

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](#)

<b>Text Title</b>	6-12 Voyage	<b>Publisher</b>	Skill Struck
<b>SE ISBN</b>	9798987397718	<b>TE ISBN</b>	
<b>SW ISBN</b>		<b>Grade Level/Content</b>	6-12 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

72%

**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

55%

**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:

Student interests are elicited only in non-programming tasks such as journaling, presentations, or marking up web pages. There are no New Mexico culture references in the materials. There is no evidence of historical events being presented from multiple perspectives.

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

Average Score

73%

#### OVERALL ALIGNMENT

**Materials align with the computer science standards overall.**

*Statements of appraisal and supporting evidence:*

The materials partially align with most of the standards, but often not the entire standard. The technical and informational content is consistently presented in a largely accurate and straightforward way, but the activities within the online platform are limited to multiple-choice quizzes or programming tasks. Troubleshooting is presented but not practiced, and data is gathered but not analyzed. Programming tasks are prescriptive (add these specific numbers, print this specific string), and students have few options for modifying or exploring their own interests. There are some bugs in the online platform, such as text-to-speech not pausing and restarting, or an assignment to solve a maze with a loop that doesn't check that a loop is actually used.

#### COMPUTING SYSTEMS

**Materials align to the computing systems standards for computer science.**

*Statements of appraisal and supporting evidence:*

The material aligns with the technical content of the standards, but activities don't lead the students through the process of recommending improvements, designing projects, or developing troubleshooting skills. Troubleshooting is taught in a few lessons but not as a skill to use throughout program development.

#### NETWORKS AND THE INTERNET

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

*Statements of appraisal and supporting evidence:*

Most of the standards have relevant material presented, but most student activities on the platform feature a multiple-choice quiz. There is inconsistent evidence of the opportunity to model, apply, evaluate, explain tradeoffs, etc. For example, in one lesson, students translate a message from morse code and swap messages with a classmate. As a lesson about secure transmission of information, Morse uses the same "encoding" for all messages and so it isn't secure at all.

#### DATA AND ANALYSIS

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

*Statements of appraisal and supporting evidence:*

Students collect a small amount of data (n=10) from classmates in a couple tasks, but there is inconsistent evidence for follow-up tasks with the data to deal with analysis, identifying patterns, or developing and refining a computational model. For example, one lesson involves a website for tracking aquatic animals, but then the follow-up programming tasks don't use the data from that site, and there is no opportunity to evaluate the model and test and refine hypotheses.

#### ALGORITHMS AND PROGRAMMING

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

*Statements of appraisal and supporting evidence:*

Students implement algorithms according to specific directions, but they are not the lead in the development of the algorithms themselves. Students are given the code for a game of Pong, but don't get the opportunity to develop it step by step. Students do get to work collaboratively in teams and get feedback from students on other teams.

#### IMPACTS OF COMPUTING

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

*Statements of appraisal and supporting evidence:*

The materials include cultural, social, and ethical implications. Students are able to debate the beneficial or harmful effects of their digital footprint, but they don't actually evaluate their practice.

**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

72%

#### **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:*

Concepts are introduced, but the strategies employed, such as troubleshooting and building from procedures, don't provide opportunities for students to practice skill development. Students are heavily guided through tasks, which restricts their ability to independently cultivate their skills. Parallelism has not been addressed.

#### **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:*

Testing and debugging is introduced in lessons, but there is no evidence of practicing debugging. Students are not encouraged to experiment and try different data inputs or to iteratively expand and improve on programs. Using functions to code efficiently is introduced but not used as a strategy throughout programs for reusing and remixing code.

#### **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:*

Coding assignments are mostly prescriptive. Expression of personal interest and questioning is not fostered across lessons throughout the materials. Some lesson plans allow for student debate and making connections with peers (sleep habit study). There are some activities on external sites, but with inconsistent evidence on how to incorporate them.

#### **FOCUS AREA 4 ACCESSIBILITY AND EQUITY**

*Statements of appraisal and supporting evidence:*

A checklist of possible accommodations is provided. Platform-supported accommodations are machine-read audio, word definitions that appear on mouse hover, a glossary, and starter code segments available for some programming assignments. Firefox is listed as a supported browser, but audio cannot be paused and resumed. There are challenge activities, but there is inconsistent evidence of variety in the tasks.

#### **FOCUS AREA 5 TEACHER SUPPORT**

*Statements of appraisal and supporting evidence:*

Some requirements are provided, such as the website and basic classroom supplies, but some are not listed (PDF viewer, Google account, PowerPoint). Access to some external sites (Youtube, etc.) may cause issues for some school filters. Some programming tasks provide answer keys with a code explainer.

**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.

CLR Recognition Average Score	Average Score
55%	70%

**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:*

Lesson plans and activities are available and the standards that correlate with each are shown with each lesson. Interactive digital components are limited to multiple choice assessments and programming tasks. There is a machine read aloud tool available for lessons, including a Spanish version. "Code to get started" accessibility tools are only available on some tasks.

**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:*

Pre- and post-assessments for a given unit are identical. All digital assessments are multiple choice. There is no evidence supporting rubrics or assessment tools for non-digital activities. The autochecker for grading programming tasks is inconsistent. For example, in an assignment on loops, the code can get approved without the presence of a loop.

**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:*

Student interests are elicited only in non-programming tasks such as journaling, presentations, or marking up web pages. There are no New Mexico culture references in the materials. There is no evidence of historical events being presented from multiple perspectives.

**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 #: 79

*Background and experience:*

I am a Level II secondary teacher. I teach Business, General Computer Applications, and Computer Science electives. I've been teaching for 16 years, including eight years here in the US. Three of those years I have taught Computer Science. I have a Bachelor's degree in Science in Education with a major in Industrial Education.

*Professional summary of material:*

The instructional materials feature different lessons and activities. While there are programming and multiple choice tasks, there is inconsistent evidence for interactive components/assessment. Student accommodations include text and speech, vocabulary, and language choice. There is no evidence of rubrics or assessment tools for non-digital activities. There is no evidence in the cultural and linguistic part of the material referencing the diversity of New Mexico culture.

Reviewer #: 80

*Background and experience:*

I have a Master's degree in mathematics from the University of South Florida and a B.A. equivalent in computer science with some English Language learner studies from Eastern Kentucky University. My experience includes 13 years as a high school math and computer science teacher and 10 years experience as a university webmaster, during which time I also taught undergraduate Javascript and Flash Actionscript. I have a New Mexico Level III, 6th-12th grade math teaching license with bilingual and computer science endorsements.

*Professional summary of material:*

The material provides an accurate introduction to concepts and most of the platform functions. There is no evidence in the material of culturally diverse contexts and detailed development of skills. Students are expected to go from simple introductory code snippets to larger, more complex programs in big steps, almost all at once. The machine-read audio is fast for the English version of the lessons and even faster for the Spanish versions of the texts, so much so that it is difficult to follow. Lesson assessments are multiple choice, and off-platform links often need to be copied and pasted into a new browser window to get access. There is inconsistent evidence of fundamental skills such as debugging, stepwise refinement and modularization of programs, and user experience testing.

Reviewer #: 81

*Background and experience:*

I have a computer science degree from the University of New Mexico. I've been a high school teacher for 15 years, and have been teaching CS at the high school and college level since 2015. I worked in IT, web development, and as a programmer before becoming a teacher. I am also a National Board Certified Teacher.

*Professional summary of material:*

Throughout the material, students are introduced to concepts but don't develop strategies to learn computational thinking, ethical practice, or troubleshooting skills. The web interface for the programming tasks and curriculum is largely functional but has a number of bugs. There are some non-digital activities, but there is inconsistent evidence of supporting materials for these tasks. Based on these issues, I wouldn't use this curriculum for my classes.