techniques to transform a computational model by examining a roller coaster data set, which has been arranged into a series of JavaScript objects with distinct properties and values. Students implement new JavaScript methods to highlight relationships and use data to communicate ideas.

ALGORITHMS AND PROGRAMMING

Materials align to the algorithms and programming standards for computer science.

Statements of appraisal and supporting evidence:

Materials generally align to the algorithm and programming standards for computer science. For example, materials provide an opportunity for students to apply array methods to data in order to decode string text and decompose the necessary components of a memory card game. Also, students construct a flowchart illustrating the gameplay of a memory card game. Students work collaboratively while using checklists to support debugging code. However, there is no evidence of guidance on how to distribute tasks and roles among members nor incorporating comments in their product or communicating their process using design documents.

IMPACTS OF COMPUTING

Materials align to the impacts of computing standards for computer science.

Statements of appraisal and supporting evidence:

Materials generally align to the impacts of computing standards for computer science. Materials provide a video that discusses how interactions online may cause Red Flag Feelings. Students discuss their experiences interacting with people online and how this can affect keeping their information private and secure. Materials provide the opportunity for students to work collaboratively in teams to fulfill project expectations. Also, students crowdsource additional data from others to create a larger and more representative data set. Students define accessibility and share examples of accessibility features while explaining benefits to users, specifically color-blind individuals. However, there is no evidence found of providing a discussion on the issue of biased design of existing technologies. Additionally, students discuss how technologies affect career options, but no evidence is found of a discussion that compares tradeoffs associated with computing technologies.

Computer Science Content Review- Materials are reviewed against relevant criteria pertaining to the support for teachers and students in the specific content area reviewed.

Average Score

90%

FOCUS AREA 1 COMPUTATIONAL CONCEPTS

Instructional materials provide strategies to develop students' skills that are crucial to understanding computational concepts, including sequencing, looping, parallelism, events, conditionals, operators, and data.

Statements of appraisal and supporting evidence:

Materials provide strategies to develop students' skills that are crucial to understanding computational concepts. Students interpret data from survey questions and collect it from Google Forms, Excel Spreadsheets, or on paper. Students create graphs for each question in order to represent survey data. Students use flowcharts to plan a sequence of steps when planning to code a Chatbot website. Additionally, students identify, evaluate, and address errors through testing and debugging a website. Students use the modulo arithmetic operator, which performs division. There is some evidence of students directing the "action of on-screen agents in virtual worlds".

FOCUS AREA 2 COMPUTATIONAL PRACTICES

Instructional materials provide strategies to develop students' skills that are crucial to understanding computational practices, including experimenting and iterating; testing and debugging; and reusing and remixing.

Statements of appraisal and supporting evidence:

Materials provide strategies to develop students' skills that are crucial to understanding computational practices. For example, students work through a debugging checklist to ensure the character of the website is error-free and follows coding best practices. Instructional materials provide frequent guided opportunities for students to explore CSS components "to enhance the stylistic details of her webpage". Students write programs for their webpage to function efficiently and they also have the opportunity to debug their pages.

FOCUS AREA 3 COMPUTATIONAL PERSPECTIVES

Instructional materials provide strategies to develop students' skills that are crucial to understanding computational perspectives, including expressing, connecting, and questioning.

Statements of appraisal and supporting evidence:

Materials provide strategies to develop students' skills that are crucial to understanding computational perspectives. Students collaborate and embrace diverse perspectives throughout the development process of coding a Boggle game. Students compare individual solutions, talk through game logic, and arrive at a group solution using either code or pseudocode. Students produce HTML, CSS, and JavaScript to build a website adhering to project criteria. Students also assess and select a "for" or "while" loop for implementation in their project.

FOCUS AREA 4 ACCESSIBILITY AND EQUITY

Statements of appraisal and supporting evidence:

Materials allow opportunities for students to discuss appropriate behaviors to exhibit when using the Internet and digital devices. Students develop an understanding and appreciation for ethical behavior through an unplugged carousel activity where students collaborate on how to solve each given scenario using the Internet. Materials provide EL and gifted students opportunities to encounter and comprehend grade-level concepts via supplemental teaching guides and challenge activities. However, there is no evidence of materials supporting students with special needs.

FOCUS AREA 5 TEACHER SUPPORT

Statements of appraisal and supporting evidence:

Materials provide teacher support via a thorough list of materials, links, printable assessments, and resources in each lesson.

All Content Review - Materials are reviewed against relevant criteria pertaining to the support for teachers and students in the material regarding the progression of the standards, pacing, assessment, individual learners, and cultural and linguistic relevance and responsiveness.

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|-------------------------------|---------------|
| CLR Recognition Average Score | Average Score |
| 42% | 54% |

FOCUS AREA 1 RESOURCES AND SUPPORTS FOR TEACHERS AND STUDENTS
Instructional materials provide teacher resources to support planning and supports for all students.
Statements of appraisal and supporting evidence:

Instructional materials provide thorough lists of resources for teachers and students and are accessible through the attached links in lesson plans. Materials provide a list of lessons that are broken down into modules. Within the modules are individual lessons that have clear titles, objectives, descriptions, and estimated times. Within the "Computer Science Fundamentals" link are the Syllabus, Standards Map, and Pacing Guide that includes how the lessons correspond to the standards. SEL awareness opportunities are noted on some of the lesson plans. Materials provide differentiated instructions for English Learners, but there is no evidence of accommodations or modifications for IEP or special needs students that support their regular and active participation in learning content. Additionally, while most instructional materials incorporate some features that aid students and teachers in making meaning of text, there is no evidence of student examples, glossaries, annotations, or use of accessible formats for special populations.

FOCUS AREA 2 ASSESSMENT
Instructional materials offer teachers a variety of assessment resources and tools to collect ongoing data about student progress related to the standards.
Statements of appraisal and supporting evidence:

Materials offer teachers assessment resources and tools. For example, materials supply various formative and summative assessments based on learning objectives, such as oral and written performance-based tasks, on-demand tasks, questions that lead to student discussion and group work, student products, exit tickets, end-of-lesson/unit student products, and projects. However, there is no evidence that these assessments are aligned with the standards nor is there evidence for assessments with alignment charts with standards or notations within the assessment. Standards are not displayed in the lesson plans nor is there evidence for assessment alternatives for students with IEPs. There is no evidence of annotated drawings, home language, or portfolio opportunities.

FOCUS AREA 3 CULTURAL AND LINGUISTIC PERSPECTIVES AND RESPONSIVENESS
Instructional materials represent a variety of cultural and linguistic perspectives and highlight diversity in culture and language through multiple perspectives.
Statements of appraisal and supporting evidence:

Materials provide opportunities for students to share ideas they already know from home, community, or school and respect the views of others through feedback. However, there is no evidence of encouragement for students to share their cultural and linguistic background as assets in cultural expressions nor of the materials including representations of culture and traditions that include photos, illustrations, food, or charts. There is also no evidence of instructional materials addressing multiple ethnic descriptions such as portrayals of people and groups that show respect for their race, religion, socioeconomic status, and orientations. Also, there is no evidence of asset-based perspectives and representations of people who live or have lived in NM.

Reviewers' Professional Summary - These materials are reviewed by Level II and Level III educators from across New Mexico. The reviewers have brought their knowledge, experience and expertise into the review of these materials. They offer here their individual summary of the material as a whole.

Reviewer #: 76

Background and experience:

I am a Level II teacher with four years of experience teaching middle school math, STEAM, and computer science. I was a member of the Community of Practice cohort for Computer Science Integration and of the Computer Science Steering team at my school.

Professional summary of material:

I recommend with reservations Coder Kids (6-8) by Ellipsis Education for New Mexico teachers and students. This curriculum offers opportunities for students to design websites and computing devices independently and collaboratively while frequently seeking peer feedback to improve projects and code. Students also discuss and use several encryption methods such as substitution ciphers to decode messages. Students build on previous knowledge of sequencing, looping, math, and data to program and utilize complex code. Materials relate the content area to diversity in culture and language through affirmation of students' opinions, perspectives, and backgrounds during discussions involving SEL; however, no evidence is found for materials demonstrating multiple perspectives of groups that historically have been marginalized or underserved.

Reviewer #: 77

Background and experience:

I have 23 years of teaching experience, 21 of them in NM. I hold a Master's Degree in Educational Technology and have been teaching computer science for the past 3 years in a K-8 school. I am a Level III teacher.

Professional summary of material:

I recommend with reservations Coder Kids (6-8) by Ellipsis Foundation. Overall, the materials align to the computer science standards. The material is divided into modules, and within those modules are curriculum maps, syllabi, standards relating to lessons, and lessons by standards. Within each assessment and lesson plan, standards are not specifically listed. However, the objectives noted on each lesson correlate with the standards. There are multiple opportunities for peer feedback and discussion. These lessons have SEL opportunities that engage students in respectful discussion that focuses on honoring diverse opinions. Peer feedback provides opportunities for respecting others' points of view and opportunities to improve algorithms for efficient and functioning projects. The materials could benefit by adding more visual supports, such as pictures and videos to increase student understanding of the concepts being taught. Also, more adaptations to lessons for students with special needs would benefit the delivery of this curriculum, along with adapted assessment opportunities. The content is full of rich and engaging ideas. However, a stronger focus on diversity and the culture of New Mexico's past and present would also add richness and diversity to this curriculum.

Reviewer #: 78

Background and experience:

The reviewer is a Level II teacher with 6 years of experience teaching. I taught 7th grade computer science for 2 years and science for 4 years.

Professional summary of material:

I recommend with reservations Coder Kids (6-8) for use in the state of New Mexico. The materials provide various resources that are helpful to teachers, such as links to printable materials, articles, and guided lesson plans with detailed steps. The materials enable students to practice skills on the computer such as designing, creating websites/webpages, and developing a deeper understanding of problems. Students identify and fix errors in programming and use these skills in solving real-world problems. Activities provide opportunities for students to practice sharing their ideas and learning from other individuals' perspectives through peer feedback and group activities that allow for co-creating and co-constructing projects. However, there is no evidence found of support for students with special needs, resources that relate to the diversity of culture and language, or students' engagement in reflecting on their own lives and society, including the past and present in New Mexico.