

Final Report

Colorado Model Content Standards Review Phase II: Civics; Economics; Geography; and History

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Prepared for the Colorado Department of Education
by



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EXECUTIVE SUMMARY

Scope of Work

The Colorado Department of Education (CDE) contracted WestEd to conduct a review of Colorado’s K–12 Model Content Standards (MCS). The findings and recommendations from this review are intended to inform decision-making by the CDE during its standards revision process. Periodic standards review is critical to help ensure that the content (skills, knowledge) students are expected to learn reflects the changing priorities, needs, and values of the state and society more broadly, and continues to prepare students for the challenges they will face in successive grades or post-secondary endeavors.

This standards review consists of three phases, each focusing on a different set of content areas:

- Phase I: Review of the MCS in reading and writing, mathematics, science, and music were examined (completed in Winter 2009).
- Phase II: Review of MCS in civics, economics, geography, history, and financial literacy (completed in Spring 2009 and described in this report).
- Phase III: Review of MCS in world languages (foreign language), physical education, visual arts, dance, and theatre (to be completed in Summer 2009).

Organization of the Report

This report presents the methodology, findings, and recommendations for Phase II of the standards review. As with the Phase I report, the complete report for Phase II is organized as follows:

- **Section I: Introduction.** The background and purpose for the study.
- **Section II: Methodology.** The processes used and criteria applied during each step in Phase II are described.
- **Section III: Content Area Findings and Recommendations.** Study findings analysis, and specific recommendations for improvement are presented by content area.
- **Section IV: References.** References and documents reviewed in the analysis.
- **Section V: Appendices.** Ratings and comments from analysts are provided for each standard in all grades for each content area.

Overview of the Methodology

The standards review involves the following three components:

- Review of the **internal quality** to determine the degree to which the standards demonstrate depth, coherence, rigor, and breadth.
- Review and comparison of respected **external referent** standards to better understand overall strengths and limitations of the MCS, with particular attention paid to the organization/structure and content of the standards.

- Analysis of the degree to which Colorado’s MCS contain the skills described in Colorado’s draft **21st Century Learning Skills and Abilities** (21st Century Skills) and definition of **Postsecondary and Workforce Readiness** (PWR Skills), and are amenable to their inclusion. This analysis is intended to help integrate the state’s two initiatives of the revision of the MCS and the development of definitions of 21st Century and readiness for postsecondary education and the workforce.

Key to the review, across all components listed, are the objective, third-party analysis and subsequent recommendations related to improving the quality of Colorado’s MCS. Outcomes of the review are intended to inform and guide the work of those revising Colorado’s standards.

The WestEd analysts who conducted the Phase II MCS review possess extensive knowledge and skills in standards review and development, in their respective content areas (i.e., civics, economics, geography, and history), K–12 curriculum, instruction, assessment, and alignment, as well as experience in the classroom. These analysts were trained in specific protocols designed to (1) articulate and operationalize the criteria and processes used to judge internal quality, and (2) ensure the accuracy and consistency of the application of the criteria across content areas. The protocols and related criteria were applied systematically to each MCS standard, at both the grade span and cross-grade span levels.

For the review of **internal quality**, the specific criteria applied to the analysis of each standard were as follows:

- *Depth*: Do the benchmarks describe content of sufficient and appropriate depth in the standard *within each grade span*? Do the benchmarks describe content of sufficient and appropriate depth in the standard *across the grade spans*?
- *Coherence*: Are the benchmarks for each standard sequenced appropriately across the grade spans? Do the benchmarks begin and end at appropriate points in the content?
- *Rigor*: Do the benchmarks describe content and skill expectations of a reasonable and appropriate level for this grade span? Do the standards and benchmarks communicate an appropriate level of rigor?
- *Breadth*: Do the benchmarks describe sufficient and appropriate breadth of content across standards *within each grade span*? Do the benchmarks contain the essential content for this subject *within and across grade spans*? If not, what content is missing? Are the benchmarks free from extraneous content *within and across grade spans*? If not, what content is extraneous?

The standards were rated as meeting each criterion (Depth, Coherence, Rigor, Breadth) according to the following designations: Fully, Partially, No, Insufficient Information.

Additionally, analysts provided comments that explained their rationale for ratings, as appropriate.

For the analysis of the **external referent** standards, the following criteria were used:

- *Organization/Structure* — Similarities and differences in (1) *grade articulation*; (2) *hierarchy of standards*; (3) *number of standards*; and (4) *design/format*.
- *Content* — Similarities and differences in (1) *standards scope and sequence*; (2) *grade spans*; and (3) *wording*.

For each criterion (Organization/Structure, Content), analysts recorded a holistic rating reflecting the similarity of the external referent standards to the MCS (i.e., as Similar or Different). Analysts also provided descriptive comments, rationale, and evidence related to the specific similarities and differences observed between the standards compared.

For the examination of Colorado’s draft **21st Century Skills** and definition of **PWR Skills**¹, analysts used the following ratings to reflect the degree to which evidence of one or more 21st Century or PWR Skills was present in each MCS: Fully Present, Partially Present, Not Present. No rating was recorded if a 21st Century or PWR Skill was not reflected in a standard and that standard was not judged to be an appropriate fit for a skill.

The outcomes of this review have both standard-specific and cross-standard implications for CDE’s consideration during its MCS revision process. It is intended to provide the CDE with an objective analysis and recommendations that can inform and guide the work of those revising Colorado’s standards.

¹ Because PWR Skills represent skills required after high school, the review was limited to the 9–12 grade span and did not include the elementary or middle grades.

I. INTRODUCTION

Rigorous standards serve as a major lever for improving student achievement by articulating goals, focusing instruction, and guiding the development of assessments that can yield information for states, districts, and schools to use to guide improvement (Rabinowitz, Roeber, Schroeder, & Sheinker, 2006). But state standards must be dynamic, evolving over time to meet changing purposes, priorities, and needs. Periodic standards reviews help states ensure that the content that their students are expected to learn continues to prepare them for the challenges they will face in successive grades or in post-secondary endeavors. Recognizing this, the Colorado Department of Education contracted WestEd to conduct a review of Colorado’s K–12 Model Content Standards (MCS). The findings and recommendations that emerge from this review are intended to inform decision making by the Colorado Department of Education (CDE) during the standards revision process.

This report presents findings from Phase II of a scope of work that will include three phases of review of the MCS, each with a different content area focus. In Phase I, the MCS in reading and writing, mathematics, science, and music were examined. In Phase II, WestEd focused on the MCS in civics, economics, geography, and history. Additionally, WestEd conducted a review of state approaches to developing standards for financial literacy.² The last phase, Phase III, will focus on the MCS in world languages (foreign language), physical education, visual arts, dance, and theatre. The content areas were distributed across phases in part in order to allow for lessons learned in each phase to be applied in subsequent phases. For example, work in Phase I was considered in CDE’s selection of external referents for Phase II, and strengthened WestEd’s understanding of Colorado’s standards system. The selection of specific content areas analyzed in each phase was determined through discussions with CDE; these discussions included an interest in applying the review protocol to a diverse range of content areas from the outset, including mixing No Child Left Behind Act (NCLB) accountability areas with non-accountability areas.

As with Phase I, the standards review for Phase II involved the three components described below.

- Review of the **internal quality** of the MCS through systematic application of a protocol to determine the degree to which the standards demonstrate depth, coherence, rigor, and breadth.
- Review and comparison of respected **external referent** standards from other states (Massachusetts, Indiana) and nations (Singapore, Finland), selected by the Colorado Department of Education (CDE), to better understand the overall strengths and limitations of the MCS. In particular, analysts attended to the organization/structure and content of these referents.³

² The report on the financial literacy standards was submitted as a separate report, “Colorado Financial Literacy Standards: Review of Potential Approaches.”

³ Future reviews will also include International Baccalaureate and Advanced Placement standards.

- Analysis of the degree to which Colorado’s MCS contain the skills described in Colorado’s draft **21st Century Learning Skills and Abilities** (21st Century Skills) and definition of **Postsecondary and Workforce Readiness** (PWR Skills), and are amenable to their inclusion. This analysis is intended to help integrate the state’s two initiatives of the revision of the MCS and the development of definitions of 21st Century Skills and readiness for postsecondary education and the workforce.

The overriding intent across all of these components was to provide third-party information and recommendations related to improving the quality of Colorado’s MCS that would contribute to informing and guiding the work of those revising Colorado’s standards.

As with Phase I of the study, there were differences in the standards documents (both Colorado’s and those of the external referents) of the various content areas reviewed (i.e., civics, economics, geography, and history). For example, there are more geography and history standards than civics and economics standards in Colorado’s MCS. Additionally, most of the external referents had some form of distinct standards for geography and history. However, this was not the case with civics and economics, where analysts more often made comparisons based on civics and economics content embedded in social studies standards. As a result of these differences in number of standards and level of detailed content in the standards, the content area findings and recommendations for geography and history are more comprehensive and detailed than those of civics and economics.

The remainder of this report is organized along the following sections:

- **Section II: Methodology.** The processes used and criteria applied during each step in Phase II are described.
- **Section III: Content Area Findings and Recommendations.** Study findings, analysis, and specific recommendations for improvement are presented by content area.
- **Section IV: References.** References and documents reviewed in the analysis are listed.
- **Section V: Appendices.** Ratings and comments from analysts are provided for each standard in all grades for each content area.

II. METHODOLOGY

This section describes the research-based processes and protocols used during WestEd’s examination of Colorado’s K–12 Model Content Standards (MCS) in civics, economics, geography, and history. As described in the Introduction, this work included three components.

Findings from these three components were used to develop recommendations for improvement of the content and structure of the MCS. These recommendations are intended to help guide decision making during the standards revision process. Each of the three components is described in greater detail below.

Using their collective expertise and experience, WestEd analysts were asked to systematically apply protocols developed specifically for each step. These protocols helped to (1) articulate and operationalize the criteria and processes used to judge internal quality and (2) ensure the accuracy and consistency of the application of the criteria across content areas.

Training and Calibration Procedures

Training was facilitated by WestEd project leaders. Training and calibration of analysts ensured that approved procedures were implemented and the judgment criteria applied accurately and consistently throughout the course of the study, within and across content areas.

In all components, the WestEd analysts who conducted the work possess extensive knowledge and skills in standards review and development, in their respective content areas (i.e., civics, economics, geography, and history), K–12 curriculum, instruction, assessment, and alignment, as well as experience in the classroom.

Prior to training, WestEd analysts independently reviewed all relevant standards, related documents, and external referents for their respective content areas. During training, the WestEd facilitator guided analysts in a review of procedures, evaluation criteria, the format for the rating sheets, and the appropriate unit of analysis for the content area. The facilitator then guided analysts as they applied the review criteria to a few standards in order to verify their understanding of the criteria and procedures. In each content area, analysts discussed their decisions and rationale for each judgment with the facilitators. The facilitators examined the analysts’ judgments, and if the facilitators did not concur with the rating, they provided additional guidance to recalibrate the analyst. This step was repeated, with ongoing calibration, until analysts’ decisions were fully aligned with their facilitator’s judgments.

Internal Quality Review of Colorado’s Model Content Standards

For this step, analysts were asked to apply a protocol focused on evaluating the quality of the K–12 Model Content Standards.

The Colorado MCS are organized as broad cross-grade standard statements that are further articulated in grade spans through benchmark statements. The unit of analysis and reporting for this step was the MCS standard, at both the grade span and cross-grade span levels. The benchmark statements for each grade span were used to interpret the state’s intent with regard to the development and application of the knowledge and skills described in the standards. Each benchmark was reviewed and used to inform the analyses at the standard and grade-span levels.

Quality Review Criteria. WestEd analysts applied general evaluation criteria to this review of standards. The general criteria, explained in greater detail below, were depth, coherence, rigor, and breadth. These criteria, supported by research and best practices at the state and local levels (see, for example, Webb, 1997, Rabinowitz, Roeber, Schroeder, & Sheinker, 2006, among others) were adapted through discussions with the CDE to ensure the information in the findings would be appropriate for Colorado’s context, and thus maximally useful. Criteria for each dimension were designed as responses to questions of sufficiency and appropriateness that then were applied by analysts as they reviewed each standard.

- *Depth:* Do the benchmarks describe content of sufficient and appropriate depth in the standard *within each grade span*? (For example, is the depth of content of the standard appropriate for a school year?) Do the benchmarks describe content of sufficient and appropriate depth in the standard *across grade spans*?
- *Coherence:* Are the benchmarks for each standard sequenced appropriately across grade spans? For example, do they scale or spiral appropriately across grade spans? Do the benchmarks begin and end at appropriate points in the content?
- *Rigor:* Do the benchmarks describe content and skill expectations of a reasonable and appropriate level for this grade span? Do the standards and benchmarks communicate an appropriate level of rigor?
- *Breadth:* Do the benchmarks describe sufficient and appropriate breadth of content across standards *within each grade span*? Do the benchmarks contain the essential content for this subject *within and across grade spans*? If not, what content is missing? Are the benchmarks free from extraneous content *within and across grade spans*? If not, what content is extraneous?

For each standard, analysts independently recorded their ratings for each criterion. The rating sheets were used to guide the analysis and reporting of holistic findings. The

standards were rated as meeting each criterion using the following holistic designations and scale: “Fully” (F); “Partially” (P); “No” (N); or “Insufficient Information” (I).

In order to ensure consistency across analysts and content areas, a scale was approximated to guide analysts’ ratings:⁴ “Fully” was operationalized as being able to answer the question(s) associated with the criterion with a “yes” approximately 85–100% of the time. “Partially” was operationalized as being able to answer the question(s) with a “yes” approximately 40–84% of the time. “No” was operationalized as being able to answer the question(s) with a “yes” less than 39% of the time.

If analysts found that there was insufficient information on which to base a judgment, they assigned a rating of Insufficient Information (I). Additionally, analysts provided comments that explained their rationale for some ratings, as appropriate.

Comparison of Colorado’s Model Content Standards to External Referents

Analysts for each content area systematically reviewed sets of external referent standards vis-à-vis the MCS using the criteria described below. The unit of analysis and reporting for this step of work was the MCS standard, at both the grade span and cross-grade span levels. The benchmark statements for each grade span were used to interpret the state’s intent with regard to the development and application of the knowledge and skills described in the standards. The unit of analysis for the external referents was the most comparable level in each set of standards. For the purposes of review and presentation, data were organized using the current structure and sequence of the Colorado MCS.

The External Referents. CDE selected the external referents to which the MCS would be compared. Included in the selection criteria was whether the standards were from states or countries respected for their strong overall academic performance and the quality of their standards. To enable maximal usefulness in guiding standards reform, sets of standards were sought that would be relevant in all content areas. Additionally, it was hoped that by reviewing each set of external referent standards for multiple content areas, the comparison would benefit from any cross-content elements or guiding philosophies that might not be apparent in any one content area. To this end, they selected standards from the following entities:

- From other states: *Massachusetts* and *Indiana*
- From other countries: *Finland* and *Singapore*
- From organizations: *International Baccalaureate* and *Advanced Placement* (review to be completed at a future date)

The CDE recognized that through WestEd’s experience in standards development and revision, WestEd may have recommendations for other respected referents, especially ones whose value may be content-specific. These recommendations are included for each content area in the Findings and Recommendations section of this report.

⁴ The percentages in these ranges emerged from extensive experience in the field and are generally understood as representing different levels of quality.

Criteria Used for Comparative Analyses. The external referent comparison was intended to serve as a holistic review of the similarities and differences between each external referent and the Colorado MCS. These data may be used to inform the CDE during the MCS revision process. Specifically, comparisons were documented for two criteria, organization/structure and content. Analysts' considerations for judging each are defined below.

- **Organization/Structure.** Analysts' considerations related to standards organization and structure included similarities and differences in (1) *grade articulation*: standards articulated by individual grade, grade-span, course, etc.; cross-grade strands versus no repetition of content; (2) *hierarchy of standards*: number of levels in standards (e.g., strand, standard, benchmark, indicator); (3) *number of standards*: number of strands, standards, indicators; (4) *design/format*: organization and structure of standards, and ways in which intended knowledge and skills are communicated.
- **Content.** Analysts' considerations related to standards content included similarities and differences in (1) *standards scope and sequence*: the depth and breadth of content described in the standards; (2) *grade spans*: the sequencing and distribution of content within and across the grade spans; and (3) *wording*: specificity of language; focus on action verbs, knowledge, etc.

Holistic Rating Scale. For each criterion, analysts recorded a holistic rating reflecting the similarity of the external referent standards to the MCS. These ratings were as follows:

- *Similar* — Referent standards are mostly similar to CO MCS in substantive ways
- *Different* — Referent standards are mostly different from CO MCS in substantive ways

In order to arrive at these holistic ratings, analysts recorded descriptive comments on the specific similarities and differences between the two sets of standards. Comments included rationale and evidence to support their judgments and conclusions about the impact or relative importance of the differences (or in some cases, similarities). The rating sheets used to record these holistic ratings and descriptive comments are included in the Appendices section of this report.

It is important to note that the referents have similarities and differences among one another, as well as with Colorado's MCS. However, no one approach is intended to be presented as necessarily more or less effective than another. Differences in structure or content of a state or country's standards may be qualitative, but may also be attributable to differences in history, purpose, and/or context. Thus, the implication is that a variety of approaches and combinations of approaches may be considered, should they be determined to be appropriate for Colorado.

Examination of Colorado’s 21st Century Skills and Abilities and Definition of Postsecondary and Workforce Readiness vis-à-vis Colorado’s Model Content Standards

The purpose of this step of work was to provide the CDE with information about the extent to which the state’s draft 21st Century Skills and definition of Postsecondary and Workforce Readiness (PWR) are embodied in or supported by the existing MCS. The unit of analysis was the MCS standard for each grade span, as elaborated in the benchmarks. Because the PWR Skills represent skills required *after* high school, the review was limited to the 9–12 grade span, and did not include the elementary or middle grades. The draft 21st Century Skills and Abilities and definition of Postsecondary and Workforce Readiness are below.

21st Century Skills and Abilities. “Colorado’s description of 21st Century Skills is a synthesis of the essential abilities students must apply in today’s rapidly changing world. These essential skills are as follows:

- Critical thinking and reasoning (e.g., problem solving, analysis, logic, and cause/effect)
- Information literacy (e.g., knowledge acquisition, source discernment, and systems management)
- Collaboration (e.g., synergy, team resourcing, social skills, leadership)
- Self-direction (e.g., adaptability, initiative, personal responsibility, work ethic, self-advocacy)
- Invention (e.g., creativity, innovation, integration of ideas)”

Postsecondary and Workforce Readiness. “Colorado’s description of postsecondary and workforce readiness is a student’s capacity to demonstrate the knowledge, skills, and competencies required for success in a global, interdependent society. Students must demonstrate:

- Application of reading, writing, and computing skills with minimal remediation or training (e.g. skills and performance necessary for entrance into a postsecondary institution or the workforce)
- Logical reasoning and argumentation abilities (e.g. identifying a reasoned viewpoint which a student can persuasively and successfully communicate)
- Identification and solving of problems (e.g. monitoring and self-correcting performance, finding dilemmas, gaps and needs and generating accurate solutions; initiating, innovating, creating)
- Information management skills (e.g. system thinking competencies, financial awareness, increasing productivity and adapting to new information)
- Human relation skills (e.g. students are self-directed, applying integrity and work ethic, cooperation, tolerance)
- Analysis and interpretation skills (e.g. capacity to read into facts, patterns and conclusions which advance information and understanding)”

Rating Dimensions. The MCS were reviewed to determine the degree to which the 21st Century and PWR Skills were present in the current standards language. For each MCS, analysts assigned one of the following ratings to signify the degree to which evidence of one or more 21st Century or PWR Skills was present:

- (F) Fully Present: The standard includes a fundamental skill or concept as explicitly stated in the 21st Century or PWR Skill. The standard taps a central idea of the skill statement. A standard does not need to address all elements of the 21st Century or PWR Skill to receive a rating of F.
- (P) Partially Present: The standard may address the skill statement in a superficial or less complex way than is stated in the 21st Century or PWR Skills.
- (N) Not Present: The standard is a reasonable and appropriate place to include the skill, but the skill is not present in the standard as currently written.

If a 21st Century or PWR Skill was not found to be contained in a MCS but that standard was judged not to be an appropriate fit for that skill, no judgment was recorded for that relationship (cell) on the rating sheet.

Recommendations to Improve Inclusiveness. For each MCS rated as Partially Present (P) or Not Present (N), the WestEd analysts considered strategies for revising the standard to more fully incorporate a 21st Century or PWR Skill. Recommendations that emerged had both standard-specific and cross-standard implications for consideration during the MCS revision process. These specific recommendations are included on the individual data collection sheets and are summarized for each content area in the Findings and Recommendations section of this report.

III. CONTENT AREA FINDINGS AND RECOMMENDATIONS

III-A. Civics Findings and Recommendations

This section contains findings and recommendations related to the internal quality review, the external referent reviews, and the review of 21st Century Skills and PWR Skills. Detailed review criteria can be found in the Methodology section of this report. A brief description of the criteria and guiding questions also are provided here for convenience.

Internal Quality Review

As described in the Methodology section of this report, the Colorado MCS were reviewed for their quality according to four criteria: depth, coherence, rigor, and breadth. The scale used for evaluating each criterion was as follows: Fully (F), Partially (P), No (N), or Insufficient Information (I). Findings from these analyses are presented below.

Depth

Ratings for depth are assigned based on the questions below.

- Do the benchmarks describe content of sufficient and appropriate depth in the standard *within each grade span*? (For example, is the depth of content of the standard appropriate for a school year?)
- Do the benchmarks describe content of sufficient and appropriate depth in the standard *across grade spans*?

The table below shows the ratings for depth in the Civics standards, reported for each standard at each grade span, as well as across grade spans. The across grade span ratings are holistic ratings of the depth of the standards in K–12.

Table 1. Ratings for Depth in the Civics MCS

| Standard | K–4 | 5–8 | 9–12 | Across Grade Spans |
|----------|-----|-----|------|--------------------|
| 1 | P | F | F | F |
| 2 | P | F | F | F |
| 3 | P | F | F | F |
| 4 | F | F | F | F |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

As Table 1 shows, depth is rated Fully for all four standards across grade spans. Possible areas for improvement are discussed below.

Grade span K–4: Standards 1, 2, and 3 are rated as Partially. Standards 1 and 2 assume a basic understanding of terms such as government, power, authority, constitution, rules, laws, rights, and the common good. Students are asked to provide examples or identify

instances of these concepts, but never to define them. Both standards 1 and 2 would have greater depth if these concepts were addressed explicitly at a foundational level and then built on systematically to achieve greater cognitive complexity. For example, to master standard 2, students should be required to learn that there are different levels of government, before they should be required to identify “what governments do in their school, community, state, and nation” or “the limits of authority for the self, school, community, and state.”

Standard 3 is rated as Partially because there is not enough content in the standard to demonstrate appropriate depth. The benchmarks and indicators associated with standard 3 only require students to identify examples of foreign governments interacting with each other. Students are asked to identify “examples of international issues” and “examples of how the United States interacts with other countries.” The examples, however, demonstrate little depth of understanding. The depth of the standard could also be improved if it called for students to define terms associated with international issues, such as *country, nation, region, treaty, trade, and war*.

Standard 4 is rated as Fully in terms of depth at the K–4 grade span.

Grade span 5–8: At the 5–8 grade span, the depth is rated as Fully sufficient for all four standards. Students are asked to go beyond superficial understandings to a deeper understanding of the concepts introduced in the early grades.

Grade span 9–12: At the 9–12 grade span, the depth is rated as Fully for all four standards. Students are consistently asked to demonstrate a deeper understanding of the concepts and content introduced in the early and middle grades.

Coherence

Ratings for coherence are assigned based on the questions below.

- Are the benchmarks for each standard sequenced appropriately across grade spans? (For example, do they scale or spiral appropriately across grade spans?)
- Do the benchmarks begin and end at appropriate points in the content?

The tables below show the ratings for coherence in the Civics standards, reported as appropriate sequence across grade spans, and as appropriate beginning and endpoints for each standard at each grade span, as well as across grade spans.

Table 2. Ratings for Coherence in the Civics MCS

| Standard | Appropriate Sequence Across Grade Spans |
|----------|---|
| 1 | F |
| 2 | F |
| 3 | F |
| 4 | F |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

Table 3. Ratings for Coherence in the Civics MCS

| Standard | Appropriate Beginning and Endpoints | | | |
|----------|-------------------------------------|-----|------|--------------------|
| | K–4 | 5–8 | 9–12 | Across Grade Spans |
| 1 | F | F | F | F |
| 2 | P | F | F | F |
| 3 | P | F | F | F |
| 4 | F | F | F | F |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

As Tables 2 and 3 show, the standards are rated as Fully for coherence across grade spans. They are sequenced appropriately across grade spans. They begin with basic concepts and then spiral the concepts across the grade spans and the upper grade spans build upon the content learned at the lower grade spans. For the most part, the standards have appropriate beginning and endpoints at each grade span. Standards 1 and 4 are rated as Fully within and across the grade spans. The benchmarks for standard 4 are appropriately sequenced for each grade span.

Grade span K–4: Some improvements may be considered at the K–4 grade span. Although standard 1 is rated Fully, benchmark 1.5, the second indicator, appears to be an ambitious endpoint for fourth graders. The indicator asks students to give examples of “traditional principles of representative government of the United States (for example, people are sovereign, government power is limited, exercise of authority directly by voting, and indirect authority by representation, majority rule, and minority rights protected).” Some of these examples are both abstract and rather sophisticated for this grade span.

Standard 2 is rated as Partially. Benchmark 2.2 could be extended to introduce the three branches of government and their basic functions as part of the local, state, and national governments.

Standard 3 is rated as Partially, and benchmark 3.1, the first indicator “identifying examples of international issues,” appears to be an appropriate endpoint. What is missing, however, is an appropriate starting point that addresses the political organization of the world into nations—each nation with its own government that interacts with each other government.

Grade span 5–8: Although standard 3 is rated as Fully, benchmark 3.3 could be revised. It specifies knowledge about current foreign policy issues, diplomatic strategies, agencies of the U.S. government that deal with foreign policy, and nongovernmental organizations. This expectation may be more appropriate for the 9–12 grade span. At that grade span, students are more likely to have had the requisite exposure to contemporary U.S. and world history as well as U.S. foreign policy.

Grade span 9–12: At the 9–12 grade span, benchmarks begin and end at appropriate points in the content.

Rigor

Ratings for rigor are assigned based on the questions below.

- Do the benchmarks describe content and skill expectations of a reasonable and appropriate level for this grade span?
- Do the standards and benchmarks communicate an appropriate level of rigor?

The table below shows the ratings for rigor in the Civics standards, reported for each standard at each grade span, as well as across grade spans.

Table 4. Ratings for Rigor in the Civics MCS

| Standard | K–4 | 5–8 | 9–12 | Across Grade Spans |
|-----------------|------------|------------|-------------|---------------------------|
| 1 | F | F | F | F |
| 2 | P | F | F | F |
| 3 | P | F | F | F |
| 4 | P | P | P | P |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

As Table 4 shows, standards 1, 2, and 3 are adequately rigorous across grade spans and are rated as Fully. Only standard 4 is rated as Partially across the grade spans. There is an increase in the cognitive complexity of standards 1, 2, and 3 across grade spans. As students move through the grade spans, the emphasis shifts from acquiring knowledge to applying that knowledge in increasingly challenging ways. For example, with standard 1 at the K–4 grade span, students are asked to do more than simply show that they know concepts. They are also expected to describe, give examples, and explain. At the 5–8 and 9–12 grade spans, students are expected to exercise higher-level thinking skills as they analyze and debate positions and issues. In addition, 9–12 students are tasked with evaluating issues and positions, at that point reaching the highest level of Bloom’s taxonomy.

Grade span K–4: Standard 1 has appropriate rigor in grade span K–4 and is rated Fully. Standard 2 is rated as Partially and could be improved by requiring students to do more than only “identify” examples of concepts. The state may want to consider increasing the rigor of the standard by asking students to “identify and explain” concepts found in the indicators. The rigor of standard 3 is rated as Partially in grade span K–4 because the

indicators supporting the benchmarks lack illustrative examples and substantive action verbs. Students are only required to “identify” and “describe” examples of concepts. Standard 3 could be improved by adding examples to the indicators and requiring students to “identify and explain” them. Standard 4 is rated as Partially and could be made more rigorous. The indicators of benchmarks 4.2, 4.3, and 4.4 require students only to “identify” concepts. The state may want to consider increasing the rigor of the standard by asking students to “identify and explain” concepts found in the indicators.

Grade span 5–8: Standards 1, 2, and 3 show appropriate rigor in grade span 5–8 and are rated Fully. Standard 4 is rated as Partially for grade span 5–8. Students in this grade span are required to “describe” and “explain” concepts, but they are not required to engage in problem-solving tasks.

Grade span 9–12: Standards 1, 2, and 3 show appropriate rigor in grade span 9–12 and are rated Fully. Standard 4 is rated as Partially for grade span 9–12. Higher level thinking skills are used at this grade span. The skills and dispositions, however, which prepare students for active participation in the civic life of their communities, state, and nation are neglected. They appear only in the last benchmark. A more rigorous approach would include a focus on skills and experiences that both equip students for effective civic participation and develop their sense of personal political efficacy.

Breadth

Ratings for breadth are assigned based on the questions below, each of which is reported in a separate table.

- Do the benchmarks describe sufficient and appropriate breadth of content across standards *within each grade span*?
- Do the benchmarks contain the essential content for this subject *within and across grade spans*?
- Are the benchmarks free from extraneous content *within and across grade spans*? If not, what content is extraneous?

Each of the three aspects of breadth examined is reported in a separate table in order to distinguish between essential and extraneous content.

Breadth represents the sufficiency of content across the standards. The table below shows the ratings for overall breadth *across* the reading standards within each grade span and across grade spans.

Table 5. Ratings for Overall Breadth in the Civics MCS

| Grade Span | Across Standards |
|---------------------------|------------------|
| K–4 | P |
| 5–8 | F |
| 9–12 | F |
| Across Grade Spans | F |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

As Table 5 shows, the overall breadth of the civics standards across the grade spans is sufficient and rated as Fully. Only grade span K–4 receives a Partially rating. A more comprehensive development of key content at the K–4 grade span would make the breadth fully sufficient. What is most lacking at the K–4 grade span are indicators that address basic definitions and understandings of concepts such as government, laws, rules, power, authority, rights, and constitution.

The table below shows the breadth ratings for essential content in the Civics standards, reported for each standard at each grade span, as well as across grade spans.

Table 6. Ratings for Breadth—Essential Content in the Civics MCS

| Grade Span | 1 | 2 | 3 | 4 | Across Standards |
|---------------------------|---|---|---|---|------------------|
| K–4 | P | P | P | P | P |
| 5–8 | F | F | F | P | F |
| 9–12 | F | F | F | P | F |
| Across Grade Spans | F | F | F | P | F |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

As Table 6 shows, the standards are rated Fully across grade spans except for standard 4, which is rated as Partially. Standards 1, 2, and 3 address the essential content in civics. Standards 1 and 2 are missing some content that could give them more breadth. Overall, however, they have adequate breadth. Across the standards, grade spans 5–8 and 9–12 are rated Fully. Grade span K–4 is rated Partially because the breadth of content would benefit from expansion, as described below.

Grade span K–4: Standard 1 is rated Partially because the standard does not discuss the notion that all citizens enjoy the same rights is a principle of our constitutional government. It also lacks discussion about the Pledge of Allegiance and patriotic holidays, which are frequently introduced into standards at this grade span to illustrate basic constitutional principles of the United States. Standard 2 is rated Partially because the standard is missing discussion of the three branches of government and their functions. It also does not explicitly discuss the Colorado constitution, or discuss important local, state, and national leaders (e.g. mayors, governors, and senators). Standard 3 is rated Partially because it is missing essential content about the political organization of the world.

Grade span 5–8: Although rated as Fully, standard 2 could include more explicit information on the role of the Bill of Rights in the Colorado context. The Supreme Court cases listed in the final indicator do not involve Colorado in any way. Examples of cases that do might be helpful as well. Standard 4 is rated as Partially because it lacks skills and concepts that encourage engagement in the community by participation in civic affairs.

Grade span 9–12: Across the standards, grade span 9–12 is rated as Fully. It addresses the appropriate content for understanding civics. However, standard 4 is rated as Partially. It lacks skills and concepts that encourage engagement in the community by participation in civic affairs.

The table below shows the breadth ratings for freedom from extraneous content in the Civics standards, reported for each standard at each grade span, as well as across grade spans.

Table 7. Ratings for Breadth—Free of Extraneous Content in the Civics MCS

| Grade Span | 1 | 2 | 3 | 4 | Across Standards |
|---------------------------|----------|----------|----------|----------|-------------------------|
| K–4 | P | F | F | F | F |
| 5–8 | F | F | P | F | F |
| 9–12 | F | F | F | F | F |
| Across Grade Spans | F | F | F | F | F |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

As Table 7 shows, the standards are for the most part free of extraneous content and across grade spans are rated as Fully. Only at specific grade spans are standards 1 and 3 rated as Partially.

Grade span K–4: Standard 1 is rated as Partially. The final indicator under benchmark 1.5 may contain too much content. Terms like “people are sovereign” and “indirect authority” are conceptually above the grade span. They are possibly more suited for introduction in grade span 5–8, where issues of sovereignty and authority are more closely associated with history standards that address the American colonies and the American Revolution.

Grade span 5–8: Standard 3 is rated as Partially. Benchmark 3.3 requires students to describe current foreign policy issues, diplomatic strategies, agencies of the U.S. government that deal with foreign policy, and nongovernmental agencies. This content may be more appropriate at grade span 9–12.

Grade span 9–12: Grade span 9–12 is free of extraneous content and is rated as Fully.

External Referent Review

As described in the Methodology section of this report, analysts reviewed four sets of content standards to serve as an external referent comparison with Colorado’s MCS in civics. The following documents were used as external referent standards for the civics review:

- Massachusetts History and Social Science Curriculum Framework (August 2003)
- Indiana’s Academic Standards, High School United States Government (October 2007)
- Indiana’s Academic Standards, Social Studies — K–8th Grade (October 2007)
- National Core Curriculum for Basic Education 2004, Ethics (Finland)
- National Core Curriculum for Basic Education 2004, Social Studies (Finland)
- National Core Curriculum for Upper Secondary Schools 2003, Ethics (Finland)
- National Core Curriculum for Upper Secondary Schools 2003, Social Studies (Finland)
- Civics and Moral Education Syllabus Primary 2007 (Singapore)
- Civics and Moral Education Syllabus Secondary 2007 (Singapore)
- Revised Pre-University Civics Syllabus 2007 (Singapore)
- Social Studies Syllabus Primary 2006, Updated 2008 (Singapore)
- Social Studies Syllabus Lower Secondary Normal (Technical) 2005 (Singapore)

These external referent standards were reviewed for two broad criteria, organization/structure and content. Each criterion contained several subcategories about which analysts recorded observations before determining a final overall holistic rating of mostly similar (Similar) or mostly different (Different). Findings from these analyses are presented below.

The table below summarizes the holistic external referent standards in comparison with Colorado’s MCS.

Table 8. Holistic Comparison Ratings for Civics External Referents

| Rating Category | Massachusetts | Indiana | Finland | Singapore |
|------------------------------------|----------------------|----------------|----------------|------------------|
| Organization/ Structure | Different | Different | Different | Different |
| Content | Similar | Similar | Similar | Different |

The holistic ratings above reflect the analyst’s judgment that in organization/structure in all of the four external referent standards, there are more differences than similarities overall with Colorado’s MCS. In content, there are more similarities than differences overall between Colorado’s MCS and the standards for three of the referents. There are more differences than similarities overall in content between Colorado’s MCS and one of the referents. The analyses below highlight various similarities and differences between the MCS and pertinent categories in each referent’s documents. It is important to note that the referents have similarities and differences among one another, as well as with Colorado’s MCS. However, no one approach is intended to be presented as necessarily

more or less effective than another. Differences in structure or content of a state or country's standards may be qualitative, but may also be attributable to differences in history, purpose, and/or context. Thus, the implication is that a variety of approaches and combinations of approaches may be considered, should they be determined to be appropriate for Colorado.

Organization and Structure

In their organization and structure, all of the external referents differ in many ways from Colorado's MCS and from each other. There are fewer differences between Colorado's MCS document with those of Massachusetts and Indiana, and more differences in comparison with Finland's *National Core Curriculum* curricula and Singapore's *Civics and Moral Education* and *Social Studies* syllabi.⁵ As the names of these latter documents suggest, they are intended to describe course content and courses of study. In contrast, the *Massachusetts History and Social Science Curriculum Framework* and Indiana's Academic Standards documents are primarily intended to indicate what students are expected to know and be able to do at various grade levels.

Colorado's MCS for civics are organized around four overarching standards that spiral through grades K–12. At each of three grade spans—K–4, 5–8, and 9–12—age appropriate benchmarks and detailed indicators communicate how these overarching standards are to be applied as students mature. This hierarchy of overarching standards, broad grade-span benchmarks, and more specific grade-span indicators is different from the referents. None of the external referents organize their curricula in this way.

However, both Finland and Singapore follow a structure with some similarity to Colorado's. Finland has broad standards called "Descriptions of Good Performance" for grades 1–5 and "Final Assessment Criteria" for grades 6–8. These descriptions and criteria are an appropriate unit of comparison with Colorado's benchmarks due to their similarity in quantity. The organization and structure of Singapore's syllabi are similar to Colorado's to the degree that its syllabi begin with very broad "Aims" or "Objectives" that, like Colorado's standards, are intended to be applied across several grades, though not K–12. These broad aims are followed by "Learning Objectives" or "Learning Outcomes," which resemble Colorado's benchmarks and indicators in that they expand on the intent of the overarching standards.

The Massachusetts and Indiana standards documents resemble each other in organization and structure more than Colorado's MCS for civics or those of the other external referents. Both states organize their social studies standards by subject domain (history, geography, civics, and economics) with specific standards listed for each domain in grades K–7 (MA) or K–8 (IN). After that, the secondary standards are listed for each

⁵ Finland and Singapore have multiple-track education systems after the primary level to prepare students for university instruction or technical vocational instruction. Therefore, when comparing Colorado's standards with the higher levels of Finland's and Singapore's standards, it should be noted that the highest-level content is considered college preparatory, and is not intended for all students. Thus, many students in Finland and Singapore are not exposed to the broadest and deepest content.

course rather than by grade level, although Massachusetts does have a set of concepts and skills standards that apply across grades 8–12. Indiana lays out all its expectations for high school students course by course.

Colorado’s presentation of its standards is efficient. By presenting the four standards across the grade spans simultaneously, the Colorado MCS standards for civics are only 30 pages. The Finnish standards are sections from a larger *National Core Curriculum* document. Nevertheless, only Finland’s civics standards are shorter than Colorado’s MCS civic standards at 16 pages. The other referents integrate civics with other social studies contents, resulting in much larger documents. The Indiana standards document is 80 pages; the Massachusetts *Framework* is 130 pages, and the Singapore syllabi combine to 190 pages.

In terms of the number of standards listed, Colorado is more similar than different relative to the referents, with the exception of Finland. Although the Colorado MCS for civics has only 4 standards and 16 benchmarks, it also has 134 indicators, for a total of 154. When comparing the total number of Colorado MCS standards, benchmarks, and indicators to the total standards, benchmarks, and indicators of the referents, the similarity is evident. Massachusetts has 156 standards. Indiana has 138 standards. Singapore has 158 objectives.⁶ Finland, however, has only 14 standards.

Content

The content of the Colorado MCS for civics has a number of similarities and differences with the content in the referents’ standards. In general, the treatment of the content is more similar than different with Massachusetts, Indiana, and Finland. It is more different than similar with Singapore. All of the external referents share the broad goal of creating well-informed and effective citizens. They differ, however, in significant ways on how to accomplish this end. Colorado and the two U.S. referents emphasize civic knowledge, combined at the later grades with some critical thinking. Both Singapore and Finland put far more emphasis on skills and values related to civic engagement and participation in their curricula and syllabi.

The content of Colorado’s MCS and the Indiana and Massachusetts standards share similarities with the *National Standards for Civics and Government* produced by the Center for Civic Education, which are listed as a reference for the MCS. Colorado’s MCS for civics combines the five essential questions outlined in that document into four overarching standards. Colorado’s benchmarks and indicators include most of the content standards listed in the National Standards.

A central theme of the standards documents of Colorado, Indiana, and Massachusetts is civic knowledge. In all three documents, students are consistently asked to identify, describe, explain, and give examples—tasks designed to show their mastery of civics content.

⁶ Making numerical comparisons with Singapore is difficult because of that country’s different goals for its civics and social studies courses.

In contrast, Finland and Singapore focus on the development of civic skills and what Singapore describes as “Attitudes and Values.” This shift in emphasis is clear when one looks at how they title their programs. These curricula focus on human relations and moral growth. Finland titles its core social studies program “Ethics” while Singapore uses the title “Civics and Moral Education.” Singapore also emphasizes the development of communication and teamwork skills in its primary standards, as well as critical thinking skills in its secondary and post secondary standards.

Both Finland and Singapore supplement their core Ethics and Civics and Moral Education programs with social studies standards that include references to civics content. However, neither set of standards introduces civics content in depth until its students are in the upper grade levels. Each country is also far more general and brief in its description of what its students should know about their national or local governments than any of the American states studied. These differences in emphasis most likely reflect the possibility that educators in Finland and Singapore see moral or character education as an essential part of preparing students for citizenship.

Nevertheless, the referents cover much of the same content outlined in the four Colorado MCS standards. Only the Singapore standards are more different than similar in content and grade-span presentation of the standards. Like standard 1 of the Colorado MCS, each referent requires students to understand the purposes of government. The Massachusetts and Indiana standards also require students to understand the basic constitutional principles of the United States republican form of government. The Singapore and Finland standards do not stress the importance of students understanding constitutional government. All four of the referents cover similar content as standard 2 of the Colorado MCS. Their students are required to know the structure and function of different levels of government and how citizen involvement shapes public policy. All four referents require students to know the political relationship of the national government to other countries, as covered in standard 3 of the Colorado MCS. Finally, they also require students to understand how people enjoy the roles, rights, and responsibilities of citizenship in their country, as outlined in standard 4 of the Colorado MCS. The differences, however, are greater in the Singapore standards. The Singapore standards place greater emphasis on responsibilities of citizens than the Colorado MCS. Singapore also differs from the Colorado MCS in the grade-span presentation of the standards. Colorado and Singapore have different pedagogical emphases at each grade span. The Colorado MCS focus on learning about government whereas the Singapore standards focus on civic awareness.

The major difference between Colorado and the referents is the level of detail of the standards. Generally speaking, the Colorado MCS have greater depth than the referent standards. The Indiana standards have similar depth as the Colorado MCS, but the Indiana standards place emphasis on detail in different areas than the Colorado MCS.

Massachusetts

Massachusetts includes all of its social studies standards in one document, the *Massachusetts History and Social Science Curriculum Framework*, with standards for history, geography, civics, and economics. It also includes a number of appendices listing primary sources, resources for teachers, criteria for reviewing textbooks, and connections to language arts and math standards.

Massachusetts divides its social studies standards into two categories, “Concepts and Skills Standards” and “Learning Standards.” The Concepts and Skills Standards are organized into three general strands, “History and Geography,” “Civics and Government,” and “Economics.” Some of the standards listed in the category are clearly skill focused. For example, second graders are expected to learn how to read globes and maps. Others are more concept or content focused. At the second grade level, for example, students are also expected to “define and give examples of some of the rights and responsibilities that students as citizens have in the school.” The Concept and Skills Standards are grade specific from Kindergarten to grade 7. However, each year builds on the skills and concepts mastered in previous grades. The Concepts and Skills for grades 8–12 are listed as a group to be applied as appropriate throughout the upper grades.

The Learning Standards are laid out in a grade and/or course specific manner. At each grade or course, they reflect the social studies content that students are to master at that grade or in that high school course. Each Learning Standard is coded to indicate what content domain(s) it reflects—history (H), geography (G), civics (C), and economics (E). Many standards are marked with multiple codes. Moreover, many standards also include multiple examples or lists of specifics to be mastered, as in this example from grade 5: “5.14 Explain the development of colonial governments and describe how these developments contributed to the Revolution. A. legislative bodies B. town meetings C. charters on individual freedom and rights (H, G, E, C).” The number of Learning Standards increases as the grade levels increase, from 9 and 10 at grades 1 and 2, to 44 at grade 7. Some secondary courses have more.

In contrast, Colorado’s MCS divide each social studies strand into separate standards documents. The Colorado approach enables teachers to see all of the civics standards in one place and to understand how they articulate through the grades.

The Colorado approach also allows for maximum flexibility as to how and when each standard will be introduced and mastered by students. For example, each district decides when in grade span 5–8 students should be “evaluating the role of the media and public opinion in formulating public policy.” In contrast, Massachusetts is specific in its expectation that students will be able to explain the structure of their town governments in grade 5 and to explain the purposes and functions of well-known international organizations in grade 6.⁷

⁷ Massachusetts is a local-control state. Although the *Massachusetts History and Social Science Curriculum Framework* specifies grade-level standards for students, it is considered to be advisory and school districts have the option to determine curriculum instruction.

At the 8–12 level, Massachusetts students complete two years of World History and two years of U.S. History. There is a grade 12 American Government course listed in the framework, but it is an elective. For this reason, all of the Content and Skills Standards for civics at the secondary level are integrated into the four required history courses.

In terms of overall content, the two states are relatively similar in their expectations of what students should know by the time they graduate from high school. Colorado's standards, especially in the upper grades, are broader and more rigorous in describing what students are to know, especially if the standards for Massachusetts's elective American Government course are not taken into account. The Massachusetts civics standards are more heavily tilted toward historical developments, reflecting the great emphasis placed on history in the state's framework.

Standard 1 of the Colorado MCS for civics requires students to understand the purposes of government and the basic constitutional principles of the United States republican form of government. Massachusetts covers similar concepts in its civics standards at every grade span. Each state emphasizes an understanding in the purposes of government and basic constitutional principles. A significant difference between the two states is the setting in which the standard is presented. Massachusetts organizes much of standard 1 within a historical structure. Colorado, on the other hand, does not frame the concepts within a historical setting, allowing for them to be taught using either historical or contemporary scenarios.

Standard 2 of the Colorado MCS for civics requires students to know the structure and function of local, state, and national governments and how citizen involvement shapes public policy. Massachusetts also requires its students to know the structure and function of local, state, and national governments and the public policy process. Colorado, however, addresses the content more rigorously at grade span K–4. Massachusetts focuses only on the local level at this grade span. Moreover, the level of detail in the Colorado MCS is much greater in many of the standards. For instance, in grade span 5–8, Colorado students are required to understand that there are different types of law, e.g., juvenile, criminal, and civil. Massachusetts students, however, are not required to learn about the different legal systems.

Standard 3 of the Colorado MCS for civics requires students to know the political relationship of the United States and its citizens to other nations and to world affairs. Massachusetts also requires students to learn about this theme. Massachusetts, however, does not address the theme until grade span 5–8. It also mainly embeds the theme within a historical context until the grade 12 elective civics course. Colorado, on the other hand, provides students with many opportunities to apply the theme to contemporary issues at each grade span.

Standard 4 of the Colorado MCS for civics requires students to understand how citizens exercise the roles, rights, and responsibilities of participation in civic life at all levels of government. This civics theme is also covered in the Massachusetts standards. Each state begins this theme in grade span K–4 and continues it through grade span 9–12. Colorado,

however, is more systematic in its approach. Its benchmarks and indicators are more extensive than the Massachusetts standards. Moreover, similar to the other standards, standard 4 of the Colorado MCS emphasizes contemporary issues. The Massachusetts standards emphasize historical contexts.

A substantive difference between the Colorado MCS and the Massachusetts standards is that Massachusetts pays more attention to important American symbols in the earlier grade spans. It also focuses on immigrants and their contributions to the United States. Colorado, however, has more breadth and rigor in its civics standards in the K–4 and 5–8 grade spans. Colorado students are introduced to higher-level concepts such as limited government and political rights in grade span K–4.

Colorado’s standards, more than those of Massachusetts, tend to use active verbs that stress student involvement, particularly at the upper grades. The Massachusetts standards require explanation, description, analysis, and summarization. The tone is consistently more academic than participatory. In contrast, Colorado’s MCS occasionally go beyond explanation and analysis to development, evaluation, defense, and debate of positions on issues.

Indiana

Indiana’s K–8 social studies standards are organized as a series of nine grade-level specific documents. Indiana has no social studies standards at grades 9–12. Instead, the state has course-level standards for each course offered at that level, including a required United States Government course.

At each grade level, there are four broad standards set forth under the headings “History,” “Civics and Government,” “Geography,” and “Economics.” The content of these domain-specific standards change across the grade levels. At Kindergarten students are expected to learn that they are citizens of their school and community, to identify national symbols, and to understand the importance of being a responsible citizen who knows why rules are needed and follows them. By grade 7, students are expected to explain the major principles, values, and institutions of constitutional government and citizenship and how the three branches of government check power within our federal system of government.

Each of these broad standards is then expanded in a list of benchmarks that indicate in considerable detail how that standard is to be met. The civics benchmarks are grouped under three recurring headings: “Foundations of Government,” “Functions of Government,” and “Roles of Citizens.” This grouping makes clear how a student’s understanding of the role of citizens, for example, is expected to progress through the grades. At grade 1, students are asked to define what a citizen is. At grade 7, they are expected to define and compare citizenship and the citizen’s role in selected countries of Africa, Asia, and the Southwest Pacific.

This organization of standards combines some of the best features of both Colorado and Massachusetts. Like the Massachusetts framework, Indiana’s standards documents make clear what is expected of students grade by grade. However, the topical organization of civics benchmarks at each grade also facilitates comparison of how the standards change and become more demanding as students mature, one of the better features of Colorado’s MCS documents.

Overall, the content of Indiana’s and Colorado’s civics standards are quite similar. However, Colorado’s standards do not make explicit how the content should be integrated into the curriculum within the appropriate grade span in history or geography. In contrast, Indiana’s civics standards are written to correlate with the social studies curriculum at each grade. In grade 4, for example, the social studies curriculum is titled “Indiana in the Nation and the World.” The civics standards and benchmarks support that focus by emphasizing the Indiana constitution and state government.

Beginning at grade 3, Indiana includes the expectation that students will use a variety of information resources to gather information on an issue or topic related to the social studies curriculum for that grade. At grade 4, the standard also makes reference to investigating issues, reporting findings, and demonstrating responsible citizenship by exercising civic virtues and participation skills. Colorado’s civics standards at this level do not reference research on issues or demonstration of participation skills. The closest

related skill is “identify ways in which they could take part in improving their school and community.”

Both the Colorado MCS for civics and the Indiana standards cover similar content in standard 1. Both Colorado and Indiana require their students to learn about the purposes of government and basic constitutional principles of the United States. Like the Massachusetts standards, the Indiana standards differ from the Colorado MCS in their emphasis on historical contexts for instruction. The Colorado standards stress contemporary issues, whereas the Indiana standards are more integrated with history and geography instruction.

Indiana also covers the same materials as Colorado in standard 2. Each state requires students to explore the structure and function of local, state, and national governments, as well as the public policy process.

Indiana requires instruction in similar content as standard 3 of the Colorado MCS. Each state requires students to learn about the political relationship of the United States and its citizens to other nations and world affairs. Colorado, however, begins to address this topic in grade span K–4. Indiana does not begin instruction until the upper grade spans. In grade span 5–8, Indiana also includes benchmarks on comparative government and international organizations, as well as the role of citizenship in different countries. Colorado, however, does not address these topics at this grade span.

Nevertheless, both Colorado and Indiana require students to understand how U.S. citizens exercise the roles, rights, and responsibilities of citizenship in civic life. Each state begins instruction in grade span K–4 and continues it into grade span 9–12.

A substantive difference between Colorado and Indiana is that, like Massachusetts, Indiana has a greater emphasis on important American symbols in grade span K–4. Indiana also requires students in this grade span to use varied information sources to research and report on local and state issues. Colorado does not require this task of its K–4 students. Colorado, however, does introduce the concepts of limited government, representative government, and international issues at the K–4 grade span. Indiana does not address these topics until later grade spans. At grade span 9–12, the Colorado standards also require students to engage more actively in political discussion and debate.

Colorado’s standards tend to use more active verbs than Indiana’s, particularly at the high school level. Indiana high school students taking the United States Government course are asked to identify, explain, describe, analyze and summarize. The tone is consistently more academic than participatory. In contrast, Colorado’s MCS sometimes ask students to go beyond explanation and analysis to developing, evaluating, defending, and debating positions on issues.

Finland

Like Colorado, Finland organizes its descriptions of what students are expected to learn by grade span. Its first span covers grades 1–5, the second grades 6–9, and the final grade span is upper secondary. However, after completing their basic education (grade levels 1–9), Finnish students are placed in one of two tracks to continue their education at the upper secondary level. The first track prepares students for university instruction. The second track prepares students for vocational training and polytechnic institutes. As a result of the two-track system, not all Finnish students receive instruction in the same set of standards once they reach the upper secondary level. Thus, many students in Finland are not exposed to the broadest and deepest content, which should be noted when making comparisons with Colorado’s standards.

Whereas Colorado’s four overarching civics standards are designed to spiral through the K–12 grade years, Finland does not have standards that cross grade spans. Instead, Finland labels its expectations of what students will know and be able to do at the end of grade 5 as “Descriptions of Good Performance” and at the end of grade 8 as “Assessment Criteria.” Some of these descriptions and criteria include civics content, but many do not. For example, by the end of fifth grade students are to “know principles of human rights, tolerance, and justice,” and to “understand the importance of shared rules,” both of which are counted as civics standards. They are also expected to “be able to assess the moral demands of various situations” and to “know various explanations for the world and the individual’s place in it,” which would not traditionally be considered civics content.

Finland does not include any performance descriptions or assessment criteria in its upper secondary ethics and social studies curricula. However, it introduces both curricula with a few very broad “Objectives of Instruction.” For example, students at this level are expected to “command key social and economic concepts” (social studies) and to “develop their judgment, discernment, and functional abilities” (ethics).

Finland’s core curriculum documents differ from Colorado’s MCS documents in many ways. The most obvious is in their brevity. Relatedly, Finnish performance indicators are general and refer to how well students can use what they have learned to perform authentic tasks, e.g. the pupils will be able to justify their ideas about social issues. The Colorado standards document is far more specific as to what students are expected to know and be able to do.

Nevertheless, the content of each set of standards has more similarities than differences. Like standard 1 of the Colorado MCS, the Finnish standards require students to understand the purposes of government and the basic principles on which their national government is based. The major difference is that the Finnish standards do not explicitly discuss the concept of “constitutional government.”

Similar to standard 2 of the Colorado MCS, the Finnish standards require students to explore the structure and function of the government and the public policy process. The major difference is that the Colorado MCS also require students to know about political culture.

Standard 3 of the Colorado MCS is matched by similar standards in the Finnish curriculum. Both Colorado and Finland expect students to know the political relationship of their country and its citizens to other nations and world affairs. The Finnish curriculum, however, places more emphasis on environmental issues and sustainable economic and development policies.

Standard 4 of the Colorado MCS is matched by similar standards in the Finnish curriculum. Both Colorado and Finland introduce students to core concepts such as justice, rules, rights, and responsibilities. Each focuses on characteristics of good citizenship. The main difference in this standard is that the Finnish curriculum examines the relationship between the welfare state and the individual.

Although the similarities in the standards are more similar than different, there are some differences in the standards at specific grade spans. In grade span K–4 both Finland and Colorado share the goal of creating good citizens, but they go about it in very different ways. Finland describes its ethics curriculum as a mix of “philosophy, the social sciences, and cultural studies” aimed at supporting students’ “growth into full, democratic citizenship.” Whereas Colorado focuses on civics content—the purposes, principles, structure, and functions of government along with the rights and responsibilities of citizens—Finland focuses on the development of personal identities and philosophies of life, ethical thought and judgment, principles of tolerance and human rights, and sustainable development.

Finland has substantive civics standards beginning in grade 6. The emphasis in intent again is different from the Colorado MCS, as demonstrated from the titles of the study modules that focus on civics: “The individual as a member of a community,” “Welfare of the individual,” “Exerting influence and decision making,” and “Security of the citizen.” As the module titles suggest, Finland frames this content in terms of the individual with the aim of supporting “the pupils’ growth as tolerant, democratic citizens, and to give them experience in social action and the democratic exercise of influence.” The Colorado civics standards remain focused on content, not action or experience, at this grade span.

Finnish students continue their study of ethics at the upper secondary level with three required courses titled “A good life,” “The world view,” and “Individual and community.” They continue to study social studies as well, including a required course titled “Politics and society.” The core content of this course is organized into modules that focus on civics: “The development of Finnish society,” “Power,” “Means of Influence,” “The rule of law and security systems,” and “Social policy.” The “Politics and society” course comes as close as anything in the Finnish curricula to covering content found in Colorado’s civics standards.

Singapore

Singapore has three levels of education—Primary level, Secondary level, College Preparatory level. Its primary level covers grades (1–6). After Primary 6, Singapore students enter three instructional tracks at the Secondary level. They take the Secondary Express track or the Secondary Normal track to prepare for studies at universities or polytechnic institutes, or they enter the Secondary Normal Technical track, which prepares them for vocational education and polytechnic institutes. As a result, not all Singapore students receive instruction in the same civics standards after the Primary level. Thus, many students in Singapore are not exposed to the broadest and deepest content, which should be noted when making comparisons with Colorado’s standards.

At the Primary level there are two sets of civics standards documents to guide instruction— the *Civics and Morals Education* syllabi and the *Social Studies* syllabi. At the Secondary level there are the *Civics and Morals Education* syllabi. The Secondary Normal Technical track also has a separate set of *Social Studies* syllabi that includes civics education.

Singapore, like Colorado and Finland, organizes its performance expectations of its *Civics and Morals Education* syllabi for Primary level and Secondary level by grade span. The Primary level is divided into Lower Primary and Upper Primary. Similarly, the Secondary level is divided into Lower Secondary and Upper Secondary. However, Singapore also organizes the *Social Studies* syllabi for Primary level and the *Social Studies* syllabi for the Secondary Normal Technical level by grade levels.

While Colorado organizes its performance expectations into a hierarchy of standards, benchmarks, and indicators at the three grade spans, Singapore has only two levels of performance expectations. The first includes overarching objectives that span the primary or secondary grades. The second includes grade-specific, course-specific, or value-specific benchmarks.

Singapore focuses directly on “Knowledge,” “Skills,” and “Attitudes and Values” in its overarching standards. A skill standard in the Primary Social Studies Syllabus expects students “to express and present information and ideas clearly in oral, visual, and written forms.” The grade level objectives, or benchmarks, that support this broad objective then spiral through the grades from simple to complex. Grade 1, for example, begins with the expectation that students will be able to “express ideas orally based on knowledge, observation, and experience.” By grade six students are expected to “make sound arguments to persuade others to accept their points of view, decisions, or solutions.”

In the Secondary Social Studies Syllabus, similar broad “General Aims” are listed again under the same three headings. In addition, more specific “Learning Outcomes” appear for each of six “Themes.” These themes focus on the history, growth, government, culture, environment, and future of Singapore, e.g., under “Growth of Singapore” students are expected to “recognize the role of the government in providing jobs.”

Both of the Civics and Moral Education syllabi list broad objectives under the headings “Moral Knowing,” “Moral Feeling,” and “Moral Action.” Under Moral Action at the primary level, one finds “put good values into practice.” More specific “Learning Objectives” are listed for each of the six key values: respect, responsibility, integrity, care, resilience, and harmony. Under responsibility at the Secondary level, for example, one finds “be aware that rights come with responsibility.”

Colorado and Singapore share the goal of preparing students for citizenship. However, as is the case with Finland, they approach this task differently. In Singapore, civics-related standards and benchmarks are divided between the Social Studies and Civics and Moral Education syllabi. Neither is clearly labeled as “civics” standards. As a result, identification of the broad standards and more specific benchmarks as related to civics is challenging. For example, it is difficult to determine if practicing “moral reasoning and critical thinking when making decisions” is a civics standard. Nevertheless, the Singapore syllabi cover much of the same civics content as the Colorado MCS.

The Singapore syllabi cover content similar to standard 1 of the Colorado MCS. Both Colorado and Singapore include understanding the purposes of government and the basic principles on which the national government is based. The major differences between the two sets of standards are that the Singapore syllabi make no mention of constitutional government, nor do they distinguish between limited and unlimited government.

The Singapore syllabi also address similar content to standard 2 of the Colorado MCS. Both Colorado and Singapore include exploring the structure and function of their governments and the public policy process. They also require students to understand the place of law in a well-governed society.

Standard 3 of the Colorado MCS is also matched by standards in the Singapore syllabi. Each requires understanding the diplomatic relationship of the country to other countries and world affairs. Singapore, however, places special emphasis on the need for national defense and its role in regional organizations. Colorado, on the other hand, stresses the creation of foreign policy, foreign and domestic influences on U.S. foreign policy, and how the U.S. foreign policy affects other countries.

Standard 4 of the Colorado MCS is also matched by standards in the Singapore syllabi. Both Colorado and Singapore include understanding how citizens exercise their roles, rights, and responsibilities in civic life. The main difference is that Singapore stresses the responsibilities students have to their school, community, and society. The Singapore standards do not discuss how citizenship is acquired or the meaning of citizenship.

Moreover, the Singapore syllabi pay more attention to skills and attitudes than to knowledge. The skills go beyond critical thinking to include other 21st Century skills such as communication, teamwork, leadership, interpersonal skills, and usage of information technology. None of these aspects of citizenship education is addressed in Colorado’s civics standards.

The difference is especially clear when one compares Colorado’s 9–12 civics standards to Singapore’s Pre-University Civics Syllabus. Colorado’s standards expect students to expand on previously learned content. Singapore’s Pre-University Civics Syllabus is built around the theme “Making a Difference” as applied to four topics: “Singapore’s growth and development,” “Singapore’s future,” “families and communities,” and “people who inspire change.” Each topic has a big idea and essential question to guide students in discussion and service learning projects. The focus is on inquiry and process-based approaches designed to “to engage students in more meaningful learning through reflection and inquiry, and help them to internalize values of good leadership.”

Far more is expected of Colorado students in terms of their knowledge about the working and principles of government. Many topics that are well covered in the Colorado standards are not addressed in Singapore’s civics syllabi. Examples include constitutional government, limited and unlimited government, foreign policy making, and the meaning of citizenship. On the other hand, Singapore puts greater emphasis on values, culture, contemporary problems, national defense, and the responsibilities of students to their families, schools, communities, and nation.

Review of Colorado’s Civics Standards for 21st Century Skills and Abilities and Postsecondary and Workforce Readiness

As described in the Methodology section of this report, analysts analyzed Colorado’s draft 21st Century Learning Skills and Abilities (21st Century Skills) and definition of Postsecondary and Workforce Readiness (PWR Skills) to determine the degree to which Colorado’s MCS contain the skills described in those draft documents. Findings from those analyses are presented below.

Civics Model Content Standards and the 21st Century Skills and Abilities

Critical thinking and reasoning

Critical thinking and reasoning skills are evident across the grade spans, with the exception of standard 3. Many of the benchmarks use language such as “explain,” “evaluate,” and “analyze,” which require students to demonstrate critical thinking and reasoning skills. They predominate in grade spans 5–8 and 9–12. However, at the more specific indicator level, most indicators focus on the acquisition of information rather than the application of information to problems or issues. Standard 3 is rated as “No” across the grade spans and at grade spans K–4 and 5–8, because it primarily uses the action verbs “identify” and “describe.”

Information literacy

Colorado’s civics standards address the role of the media, but not information literacy as more broadly defined in the Colorado’s 21st Century Skills and Abilities to include knowledge acquisition, source discernment, and systems management.

Collaboration

The Colorado civics standards do not include indicators addressing collaboration or the development of leadership and teamwork skills. However, there are many opportunities in which the standards could be revised to promote collaboration between students.

Self-direction

No Colorado civics standards address self-direction. This gap might be addressed by the inclusion of standards that ask students to choose issues to explore or projects to organize.

Invention

This topic is addressed by Colorado standards. There are some indicators, such as a grade 5–8 indicator under benchmark 1.3, which asks students to “defend positions on current issues involving constitutional protection of individual rights,” that encourage creativity in thinking. Colorado, however, might want to emphasize integration of ideas and creativity in its standards.

Civics Model Content Standards and the Postsecondary and Workforce Readiness Skills

Application of reading, writing, and computing skills with minimal remediation or training

There are many opportunities in the Colorado civics standards for students to apply reading and writing skills, but presently these are not explicitly stated in the standards. There are some benchmarks that address computing skills.

Logical reasoning and argumentation abilities

There are many opportunities in the Colorado civics standards for students to demonstrate logical reasoning and argumentation abilities, but presently these are not explicitly stated in the standards.

Identification and solving of problems

There are no Colorado civics standards that encourage problem-solving skills, such as monitoring and self-correcting performance.

Information management skills

There are many opportunities in the Colorado civics standards that develop information management skills, but presently these are not explicitly stated in the standards.

Human-relations skills

No Colorado civics standards address human-relations skills.

Analysis and interpretation skills

There are many opportunities in the Colorado civics standards for students to demonstrate analysis and interpretation skills, but presently these are not explicitly stated in the standards.

Recommendations

This section contains specific recommendations from the WestEd reviews, organized by the components of the analysis.

Internal Quality Review of Colorado's Civics Model Content Standards

The CDE may want to consider implementing the following recommendations, where appropriate:

- Organize the standards by grade level, at least through the elementary and middle school grades.
Under their current organization, the civics benchmarks and indicators fall under four overarching standards and the cognitive complexity increases as the standards spiral across the grade spans. However, this organization may not serve the needs of teachers who need to know what should be taught at specific grade levels. While the current organization provides maximum flexibility to school districts to determine when and how the various benchmarks and indicators are to be addressed over the course of many years, it does not indicate what content should be taught at specific grade levels or what the cognitive complexity of instruction should be for the grade level. The cognitive complexity of the standards, benchmarks, and indicators should be lower for students entering a grade span than for students leaving it. More focused grade-level standards would accommodate for this difference.
- “Unpack” the indicators into shorter and simpler statements.
Many of the standards, benchmarks, and indicators are dense, covering multiple topics in one sentence. This revision would help to clarify the content deemed most important and increase the accessibility of the standards to teachers, parents, and students.
- Include a glossary of domain-specific terms at each grade level.
Currently, these terms are defined in a glossary at the end of the standards document, but this reorganization would make them more accessible at point of need. Examples include *civic values*, *constitutional republic*, *due process*, and *political culture*.
- Include examples of the content in each indicator and how it might be addressed in the classroom.
Currently, only some indicators include examples. These examples explain both what the indicator means and how it might be addressed in the classroom and are particularly helpful given the abstract concepts in civics. For example:

In grades K–4, what students know and are able to do includes

- giving examples of people using power and people using authority (for example, school crossing guards have authority to direct traffic, while bullies have power, but not authority)

As students in grades 5–8 extend their knowledge, what they know and are able to do includes

- comparing limited and unlimited government

With no examples to suggest how this might best be done, this indicator is more open to interpretation.

- Address citizenship skills directly in the standards to make them more compatible with the intent stated in the introduction and with Colorado’s broad goal for producing engaged citizens.
The introduction to the MCS for civics addresses the need to develop citizenship skills, defining them as “the capacity to influence policies and decisions by working with others, clearly articulating interests and making them known to policy makers, building coalitions, negotiating, compromising, seeking consensus, and managing conflicts.” While Colorado’s civics standards emphasize knowledge of the U.S. government and the role of citizens in our constitutional democracy, they do not include an emphasis on participation in civic life. Addressing these skills also would likely also increase the civics standards’ addressing of many of the 21st Century Skills and Abilities and Postsecondary and Workforce Readiness skills.

External Referent Review for Civics

Based on the external referent review, the CDE may want to consider the following recommendations:

- Use action verbs more precisely to indicate the cognitive complexity of the indicators for each grade span.
- Provide more examples with each indicator to guide instruction.
- Create grade-level standards similar to the organization of Indiana to provide clearer beginning and endpoints for each grade level.
- Provide guidance to teachers on how to integrate the civics curriculum with the other social studies strands at the K–4 and 5–8 grade spans.
- Develop an indicator at the K–4 grade span to cover important American symbols.
- Develop an indicator on citizenship requirements and the contributions of immigrants to the United States.

Suggestions for consideration of additional external referents

Michigan’s *Social Studies Grade Level Expectations Grades K-8* also merit examination. At each grade level Michigan divides its civics education standards and benchmarks into two categories. The first, “Civics and Government,” focuses on content. The second, “Public Discourse, Decision Making, and Citizen Involvement,” focuses on the skills and experiences that support civic engagement as well as many 21st Century Skills and Abilities and Postsecondary and Workforce Readiness skills.

The *21st Century Social Studies Content Standards and Objectives for West Virginia Schools*, which became effective in 2008, represent that state's attempt to "build a rigorous, relevant, and challenging social studies curriculum that would prepare students for the 21st century." Expectations of students are organized around broad learning standards, specific instructional objectives, and performance descriptors. The performance descriptors provide the basis for assessing overall student competence at five levels ranging from novice to distinguished. While one might expect the result to be an unwieldy document, just the opposite it true. West Virginia, like Michigan, divides civics education into two strands that run from Kindergarten to grade 12. The first, titled "Citizenship," focuses on skills, dispositions, and participation. The second, titled "Civics," focuses on civic knowledge. Even in this strand, however, there is more emphasis on research, analysis, and debate than in the Colorado standards.

To encourage problem-solving skills, the CDE may wish to look at the Center for Civic Education's Project Citizen, which challenges students to identify a local problem, research alternative solutions, and formulate a public policy solution or recommendation.

Additionally, the 2003 report, *The Civic Mission of Schools*, sponsored by the Carnegie Corporation of New York and CIRCLE (Center for Information and Research on Civic Learning and Engagement), reviews research on school-based civics education in the United States. Its findings and recommendations offer a useful reference in developing standards that are research based.

Recommendations from the Review of 21st Century Skills and Abilities and Postsecondary and Workforce Readiness

Because of the interconnectedness of the findings and recommendations related to the 21st Century Skills and Abilities and Postsecondary and Workforce Readiness definition, recommendations related to the 21st Century and PWR skills are presented together in the Findings section of this report.

III-B. Economics Findings and Recommendations

This section contains findings and recommendations related to the internal quality review, the external referent reviews, and the review of 21st Century Skills and PWR Skills. Detailed review criteria can be found in the Methodology section of this report. A brief description of the criteria and guiding questions also are provided here for convenience.

Internal Quality Review

As described in the Methodology section of this report, the Colorado MCS were reviewed for their quality according to four criteria: depth, coherence, rigor, and breadth. The scale used for evaluating each criterion was as follows: Fully (F), Partially (P), No (N), or Insufficient information to determine (I). Findings from these analyses are presented below.

Depth

Ratings for depth are assigned based on the questions below.

- Do the benchmarks describe content of sufficient and appropriate depth in the standard *within each grade span*? (For example, is the depth of content of the standard appropriate for a school year?)
- Do the benchmarks describe content of sufficient and appropriate depth in the standard *across the grade spans*?

The table below shows the ratings for depth in the Economics standards, reported for each standard at each grade span, as well as across the grade spans. The across-grade span-ratings are holistic ratings of the depth of the standards in K–12.

Table 9. Ratings for Depth in the Economics MCS

| Standard | K–4 | 5–8 | 9–12 | Across Grade Spans |
|----------|-----|-----|------|--------------------|
| 1 | P | F | F | F |
| 2 | F | F | F | F |
| 3 | F | F | F | F |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

As Table 9 shows, the standards were found to be of sufficient and appropriate depth across grade spans, and were rated Fully. All three economics standards were also found to Fully describe content of sufficient and appropriate depth within each grade span, with the exception of standard 1 at the K–4 grade span, which was rated Partially. At both the 5–8 and 9–12 grade spans the standards include content that was found to be of appropriate depth for these grade spans. For instance, the last bullet for benchmark 3.2 at grade span 9–12 requires students to “describe how fiscal or monetary policies can affect exchange rates and international trade.” That bullet point contains a rich amount of

content for students to learn how a country’s monetary system facilitates the exchange of resources.

Grade span K–4: The content described in standard 1 is of insufficient depth for the grade span K–4. The basic concepts included can be introduced in kindergarten. There is little indication, however, as to how they might be treated in more depth over the next four grades. The benchmarks also assume a basic understanding of a number of economic terms and concepts that do not appear to have an entry point in the standards. Examples include goods, services, resources, opportunity costs, and economic incentives. In contrast, standards 2 and 3 call for a deeper exploration of economic systems and exchange and trade.

Grade span 5–8: At the 5–8 grade span, the standards were found to Fully describe content of sufficient and appropriate depth for all three standards. Students are asked to go beyond superficial understandings to a deeper understanding of the concepts introduced in the early grades.

Grade span 9–12: At the 9–12 grade span, the standards were found to Fully describe content of sufficient and appropriate depth for all three standards. Students are consistently asked to demonstrate a deeper understanding of the concepts and content introduced in the early and middle grades.

Coherence

Ratings for coherence are assigned based on the questions below.

- Are the benchmarks for each standard sequenced appropriately across the grade spans? (For example, do they scale or spiral appropriately across the grade spans?)
- Do the benchmarks begin and end at appropriate points in the content?

The tables below show the ratings for coherence in the Economics standards, reported as appropriate sequence across the grade spans, and as appropriate beginning and endpoints for each standard at each grade span, as well as across the grade spans.

Table 10. Ratings for Coherence in the Economics MCS

| Standard | Appropriate Sequence Across Grade Spans |
|-----------------|--|
| 1 | F |
| 2 | F |
| 3 | F |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

Table 11. Ratings for Coherence in the Economics MCS

| Standard | Appropriate Beginning and Endpoints | | | |
|----------|-------------------------------------|-----|------|--------------------|
| | K–4 | 5–8 | 9–12 | Across Grade Spans |
| 1 | P | F | F | F |
| 2 | F | F | F | F |
| 3 | F | F | F | F |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

As Tables 10 and 11 show, the standards are rated as Fully for coherence across the grade spans. They are sequenced appropriately across the grade spans. They begin with basic concepts and then spiral the content across the grades. For the most part, the standards have appropriate beginning and endpoints at each grade span, and are rated as Fully. The exception is in standard 1 at grade span K–4, which is rated as Partially.

Grade span K–4: Students might be asked to do more with the concepts introduced in standard 1. For example, they could analyze how economic incentives affect economic decisions made by individuals, families, and communities. Presently, this is a task not introduced until the 5–8 grade span.

Grade span 5–8: At the 5–8 grade span, the benchmarks and indicators begin and end at appropriate points in the content.

Grade span 9–12: At the 9–12 grade span, benchmarks begin and end at appropriate points in the content. The expectations of standard 3 are highest at this grade span. However, the earlier grades adequately develop the framework for the type of analysis expected at this level.

Rigor

Ratings for rigor are assigned based on the questions below.

- Do the benchmarks describe content and skill expectations of a reasonable and appropriate level for this grade span?
- Do the standards and benchmarks communicate an appropriate level of rigor?

The table below shows the ratings for rigor in the Economics standards, reported for each standard at each grade span, as well as across the grade spans.

Table 12. Ratings for Rigor in the Economics MCS

| Standard | K–4 | 5–8 | 9–12 | Across Grade Spans |
|----------|-----|-----|------|--------------------|
| 1 | P | P | F | P |
| 2 | F | F | F | F |
| 3 | F | P | F | F |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

As Table 12 shows, standards 2 and 3 are appropriately rigorous across the grade spans with modest exceptions and are rated as Fully. As students move through the grades, the emphasis shifts from acquiring knowledge to applying that knowledge in increasingly challenging ways. Standard 1 is rated as Partially across the grade spans. It is rated Partially for rigor at the K–4 and 5–8 grade spans, as explained below.

Grade span K–4: Standards 2 and 3 are rated as Fully. Standard 1, however, is rated as Partially. The expectations of what K–4 are capable of doing with the concepts of the standard—economic choices, scarcity, resources, and incentives—are limited. To add rigor, students could be asked to apply these concepts to situations they observe at school, home, or in their communities.

Grade span 5–8: Standard 2 is rated as Fully. Standards 1 and 3, however, are rated as Partially. Standard 1 uses the verb “identify” for most of the bullets. This choice may reflect the introduction of new content at this grade span. By grade 8, however, students should be capable of more application and analysis of the concepts. Standard 3 does not increase in rigor from K–4 to 5–8 as would be expected for students at this grade span. Whereas at the lower grades the standards emphasize identification, here the standards emphasize description. Some new content is introduced, on the topics of banking, credit, and exchange rates. These topics, however, could be dealt with in more depth at this level.

Grade span 9–12: The standards are appropriately rigorous at grade span 9–12. For example, Standard 1 is rated as Fully because of benchmark 1.3. The more general benchmark statement is expanded through the specifics in the parentheses of the bullets to communicate an appropriately challenging level of rigor at this grade span.

Breadth

Ratings for breadth are assigned based on the questions below, each of which is reported in a separate table.

- Do the benchmarks describe sufficient and appropriate breadth of content across standards *within each grade span*?
- Do the benchmarks contain the essential content for this subject *within and across grade spans*?
- Are the benchmarks free from extraneous content *within and across grade spans*? If not, what content is extraneous?

Each of the three aspects of breadth examined is reported in a separate table in order to distinguish between essential and extraneous content.

Breadth represents the sufficiency of content across the standards. The table below shows the ratings for overall breadth across the reading standards within each grade span and across the grade spans.

Table 13. Ratings for Overall Breadth in the Economics MCS

| Grade Span | Across Standards |
|--------------------|-------------------------|
| K–4 | F |
| 5–8 | F |
| 9–12 | F |
| Across Grade Spans | F |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

As Table 13 shows, the overall breadth of the economic standards is sufficient and they are rated as Fully. Colorado's economics standards cover the broad range of topics that are generally included in K–12 economics standards and courses. The standards reflect a focus on developing “an economic way of thinking” by repeatedly asking students to address issues involving scarcity, tradeoffs, incentives, and the allocation of resources. Although grade span 9–12 is rated as Fully, greater clarity could be provided to the standards if the terms microeconomics and macroeconomics are introduced in the standards, benchmarks, and indicators. Currently, neither term appears in the document. Many of the standards, benchmarks, and indicators are broadly written to give teachers the opportunity to address the standards at either level, but the usage of the terms would reinforce the intent that teachers should address them at both the microeconomic and macroeconomic levels as appropriate.

The table below shows the breadth ratings for essential content in the Economics standards, reported for each standard at each grade span, as well as across the grade spans.

Table 14. Ratings for Breadth—Essential Content in the Economics MCS

| Grade Span | 1 | 2 | 3 | Across Standards |
|---------------------------|----------|----------|----------|-------------------------|
| K–4 | F | F | F | F |
| 5–8 | F | F | P | F |
| 9–12 | F | F | P | F |
| Across Grade Spans | F | F | F | F |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

As Table 14 shows, the standards are rated as Fully across the grade spans and the grade spans are Fated as fully across the standards. Only standard 3 in grade spans 5–8 and 9–12 is rated as Partially, which reflects that the interpretation that some economics concepts are missing from Colorado’s economic standards. Entrepreneurship, utility, capitalism, free enterprise system, intellectual property, laissez-faire, elasticity, subsidy, equilibrium, price ceilings and floors, compounding, money supply, purchasing power, outsourcing, globalization, business cycle, national debt, deficit spending, economic development, and balance of trade would typically be expected in such a course of study, and could be included.

Grade span K–4: Although the standards are rated as Fully at grade span K–4, a few topics could be included to increase the breadth of the standards without being overwhelming. Standard 1 could include more about how people earn a living. It could also address why it is important for individuals to save. Standard 3 could introduce specialization in the context of trade and the voluntary exchange of goods.

Grade span 5–8: Although standard 1 is rated as Fully, the concept of entrepreneurship, which is viewed by many economists as the fourth factor of production, could be introduced at this grade span. Other concepts missing here are marginal costs and benefits, as well as marginal utility. Although standard 2 is rated as Fully, the role of markets could be made more explicit at this grade span. Standard 3 is rated as Partially. The second bullet under benchmark 3.2 is vague, and overly broad in its addressing of the role of banks in the monetary system.

Grade span 9–12: Standard 3 is rated as Partially. It is missing content regarding a country’s monetary system. There is no reference to the money supply and how it is measured and manipulated by a central bank. That may be implicit in the bullet on monetary and fiscal policy, but it would be useful to have more detail here.

The table below shows the breadth ratings for freedom from extraneous content in the Economics standards, reported for each standard at each grade span, as well as across the grade spans.

Table 15. Ratings for Breadth—Free of Extraneous Content in the Economics MCS

| Grade Span | 1 | 2 | 3 | Across Standards |
|---------------------------|----------|----------|----------|-------------------------|
| K–4 | F | F | F | F |
| 5–8 | F | F | F | F |
| 9–12 | F | P | F | F |
| Across Grade Spans | F | F | F | F |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

As Table 15 shows, across the grade spans, the standards are rated as Fully. However, standard 2 at grade span 9–12 is rated as Partially because of extraneous content. Benchmark 2.3 focuses on government actions and policies. The final indicator for the benchmark, however, addresses “the concept of consumer and customer.” Based on the main focus of the benchmark, this indicator appears to be extraneous.

External Referent Review

As described in the Methodology section of this report, analysts reviewed four sets of content standards to serve as an external referent comparison with Colorado’s MCS in economics. The following documents were used as external referent standards for the economics review:

- Massachusetts History and Social Science Curriculum Framework (August 2003)
- Indiana’s Academic Standards, High School Economics (October 2007)
- Indiana’s Academic Standards, Social Studies — K–8th Grade (October 2007)
- National Core Curriculum for Basic Education 2004, Ethics (Finland)
- National Core Curriculum for Basic Education 2004, Social Studies (Finland)
- National Core Curriculum for Upper Secondary Schools 2003, Ethics (Finland)
- National Core Curriculum for Upper Secondary Schools 2003, Social Studies (Finland)
- Civics and Moral Education Syllabus Primary 2007 (Singapore)
- Civics and Moral Education Syllabus Secondary 2007 (Singapore)
- Revised Pre-University Civics Syllabus 2007 (Singapore)
- Social Studies Syllabus Primary 2006, Updated 2008 (Singapore)
- Social Studies Syllabus Lower Secondary Normal 2005 (Singapore)

These external referent standards were reviewed for two broad criteria, organization/structure and content. Each criterion contained several subcategories about which analysts recorded observations before determining a final overall holistic rating of mostly similar (Similar) or mostly different (Different). Findings from these analyses are presented below.

The table below summarizes the holistic external referent standards in comparison with Colorado’s MCS.

Table 16. Holistic Comparison Ratings for Economics External Referents

| Rating Category | Massachusetts | Indiana | Finland | Singapore |
|-------------------------------|----------------------|----------------|----------------|------------------|
| Organization/Structure | Different | Different | Different | Different |
| Content | Different | Similar | Different | Different |

The holistic ratings above reflect the analyst’s judgment that in organization/structure in all of the four external referent standards there are more differences than similarities with Colorado’s MCS. In content, the ratings above also reflect the analyst’s judgment that in three of the external referent standards there are more differences than similarities with Colorado’s MCS. There are more similarities than differences overall in content between Colorado’s MCS and one of the referents. The analyses below highlight various similarities and differences between the MCS and pertinent categories in each referent’s documents. It is important to note that the referents have similarities and differences among one another, as well as with Colorado’s MCS. However, no one approach is intended to be presented as necessarily more or less effective than another. Differences in

structure or content of a state or country's standards may be qualitative, but may also be attributable to differences in history, purpose, and/or context. Thus, the implication is that a variety of approaches and combinations of approaches may be considered, should they be determined to be appropriate for Colorado.

Organization and Structure

In their organization and structure, all of the external referents differ in many ways from Colorado's MCS for economics and from each other. These differences are less striking when comparing Colorado's MCS documents with those of Massachusetts and Indiana, and more when looking at Finland's *National Core Curriculum* curricula and Singapore's *Civics and Moral Education* and *Social Studies* syllabi.⁸ As the names of these latter documents suggest, they are intended to describe course content and courses of study. In contrast, the *Massachusetts History and Social Science Curriculum Framework* and Indiana's Academic Standards are primarily intended to indicate what students are expected to know and be able to do at various grade levels.

The Colorado MCS for economics is the only set of documents that presents economics separately from the other social studies strands. The referents present economics with the history, geography, or civics strands.

The Colorado MCS for economics are organized around three overarching standards that spiral through grades K–12. At each of three grade spans, K–4, 5–8, and 9–12, age-appropriate benchmarks and detailed indicators suggest how these overarching standards should be applied. This hierarchy of overarching standards, broad grade-span benchmarks, and more specific grade-span indicators is different from the referents. None of the other referents organizes its curricula this way.

Like Colorado, both Finland and Singapore articulate their standards by grade spans. Finland has broad standards called "Descriptions of Good Performance" for grades 1–5 and "Final Assessment Criteria" for grades 6–8. These descriptions and criteria are more like Colorado's benchmarks in quantity than its overarching standards. Singapore is similar to Colorado in that its syllabi begin with very broad "Aims" or "Objectives," which are to be applied across several grades, though not all grades. These broad aims are followed by "Learning Objectives" or "Learning Outcomes," which resemble Colorado's benchmarks and indicators in that they expand on the intent of the overarching standards.

The Massachusetts and Indiana standards documents are different from Colorado's MCS documents. Indiana combines its social studies standards by subject domain (history, geography, civics, and economics) into grade level-specific standards for grades K–8. In grades 9–12, Indiana organizes its economics standards into specific courses.

⁸ Finland and Singapore have multiple-track education systems after the primary level to prepare students for university instruction or technical vocational instruction. Therefore, when comparing Colorado's standards with the higher levels of Finland's and Singapore's standards, it should be noted that the highest-level content is considered college preparatory, and is not intended for all students. Thus, many students in Finland and Singapore are not exposed to the broadest and deepest content.

Massachusetts organizes its social studies standards by grade level. The social studies standards are mainly structured around a historical chronological framework. Each grade level has a “concepts and skills” standards section or a learning standards section. Economics standards are embedded within the framework, either as individual economic standards within the “concepts and skills” standards section, or as economic emphases for history standards in the learning standards section.

Colorado’s presentation of its standards is efficient. By presenting the 3 standards across the grade spans simultaneously, the Colorado MCS for economics are only 21 pages. The Finnish standards are sections from a larger *National Core Curriculum* document. Nevertheless, Finland’s economic standards are more concise at 16 pages. The other referents integrate economics with other social studies content, resulting in much larger documents. The Indiana standards are 80 pages, the Massachusetts *Framework* is 130 pages, and the Singapore syllabi combine to 190 pages.

In terms of the number of standards listed, Colorado has fewer standards than the referents, except for Finland, which has just 6. The Colorado MCS for economics have 3 standards, 8 benchmarks, and 72 indicators. Massachusetts has 243 standards. Indiana has 174 standards. Singapore has 100 objectives.

Content

The content of the Colorado MCS for economics has a number of similarities and differences with the content in the referents’ standards. In general, the treatment of the content is more similar than different with Indiana. It is more different than similar with Massachusetts, Finland, and Singapore. All of the external referents share the broad goal of preparing students for citizenship with a basic understanding of economics. They differ, however, in significant ways on how to accomplish this end. Colorado and the two U.S. referents emphasize economic content knowledge, combined at the later grades with some critical thinking. Both Singapore and Finland put far more emphasis on skills and values related to making good decisions, fostering enterprise and entrepreneurship, and appreciating the value of work. Colorado also presents the economic standards separately from the other social studies strands. The referents integrate economics with one of the other strands.

Finland and Singapore are more concerned with the development of ethical and moral education in the primary grades than with economic knowledge. This shift in emphasis is clear when considering how the two countries title their curricula. Finland calls its core social studies curriculum “Ethics,” while Singapore uses the title “Civics and Moral Education.” Singapore also emphasizes the development of communication and teamwork skills in its Primary level standards, as well as critical-thinking skills in its Secondary and post-secondary standards.

Both Finland and Singapore supplement their core Ethics and Civics and Moral Education programs with social studies standards that include references to more traditional economics content. However, neither set of standards introduces economics

content depth until its students are in the upper grade spans. Both countries also are more general than the three U.S. states in their descriptions of what their students should know about economic principles or their own economic systems.

All four referents cover some of the same content outlined in the Colorado MCS standards. For example, like standard 1 of the Colorado MCS, each referent addresses the need to understand that because of scarcity, economic decisions must be made about the use of resources. Both Indiana and Massachusetts link these concepts to history and geography in grade span 5–8. Finland refers to the need to learn “basic concepts,” which presumably includes such concepts as scarcity and tradeoffs. Singapore also addresses this concept in an equally general way. Standard 2 of the Colorado MCS covers economic systems and their role in allocating resources for the production of goods and services in much the same way that Indiana and Massachusetts address this content. Neither Singapore nor Finland focuses on economic systems other than their own national economy. All four referents address Colorado’s third economics standard, which looks at the impact of trade, exchange, and interdependence at both the micro- and macroeconomic levels. Again, the three U.S. states cover many of the same concepts relating to trade, trade barriers, and the role of monetary systems in facilitating the voluntary exchanges. Both Finland and Singapore focus more generally on the role of trade in a global society. Singapore takes this a step further by emphasizing ways the country can maintain its global competitiveness.

Massachusetts

Massachusetts presents its social studies standards in the *Massachusetts History and Social Science Curriculum Framework*. It includes standards for history, geography, civics, and economics. It also includes a number of appendices listing primary sources, resources for teachers, criteria for reviewing textbooks, and connections to language arts and mathematics standards.

Massachusetts divides its social studies standards into two categories, “concepts and skills standards” and “learning standards.” The concepts and skills standards are organized into three general strands, “history and geography,” “civics and government,” and “economics.” The standards listed under economics mainly deal with concepts, not skills. For example, third-grade students are expected to “define specialization in jobs and businesses and give examples of specialized businesses in the community.” The concepts and skills standards are grade-specific from Kindergarten through grade 7. However, each year builds on the skills and concepts mastered in previous grades. The concepts and skills for grades 8–12 are listed as a group to be applied as appropriate throughout the upper grades.

The learning standards are organized by grade level or course. At each grade or course, the standards reflect the social studies content that students are to master at that grade or in that high school course. Because the Massachusetts learning standards are organized around a historical chronological framework, the social studies strands are not listed separately. Each learning standard is coded to indicate what content domains it reflects—history (H), geography (G), civics (C), and/or economics (E). Many learning standards are marked with multiple codes. For instance, standard 5.14: *Explain the development of colonial governments and describe how these developments contributed to the Revolution. (H,G,E,C)*, is coded to all four social studies strands. The learning standard is written so that teachers have the opportunity to teach it from the standpoint of all four social studies strands.

In contrast, Colorado’s MCS divide each social studies domain into separate curriculum documents. The Colorado approach enables teachers to see all of the economics standards in one place and to understand how they articulate through the grades.

The Colorado approach also allows for maximum flexibility as to how and when each standard will be introduced and mastered by students. For example, each district decides at which grade level in grade span 5–8 students should be “explaining how the use of specific resources will influence the availability of other resources in the future.” In contrast, Massachusetts is specific in its expectation that students will be able to “define what an entrepreneur is” in grade 5 and to “identify key elements of a market economy” in grade 6.⁹

⁹ Massachusetts is a local-control state. Although the *Massachusetts History and Social Science Curriculum Framework* specifies grade-level standards for students, it is considered to be advisory and school districts have the option to determine curriculum instruction.

At the 8–12 grade span, Massachusetts students complete two years of World History and two years of U.S. History. There is a grade 12 Economics course listed in the *Framework*, but it is an elective course. For this reason, all of the content and skills standards for economics at the secondary level are integrated into the four history courses.

In terms of overall content, the Colorado and Massachusetts standards are relatively similar in their expectations of what students should know by the time they graduate from high school. Colorado’s standards, especially in the upper grades, are broader and more rigorous in describing what students are to know, especially if the standards for Massachusetts’s elective economics course are not taken into account. The Massachusetts economics standards are more weighted toward historical developments, reflecting the emphasis placed on history in the *Framework*. The two sets of standards are also similar in the kinds of verbs they use (e.g. identify, describe, explain, and occasionally compare or interpret.)

Standard 1 of the Colorado MCS for economics requires students to understand concepts such as scarcity, tradeoffs, opportunity costs, and allocation of resources. Massachusetts covers similar concepts in its economics standards across grade spans. Each state emphasizes an understanding that scarcity requires people to make economic decisions about the allocation of limited resources.

Standard 2 of the Colorado MCS for economics requires students to become familiar with different economic systems and to understand how each structure impacts decision-making about the production and distribution of goods and services. Colorado addresses the content more rigorously at grade span K–4. Massachusetts does not significantly address this content until the upper grade spans.

Standard 3 of the Colorado MCS for economics requires students to understand the importance of trade and the global economy. Unlike Colorado, Massachusetts does not address this content until grade span 5–8, where it is embedded within historical context.

The Colorado MCS at the 9–12 grade span begin to address personal financial literacy and planning with indicators on “personal investment strategies” and “explaining the costs and benefits of the use of credit.” The MCS also require students to understand various forms of business and market structures. The topics are not addressed in the Massachusetts *Framework* until the grade 12 economics elective.

The Massachusetts concepts and skills standards for grade levels 8–12 introduce a few topics that do not appear in the Colorado MCS explicitly. Examples include: financial markets, stock markets, recession, depression, deflation, equilibrium prices, absolute advantage versus comparative advantage, the banking system and Federal Reserve system, the national budget, and the national debt. The learning standards for the required history courses also require students to apply economic thinking to a wide variety of historical events and trends.

The Colorado MCS standards are broader than the Massachusetts *Framework* at grade span K–4, introducing economic systems, economic incentives, interdependence, mediums of exchange, and currencies. In contrast, Massachusetts has standards dealing explicitly with jobs, a topic not addressed by the Colorado MCS economics benchmarks and indicators. Beginning in grade 3, Massachusetts also includes learning standards that integrate economics in grade-level courses on Massachusetts history and the geography of Canada.

The Massachusetts *Framework* is more explicit at grade span 5–7 in addressing saving, entrepreneurship, historical economic development, and the role of economics in motivating historical events. It also introduces per capita GDP as a way of comparing living standards at grade 6.

Colorado tends to use more active verbs than Massachusetts, particularly at the upper grades. In the concepts and skill standards for economics of the Massachusetts *Framework* for grade span 8–12, students are asked to identify, describe, and explain. Colorado, however, also asks students to compare, contrast, and interpret. Nevertheless, the differences are relatively minor. Colorado’s economics standards are generally more specific in the early grades. At the 8–12 grade span, the reverse is true, even if one does not include the Massachusetts grade 12 economics elective standards in the mix. The standards for that one-semester course are highly detailed and extensive.

Indiana

Indiana organizes its K–8 social studies standards into nine grade-level sets of standards. At grade span 9–12 it offers a course in economics, which appears to be a graduation requirement.

At each grade level in grade span K–8, there are four broad standards set forth under the headings “History,” “Civics and Government,” “Geography,” and “Economics.” The content of these domain-specific standards changes across grade levels. Each of these broad standards is then expanded in a list of benchmarks that indicate how that standard is to be met in considerable detail. At kindergarten, students are expected to identify goods and services and describe how people in the school and community are both producers and consumers. By grade 8, students are expected to explain the basic economic functions of the government in the economy and describe different kinds of money used in the United States, among other things.

The content of the Indiana and Colorado economics standards are mainly similar. The Indiana standards address most of the economic concepts found in the Colorado MCS standards. The most obvious difference is that Colorado’s standards do not specify the grade level for instruction within grade spans. Moreover, the integration of economics content into a history or geography class is determined by local school districts or teachers. In contrast, Indiana’s economics standards are written with the social studies curriculum at each grade in mind. In grade 4, for example, the social studies curriculum is titled “Indiana in the Nation and the World.” The economics standard and benchmarks support that focus by emphasizing Indiana’s economy, local entrepreneurs, and the state’s global economic connections. At grade 5, many economics benchmarks are presented in the context of colonial history. A grade 6, a year when students focus on geography, benchmarks address the use of GDP per capita to compare living standards in Europe and the Americas. A grade 8 benchmark links technological change to the development of the U.S. economy in the 19th century. Grade 8 standards also cover the history of the U.S. banking system and the gold standard.

Nonetheless, Colorado MCS Standard 1 introduces students to the basic concepts of scarcity and opportunity costs in the early grades. Indiana follows the same pattern.

Indiana also covers the same material addressed in Colorado MCS standard 2. Each state expects students to become familiar with different economic systems and to understand how each structure impacts decision-making about the production and distribution of goods and services.

Both states also expect students to understand how trade and exchange create interdependence among individuals, households, businesses, and nations, as addressed by Colorado MCS Standard 3. Indiana pays more attention to jobs in the early grades. It also introduces cost/benefit analysis, productivity, and saving at these lower grade spans.

At the K–4 grade span, Indiana focuses more attention on jobs. It also introduces cost/benefit analysis, productivity, and saving at this grade span. An Indiana benchmark

at grade three requires students to gather data from a variety of resources about issues that will impact the community. No Colorado standard asks students to engage in this type of research.

At the 5–8 grade span, Indiana’s standards demonstrate greater breadth in their addressing of personal financial literacy. Personal budgets are introduced at grade 5. An examination of individual investment and savings options begins at grade 6. At grade 7, Indiana students focus on the importance of individual savings and the power of compound interest. A grade 8 benchmark focuses on the use of credit. The Indiana standards have more breadth than the Colorado MCS standards in other ways as well. For example, an Indiana standard at grade 6 includes a benchmark calling on students to use varied information sources to analyze current economic issues in other countries.

The Indiana economics standards at the high school level are more numerous and detailed than Colorado’s. For example, Colorado addresses the relationship between supply and demand by asking students to “describe how changes in the number of producers, production costs, or the prices of substitute and complementary products cause changes in supply.” A similar indicator focuses on demand. Both indicators are dense in terms of the content, understanding, and analysis needed to demonstrate mastery.

Indiana organizes this content into a number of more specific benchmarks starting with “Define supply and demand” and ending with “Demonstrate how changes in supply influence equilibrium price and quantity in the product, resource, and financial markets.” These concise benchmarks are easier to understand and to translate into lessons or assessments. They also define a sequence of learning and mastery. In contrast, Colorado’s standards are more general in nature. Even at high school, students are only occasionally asked to go beyond just “knowing” to interpret, compare, or contrast. No detailed sequence of learning is implied by the way the standards are written or presented.

Finland

Like Colorado, Finland organizes its economics curriculum by grade span. Its first span covers grades 1–5, the second grades 6–9, and the last what is termed the upper secondary. However, after completing their basic education (grade levels 1–9), Finnish students are placed in one of two tracks to continue their education at the upper secondary level. The first track prepares students for university instruction. The second track prepares students for vocational training and polytechnic institutes. As a result of the two-track system, not all Finnish students receive instruction in the same set of standards once they reach the upper secondary level. Thus, many students in Finland are not exposed to the broadest and deepest content, which should be noted when making comparisons with Colorado’s standards. Finland also presents its economic standards by integrating them into the curriculum of other social studies strands, such as history.

Whereas Colorado’s three overarching economics standards are designed to spiral through grades K–12, Finland does not have standards that cross grade spans. Instead, Finland labels its expectations of what students will know and be able to do at the end of grade 5 as “Descriptions of Good Performance” and at the end of grade 8 as “Assessment Criteria.” Some of these descriptions and criteria address economics content, but many do not. Examples of grade 8 assessment criteria that do involve economics, include “understand that social decision-making and economic solutions involve numerous alternatives” and “(know) how to compare different alternatives for social decision-making and economic solutions, and the consequences of those alternatives.”

Finland does not include performance descriptions or assessment criteria in its upper secondary ethics and social studies curricula. However, it introduces both curricula with a few broad “objectives of instruction.” For example, students at this level are expected to “command key social and economic concepts” (Social Studies) and to “develop their judgment, discernment, and functional abilities” (Ethics).

Finland’s core curriculum documents differ from Colorado’s MCS documents in many ways. The most obvious is their brevity. Finland’s documents are spare. The entire K–5 ethics curriculum, including the grade 5 performance descriptors, takes up less than three pages. The core content for the grades 6–9 social studies program, which is organized into five study modules that have two or three bullet point statements, is less than one page.

Finnish performance indicators are general and focused on how well students can use what they have learned to perform authentic tasks (e.g., The pupil will be able to justify their ideas about social issues.) The Colorado MCS are far more specific as to what students are expected to know and be able to do.

The differences in content in the early grades are more pronounced. Finland describes its primary ethics curriculum as a mix of “philosophy, the social sciences, and cultural studies” aimed at supporting students’ “growth into full, democratic citizenship.” There is no mention of economics at this level. In grade span 1–5, Finland focuses on the

development of personal identity and philosophies of life, ethical thought and judgment, principles of tolerance and human rights, and sustainable development.

Finland introduces social studies at grade span 6–9. At this point, students begin to study economics content. The emphasis is different, however, as can be seen from the titles of the study modules that focus on economics: “Managing one’s finances,” “Economics,” and “Economic policy.”

Finnish students continue their study of ethics at the upper secondary level with three required courses titled “A good life,” “The world view,” and “Individual and community.” Students continue to study social studies as well, including a required course titled “Economics.” The core content of this course is organized into modules that focus on Finland’s sources of livelihood, economic activity and business enterprises, economic fluctuations and disturbances, monetary policy and the financial market, public economy and economic policy, and future prospects for the Finnish economy. This “Economics” course is most similar to the content found in Colorado’s economic standards.

Standard 1 of the Colorado MCS for economics requires students to understand the concepts such as scarcity, tradeoffs, opportunity costs, and allocation of resources. Finnish curricula reference the teaching of such “basic economic concepts,” but they do not specify what they are.

Standard 2 of the Colorado MCS for economics requires students to become familiar with different economic systems and to understand how each structure impacts decision-making about the production and distribution of goods and services. There is no discussion of economic systems in the Finnish standards. Students are, however, expected to learn about “primary production” and “economic activity.”

Standard 3 of the Colorado MCS for economics expects students to understand the importance of trade and the global economy. The Colorado standard focuses on exchange, specialization, interdependence, the role of the monetary system, and the use of money and credit. The Finnish curriculum puts more emphasis on Finland’s role in the global economy and impact of globalization.

From a grade span perspective, Colorado distributes its economic standards across grades K–12. Finland concentrates its economics education on grades 5–12. At grades K–4, little or no attention is paid to economics. At grades 5–8, the Colorado MCS are far more detailed than Finland’s course descriptions. For example, where Colorado has a benchmark asking students to “understand how a country’s monetary system facilitates the exchange of resources,” Finland simply includes a bullet point about “the importance of trade and the global economy.” In contrast, Finland is more concerned than Colorado at this level with personal finance. It has a study module titled “Managing one’s finances,” which includes such topics as work, entrepreneurship, and managing private finances.

At the high school level, Colorado’s standards are more specific in terms of content than Finland’s. They also focus on the workings of the U.S. economy. As might be expected, Finland’s economics course is focused on the Finnish economy. It begins with a module on “Finns’ sources of livelihood” and ends with a module on “Finland in international trade.”

Singapore

Singapore has three levels of education: Primary level, Secondary level, and College Preparatory level. Its primary level covers grades (1–6). After Primary 6, Singapore students enter three instructional tracks at the Secondary level. They take the Secondary Express track or the Secondary Normal track to prepare for studies at universities or polytechnic institutes, or they enter the Secondary Normal Technical track, which prepares them for vocational education and polytechnic institutes. As a result, not all Singapore students receive instruction in the same civics standards after the Primary level. Thus, many students in Singapore are not exposed to the broadest and deepest content, which should be noted when making comparisons with Colorado’s standards.

At the Primary level there are two sets of economics standards documents to guide instruction— the *Civics and Morals Education* syllabi and the *Social Studies* syllabi. At the Secondary level there are the *Civics and Morals Education* syllabi. The Secondary Normal track also has a separate set of *Social Studies* syllabi that includes civics education.

Singapore, like Colorado and Finland, organizes its performance expectations of its *Civics and Morals Education* syllabi for Primary level and Secondary level by grade span. The Primary level is divided into Lower Primary and Upper Primary. Similarly, the Secondary level is divided into Lower Secondary and Upper Secondary. However, Singapore also organizes the *Social Studies* syllabi for Primary level and the *Social Studies* syllabi for the Secondary Normal level by grade levels.

While Colorado organizes its performance expectations into a hierarchy of standards, benchmarks, and indicators at the three grade spans, Singapore has only two levels of performance expectations. The first includes overarching objectives that span the Primary level or Secondary level grades. In the *Social Studies* syllabi, these objectives are divided into three categories: “knowledge,” “skills,” and “attitudes and values.” For example, one of the skills listed in the Secondary *Social Studies Syllabus* is “to interact and collaborate effectively with others when working in teams.” In the *Civics and Moral Education* syllabi, these overarching objectives come under the headings “moral knowing,” “moral feeling,” and “moral action.” Under moral action at the Primary level, one finds “put good values into practice.”

The second level of performance expectations includes grade-specific, course-specific, or value-specific benchmarks. For example, Upper Secondary students are expected to “explain the need for Singapore to remain globally competitive” or to be “be responsible in making financial decisions.”

Colorado and Singapore share the goal of preparing students to make reasoned judgments about their personal economics and economic policy, but they approach this goal very differently. In Singapore, economics-related standards and benchmarks are divided among the social studies and civics and moral education syllabi. None are clearly labeled as “economics” standards.

Standard 1 of the Colorado MCS introduces students to the basic concepts of scarcity and the need to make decisions about how to use limited resources from the early grades onward. Singapore treats this concept only in a very general way in its syllabi.

Colorado expects students to become familiar with different economic systems and to understand how each structure impacts decision making about the production and distribution of goods and services, as described in Standard 2. There is no discussion in the Singapore syllabi of economic systems, goods and services, or their production and distribution. Nor are there objectives dealing with specifics such as taxation, regulation, or economic measurement.

Colorado and Singapore both expect students to recognize the importance of trade and the global economy, as addressed by Standard 3 of the Colorado MCS. While Colorado focuses on exchange, specialization, interdependence, the role of the monetary system, and use of money and credit, Singapore puts more emphasis on the need to maintain its global competitiveness by overcoming economic constraints.

At the K–4 grade span, Colorado’s standards deal with basic concepts such as jobs, money, goods, services, buyers, sellers, scarcity, choices, producers, consumers, voluntary exchange, specialization, barter, productive resources, tradeoffs, prices, taxes, trade, and markets. None of this content appears in Singapore’s Primary level syllabi.

At the 5–8 grade span, Colorado’s standards are more detailed than Singapore’s secondary learning objectives and outcomes. For example, where Colorado has a benchmark asking students to describe “how economic interdependence between countries around the world affects the standard of living,” Singapore has a more general social studies learning outcome that asks students to “explain the need for Singapore to remain globally competitive.” However, Singapore has a greater emphasis on personal financial literacy at this level in its Secondary civics and moral education syllabus. Singapore students at this grade span are to understand “the need for Singapore to be resilient in the face of globalization” and to “be responsible for making financial decisions.”

At the 9–12 level, Colorado students are asked to explain, analyze, compare, interpret, and describe. Singapore students at the pre-university level are asked to understand, examine, appreciate, and explore.

Colorado’s economics standards reflect what educators often describe as “the economic way of thinking.” This way of thinking begins with a few key understandings on which

the standards, benchmarks, and indicators are ultimately based. Two of the most important of these understandings are that scarcity forces us to make choices and that people respond in predictable ways to incentives. Singapore’s economics-related learning objectives are focused on the moral development of students as caring, responsible, resilient, respectful, cooperative, and honest human beings. Throughout the syllabi, the emphasis is on a process-based approach to teaching that examines the “why” and “how” along with the “what.”

The Singapore syllabi are intended to describe courses of study, not just learning outcomes, and hence tend to be long and wordy compared to Colorado’s standards documents. However, the Colorado standards documents are far more specific and detailed as to what students are expected to know and be able to do.

Review of Colorado’s Economics Standards for 21st Century Skills and Abilities and Postsecondary and Workforce Readiness

As described in the Methodology section of this report, analysts analyzed Colorado’s draft 21st Century Learning Skills and Abilities (21st Century Skills) and definition of Postsecondary and Workforce Readiness (PWR Skills) to determine the degree to which Colorado’s MCS contain the skills described in those draft documents. Findings from those analyses are presented below.

Economics Model Content Standards and the 21st Century Skills and Abilities

Critical thinking and reasoning

Critical thinking and reasoning skills are evident across the grade spans, with the exception of standard 2. Across the grade spans, many of the benchmarks use language such as “explain,” “compare,” and “analyze,” which require students to demonstrate critical thinking and reasoning skills. Standard 2 is rated as “Partially” across the grade spans and at grade spans K–4 and 5–8, because it primarily uses the action verbs “identify” and “describe.”

Information literacy

Colorado’s economic standards do not address information literacy. If the standards are revised to include more personal financial awareness, information literacy could be emphasized in the indicators.

Collaboration

The Colorado economics standards do not include indicators dealing with collaboration or the development of leadership and teamwork skills. However, there are many opportunities in which the standards could be revised to promote collaboration between students.

Self-Direction

No Colorado economics standards address self-direction. This skill might be addressed by including indicators that ask students to develop economic or personal finance projects.

Invention

Invention is partially addressed by the Colorado standards. There are many opportunities in the standards in which the indicators could be revised so that students could demonstrate creativity, innovation, and integration of ideas.

Economics Model Content Standards and the Postsecondary and Workforce Readiness Skills

Application of reading, writing, and computing skills with minimal remediation

There are many opportunities in the Colorado economics standards for students to apply reading and writing skills, but presently these are not explicitly stated in the standards. CDE might consider emphasizing the use of computing skills in many of its standards.

Computing skills would be appropriate for a number of economics-related topics such as graphing, working with tax rates, and using economic indicators.

Logical reasoning and argumentation

There are many opportunities in the Colorado economic standards for students to demonstrate logical reasoning and argumentation skills, but presently these are not explicitly stated in the standards.

Problem-solving skills

There are no Colorado economics standards that address problem-solving or decision-making skills such as monitoring and self-correcting performance. Topics covering personal finance awareness might address these skills.

Information management skills

There are many opportunities in the Colorado economic standards for students to demonstrate information management skills. CDE might consider emphasizing financial awareness and information-gathering skills in many of its standards.

Human relation skills

No Colorado economics standards address human relations skills.

Analysis and interpretation skills

There are many opportunities in the Colorado economic standards for students to demonstrate analysis and interpretation skills, but presently these are not explicitly stated in the standards.

Recommendations

This section contains specific recommendations from the WestEd reviews, organized by the components of the analysis.

Internal Quality Review of Colorado's Economics Model Content Standards

The CDE may want to consider implementing the following recommendations, where appropriate:

- Maintain the current benchmark/indicator organization of the economic standards. All benchmarks and indicators fall under three overarching standards that increase in cognitive complexity across the grade spans.
- Adopt an organization of the standards that is arranged by grade levels, not grade spans. As the standards are currently written, they may not serve the needs of teachers for specific grades. Grade-level standards would give teachers greater guidance, particularly at the lower grade levels.
- Use explicitly the terms *microeconomics* and *macroeconomics* in the standards, benchmarks, and indicators in grade span 9–12. These are important levels of distinction that high school students should learn. The Colorado MCS document does not reference either term anywhere in the standards. Although many of the standards, benchmarks, and indicators are written broadly enough to allow teachers to teach the economic concepts at either level, usage of the two terms would provide greater clarity to intent and more direction to teachers.
- Place definitions of economic terms at the end of each grade-level list of the indicators to make them more accessible. Currently, a number of benchmarks and indicators use specific terms that may or may not be familiar to teachers and parents. Examples include *comparative advantage*, *economic incentives*, *externalities*, *factors of production*, and *medium of exchange*.
- Revise many of the standards, benchmarks, and indicators to increase their cognitive complexity so that more application of the economic concepts is required of students. The introduction to the MCS for economics defines “economic reasoning or the economic way of thinking” as “the essential product of the study of economics.” Currently, the standards deliver the basic principles and understanding that underlie that way of thinking. Nonetheless, they seldom ask students to apply those concepts and understandings in a rigorous way to current economic issues or to their own lives and personal finances. Application of the concepts to the personal experiences of students might better prepare students.

External Referent Review for Economics

Based on the external referent review, the CDE may want to consider the following recommendations:

- Use action verbs more precisely to indicate the cognitive complexity of the indicators for each grade span.
- Provide more examples with each indicator to guide instruction.
- Create grade-level standards similar to the organization of Indiana to provide clearer beginning and endpoints for each grade level.
- Provide guidance to teachers on how to integrate the economics curriculum with the other social studies strands at the K–4 and 5–8 grade spans.
- Develop indicators at the appropriate grade spans that address the following concepts: financial markets, stock markets, equilibrium prices, absolute advantage vs. comparative advantage, the Federal Reserve System, the national budget, recession, depression, deflation. Most of these terms could be introduced at grade span 9–12.
- Introduce personal finance indicators at earlier grade spans.

Suggestions for consideration of additional external referents

The *Voluntary National Content Standards in Economics* is a reasonable starting place for a basic economics content check and also for benchmarks suggesting how students can become more actively engaged with that content.

The *21st Century Social Studies Content Standards and Objectives for West Virginia Schools*, which became effective in 2008, represent that state’s attempt to “build a rigorous, relevant and challenging social studies curriculum that would prepare students for the 21st century.” Expectations of students are organized around broad learning standards, more specific instructional objectives, and performance descriptors. The performance descriptors provide the basis for assessing overall student competence at five levels ranging from novice to distinguished. While one might expect the result to be an unwieldy document, just the opposite is true. Economics standards for each grade K–12, as well as an economics elective, are succinctly stated and explicated. At grade 12, an additional strand is added under the heading “Personal Finance.”

Recommendations from the Review of 21st Century Skills and Abilities and Postsecondary and Workforce Readiness

Because of the interconnectedness of the findings and recommendations related to the 21st Century Skills and Abilities and Postsecondary and Workforce Readiness definition, recommendations related to the 21st Century and PWR skills are presented together in the Findings section of this report.

III-C. Geography Findings and Recommendations

This section contains findings and recommendations related to the internal quality review, the external referent reviews, and the review of 21st Century Skills and PWR Skills. Detailed review criteria can be found in the Methodology section of this report. A brief description of the criteria and guiding questions also are provided here for convenience.

Internal Quality Review

As described in the Methodology section of this report, the Colorado MCS were reviewed for their quality according to four criteria: depth, coherence, rigor, and breadth. The scale used for evaluating each criterion was as follows: Fully (F), Partially (P), No (N), or Insufficient Information (I). Findings from these analyses are presented below.

Depth

Ratings for depth are assigned based on the questions below.

- Do the benchmarks describe content of sufficient and appropriate depth in the standard *within each grade span*? (For example, is the depth of content of the standard appropriate for a school year?)
- Do the benchmarks describe content of sufficient and appropriate depth in the standard *across grade spans*?

The table below shows the ratings for depth in the Geography standards, reported for each standard at each grade span, as well as across grade spans. The across grade span ratings are holistic ratings of the depth of the standards in K–12.

Table 17. Ratings for Depth in the Geography MCS

| Standard | K–4 | 5–8 | 9–12 | Across Grade Spans |
|----------|-----|-----|------|--------------------|
| 1 | F | F | F | F |
| 2 | F | F | F | F |
| 3 | P | F | F | F |
| 4 | F | F | F | F |
| 5 | F | F | F | F |
| 6 | P | F | F | F |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

As Table 17 shows, all of the standards are rated as Fully across grade spans. The depth of the content for each standard is appropriate for instruction across the grade spans. The content of each standard builds upon the content taught in lower grade spans.

Except for grade span K–4, all of the standards are rated as Fully within grade spans. The level of depth is appropriate. Nevertheless, there are some standards within grade spans

that could be improved if more examples were used to illustrate the benchmarks. For instance, benchmark 2.2 at grade span 5–8, “identify a region as an area with unifying geographic characteristics,” could be enhanced by indicating types of regions for instruction (e.g. economic, cultural, physical).

In grade span K–4, standards 3 and 6 are rated as Partially. Standard 3 exceeds the level of depth that is appropriate at the grade span. Benchmark 3.1 requires students to “explain how Earth-Sun relationships shape climate and vegetation patterns.” It might be more appropriate to identify or describe Earth-Sun relationships at this grade span. Both benchmarks for standard 6 are too brief and vague at grade span K–4. For instance, it is unclear what is intended by “describing issues in communities from a spatial perspective” at this grade level. Some elaboration at each benchmark could be beneficial.

Coherence

Ratings for coherence are assigned based on the questions below.

- Are the benchmarks for each standard sequenced appropriately across grade spans? (For example, do they scale or spiral appropriately across grade spans?)
- Do the benchmarks begin and end at appropriate points in the content?

The tables below show the ratings for coherence in the Geography standards, reported as appropriate sequence across grade spans, and as appropriate beginning and endpoints for each standard at each grade span, as well as across grade spans.

Table 18. Ratings for Coherence in the Geography MCS

| Standard | Appropriate Sequence Across Grade Spans |
|-----------------|--|
| 1 | F |
| 2 | F |
| 3 | F |
| 4 | F |
| 5 | F |
| 6 | F |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

Table 19. Ratings for Coherence in the Geography MCS

| Standard | Appropriate Beginning and Endpoints | | | |
|----------|-------------------------------------|-----|------|--------------------|
| | K–4 | 5–8 | 9–12 | Across Grade Spans |
| 1 | F | F | F | F |
| 2 | F | F | F | F |
| 3 | F | F | F | F |
| 4 | F | F | F | F |
| 5 | F | F | F | F |
| 6 | F | F | F | F |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

As Tables 18 and 19 show, all of the standards are rated as Fully for coherence across grade spans. All of the standards are also rated as Fully for appropriate beginning and endpoints at each grade span. The instruction of the standards spirals appropriately across grade spans. Each grade span effectively builds upon the content and skills learned at lower grade spans.

Rigor

Ratings for rigor are assigned based on the questions below.

- Do the benchmarks describe content and skill expectations of a reasonable and appropriate level for this grade span?
- Do the standards and benchmarks communicate an appropriate level of rigor?

The table below shows the ratings for rigor in the Geography standards, reported for each standard at each grade span, as well as across grade spans.

Table 20. Ratings for Rigor in the Geography MCS

| Standard | K–4 | 5–8 | 9–12 | Across Grade Spans |
|----------|-----|-----|------|--------------------|
| 1 | F | F | F | F |
| 2 | F | F | F | F |
| 3 | P | F | F | F |
| 4 | F | F | F | F |
| 5 | F | F | F | F |
| 6 | P | F | F | F |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

As Table 20 shows, all of the standards are rated as Fully across grade spans. Overall, the content and skill expectations are appropriate for the standards across grade spans. Within grade spans, the standards are of appropriate rigor for grade spans 5–8 and 9–12 and are rated as Fully. Standards 3 and 6 are rated as Partially at grade span K–4. The cognitive complexity of Standards 3 and 6 appears to exceed the expected rigor or K–4. Explaining the Earth-Sun relationship and understanding how geography impacts historical perspectives are too abstract for K–4 students.

Breadth

Ratings for breadth are assigned based on the questions below, each of which is reported in a separate table.

- Do the benchmarks describe sufficient and appropriate breadth of content across standards *within each grade span*?
- Do the benchmarks contain the essential content for this subject *within and across grade spans*?
- Are the benchmarks free from extraneous content *within and across grade spans*? If not, what content is extraneous?

Each of the three aspects of breadth examined is reported in a separate table in order to distinguish between essential and extraneous content.

Breadth represents the sufficiency of content across the standards. The table below shows the ratings for overall breadth *across* the Geography standards within each grade span and across grade spans.

Table 21. Ratings for Overall Breadth in the Geography MCS

| Grade Span | Across Standards |
|---------------------------|-------------------------|
| K–4 | F |
| 5–8 | F |
| 9–12 | F |
| Across Grade Spans | F |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

As Table 21 shows, the overall breadth of content across the standards within each grade span is rated as Fully.

The table below shows the breadth ratings for essential content in the Geography standards, reported for each standard at each grade span, as well as across grade spans.

Table 22. Ratings for Breadth—Essential Content in the Geography MCS

| Grade Span | 1 | 2 | 3 | 4 | 5 | 6 | Across Standards |
|---------------------------|----------|----------|----------|----------|----------|----------|-------------------------|
| K–4 | F | F | F | F | F | F | F |
| 5–8 | P | F | F | F | F | F | F |
| 9–12 | F | F | F | F | F | F | F |
| Across Grade Spans | F | F | F | F | F | F | F |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

As Table 22 shows, all of the standards are rated as Fully across grade spans. The standards address the appropriate content for understanding geography at each grade span. Only standard 1 at grade span 5–8 is rated as Partially. Benchmark 1.2 does not

sufficiently require students to have foundational knowledge of world geography, such as countries and major cities, unlike United States geography, where students are expected to identify and locate all fifty states. If students are expected to study world geography at this grade span, they should also be expected to have foundational knowledge of where major countries and cities are around the world.

The table below shows the breadth ratings for freedom from extraneous content in the Geography standards, reported for each standard at each grade span, as well as across grade spans.

Table 23. Ratings for Breadth—Free of Extraneous Content in the Geography MCS

| Grade Span | 1 | 2 | 3 | 4 | 5 | 6 | Across Standards |
|---------------------------|----------|----------|----------|----------|----------|----------|-------------------------|
| K–4 | F | F | P | F | F | F | F |
| 5–8 | F | F | F | F | F | F | F |
| 9–12 | P | F | P | F | F | F | F |
| Across Grade Spans | F | F | F | F | F | F | F |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

As Table 23 shows, overall, the Colorado MCS geography standards are free of extraneous content across the standards. At grade span K–4, standard 3 is rated as Partially. It contains some extraneous content, with unnecessarily detailed content related to the Earth-Sun relationship and the water cycle. At grade span 9–12, standards 1 and 3 are rated as Partially. The second bullet of standard 1, benchmark 1.2 appears extraneous. This content is already covered in lower grade spans. Also at grade span 9–12, the first bullet of standard 3, benchmark 3.1 may be more appropriate in a geology course.

External Referent Review

As described in the Methodology section of this report, analysts reviewed four sets of content standards to serve as an external referent comparison with Colorado’s MCS for geography. The following documents were used as external referent standards for the geography review:

- Massachusetts History and Social Science Curriculum Framework (August 2003)
- Indiana’s Academic Standards, Geography and History of the World (October 2007)
- Indiana’s Academic Standards, World Geography (October 2007)
- Indiana’s Academic Standards, Social Studies – K – 8th Grade (October 2007)
- National Core Curriculum for Basic Education 2004, Biology and Geography (Finland)
- National Core Curriculum for Upper Secondary Schools 2003, Geography (Finland)
- Geography Syllabus Lower Secondary 2006 (Singapore)
- Social Studies Syllabus Primary 2006, Updated 2008 (Singapore)

These external referent standards were reviewed for two broad criteria, organization/structure and content. Each criterion contained several subcategories about which analysts recorded observations before determining a final overall holistic rating of mostly similar (Similar) or mostly different (Different). Findings from these analyses are presented below.

The table below summarizes the holistic external referent standards in comparison with Colorado’s MCS.

Table 24. Holistic Comparison Ratings for Geography External Referents

| Rating Category | Massachusetts | Indiana | Finland | Singapore |
|------------------------------------|----------------------|----------------|----------------|------------------|
| Organization/ Structure | Different | Different | Different | Different |
| Content | Different | Similar | Different | Different |

The holistic ratings above reflect the analyst’s judgment that in organization/structure in all of the four external referent standards there are more differences than similarities with Colorado’s MCS. In content, the holistic ratings above show that in three of the four external referent standards there are more differences than similarities with Colorado’s MCS. There are more similarities than differences overall in content between Colorado’s MCS and one of the referents. The analyses below highlight various similarities and differences between the MCS and pertinent categories in each referent’s documents. It is important to note that the referents have similarities and differences among one another, as well as with Colorado’s MCS. However, no one approach is intended to be presented as necessarily more or less effective than another. Differences in structure or content of a state or country’s standards may be qualitative, but may also be attributable to differences in history, purpose, and/or context. Thus, the implication is that a variety of approaches

and combinations of approaches may be considered, should they be determined to be appropriate for Colorado.

Organization and Structure

As summarized in Table 8, the organization and structure of the Colorado MCS for geography differ in the organization and structure of the external referents. Based on the categories of grade articulation, hierarchy of standards, number of standards, and the design and format of the document, the Colorado MCS are mainly different from the external referents. The external referents, however, also differ from each other in these categories.

Grade Articulation

Colorado organizes its geography curriculum into three grade spans, K–4, 5–8, and 9–12, across which the standards are to be taught through spiral instruction. All of the referents are similar to Colorado in that geography curriculum focuses on the local or community level in the lower grades and shifts the emphasis to national and world history in later grades. The grades at which those shifts occur are different for each referent. Only Finland has a grade span articulation of standards. The other referents are much different, organizing their geography standards by grade level.

Massachusetts begins geography in Kindergarten, and offers a few geography standards through high school. In K–2, geography is largely integrated with other social studies subjects, as students learn about community, local, and regional geography. At grade 3, geography is a primary social studies theme. It focuses on the geography of the state and towns. At grade 4, geography is the primary social studies subject. The curriculum concentrates on United States and North American geography. At grade 5, geography is subordinated to history curriculum. At grade 6, geography is again the primary social studies subject taught to students. The standards at this level concentrate on world geography. After grade 6, geography is deemphasized and not offered as a significant subject in high school. Geography standards that do appear in later grades are used to support the study of history. There is very little repetition of geography content between grade levels.

Indiana begins geography at Kindergarten and offers grade-level standards through grade 8. At these grade levels, geography is integrated with other social studies subjects. At high school it offers a course in world geography. It also offers a geography course that integrates world geography and history. There is some repetition of geography content and remediation of geography skills. Emphasis is placed on standards being taught through spiral instruction across grade levels.

Finland organizes its geography standards by grade spans, dividing the curriculum into grades 5–6, 7–9, and the upper secondary level. It is different from Colorado, however, in that geography is not introduced at grade span K–4. Moreover, at grade span 5–6, geography is integrated with biology. At the upper secondary level, students are placed in one of two tracks to continue their education. They enter the general upper secondary

schools that lead to university education, or they enter vocational upper secondary schools that lead to polytechnic institute education. In the general upper secondary schools, students take compulsory and specialized geography courses. As a result of the two-track system, not all Finnish students receive instruction in the same set of standards at the upper secondary level. Thus, many students in Finland are not exposed to the broadest and deepest content, which should be noted when making comparisons with Colorado's standards.

Singapore divides geography instruction into Primary, Lower Secondary, Upper Secondary, and the Junior Colleges/Centralised Institute levels. Within each grade span, course syllabi are offered for each grade level. At the Primary grade span, Singapore requires geography to be taught as part of an integrated social studies program from Primary 1 to Primary 6. At the secondary level, geography is offered as a separate course. After completing the Primary level education, students are placed in three educational tracks. They may enter the Secondary Express Course, the Secondary Normal Course, and the Secondary Normal Technical Course. The Secondary Express Course and the Secondary Normal Course prepare students of the Junior Colleges/Centralised Institute and university study. The Secondary level is subdivided into Secondary Lower and Secondary Upper levels. The geography syllabi for the Express and Normal tracks are similar, although the Express track covers more content. The Secondary Normal Technical Course prepares students for vocational education. Geography continues to be integrated into grade-specific social studies curriculum and is not taught as a distinct subject.¹⁰ As a result of the three-track educational system, not all Singapore students receive instruction in the same geography standards after the Primary level. Thus, many students in Singapore are not exposed to the broadest and deepest content, which should be noted when making comparisons with Colorado's standards.

Hierarchy and Number of Standards

The hierarchy and number of geography standards for Colorado are much different from all four of the referents. The referents have different structures and the number of standards varies for each referent. Colorado has six standards that are spirally organized across grade spans. Within each standard are subordinate benchmarks that explain the scope of the standard. There are 18 benchmarks. Below each benchmark are topic bullets. The topic bullets explain the intention of the benchmark at each grade span. At grade span K–4, there are 43 topic bullets. At grade span 5–8, there are 57 topic bullets. At grade span 9–12, there are 51 topic bullets.

Massachusetts does not have strands, benchmarks, or indicators. It only has standards, of which there two types: concepts and skills, and content. The standards are enumerated for each grade level. In the main geography courses, grades 3, 4, and 6, there are 8, 26, and 79 standards, respectively. In the courses where geography is integrated into broader social studies curriculum or history curriculum, the standards range from 2 to 14. There is

¹⁰ Singapore's secondary curriculum includes Lower Secondary and Upper Secondary, each lasting two to three years. Only the Lower Secondary syllabi and Primary syllabi are available on Singapore's website and are included in this review.

no systematic attempt to teach geography concepts through spiral instruction across grade spans.

Indiana treats geography as one standard within its broader integrated social studies curriculum for grades K–8. For each grade level, the geography standard is divided into geographic subtopics: (1) the world in spatial terms, (2) places and regions, (3) physical systems, (4) human systems, and (5) environment and society. These subtopics are similar to the six Colorado MCS for geography in terms of the concepts covered. The subtopics differ from the Colorado standards, however, in that they are grade level specific and cannot be applied to multiple regions. Nevertheless, because the subtopics are the same throughout the grade levels, a systematic approach to spiral organization of geography concepts across grade spans is evident. Each subtopic has enumerated indicators that describe the specific geography content or geographic thinking skills for each grade level. The high school world geography course follows the same organizational structure, although, like Colorado, the five geographic subtopics are referred to as standards. Indicators range in number from 7 in Kindergarten to 54 in the high school *Geography and History of the World* course.

Finland organizes its grade span standards by objectives, core content themes, and core content geography themes, and bulleted topics. The objectives indicate the curricular goals that should be reached by the end of the grade span. They are similar to the six geography standards in the Colorado MCS. Unlike Colorado, the objectives are specific to each grade span. There is no indication of systematic spiral instruction of the objectives. Following the objectives are the core content geography themes, which indicate the content topics that should be covered. Within each geography theme are bulleted topics for instruction. The upper secondary level differs from the basic education curriculum only in that there is a set of overarching objectives that apply to all of the courses.

At the Primary level, Singapore integrates geography with other social studies subjects into general grade level course syllabi. The courses are organized by units and unit objectives. Each unit is organized into topics, content, and concepts. Accompanying the unit are knowledge objectives, skills objectives, and attitudes and values objectives. Each objective lists specific goals the students should reach for the unit. The Lower Secondary level is subdivided into two full-year courses: Lower Secondary level 1 and Lower Secondary level 2. The courses are organized into geographic themes. The themes are further divided into four areas: content, learning outcomes, concepts, values and attitudes. Within each are listed specific terms to be learned. The standards for the social studies curriculum of the Lower Secondary Normal Technical Course are organized into two grade levels: Lower Secondary One and Lower Secondary Two. They are similar to the organizational structure of the Primary Level courses. They integrate geography with other social studies subjects into general course syllabi. Singapore uses spiral instruction of concepts as a pedagogical approach.

Design/Format

The design and format of the Colorado MCS is much different from those of the referents. The Colorado geography MCS is organized by a cross-matrix of six spiraling standards and three grade spans. It also has a glossary that defines key geography terms and an index. The document is 35 pages.

The *Massachusetts History and Social Science Curriculum Framework* provides an overview of the scope and sequences of instruction for each grade level. As the title implies, it is primarily a document for history standards. Geography, economics, and government are integrated with the history standards, but history is the main focus. There are eight appendices that provide reference materials and teacher aids, but only one is devoted to geography.

Indiana presents the social studies standards as separate documents for each grade level and high school geography course. Each document has a brief one-page overview that explains the goals of the social studies course and outlines the broad content area standard. Afterwards, each content area standard and its indicators are listed. The documents range in length from 4 to 21 pages. Altogether they are 114 pages.

The Finland geography standards are sections from a larger *National Core Curriculum* document. The section for the basic education courses (grade spans 5–6, 7–9) is 9 pages. Both the basic education level and upper secondary level provide an overview of the curriculum for each grade span. Then they list the objectives and core content for each grade span.

The Singapore Primary level, Lower Secondary level, and Lower Secondary Normal Technical documents are presented separately. Each has an introduction, outlining the course objectives, weekly instructional pace, teaching and assessment strategies, and an outline of each course. The Lower Secondary level document also provides appendices showing the differences between the Special/Express Course and the Normal Academic Course, case studies for instruction, basic geography equipment, and suggested references for geography teachers. The Primary level document is 19 pages; the Lower Secondary level document is 37 pages; the Lower Secondary Normal Technical document is 17 pages.

Content

The content of the Colorado MCS for geography has a number of similarities and differences with the content in the standards of the referents. In general, the treatment of the content is different. With the notable exception of Indiana, Colorado is much more systematic and analytical in its approach to its geography curriculum across grade spans than the referents. Colorado addresses the geographic theme outlined in each of its standards with greater depth, coherence, breadth, and rigor than Massachusetts, Finland, and Singapore. Its spiral organizational approach for each standard across grade spans gives students the opportunity to master geographic concepts and skills by the end of secondary education. Among the six standards, the greatest similarity between Colorado

and the referents appears in standard 1. All of the referents require students to learn how to use geographic tools, such as maps and charts. Among grade spans, the greatest similarity of curriculum appears at grade span K–4. Except for Finland, which does not begin geography instruction until grade 5, all of the referents provide their K–4 students with geography curriculum. They emphasize learning basic skills and concepts and applying them to understanding local, regional, and state geography.

Standard 1

The Colorado MCS for geography and the referent standards are most similar in standard 1. All of the referents require students to master the use of a variety of geographic tools, such as maps, globes, and charts to understand basic geographic skills. Each of the referents expects students to be familiar with basic geographic vocabulary, such as location, longitude, and latitude. Like Colorado, Indiana and Singapore spiral their curriculum so that students deal with increasingly more complex geographic skills and research methodology at later grade levels. Massachusetts and Finland make some effort to increase the depth and rigor of their curriculum between the grade levels, but the effort is not methodical. Colorado, however, covers the standard with greater depth, rigor, and breadth than Massachusetts, Finland, and Singapore. It has more breadth of coverage than Indiana, but Indiana is more explicit about the specific content that should be covered to master the geographic skills at each grade level.

Standard 2

The Colorado MCS for geography and the referent standards have some similarity at standard 2. The differences, however, outweigh the similarities. Each of the referents requires students to learn about the places and regions of their states, countries, regions, and the world. Each of the referents requires students to be able to locate specific places and features on maps. Each referent requires students to understand the concept of cultural heritage sites. Colorado is much more analytical in its approach to the standard than most of the referents. Like Colorado, Indiana spirals its standards regarding physical and human characteristics of regions across grade spans and increases the cognitive complexity at each grade level. Colorado covers the standard more broadly, however. On the other hand, Indiana is more explicit about specific content that should be used to understand the concepts. Nevertheless, qualitative differences are not that strong between the two sets of standards. Massachusetts places more emphasis on memorization of the location of countries and description of regions over understanding how to categorize regions. At grade 6 Massachusetts asserts that the concept of region is an important theme of geography, but does not elaborate further. Instead, it refers teachers to the MCAS science and technology standards for guidance. Finland covers standard 2 but is less analytical in its treatment of the standard as a geographic theme and focuses more on students learning and applying the skills to specific regions, predominately Europe. Singapore addresses this standard in the Primary and Lower Secondary levels mainly as it pertains to Singapore geography.

Standard 3

There are some similarities and differences in standard 3 among the Colorado MCS for geography and the referent standards. Indiana and Finland emphasize understanding how physical processes shape the Earth. Like Colorado, each spirally organizes the standard across grade spans. Colorado is more methodical and analytical in its standards than Indiana and Finland at all grade spans, placing more emphasis on mastering the standard as a geographic theme. Both Indiana and Finland, however, address similar content as Colorado. Finland devotes a compulsory geography course to it at the upper secondary level. Singapore covers it, but it is not a significant geography theme at the Primary level or the Secondary Normal Technical level. Only the Secondary Express and Normal courses substantively cover it. Massachusetts makes little effort to address the standard in its geography curriculum. Instead, it refers teachers to the corresponding grade-level science and technology courses.

Standard 4

Like Colorado, all four referents cover this standard in their curriculum. Each requires students to understand how economic, political, cultural and social processes affect human geography. Each referent treats the topics as analytical tools for analyzing human geography. Many of the benchmark concepts covered in the Colorado standard are addressed in the standards of the referents. Massachusetts concentrates on each topic at grades 4 and 6. Finland makes understanding how economic, political, cultural, and social processes shape human geography stated objectives in its curriculum. The Indiana standards are most similar to the Colorado standards, and the high school standards for each state are equivalent. The Singapore Primary level and Lower Secondary level courses cover human geography as a theme. The Primary level addresses the theme as it pertains to Singapore geography. The Lower Secondary level is not as rigorous in cultural geography as Colorado's equivalent. Because of the spiral organization of the standard across grade spans, the Colorado MCS for geography are the most analytical and systematic of all the standards in their treatment of human geography.

Standard 5

Like Colorado, all four referents have standards in their curriculum that match Colorado standard 5. Each referent provides a standard about the relationship between humans and the environment. Each referent treats the theme as an important geographic tool to analyze human and physical geography. Many of the benchmark concepts covered under the standard are addressed in the standards of the referents. Massachusetts concentrates on each topic at grades 4 and 6. Finland makes understanding how humans interact with their environment a stated objective in its curriculum. The Indiana standards are most similar to the Colorado standards, with the high school standards for each state being nearly equivalent. Singapore stresses this standard more than Colorado, particularly in grade spans K–4 and 5–8. Emphasis is placed on land scarcity.

Standard 6

Only the Colorado MCS for geography cover standard 6 in any detail. Neither Massachusetts nor Indiana requires students to apply knowledge of people, places, and environments in order to understand the past, present, and future. Singapore only requires

students to understand how geography shapes perceptions of the past. Finland is the only referent that addresses how geography shapes perceptions of the past and future, but Colorado is much more analytical and systematic in its coverage of the standard.

Grade Spans

There are similarities across grade spans between Colorado and the referents, but, depending on the referent, the differences are greater in the organization of the content. Of the referents, Indiana aligns most closely to Colorado. Both Indiana and Colorado spirally organize similar geographic themes and content in the same grade spans. They also broaden students' understanding of geography from the neighborhood and local to the national and world level in the same grade spans. Indiana is different in indicating when United States and world geography should be introduced, and also offers specific geography courses at high school. Massachusetts has some similarity in content at grade spans K–4 and 5–8. Its instruction of the foundational knowledge of each standard is similar at these grade spans, and it also broadens students' understanding of geography from the local to the state, national, world level through the two grade spans. However, it does not provide substantive geography standards after grade 6 and does not attempt to address the content through spiral instruction. Moreover, the standards do not have the depth and rigor of the Colorado standards at the lower grade spans. Finland covers some of the same content standards as Colorado, but does not offer any geography standards before grade 4. It also does not explicitly organize its standards through spiral instruction across grade spans. Because the Singapore Upper Secondary level and Junior Colleges/Centralised Institute syllabi are not available, the second half of grade span 5–8 and grade span 9–12 could not be reviewed. As a result, it cannot be determined if Singapore continues spiral instruction across grade spans. Like Colorado, Singapore focuses on the neighborhood, local, and then national geography at the Primary Level. The Lower Secondary Express and Normal courses align most closely to the Colorado standards, covering similar geographic concepts.

Wording/Specificity

In regards to wording, the Colorado MCS for geography are more rigorous than the standards for Finland and Singapore but align closely to the standards for Indiana and Massachusetts. Colorado, Indiana, and Massachusetts use specific action verbs to suggest the cognitive level of instruction for their standards. Finland and Singapore use broad action verbs and do not tie them closely to content standards.

Massachusetts

Colorado and Massachusetts articulate their geography standards differently. Colorado's standards include geography content from Kindergarten through high school. It organizes its standards into three grade spans: K–4, 5–8, and 9–12. Colorado also spirally organizes its six standards across grade spans, increasing the cognitive complexity of the standards at each grade span. Massachusetts organizes its standards by grade level. Geography instruction is begun at Kindergarten and is integrated into broader social studies curriculum. Geography standards appear at all grade levels into high school, but substantive geography curriculum does not appear after grade 6. Afterwards, only few geography standards are integrated into history courses. At the lower grade spans, the main grade levels for geography instruction are grades 3, 4, and 6. Massachusetts does not systematically spiral the geography curriculum across grade spans.

Both Colorado and Massachusetts broaden students' understanding of geography. Massachusetts emphasizes neighborhood geography at K–2. Grade 3 is devoted to the geography of Massachusetts; grade 4 concentrates on U.S. and North American geography (Canada and Mexico). There are optional standards at grade 4 for Central America and the Caribbean region. Grade 6 concentrates on world geography. Because of this approach, there is very little repetition in the geographic content or concepts in the Massachusetts *Frameworks*.

The hierarchy of standards is also different between Colorado and Massachusetts. Colorado has six standards that repeat across the three grade spans. Accompanying the standards are benchmarks that are common to grade spans. The benchmarks articulate the intent and scope of the standards. Below the benchmarks are bulleted topics that explain how the benchmark should be taught at each grade span. In contrast, Massachusetts has specific standards for each grade level. There are two types of standards that appear at each grade level: concept & skills standards and content standards. The standards do not try to encompass broad geographic themes. Instead, they address specific geographic concepts or content (e.g., 4.10: Identify the states, state capitals, and major cities in each region). Because the content standards for Massachusetts are very specific, individually they do not align closely to the broad scope of geographic standards of the Colorado MCS.

The Massachusetts world geography curriculum for grade 6 is also different in its organization. It is divided into seven world regions: Africa, Western Asia, Central and South Asia, Southeast Asia and Oceania, North and East Asia, Europe, and South America. Below each regional sub-heading appears a set of standards. The first three standards are common to all seven regions. The first two standards require students to identify the major physical features, countries, and major cities of that region. The third standard requires students to explain how absolute and relative location, climate, major physical characteristics, major natural resources, and population size affect the settlement patterns and economies of those regions. Below those three standards appear additional standards that are specific to each region, and many of them are listed as optional topics for study (e.g., Explain how drought and desertification affect parts of Africa).

The wide range of the number of standards at each grade level is also indicative of how different Massachusetts is from Colorado in its approach to geography. In grade levels where geography is emphasized (grades 3, 4, and 6), there is a range in the number of standards from 8 to 79. In the other grade levels, the range drops to 0–14 standards. Generally speaking, geography is not a major social studies subject in the Massachusetts social studies standards.

The design and format of the Massachusetts standards also differs from the Colorado MCS. The Colorado geography MCS document is organized by a cross-matrix of six spiraling standards and three grade spans. All of the grade spans are presented together to show the rise in cognitive complexity across grade spans for each standard. The document also has a glossary that defines key geography terms for teachers and is 30 pages. The MCAS *Framework* is largely organized around the history curriculum. Other subjects, such as geography, are subordinated to history. The document provides an overview of the scope and sequence of instruction and a list of historical themes to be introduced to the grade level instruction. It then introduces each grade level and the standards that are to be taught. Only at grades 3, 4, and 6 is geography given any preeminence, when the *Framework* outlines the regions and states of the United States.

In terms of content, the Colorado MCS for geography and the Massachusetts *Framework* are very different in every standard and at nearly every grade span. The six Colorado geography standards are covered in greater depth, breadth, and rigor than their counterpart Massachusetts standards. Colorado spirally organizes its standards across grade spans so students understand that the geography themes of the standards are important devices for analyzing and understanding the physical and human geography of societies. Massachusetts predominantly has standards that emphasize the memorization of geographic locations. It does not present the geography themes in a systematic way across grade spans. Only at grade 6 do the standards demonstrate the depth and rigor in analysis that approach the expectations of the Colorado geography standards.

In general, Colorado and Massachusetts address standard 1 differently, even though there are some similarities. Both Colorado and Massachusetts require students to master the use of geographic tools to understand geographic concepts, particularly at grade span K–4. At grade span K–4, each state requires students to know how to use maps to locate cities and states. Each requires knowledge of cardinal and intermediate directions. Each requires students to locate major geographic features of the globe and to learn basic geographic terms. Colorado has greater breadth at this grade span. Massachusetts does not have an equivalent benchmark to 1.3 of the Colorado standard. Although Massachusetts students learn geography vocabulary, they are not required to describe how places are connected by the movement of goods and services, or to defend locational decisions for human activities.

Colorado, however, requires students to develop their use of geographic tools at every grade span. After grade 4, Massachusetts students only focus on developing their skills in using geographic tools at grade 6. These skills consist of expanding geography vocabulary, understanding time zones, and discerning between relative and absolute

locations. Colorado, on the other hand, continues expanding the breadth, depth, and rigor of the standard. For benchmark 1.1, students at grade span 5–8 identify different map projections and learn to construct maps, globes, models, charts, and geographic databases. At grade span 9–12, students learn to construct maps using cartographic principles and learn to interpret maps and other geographic tools, through the analysis of case studies. For benchmark 1.2, students at grade span 5–8 learn to develop mental map skills. For benchmark 1.3, students at grade span 5–8 develop skills describing patterns and processes of diffusion and solve locational questions using multiple sources of information. At grade span 9–12, students learn to analyze geographic information using a variety of scales and analyze maps for understanding patterns of human activities.

In general, Colorado and Massachusetts address standard 2 differently as well, although there are some similarities. Both Colorado and Massachusetts expect students to be able to know the physical and human characteristics of places and to be able to understand patterns of change within regions. The main similarity between the two sets of standards is that each requires students to identify and describe physical and human characteristics of regions in order to categorize them. Massachusetts specifies the U.S. and world regions in its grade 4 and 6 standards. It also lists every state and country for each region. Colorado, however, is more flexible at the same grade spans. It places emphasis on students understanding that a region is a geographic concept that can be used to categorize and analyze areas based on their human and physical characteristics. At grade span 5–8, Colorado is also more explicit than Massachusetts in requiring students to understand how and why regions change and to describe the relationships and interactions among regions. They are only implied concepts in the grade 6 Massachusetts standards. Colorado has more depth requiring students to know how culture influences perceptions of place and regions. At grade 4, Massachusetts requires students to describe major U.S. historical sites and describe their function. It is only an implied concept in the grade 6 standards. Colorado, on the other hand, is much more analytical and systematic in its treatment of the concept at all grade spans.

Colorado is much more rigorous than Massachusetts in standard 3. Massachusetts devotes little attention to students understanding how physical processes shape Earth's surface patterns and systems. It only requires basic identification of physical features of regions in grade span K–4. Massachusetts considers this standard to be more appropriately placed in science curriculum and refers teachers to the *Earth and Space Science Learning Standards* in the *Massachusetts Science and Technology/Engineering Curriculum*.

The Colorado geography standards and Massachusetts geography standards are most similar in standard 4. Nevertheless, the Colorado standards are more rigorous. The corresponding Massachusetts standards on how economic, political, cultural, and social processes affect human populations are covered mainly in grade 6 and to a lesser extent in grade 4. MCAS standards 4.15 and 4.16 address the contributions of diverse groups of peoples to American culture. In the case of grade 6, the third standard for each region addresses the topics of demographics and economics. Many of the optional topics for each region also address the impact of cultural, political, economic, and social processes on that specific region. Colorado, however, is much more analytical in depth, breadth,

rigor, and clarity. For instance, in grade span K–4, Colorado expects students to identify the distribution of population locally and around the world. Its curriculum covers different types of migration, elements of culture, and settlement patterns. Massachusetts does not cover these topics until grade 6. As a result, Colorado standards provide students with the opportunity to cover this material in greater breadth and depth in grade span 5–8, because they have received exposure to it in earlier grades. Moreover, Colorado also continues the standard past grade 6. The cognitive complexity of the benchmarks in grade span 9–12 is well beyond the expected level of instruction given to Massachusetts students.

The Colorado geography standards and Massachusetts standards both address the effects of the interaction between human and physical systems, as described in standard 5. Like standard 4, however, the Colorado standards have more depth, breadth, and rigor in the subcategory. The corresponding Massachusetts standards for understanding the effects of interactions between human and physical systems and the changes in meaning, use, distribution, and importance of resources are covered in grades 4 and 6. At grade 4, Massachusetts students are taught the major physical features and natural resources of the regions of the United States, Canada, and Mexico. At grade 6, two of the subtopics in the third standard for each region address the impact of major physical characteristics and natural resources on that specific region’s economic and demographic development. Several of the optional topics for each region also address the impact of a region’s natural resources and physical characteristics on its development. The Massachusetts MCAS standards provide little guidance as to how to approach the subcategory. The Colorado standard is much clearer about the expectations of the standard at each grade span. It also has greater breadth, depth, and rigor than the Massachusetts standards.

Standard 6 of the Colorado MCS for geography has no equivalent in the Massachusetts *Framework*. Understanding how geography shapes perceptions of the past, present, and future is not an essential geography skill in the Massachusetts standards.

Indiana

The articulation of the standards is different for Colorado and Indiana. Each state provides geography curriculum in Kindergarten and continues it through high school. Unlike Colorado, Indiana articulates its standards by grade level instead of grade spans from Kindergarten to grade 8. In high school, Indiana offers two courses in world geography. Colorado spirally repeats its six standards across grade spans. Indiana, on the other hand, has specific standards for each grade level. In grades K–8, geography is considered to be one social studies subtopic and is integrated with government, history, and economics.

In Indiana in Kindergarten, students learn basic geography skills, such as map reading, and understanding the geography of the local community. Grades 1 and 2 focus on building upon the skills learned in Kindergarten and applying them to understanding the geography of the local community and region. Grade 3 expands on the geography skills learned in earlier grades with emphasis placed on understanding the geography of Indiana and the Midwest region. Students also begin to learn about the relationship between humans and their physical environment. Grade 4 continues to expand on skills developed at earlier grade levels with emphasis placed on understanding the human and physical geography of Indiana.

Grade 5 builds on skills developed in earlier grades with emphasis placed on learning the geography of the United States. Significant effort is made to teach the historical geography of the United States. Grade 6 builds on the skills developed in earlier grades with emphasis placed on learning the geography of Europe and the Americas. Geographic skills learned at grade 6 begin to stress basic reasoning. Grade 7 builds on the skills developed in earlier grades with emphasis placed on learning the geography of Africa, the Middle East, Asia, and the Southwest Pacific. Geographic skills stress basic reasoning. Grade 8 focuses on the geography of the United States and builds on the skills developed in earlier grades. Emphasis is placed on historical geography.

High School World Geography focuses on modern world geography. Emphasis is placed on developing complex reasoning skills to understand geographic information and concepts (e.g., assess the growing worldwide impact of tourism and recreation and explain the economic, social and political effects of these activities). High School Geography and History of the World focuses on the relationship between geography and history. Emphasis is placed on looking at world history through the framework of ten geographic themes. Emphasis is placed on complex reasoning.

Even though Colorado articulates its standards by grade span and Indiana articulates its standards by grade level, the two states cover most of the same geographic concepts at the same grade spans. The notable exception is Colorado standard 6, which is not covered in the Indiana standards at any grade span. Each state also spirally organizes its standards about geographic thinking skills, increasing the cognitive complexity across grade spans. Indiana also has repetition in its geography content at different grade spans. Grade 5 and grade 8 cover United States geography. Grades 6 and 7 and high school cover world geography.

Colorado and Indiana have a hierarchy of standards that is mainly different. Each organizes its curriculum around basic geographic concepts. Colorado refers to them as standards. Indiana treats them as subtopics of the geography standard. In K–8, the subtopics are: (1) the world in spatial terms, (2) places and regions, (3) physical systems, (4) human systems, and (5) environment and society. However, there are important differences. At grade levels K–8, all of Indiana’s academic standards for social studies are organized together around four content areas: history, civics and government, geography, and economics. Geography is known as standard 3. Within the subtopics appear specific numerically coded indicators that explain the breadth and depth of specific geographic concepts or content. For instance, 8.3.4 states: Name and describe processes that build up the land and processes that erode it and identify place these occur. Many of the indicators are accompanied by examples.

The high school world geography course follows the same organizational structure, although the five geographic subtopics are referred to as standards. The high school geography and history of the world course is divided into 10 standards, each representing a specific geographic theme. Within each standard appear coded indicators.

The design and format of the standards is also different. Indiana presents its geography standards in separate documents for each grade level. For K–8, the geography standards are presented with other social studies standards, because geography is presented within the broader context of social studies. Each document at K–8 has a brief one-page overview that explains the goals of the social studies course and outlines the broad content area standard. Afterwards, each content area standard and its indicators are listed. Similar to the K–8 documents, each high school geography course is presented as a separate document. There is a brief one-page overview of the goals of the course and the standards are outlined. Afterward, each standard and its indicators are listed. None of the documents has accompanying glossaries, reference materials, or appendices. The Indiana academic standards range in length from 4 to 21 pages. Altogether they are 114 pages. This figure includes the other social studies subjects in the K–8 documents.

In terms of content, of all of the referents Indiana’s standard is most similar to Colorado. They cover most of the some geographic themes, concepts, and content. Across the standards, the main difference between the Colorado and Indiana standards is that the Colorado standards have more breadth and depth of content, covering more material and in greater detail than the Indiana standards. The Indiana standards, however, are more explicit about the specific content that should be taught.

The Indiana *World in Spatial Terms* category aligns to standard 1 of the Colorado MCS for geography. Each state requires an understanding of how to use geographic tools, such as maps and globes, for understanding geographic concepts. Each requires students to learn how to locate places and regions using maps. Each requires basic knowledge of geographic vocabulary. The major difference between the two sets of standards is that Colorado has more breadth of coverage. For instance, at grade span 5–8, the corresponding Indiana grade-level standards mainly require students to locate specific

places on maps and know how to use lines of longitude and latitude. Colorado, however, requires students to explain the characteristics and purposes of different types of maps and map projections. Students are also expected to create maps globes and charts. Moreover, at grade span 5–8, the Colorado MCS place more emphasis on students learning about spatial organization of people, places, and environment (benchmark 1.3). Indiana, however, explicitly requires students to work with GPS devices in the grade span. It also requires students to learn about lines of longitude and latitude at grade 4. Colorado requires it in grade span 5–8.

The Indiana *Places and Regions* category aligns to standard 2 of the Colorado MCS for geography. Both Colorado and Indiana require students to know the physical and human characteristics that define regions. Indiana is explicit about which regions should be studied at which grade levels. Colorado is more systematic in treating the concept of region as a concept for analyzing human and physical geography of regions. It begins this approach much earlier than Indiana. Indiana does not require students to explain how the concept is used as a way to categorize geography until the world geography course in history. In the lower grades, Indiana students only need to locate major physical and human features within regions of the United States and world. As a result, Colorado students also learn to explain how and why regions change at an earlier level. The Colorado MCS address how culture affects people’s perceptions of regions at an earlier grade span as well.

The Indiana *Physical Systems* category aligns to standard 3 of the Colorado MCS for geography. Both Colorado and Indiana require students to know how physical systems shape the Earth. Both Colorado and Indiana require teaching Earth-Sun relationships as well as basic climate and physical features at K–4. Indiana has greater breadth of content in the standard. It requires learning about the terms lithosphere, hydrosphere, and biosphere at grade 4. Colorado does not require them to be taught until grade span 9–12. Indiana also requires students to learn about currents and erosion. Colorado does not list the terms in its standards. Indiana also is more explicit about the geography content that should be studied to illustrate the concept at each grade span. Colorado is more systematic in teaching the concept at each grade span. The standard is organized around the two benchmarks to be used as an analytical device.

The Indiana *Human Systems* category aligns to standard 4 of the Colorado MCS. Both Colorado and Indiana require students to understand how economic, political, cultural, and social processes interact to shape human geography. The main difference between the two states is that Indiana links many of the cultural, economic, and migration concepts to the historical development of United States regions and world societies. The Colorado MCS are more ahistorical in their treatment of the standards. The Indiana high school world geography course also covers this standard in greater depth and breadth than the Colorado MCS.

The Indiana *Environment and Society* category aligns to standard 5 of the Colorado MCS. Both Colorado and Indiana require students to understand how physical and human geography affect one another. They cover very similar content and concepts in the

subcategory. For example, each requires knowledge of natural resources at K–4. Each requires knowledge of how the environment shapes human activity at K–4; and each requires students to understand that humans modify the environment at K–4. Particularly in grade span 5–8, Indiana focuses on historical examples of the concepts, so that they can be integrated with the history curriculum. The Colorado standards are more ahistorical in their emphasis. Indiana also encourages problem-solving of environmental issues at K–4 and high school. Colorado does not except for recycling. Instead, Colorado discusses evaluating different programs and policies that affect the environment.

Standard 6 of the Colorado MCS does not align to the Indiana standards. Indiana does not cover the concept of how geography affects people’s perspectives of the past or future in any significant way, except as a subtopic in the high school course Geography and History of the World.

Both Colorado and Indiana use strong action verbs to indicate the cognitive level of instruction of geographic concepts. Each also provides examples to illustrate some of the geographic concepts. Indiana is more clear about the specific content that should be covered to discuss the geographic concepts, particularly as they apply to the United States and world history instruction in grade span 5–8.

Finland

There are similarities and differences in the grade articulation for Colorado and Finland. Each presents its standards by grade spans. Finland has grade span standards for 5–6, 7–9, and upper secondary. Finland, however, does not provide geography curriculum at grade span K–4. Moreover, after completing their basic education (grade level 1–9), Finnish students are placed in one of two tracks to continue their education at the upper secondary level. The first track prepares students for university instruction. The second track prepares students for vocational training and polytechnic institutes. Students on the vocational training track do not receive additional instruction in geography after grade 9. As a result of the two-track educational system, not all Finnish students receive instruction in the same geographic standards. Thus, many students in Finland are not exposed to the broadest and deepest content, which should be noted when making comparisons with Colorado’s standards.

At grade span 5–6, Finland integrates geography with biology in its curriculum. It also covers Finnish, European, and world geography. In grade span 7–9, geography is taught as a separate course from biology. Students continue to study Finnish, European, and world geography. In the upper secondary level, Finland offers compulsory and specialized geography courses. The compulsory courses are *The Blue Planet* and *A Common World*. The specialized courses are *A World of Hazards* and *Regional Studies*.

Unlike the Colorado standards, a systematic spiral approach of the standards is not evident in the Finnish curriculum. There is, however, a repetition of concepts and content in the Finnish standards among grade spans. Finnish and European geography are taught at all three grade spans, which suggests that the cognitive complexity of instruction

increases across the grade levels. Also, unlike Colorado, Finland does not gradually increase students' understanding across grade spans from the local to the national and world levels. Local, national, and world levels are combined in instruction at grade span 5–6.

The hierarchy of standards for Colorado and Finland is different. In contrast to the six Colorado standards that apply across grade spans, Finland organized its geography curriculum by listing distinct objectives for each grade span and upper secondary courses (e.g., Grade span 5–6: The pupils will familiarize themselves with Europe's geography and the world's other regions and learn to appreciate and take a positive attitude towards other countries and their peoples and cultures). These objectives are most similar to the Colorado standards. They reference broad geographic concepts and suggest cognitive level of instruction. The objectives are followed by a list of core content that is organized by broad geography themes (e.g., grade span 5–6: Europe as part of the world). Subordinate to these themes are bulleted topics (e.g., grade 5–6 Europe's climate zones, vegetation zones, and human activity). At the end of each grade span, there is also a description of good performance, indicating what the students should have accomplished (e.g., grade span 5–6: The pupils will know, generally, Europe's states and their capitals, and be able to describe the variation of natural conditions and human activity). These performance descriptors reinforce the intent of the grade span objectives. The upper secondary geography curriculum also has an overarching set of objectives that cover all of the courses and a separate set of objectives for each course.

The format and design of the Colorado MCS document and the Finnish geography standards documents have similarities and differences. The Colorado standards are a distinct document created for teachers. The Finnish standards are part of a larger *National Core Curriculum* document. Nevertheless, each set of documents is short. The Colorado standards document is 35 pages; the Finnish standards documents combined for 14 pages. Like the Colorado standards, the Finnish standards also do not provide teachers with reference appendices or additional teaching materials to aid instruction.

In terms of content, Colorado and Finland are more different than similar. They cover much of the same geographic content and concepts. Colorado, however, is much more systematic and analytical in its treatment of the standards. Colorado expects students to master geographic concepts and principles so that they may use them to analyze geographic issues. As a result, the Colorado standards have more depth, breadth, and rigor than the Finnish geography standards.

Both Colorado and Finland expect students to have an understanding of how to use and construct maps, globes, and other geographic tools to understand geographic concepts. Like Colorado, Finland requires students to work with geographic tools at each grade span. Moreover, the Finnish upper secondary specialization geography course, *Regional Studies*, is devoted primarily to learning how to use a wide range of geographic tools to study the geography of a region as a class research project. Both sets of standards also expect students to learn basic geographic vocabulary, to understand methods of location, and to appreciate spatial organization in geography. However, there is no indication in

the Finnish grade span 5–6 standards that students should be able to explain the characteristics and purposes of different types of maps. Similarly, there is no indication that Finnish students work with mental mapping principles.

Both Colorado and Finland cover similar geographic concepts in standard 2. Both Colorado and Finland require students to know the physical and human characteristics of places and regions. Finnish students study physical and human regions at every grade span. The upper secondary specialization course, *Regional Studies*, is devoted to the topic. At grade span 5–8, both Colorado and Finland require students to be able to locate major countries and cities on maps. They address regions of their countries and the world. They have standards covering physical characteristics of regions, such as climate and topographical features. They also have standards about the relationship between culture and people’s perception of places. Nevertheless, standard 2 of the Colorado MCS is more systematic and analytical in its treatment of the topic. It treats the concept as an analytical device that can be used to understand and classify geography. The Finnish standards require students to identify characteristics of regions and to appreciate differences between regions. The goal is for students to appreciate Finland’s relationship and Europe’s relationship to other regions in the world. In contrast, Colorado wants students to master the concept of region, not just recognize relationships among Colorado, the United States, and other world regions. It requires students to understand that there are different ways to classify regions, such as political, physical, and cultural characteristics. It also expects students to be able to use the classifications to recognize and explain changes in regions. In these regards, the Colorado standard has greater rigor and depth at each grade span.

Both Colorado and Finland cover similar geographic concepts in standard 3. Each requires students to understand how physical processes shape Earth’s physical geography. Each requires students to identify characteristics of physical systems and to understand how climate forces and physical systems interact. The Colorado standards, however, are more systematic in their approach across grade spans by increasing the cognitive complexity of the standards across grade spans. Colorado MCS address many of the concepts at earlier grade spans than Finland. For instance, Colorado students begin learning about physical systems, such as the water cycle and Earth-Sun relationships, in grade span K–4. The Finnish standards begin referring to the concepts in grade span 7–9 and the upper secondary level, respectively. Finland, however, integrates the geography and biology curricula at grade span 5–6. This approach supports more comprehensive instruction in understanding the environment. Students are required to learn about the environment through classification of flora and fauna. The Finnish grade span 5–6 standards also require students to learn about the importance of biodiversity. Moreover, at the upper secondary level, Finland requires a compulsory course, *The Blue Planet*, that is strictly devoted to this standard. It has more breadth and depth than the corresponding Colorado 9–12 grade span standards.

Both Colorado and Finland cover similar geographic topics in standard 4. Each requires students to understand how economic, political, cultural, and social processes shape patterns of human activity. The compulsory upper secondary level course, *A Common*

World, covers this subcategory in great detail. Each places great importance on learning about cultural patterns and relationships at each grade span. Nevertheless, the Colorado MCS are more rigorous in describing the geographic theme of the subcategory. Colorado is much more methodical in separating each topic into a separate benchmark across grade spans. For instance, the Colorado MCS address population characteristics and population distributions in grade span K–4. Finland begins in grade span 7–9. The Colorado MCS also begin to cover understanding patterns and networks of economic interdependence at grade span K–4. Finland begins only in grade span 7–9. The breadth of Colorado MCS in economic geography is also broader at the lower grade spans, addressing resource distribution and trade patterns. The Finnish standards refer mainly to business activity. Colorado is much more explicit in addressing migration and settlement patterns as geographic concepts. Finland vaguely refers to human activities.

Both Colorado and Finland cover the topics covered in standard 5. Each requires students to understand the effects of human interactions with the environment. This is a major theme of the Finnish curriculum, and is begun in grade span 5–6. It also offers a specialization course at the upper secondary level, *A World of Hazards*, which focuses on this subcategory. Although the Finnish standards address both how humans impact the environment and how the environment shapes human activity, emphasis is placed on students recognizing that human activities negatively affect the environment. Students are encouraged to have an appreciation for the environment and to be environmentally responsible. The Colorado standards are much more neutral in this regard. For instance, at grade span 9–12 students are taught to explain “possible global effects of human modification of the physical environment.” In contrast, Finland’s *A World of Hazards* course requires student to “understand that human activity affects the viability of the globe and the safety and well-being of people.” The Colorado standards, however, are more systematic and rigorous at grade span 5–8. The Finnish standards mainly require students to recognize that humans and the environment impact each other at this grade level. The Colorado MCS categorize these relationships and use them as analytical devices for understanding relationships.

Both Colorado and Finland address the topics in standard 6. Finland, however, addresses the standard only in the compulsory course, *A Common World*, at the upper secondary level. At every grade span, the Colorado MCS cover the subcategory in greater breadth, depth, and rigor than the Finnish standards.

Colorado and Finland are different in their use of action verbs to inform instruction in each standard. Colorado uses specific action verbs to suggest the cognitive level of instruction for students (e.g., describe, explain, analyze). Finland uses very general action verbs in the objectives to suggest cognitive level instruction (learn, come to understand, know). The core content in the Finland geography curriculum contains no action verbs.

Singapore

There are some similarities in the articulation of the standards between Colorado and Singapore. For the most part, however, the standards articulation is different. Both Colorado and Singapore require the teaching of history in the K–4 grade span. Colorado begins at Kindergarten and Singapore starts at grade 1. At the Primary level (grade 1–6), Singapore integrates geography instruction with other social studies subjects. Geography instruction continues until grade span 9–12. In contrast to Colorado, Singapore organizes its standards into grade-level course syllabi and not by grade spans.

After Primary 6, Singapore students enter one of three instructional tracks at the secondary level.¹¹ They take the Secondary Express track or the Secondary Normal track to prepare for studies at universities or polytechnic institutes, or they enter Secondary Normal Technical track, which prepares them for vocational education and polytechnic institutes. Geography is taught as a distinct course in the Secondary Normal and Secondary Express tracks. The Secondary Normal and Secondary Express geography courses have very similar syllabi and cover most of the same geographic content. The Secondary Express courses, however, have more breadth of content in some areas. The Secondary Normal Technical courses follow the pattern of the Primary level courses and continue to integrate geography instruction with other social studies subjects. As a result, not all Singapore students receive instruction in the same geography standards after the Primary level. In the Secondary Normal and Secondary Express courses, students cover the breadth of world geography and geographic concepts. In the Secondary Normal Technical courses, students learn geography as it relates to Singapore. Thus, many students in Singapore are not exposed to the broadest and deepest content, which should be noted when making comparisons with Colorado’s standards.

Both Colorado and Singapore use similar approaches to broaden the students’ understanding of geography. They each focus on the neighborhood and local levels at grade span K–4 and shift focus to the national and world levels in grade spans 5–8. Like Colorado, Singapore encourages spiral instruction of concepts across the grade levels. There is very little repetition of content within and across the Primary and Secondary levels.

The hierarchy of standards for Colorado and Singapore is mostly different. For Singapore, each grade level has its own syllabus. The Singapore syllabi are organized by units and unit objectives. The Secondary Normal and Secondary Express courses are also organized by broad themes that encompass the units. Each unit is arranged by topics, content, and concepts. Accompanying the unit are three types of objectives: knowledge objectives, skills objectives, and attitudes and values objectives. Each objective lists specific goals that the students should reach for the unit. The Singapore standards are also more clearly delineated in scope of information. Teachers are given a prescribed syllabus for each level that permits very little deviation for instruction. Content and concept

¹¹ Singapore’s secondary curriculum includes Lower Secondary and Upper Secondary, each lasting two to three years. Only the Lower Secondary syllabi and Primary syllabi are available on Singapore’s website and are included in this review.

bullets for each unit are not intended as suggested examples. They are the key ideas that must be taught.

The main similarities between the two sets of standards appear in the aims and objectives section of the Singapore social studies and geography syllabi, as well as the learning outcome bullets of the Lower Secondary syllabi. They address some of the broad themes described in the Colorado MCS. The knowledge objectives are broadly written statements and refer to content (e.g., students should demonstrate knowledge of geographic concepts, terms, and facts). The skills objectives are also broadly written (e.g., students should be able to interpret maps, tables, graphs, photographs, and fieldwork data).

The design and format of the Colorado MCS for geography and the Singapore syllabi are mainly different. Colorado presents the standards for all the of the grade spans in one document. Singapore separates the syllabi for the Primary level, the Lower Secondary Normal/Express, and the Secondary Technical Normal into individual documents. Generally speaking, each document has an introduction, a section outlining the aims and objectives, a section on the amount of time that should be devoted to the subject each week, a section explaining the framework of the syllabus, a section of suggested teaching strategies, a section on assessment, and an outline of the course syllabus. The Primary level document is 19 pages; the Singapore Lower Secondary level document (Special/Express Course & Normal Academic Course) is 37 pages; and the Singapore Social Studies Lower Secondary Normal Technical level document is 17 pages.

In terms of content, Colorado and Singapore are more different than similar in the six subcategories. Qualitatively, the Colorado standards are generally more rigorous in standards 1, 2, and 3. The Singapore standards are more rigorous in standards 4 and 5. Singapore does not cover the geographic concepts in standard 6. Both Colorado and Singapore use a spiral instructional method to teach the standards across grade spans. Because the syllabi for the Upper Secondary and Junior Colleges are not available, it cannot be determined how well Singapore carries out its instruction at those grade levels.

There are similarities between Colorado and Singapore at standard 1, but the Colorado standards are more rigorous in this subcategory. Both Colorado and Singapore require students to learn how to use geographic tools, such as maps, globes, and charts at grade spans K–4 and 5–8. Each also requires students to have a geographic understanding of communities. The Singapore Primary Grade level syllabus requires very little understanding of geographic tools beyond basic map reading. Students are not required to draw maps or understand grid coordinates on a map. Moreover, the Colorado standards place more emphasis on students knowing the location of countries, major cities, and major physical features at both grade spans. The Singapore Primary level does not specify locating places on a map as a required skill. They are only taught the location of Singapore in the world. Although the Lower Secondary Express course requires students to be able to identify the location of major cities and countries, the Lower Secondary Normal course does not. Neither does the Lower Secondary Technical course.

There are similarities between Colorado and Singapore in standard 2, but the Colorado standards are more rigorous in this subcategory. Both Colorado and Singapore expect students to know the physical and human characteristics of places. At the Primary level, Singapore students are expected to identify important cultural sites in Singapore. At the Lower Secondary level, students are expected to know the physical and human characteristics of places around the world. They are also expected to distinguish between physical and human characteristics of areas. Colorado, however, is much more rigorous in its cognitive complexity of the concept of region. The Colorado standards require students in grade spans K–4 and 5–8 to understand that region is a concept that is used to categorize and analyze the geography of places. It requires students to explain why regions are different and how they change. It also requires students to explain how regions interact with each other. Singapore mainly focuses on the identification of characteristics of regions.

There are similarities between Colorado and Singapore in standard 3, but the Colorado standards are more rigorous in this subcategory. Colorado begins instruction in the subcategory at grade span K–4. The Singapore Primary and Lower Secondary Technical syllabi do not address the standard as a significant theme. The Colorado MCS and Singapore Lower Secondary syllabi cover physical geography as a geography theme. The Lower Secondary syllabi are more detailed about the specific concepts and content should be taught. Nevertheless, each set of standards is analytical in its treatment of the standard.

There are similarities between Colorado and Singapore in standard 4. The Singapore syllabi are more rigorous in this subcategory. Each set of standards covers human geography as a geography theme at grade spans K–4 and 5–8. The Colorado standards are broader in their conceptualization of the standard at grade span K–4. The Singapore Primary level syllabi mainly focus on human geography as it pertains to Singapore. The Colorado standards look at a wider range of topics. The Singapore Lower Secondary Normal Technical syllabi do not cover this standard in much detail. The Colorado MCS and Lower Secondary Normal and Express syllabi cover similar material. Each covers cultural and economic geography, demographics, migration patterns, and settlement patterns. The Colorado MCS emphasize the importance of cultural geography more than the Singapore Lower Secondary Normal and Express syllabi. The Lower Secondary Normal and Express syllabi, however, have more depth and breadth of coverage of material than the Colorado standards. Moreover, all of the Singapore syllabi integrate ethics and values in this standard.

There are similarities between Colorado and Singapore in standard 5. Each set of standards addresses the relationship between human activity and the environment. The Singapore syllabi, however, are more rigorous in this subcategory. The Singapore syllabi place greater emphasis than the Colorado standards on understanding the relationship between humans and the environment. At each grade span, they stress the importance of land scarcity and the consequences of human activities on the environment. The Singapore Lower Secondary syllabi are more concrete in their application of the concepts than the Colorado MCS. The Lower Secondary syllabi also have greater depth in

instruction. Moreover, all of the Singapore syllabi integrate ethics and values in this standard.

Standard 6 of the Colorado MCS does not align to the Singapore standards. Singapore does not cover the concept of how geography affects people's perspectives of the past or future in the Primary or Lower Secondary levels.

The Colorado MCS is more rigorous in directing instruction through its use of action verbs. Similar to the Colorado MCS, the Singapore Secondary Level syllabi use specific action verbs in the learning outcomes of each unit to indicate the cognitive level of instruction (e.g., describe, explain, identify). Colorado MCS for grade span K–4 use specific action verbs to suggest the cognitive level of instruction for students. The Singapore Primary level syllabus uses only broad action verbs in its objectives (e.g., Primary 2 knowledge objective: pupils will be able to understand that people, places, and things change over time).

Review of Colorado’s Geography Standards for 21st Century Skills and Abilities and Postsecondary and Workforce Readiness

As described in the Methodology section of this report, analysts analyzed Colorado’s draft 21st Century Learning Skills and Abilities (21st Century Skills) and definition of Postsecondary and Workforce Readiness (PWR Skills) to determine the degree to which Colorado’s MCS contain the skills described in those draft documents. Findings from those analyses are presented below.

Geography Model Content Standards and the 21st Century Skills and Abilities

Critical thinking and reasoning

Critical thinking and reasoning skills are evident across the standards and the grade spans. Action verbs such as “explain,” “analyze,” and “compare” demonstrate critical thinking and reasoning skills. The cognitive complexity of each standard and benchmark increases across grade spans. Only standard 2 at grade span K–4 is rated as Partially, because it focuses on identifying and describing human and physical characteristics.

Information literacy

All of the standards and grade spans are rated as Fully for information literacy. The focus of the Colorado MCS on acquisition and development of skills provides students with many opportunities to become fluent in information literacy.

Collaboration

The Colorado MCS indicate little or no opportunity for students to develop skills that emphasize collaboration. The standards could be revised to adopt language that emphasizes collaboration (e.g., working together, cooperating). In addition, bullets could be added to the benchmarks under the standards to indicate explicitly the type of tasks students should be expected to perform that would enable them to develop collaboration skills.

Self-Direction

Only standard 1 is rated as Fully for self-direction. Across grade spans, the other standards are rated as Partially. The standards could be revised to adopt language that emphasizes self-direction (e.g., researching, choosing, creating, planning, organizing). In addition, bullets could be added to the benchmarks under the standards to indicate explicitly the type of tasks the students should be expected to perform that would enable them to develop work initiative skills.

Invention

All of the standards and grade spans are rated as Fully for invention. The Colorado MCS provide many opportunities to students across grade spans to be creative in their understanding of geography.

Geography Model Content Standards and the Postsecondary and Workforce Readiness Skills

Application of reading, writing, and computing skills with minimal remediation

The Colorado MCS provide many opportunities for students to develop their reading, writing, and computing skills across the standards, but they presently are not explicitly stated in the standards.

Logical reasoning and argumentation

The Colorado MCS provide many opportunities for students to develop reasoning and argumentation abilities across the standards, but they presently are not explicitly stated in the standards.

Problem-solving skills

The Colorado MCS could stress problem-solving and coming up with solutions to problems. Particularly in standards 1 and 5, bullets could be added to the benchmarks to stress problem-solving and solutions.

Information management skills

Information management skills are most explicit in standard 1.

Human relation skills

The Colorado MCS standards do not match the PWR human relation skill.

Analysis and interpretation skills

The Colorado MCS provide many opportunities for students to develop their analytical and interpretation skills, but they presently are not explicitly stated in the standards.

Recommendations

This section contains specific recommendations from the WestEd reviews, organized by the components of the analysis.

Internal Quality Review of Colorado's Geography Model Content Standards

The CDE may want to consider implementing the following recommendations, where appropriate:

- Keep the content of the six standards as part of the Colorado MCS for geography.
- Continue to encourage spiral presentation in the six standards. The spiral approach is effective for instruction.
- Shift away from grade span standards and create grade-level standards. It would help refine the cognitive complexity of instruction at each grade level. Currently, the grade span standards imply that students at each level of the grade span have the same analytical skills and can understand the geographic concepts equally.
- Provide more examples to illustrate the concepts across the standards and grade spans.
- Update standard 1 to include contemporary geographic tools, such as the Internet, satellite images, and GPS devices.
- Indicate in benchmark 2.2 at grade span 5–8 the types of regions that may be studied.
- Reduce the cognitive complexity of benchmark 3.1 in grade span K–4 (e.g., change the action verb to identify or describe). Requiring students to explain how Earth-Sun relationships shape climate and vegetation patterns is possibly above most of their cognitive skill levels in this grade span.
- Reduce the cognitive complexity of benchmark 6.2 in grade span K–4. Requiring students to describe issues in communities from a spatial perspective is above the cognitive skills of most students in this grade span.
- Provide to teachers a list of important physical and human features for world geography that all students should know at grade span 5–8 for benchmark 1.2.
- Reduce the amount of content in standard 3 in grade span K–4. There may be too much content at this grade level, some of which is covered in corresponding science courses.
- Eliminate the second bullet of benchmark 1.2 in the 9–12 grade span. This material is covered in the lower grade spans.
- Eliminate the first bullet of benchmark 3.1 in the 9–12 grade span.

External Referent Review for Geography

Based on the external referent review, the CDE may want to consider the following recommendations:

- Include useful reference appendices and teaching guides to the standards to aid instruction at each grade span.
- Integrate geography more coherently with other social studies subjects at the lower grade levels to aid instruction.
- Be more explicit about geographic content that can be tied to the geographic concepts and themes.
- Be more explicit about the relationship between human activities and the environment (e.g., the causes and effects of global climate change).

Suggestions for consideration of additional external referents

The Kansas Curricular Standards for Geography are very informative. They cover most of the same geography concepts as the Colorado MCS and provide grade-level standards for geography. Kansas also organizes its standards by benchmarks and indicators. In the Kansas standards, however, geography is integrated with other social studies subjects. Moreover, the Kansas standards provide instructional strategies for many of the benchmarks and indicators.

Recommendations from the Review of 21st Century Skills and Abilities and Postsecondary and Workforce Readiness

Because of the interconnectedness of the findings and recommendations related to the 21st Century Skills and Abilities and Postsecondary and Workforce Readiness definition, recommendations related to the 21st Century and PWR skills are presented together in the Findings section of this report.

III-D. History Findings and Recommendations

This section contains findings and recommendations related to the internal quality review, the external referent reviews, and the review of 21st Century Skills and PWR Skills. Detailed review criteria can be found in the Methodology section of this report. A brief description of the criteria and guiding questions also are provided here for convenience.

Internal Quality Review

As described in the Methodology section of this report, the Colorado MCS were reviewed for their quality according to four criteria: depth, coherence, rigor, and breadth. The scale used for evaluating each criterion was as follows: Fully (F), Partially (P), No (N), or Insufficient Information (I). Findings from these analyses are presented below.

Depth

Ratings for depth are assigned based on the questions below.

- Do the benchmarks describe content of sufficient and appropriate depth in the standard *within each grade span*? (For example, is the depth of content of the standard appropriate for a school year?)
- Do the benchmarks describe content of sufficient and appropriate depth in the standard *across grade spans*?

The table below shows the ratings for depth in the History standards, reported for each standard at each grade span, as well as across grade spans. The across-grade-span ratings are holistic ratings of the depth of the standards in K–12.

Table 25. Ratings for Depth in the History MCS

| Standard | K–4 | 5–8 | 9–12 | Across Grade Spans |
|----------|-----|-----|------|--------------------|
| 1 | F | F | F | F |
| 2 | F | F | F | F |
| 3 | P | P | P | P |
| 4 | P | P | F | P |
| 5 | F | P | F | F |
| 6 | F | P | P | P |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

Standards 1 and 2 involve the mastery of historical skills and methodologies. Standards 3 through 6 involve the mastery of historical thematic concepts. As Table 25 shows, standards 1 and 2 are rated Fully for depth within and across grade spans. The understanding of chronological organization and historical inquiry is covered at an appropriate depth at each grade span for students to master the skills in preparation for the next grade span.

Standard 3 is rated as Partially at each grade span and across grade spans. Standard 3 requires students to understand that societies are diverse and change over time. Across grade spans, the standard requires greater depth in developing the concept. In grade span K–4, the standard does not specify that students should be able to define the concept *culture* or know what its elements are. The depth of benchmark 3.1 would be appropriately increased with greater detail, specifying the cultural contributions of various ethnic groups and Benchmark 3.2 could indicate what are the “important components of the cultural heritage of the United States.” Grade span 5–8 also does not sufficiently indicate what historical content should be addressed. For example, benchmark 3.1 could elaborate on what are the “common traits and characteristics that unite the United States.” Benchmark 3.2 could indicate which historical civilizations and cultures should be covered. The benchmark could also be more explicit in its use of the concept *civilization*, and explain that it is part of the transition of hunter-gather communities into ancient societies. In grade span 9–12, benchmark 3.1 provides useful examples of cultural interaction and exchange, but it could be improved by addressing *cultural assimilation*, *cultural adaptation*, and *cultural resistance* as mechanisms of cultural development.

Standard 4 is rated as Partially in grade spans K–4 and 5–8 and Partially across grade spans. In grade span 9–12, it is rated as Fully. The impact of science, technology, and economics on the historical development of societies are important thematic concepts. Across grade spans, the standard could provide greater depth by indicating the historical context to which the standard applies. Grade spans K–4 and 5–8 do not sufficiently point out which societies or time periods should be used to illustrate the standard. For example, at grade span 5–8, benchmark 4.2 refers to “various regions of the world” but makes no indication of which historical contexts of world history should be addressed (e.g., the Silk Road, medieval Europe, Columbian exchange). It also does not indicate which economic factors should be covered (e.g., supply and demand, scarcity, barriers to trade).

Standard 5 is rated as Fully across grade spans. Only grade span 5–8 is rated as Partially. The standard requires students to understand how political institutions and theories have changed over time, and identifies many of them. However, it does not adequately explain how the political institutions and theories apply to specific historical time periods. Without application of the concepts to historical contexts, it is difficult to see how they develop over time.

Standard 6 is rated as Partially across grade spans. Only grade span K–4 is rated as Fully. The standard requires students to know that religious and philosophical ideas have an impact on the historical development of societies, but there is little application of the ideas to specific historical time periods or societies. It is difficult to understand how religious and philosophical ideas shape history when historical contexts are not provided. For instance, benchmark 6.1 for grade span 5–8 could discuss how monotheism shaped the Roman Empire. At grade span 9–12, the impact of secularism on the modern world could be addressed.

Coherence

Ratings for coherence are assigned based on the questions below.

- Are the benchmarks for each standard sequenced appropriately across grade spans? (For example, do they scale or spiral appropriately across grade spans?)
- Do the benchmarks begin and end at appropriate points in the content?

The tables below show the ratings for coherence in the History standards, reported as appropriate sequence across grade spans, and as appropriate beginning and endpoints for each standard at each grade span, as well as across grade spans.

Table 26. Ratings for Coherence in the History MCS

| Standard | Appropriate Sequence Across Grade Spans |
|-----------------|--|
| 1 | F |
| 2 | F |
| 3 | P |
| 4 | F |
| 5 | F |
| 6 | F |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

Table 27. Ratings for Coherence in the History MCS

| Standard | Appropriate Beginning and Endpoints | | | Across Grade Spans |
|-----------------|--|------------|-------------|---------------------------|
| | K–4 | 5–8 | 9–12 | |
| 1 | F | F | F | F |
| 2 | F | F | F | F |
| 3 | F | P | P | P |
| 4 | F | F | F | F |
| 5 | F | F | F | F |
| 6 | F | F | F | F |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

As Tables 26 and 27 show, all of the Colorado MCS history standards are rated as having full coherence across grade spans, except for standard 3. The other standards spiral appropriately across grade spans, increasing in cognitive complexity as the grade levels progress. It should be stressed that the coherence refers to the appropriate sequencing of the historical themes and skills described in the standards and not any specific historical time periods. The historical skills standards 1 (chronological organization) and 2 (historical inquiry) are increasingly more complex with each grade span, as are the thematic standards 4 (science, technology, economics), 5 (political institutions and theories), and 6 (religious and philosophical ideas). As they increase in complexity, they have clear beginning and endpoints at each grade span.

Standard 3 (societies and culture) lacks clear distinction in cognitive complexity between grade spans 5–8 and 9–12. Benchmark 3.1 for grade spans 5–8 and 9–12 uses nearly identical phrasing to understand relationships between different cultures. For instance, grade span 5–8 reads as “Describing the history, interactions, and contributions of the various peoples and cultures that have lived in or migrated, immigrated, or were brought to the Western Hemisphere.” Grade span 9–12 reads as “describing the interactions and contributions of the various peoples and cultures that have lived in or migrated, immigrated, or were brought to the area that is now the United States . . .” As a result, the benchmark is nearly identical at each grade span. Benchmark 3.2 is also very similar between the two grade spans. Greater complexity would be appropriate at grade span 9–12.

Rigor

Ratings for rigor are assigned based on the questions below.

- Do the benchmarks describe content and skill expectations of a reasonable and appropriate level for this grade span?
- Do the standards and benchmarks communicate an appropriate level of rigor?

The table below shows the ratings for rigor in the History standards, reported for each standard at each grade span, as well as across grade spans.

Table 28. Ratings for Rigor in the History MCS

| Standard | K–4 | 5–8 | 9–12 | Across Grade Spans |
|-----------------|------------|------------|-------------|---------------------------|
| 1 | F | F | F | F |
| 2 | F | F | F | F |
| 3 | F | F | P | F |
| 4 | F | F | F | F |
| 5 | F | F | F | F |
| 6 | F | F | F | F |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

As Table 28 shows, all of the standards are rated as Fully across grade spans and at each grade level, except for standard 3 at grade span 9–12. The rigor of standard 3 at this grade span is very similar to that of grade span 5–8. The treatment of culture could be conceptually more rigorous. For this standard, more rigorous content could include *cultural exchange*, *cultural assimilation*, *cultural adaptation*, and *cultural rejection*. The first bullet of benchmark 4.3 for grade span K–4 may be too abstract and idiomatic for the grade span, particularly for ELL students.

Breadth

Ratings for breadth are assigned based on the questions below, each of which is reported in a separate table.

- Do the benchmarks describe sufficient and appropriate breadth of content across standards *within each grade span*?
- Do the benchmarks contain the essential content for this subject *within and across grade spans*?
- Are the benchmarks free from extraneous content *within and across grade spans*? If not, what content is extraneous?

Each of the three aspects of breadth examined is reported in a separate table in order to distinguish between essential and extraneous content.

Breadth represents the sufficiency of content across the standards. The table below shows the ratings for overall breadth *across* the History standards within each grade span and across grade spans.

Table 29. Ratings for Overall Breadth in the History MCS

| Grade Span | Across Standards |
|---------------------------|-------------------------|
| K–4 | P |
| 5–8 | I |
| 9–12 | I |
| Across Grade Spans | I |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

As Table 29 shows, none of grade spans are rated as Fully for overall breadth across the standards. Across all grade spans, the Colorado history MCS are awarded a rating of Insufficient Information. The six standards focus on historical themes rather than historical content, a structure that allows teachers to determine the content that should be taught for each standard. Thus, strictly on the basis of content, a No rating might be in order. This, however, would be a misinterpretation of the intention of the history MCS. As a result, a rating of Insufficient Information is more appropriate, because there is insufficient historical context and content to illustrate the historical concepts and skills in the six standards. It is not clear which time periods or societies should be taught at each grade span. Grade span K–4 is rated as Partially, because it indicates that local, state, and United States history should be taught. Even so, the benchmarks could do more to suggest what history should be taught. The MCS standards imply that the entirety of United States history and world history should be taught in both grade span 5–8 and grade span 9–12. Yet, there is no suggestion how these tasks would be accomplished at either grade span. Specific historical themes (e.g., the rise of river valley civilizations, westward expansion in the United States) are not suggested at grade span 5–8. They are at grade span 9–12 under benchmark 1.1, but even this list is insufficient. Across grade spans there is inadequate guidance as to how the 6 standards should be integrated

effectively into the teaching of U.S. and world history. As a result, there is insufficient information to determine if the overall breadth of the standards is appropriate.

The table below shows the breadth ratings for essential content in the History standards, reported for each standard at each grade span, as well as across grade spans.

Table 30. Ratings for Breadth—Essential Content in the History MCS

| Grade Span | 1 | 2 | 3 | 4 | 5 | 6 | Across Standards |
|---------------------------|----------|----------|----------|----------|----------|----------|-------------------------|
| K–4 | I | F | F | F | P | F | P |
| 5–8 | I | F | I | I | I | I | I |
| 9–12 | F | F | P | P | I | I | I |
| Across Grade Spans | I | F | I | I | I | I | I |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

As Table 30 shows, across grade spans, standards 2 is rated as Fully. As skills-based standard, it contains the essential information necessary for instruction across grade spans. Standard 1 is rated as Insufficient Information across the standards, because grade spans K–4 and 5–8 do not have enough information to determine appropriate chronological organization. Standards 3, 4, 5, and 6 are rated as Insufficient Information, because they do not indicate adequately what historical contexts or historical content should be used for instruction. The historical themes of the Colorado MCS standards are important for understanding history, but they do not suggest which societies, time periods, or specific historical chronological themes (e.g., the Renaissance) should be studied to understand the themes. Teachers are not guided on how to organize the standards into classroom instruction. As a result, it is difficult to determine the expected breadth of historical content taught in each standard.

Within grade spans and across standards, K–4 is rated as Partially. Across standards, 5–8 and 9–12 are rated as Insufficient Information. Grade span K–4 is rated as Partially, because the level of historical instruction at that grade span is less detailed than at other grade spans. Standard 1 would benefit from indicating which specific periods of Colorado history should be taught (e.g., European exploration, westward expansion, industrialization). Similarly, grade span 5–8 would be improved if historical time periods for United States and world history were provided.

The table below shows the breadth ratings for freedom from extraneous content in the History standards, reported for each standard at each grade span, as well as across grade spans.

Table 31. Ratings for Breadth—Free of Extraneous Content in the History MCS

| Grade Span | 1 | 2 | 3 | 4 | 5 | 6 | Across Standards |
|---------------------------|----------|----------|----------|----------|----------|----------|-------------------------|
| K–4 | F | F | F | P | F | F | F |
| 5–8 | F | F | F | P | F | F | F |
| 9–12 | F | F | F | F | F | F | F |
| Across Grade Spans | F | F | F | F | F | F | F |

(F=Fully; P=Partially; N=No; I=Insufficient Information)

As Table 31 shows, the Colorado MCS history standards are free of extraneous content across grade spans. Only in standard 4 at grade spans K–4 and 5–8 is some of the content unnecessary. For grade span K–4, some of the examples in the third bullet of benchmark 4.1 are above grade span expectations (e.g., Johann Gutenberg and the printing press). Presumably, the world history examples would not be integrated into instruction at this grade span and would be introduced in later grade spans. For grade span 5–8, the first bullet of benchmark 4.2 is extraneous. It is covered in the Colorado MCS economics standards.

External Referent Review

As described in the Methodology section of this report, analysts reviewed four sets of content standards to serve as an external referent comparison with Colorado’s MCS in history. The following documents were used as external referent standards for the history review:

- Massachusetts History and Social Science Curriculum Framework (August 2003)
- Indiana’s Academic Standards, Geography and History of the World (October 2007)
- Indiana’s Academic Standards, World History and Civilization (October 2007)
- Indiana’s Academic Standards, United States History (October 2007)
- Indiana’s Academic Standards, Social Studies — K–8th Grade (October 2007)
- National Core Curriculum for Basic Education 2004, History (Finland)
- National Core Curriculum for Upper Secondary Schools 2003, History (Finland)
- History Syllabus Lower Secondary 2006 (Singapore)
- Social Studies Syllabus Primary 2006, Updated 2008 (Singapore)

These external referent standards were reviewed for two broad criteria, organization/structure and content. Each criterion contained several subcategories about which analysts recorded observations before determining a final overall holistic rating of mostly similar (Similar) or mostly different (Different). Findings from these analyses are presented below.

The table below summarizes the holistic external referent standards in comparison with Colorado’s MCS.

Table 32. Holistic Comparison Ratings for History External Referents

| Rating Category | Massachusetts | Indiana | Finland | Singapore |
|------------------------------------|----------------------|----------------|----------------|------------------|
| Organization/ Structure | Different | Different | Different | Different |
| Content | Different | Different | Different | Different |

The holistic ratings above reflect the analyst’s judgment that in all of the four external referent standards, there were more differences overall, in both organization/structure and content, than there were similarities with Colorado’s MCS. The analyses below highlight various similarities and differences between the MCS and pertinent categories in each referent’s documents. It is important to note that the referents have similarities and differences among one another, as well as with Colorado’s MCS. However, no one approach is intended to be presented as necessarily more or less effective than another. Differences in structure or content of a state or country’s standards may be qualitative, but may also be attributable to differences in history, purpose, and/or context. Thus, the implication is that a variety of approaches and combinations of approaches may be considered, should they be determined to be appropriate for Colorado.

Organization and Structure

As indicated in Table 8, the organization and structure of the Colorado MCS in history differ significantly from the organization and structure of the external referents, based on the categories of grade articulation, hierarchy of standards, number of standards, and the design/format of the document. Nevertheless, the external referents also differ from each other in these categories as well.

Grade Articulation

Colorado's standards are organized into three grade spans, K–4, 5–8, and 9–12, across which the standards are spirally presented. All of the referents are similar to Colorado in that their history curriculum focuses on the local or community level in the lower grades and shifts emphasis to the national and world level in upper grades. The grades at which those shifts occur are different for each referent. Only Finland organizes its standards by grade spans. The other external referents organize their history standards by grade level.

Massachusetts begins the history curriculum in kindergarten and continues to grade 10. A history course is offered to students at every grade level except grade 6. The history courses are organized chronologically between the grades, and there is little overlap of content between grade levels, although some historical thinking skills spiral across grade spans.

Indiana organizes its courses by grade level from kindergarten to grade 8. At high school, students are required to take specific courses in United States and world history, but are not required to take them at a prescribed grade level. There is very little overlap of content between grade levels, although the standards for historical thinking skills spiral across grade spans.

Finland is most similar to Colorado in its grade articulation. It organizes its standards by grade span. Finland has grade span standards for history at grades 5–6, grades 7–9, and the upper secondary level. Finland, however, does not have history standards at grade span K–4. In the general, upper secondary schools, students take compulsory and specialized history courses. There is no clear directive for spiraling between the grade spans, although students in the upper secondary courses revisit history content learned at the lower grades. At the upper secondary level, students are placed in one of two tracks to continue their education. They enter the general upper secondary schools that lead to university education, or they enter vocational upper secondary schools that lead to polytechnic institute education. In the general, upper secondary schools, students take compulsory and specialized history courses. As a result of the two-track educational system, the standards reviewed for the report are not used to instruct all students in Finland. Only those students on the university track receive instruction based on this set of standards. Thus, many students in Finland are not exposed to the broadest and deepest content, which should be noted when making comparisons with Colorado's standards.

Singapore divides the history curriculum into Primary, Lower Secondary, Upper Secondary, and the Junior Colleges/Centralised Institute grade spans. Within each grade span are prescribed course syllabi for each grade level. At the primary level, history is

integrated with other social studies subjects and is not considered a separate subject. At the secondary level, history is offered as a separate course. After completing their Primary level education, students enter one of three educational tracks to continue their education. They enter the Secondary Express Course, the Secondary Normal Course, or the Secondary Normal Technical Course. The Secondary Normal Technical Course prepares students for vocational education. History is integrated into grade-specific social studies syllabi and is not taught as a distinct subject.¹² Like Colorado, historical thinking skills standards spiral across grade spans. As a result of the three-track educational system, not all Singapore students receive instruction in the same history standards after the Primary level. Thus, many students in Singapore are not exposed to the broadest and deepest content, which should be noted when making comparisons with Colorado's standards.

Hierarchy and Number of Standards

The external referents have different standards hierarchies and a greater number of standards than Colorado. Colorado has six standards that are organized across grade spans. Within each standard are subordinate benchmarks that explain the curricular expectation for each grade span. There are 18 benchmarks. Below each benchmark are topic bullets. The topic bullets explain the intention of the benchmark at each grade span. At grade span K–4 there are 30 topic bullets; at grade span 5–8 there are 51 topic bullets; and at grade span 9–12 there are 67 topic bullets.

The referents are different in both the hierarchy and the number of standards. Massachusetts does not have strands, benchmarks, or indicators. It has standards, of which there are two types: concepts and skills, and content. The standards are enumerated for each grade level. They range in number from 5 standards at kindergarten to 48 in the high school World History I course. Separate from the standards are nine historical themes that teachers are encouraged to integrate into instruction at different grade levels. These historical themes are similar in purpose to the six Colorado MCS, but are not as detailed in scope.

Indiana treats history as one standard within its broader integrated social studies curriculum for grades K–8. For each grade level, the history standard has enumerated indicators that describe historical content or historical thinking skills. Starting at grade 4, the historical knowledge indicators are loosely organized chronologically and thematically by time periods. In the high school history courses, the curriculum is divided into broad chronologically organized historical themes, and subdivided further into indicators. The Indiana standards are different from the Colorado standards in that they are specific to each course and not broad historical themes that can be applied to any time period or society. The indicators range in number from 5 at kindergarten to 76 in the high school World History and Civilization course.

¹² Singapore's secondary curriculum includes Lower Secondary and Upper Secondary, each lasting two to three years. Only the Lower Secondary syllabi and Primary syllabi are available on Singapore's website and are included in this review.

Finland organizes its history curriculum by individual grade span. It lists course objectives that are somewhat similar to the historical themes of the Colorado MCS. Below the course objectives are content bullets arranged into broad chronological and historical themes. There is also a description of good performance section at the end of each grade span. At the lower grade spans there are 5 objectives. In the Upper Secondary level, there are 6 overarching objectives and between 3 to 5 specific objectives for each course. Historical themes range from 4 to 10, and content bullets range from 20 to 26, depending on the grade span or course.

The Singapore Primary level organizes its course syllabi by units and unit objectives. Each unit is organized into topics, content, and concepts. The Lower Secondary level courses are organized into specific historical thematic units (6 units for Lower Secondary One, 4 units for Secondary Two). At the Primary level, content and concept bullets range from 9 to 30. At the Lower Secondary level there are 76 and 84 bullets.

Design/Format

The design and format of the Colorado MCS is much different from those of the referents. The Colorado MCS for history are organized by a cross-matrix of six spiraling standards and three grade spans. The MCS document also has a glossary that defines key history terms and an index. The document is 31 pages.

The *Massachusetts History and Social Science Curriculum Framework* provides an overview of the scope and sequence of instruction and lists the historical themes. It then introduces each grade level and its standards. It also provides eight appendices to aid teachers. The document is 130 pages.

Indiana presents the social studies standards as separate documents for each grade level and high school history course. Each document has a brief one-page overview that explains the goals of the social studies course and outlines the broad content area standard. Afterwards, each content area standard and its indicators are listed. The documents range in length from 4 to 21 pages. Altogether they are 95 pages.

The Finnish history standards are sections from a larger *National Core Curriculum* document. The section for the basic education courses (grade spans 5–6, 7–9) is 5 pages, and the section for the upper secondary education courses is 7 pages. Both the basic education section and the upper secondary course provide an overview of the curriculum for each grade span. The upper secondary courses section also has a general statement about history and the expectations of history education.

The Singapore Primary level, Lower Secondary level, and Lower Secondary Normal Technical syllabi are presented separately. Each has an introduction, outlining the course objectives, a weekly instructional pace section, a teaching strategies section, an assessment strategies section, and an outline of each course. The Lower Secondary level syllabus also includes a section of book and Internet references for teachers. The Primary level syllabus is 19 pages; the Lower Secondary level syllabus is 27 pages; the Lower Secondary Normal Technical syllabus is 17 pages.

Content

The content of the Colorado MCS for history has a number of similarities and differences with the content in the referents' standards. In general, however, the treatment of the content is more different than similar. Colorado's emphasis on broad overarching historical themes, applicable to every time period and society for each grade span instead of specific historical content, is distinct from the more grade-specific chronological and thematic historical approaches of the referents. Similarities are strongest in standards 1 and 2, and in grade span K–4. Differences are strongest in standards 3, 4, 5, 6, and at the upper grade spans. Colorado places importance on students learning the themes outlined by standards 3, 4, 5, and 6. As a result, those standards have much more breadth and depth as themes than similar standards of the referents. Colorado's treatment of the standards is generally more methodical and analytical than all of the referents. Nevertheless, Colorado's emphasis on mastering these themes results in its standards being weaker than the referents' in its overall expectation of historical content.

Standards 1 and 2

The Colorado MCS for history and the referents' standards are most similar in standards 1 and 2. Like the Colorado MCS, all of the referents have historical chronology and historical inquiry as stated objectives. All of the history standards require students to learn about historical inquiry methodology, such as researching and analyzing primary sources, distinguishing primary sources from secondary sources, and understanding historical perspective. All of the standards require students to learn about chronological organization of history, such as sequential or cause-and-effect relationships, thematic relationships, and historical continuity and change. Colorado and Indiana spiral standards 1 and 2 across grade spans to increase the cognitive complexity for students. Massachusetts also increases the cognitive complexity of standards across grade levels, but does so less systematically. Historical methodology, while included in the Massachusetts standards, is not emphasized. Massachusetts separates its historical chronology and historical inquiry standards from its historical content standards. Finland and Singapore do not address the standards in a rigorous way. For instance, Singapore does not develop the concepts included in standard 1 beyond basic cause-and-effect relationships. Finland also is not very challenging in its treatment of understanding primary sources. Students are expected to “use a variety of sources, compare them, and form their own justified opinions based on those sources.”

Standards 3, 4, 5, and 6

The Colorado MCS in history and most of the referent standards address the historical themes of the development of cultures and societies (standard 3), the impact of science, technology, and economics on societies (standard 4), the development of political institutions and theories (standard 5), and the effect of religious and philosophical ideas (standard 6) in a substantive manner. Only the Colorado MCS, however, emphasize each standard as an overarching historiographical theme that is applicable to all time periods and civilizations. Colorado uses each standard to drive history instruction, whereas the referents generally subsume them under specific history topics. As a result, Colorado's usage of the standards is much more analytical and rigorous in complexity than the other

referents at each grade span. Massachusetts comes closest to the intent of Colorado's standards. It has corresponding historical themes for each standard. These themes, however, are not described in detail and are not intended for every grade. Indiana focuses on themes similar to Colorado in grade span K–4, but mainly treats culture and society as subtopics of specific content indicators across the grade spans. Finland also expects students to understand the themes, but not in a systematic way. Singapore does the least to focus on thematic standards, beginning to address them only at the Lower Secondary level. At the Primary level the themes are not intended as a historiographical tools. They are used to encourage an appreciation of Singapore society.

On the other hand, the referent standards are much more explicit than the Colorado MCS for history in emphasizing specific historical content for each corresponding Colorado standard. Indiana and Massachusetts outline discrete historical themes and time periods for U.S. history and world history, such as “The Spread of Cultural, Economic, Social and Political Ideas: 500 BC (BCE) -1600 AD (CE)” (Indiana) or “The Age of Reform: Progressivism and the New Deal, 1900-1940” (Massachusetts). Within these historical themes are found specific terms, names, societies, and documents.

Grade Spans

There are similarities between Colorado and the referents in the structuring of history standards within the grade spans, although the differences are greater. Colorado, Indiana, Massachusetts, and Singapore encourage the gradual expanding of a student's understanding of history from the local to the world level. All three have curriculum on local and state history (national for Singapore) at the K–4 grade span. Finland does not require the teaching of history in this grade span. All four broaden the scope of the curriculum in grade span 5–8 to focus on U.S. history (or the national history for Finland and Singapore), and ancient world history. In grade span 9–12, Indiana, Massachusetts, and Finland continue to focus on national and world history.¹³ Nevertheless, there are significant differences. The Colorado MCS for history are not clear as what parts of U.S. and world history should be addressed in grade span 5–8. The referent standards are much clearer about what time periods of U.S. history and world history should be taught and at which grade levels. For grade span 9–12, Massachusetts, Indiana, and Finland outline specific course curriculum. Colorado does, however, have curriculum that covers the entirety of U.S. history in grade span 9–12. Neither Massachusetts nor Indiana requires students to learn the entirety of U.S. history at this grade span. Massachusetts also only expects modern world history to be taught in the 9–12 grade span. Indiana and Finland, on the other hand, offer world history courses that cover all of world history in this grade span.

Wording/Specificity

In comparison to the referent standards, the attention to wording to guide instruction in the Colorado's MCS is explicit than in the standards for Finland and Singapore. However, it is weaker than in the standards for Massachusetts and Indiana. Massachusetts and Indiana are more specific than Colorado. They use verbs such as “identify,”

¹³ Singapore's Upper Secondary curriculum was not available, and thus the historical focus of that curriculum is not known.

“describe,” and “explain,” and tie the action verbs closely to the specific content statements. This enables them to suggest the appropriate cognitive level of the standards at specific grade levels. Colorado uses similar action verbs to indicate the cognitive levels of the standards, but it does not tie them to specific content. Instead, it associates the verbs with historical concepts. Finland, on the other hand, pays little attention to action verbs. To guide instruction it uses broad language in its objectives, such as “come to understand” and “be familiar with.” It also does not link the action verbs to specific historical themes or content bullets, making it difficult to determine the cognitive level of the standards. Singapore uses specific action verbs in the learning outcomes, such as “identify,” “describe,” and “differentiate,” but it uses broad or no action verbs in the content and skill objectives to indicate cognitive levels.

Massachusetts

Both Colorado and Massachusetts have history curriculum from kindergarten through high school. Colorado organizes its standards into three grade spans: K–4, 5–8, and 9–12. Colorado spirals the historical themes and content across the grade spans. Massachusetts organizes its standards by grade level into single-year courses. Only in grade 6 does Massachusetts not offer history. Standards are specified for pre-kindergarten through grade 7. Pre-kindergarten to kindergarten focuses on basic American symbols. Grade 1 emphasizes United States leaders, symbols, events, and holidays. Grade 2 introduces historical skills. Grade 3 focuses on local and Massachusetts history. Grade 4 offers general U.S. cultural history and provides optional study for Chinese history. Grade 5 focuses on United States history from Pre-Columbian civilizations to westward expansion. Grade 7 focuses on ancient and classical civilizations in the Mediterranean region. For grades 8–11, Massachusetts has two sequenced courses for United States history (US I and US II), and two sequenced courses for world history (World History I and World History II). Because Massachusetts is a local-option state, it recommends five possible sequences for administering the courses to school districts.

Both Colorado and Massachusetts broaden students’ understanding of history, emphasizing local, regional, and state history in grade span K–4 and United States and world history in grade spans 5–8 and 9–12. They differ, however, in the repetition of content standards for United States and world history. Colorado does not specify time lines for the curriculum in either grade span. Consequently, there is the possibility of significant overlap of content, particularly in U.S. history. For instance, benchmark 5.4 in grade span 5–8 refers to “identifying basic patterns of political alliances in the modern world.” In grade span 9–12, the same benchmark refers to “United States diplomacy from the Revolution through the modern period.” As a result, Colorado students could cover the same material in each grade span.

This approach gives local Colorado school districts great flexibility, either teaching the entirety of U.S. history and World history in both grade spans, or focusing on a sequence approach, teaching the first part of both histories in grade span 5–8 and the second half in grade span 9–12. If the former approach is chosen, the possibility of needless repetition in content is possible. It is also possible, however, for school districts using this approach to

gradually increase the cognitive complexity of the same content across grade spans and present the content in a more analytically challenging way at later grade spans. Because Massachusetts focuses on sequential organization of historical content in both U.S. history and world history, there is very little repetition of content in the Massachusetts standards. Only the American Revolution and early republic are covered in both grade 5 and the high school course US I.

The standard hierarchy and the number of standards for Colorado and Massachusetts are also different. Colorado has 6 standards that repeat through spiral organization across the three grade spans. Accompanying the standards are benchmarks that are common to the grade spans. The benchmarks articulate the intent and scope of the standards. Below the benchmarks are a series of bulleted topics to give greater explanation to the meaning of each benchmark for each grade span. In contrast, Massachusetts has specific standards for each grade level. There are two types of standards that appear at each grade level: concept and skills standards and content standards. Under each standard are listed people, places, concepts, or terms that teachers may use to discuss the standard.

Generally, the content standards for each grade level are organized into specific historical topics, such as “Industrial Revolution and Social and Political Change in Europe, 1800–1914” in the World History II course, and listed chronologically. Altogether there are 299 standards across the grade levels. By comparison, Colorado has 6 standards, 18 benchmarks, and 148 topic bullets. Massachusetts has a larger number of standards because it places more importance on students learning about specific historical topics, events, people, concepts, and documents than Colorado.

The Massachusetts standards, however, do not effectively align to the Colorado standards. They are narrower in scope and do not address the broad historical themes described by the 6 Colorado standards. They focus on a specific event (e.g., “5.4: Explain why the Aztec and Inca civilizations declined in the 16th Century”). What do correspond to the Colorado standards are 9 historical themes that are listed separately in the Massachusetts Comprehensive Assessment System (MCAS) *Framework* from the grade-specific standards. In brief paragraphs, the themes are outlined in scope and suggestions are made for which grade levels should be integrated into the course curriculum. The *Framework* does not explain, however, how the themes should be incorporated in the course curriculum or used as effective historical analytical devices. This is a significant weakness in the MCAS *Framework*. Teachers will have to determine how these themes can be effectively adapted into the chronological structure of the grade level standards.

Nevertheless, the specificity of the Massachusetts *Framework* has the advantage of clearly articulating the scope of curriculum in both historical content and skills at each grade level. By providing specific historical topics to organize the standards, the *Framework* suggests potential syllabus units for teachers. Using the Colorado MCS, teachers know the themes to be addressed, but they will have a more challenging task of integrating themes with specific historical topics and arranging units.

The design and format of the Colorado MCS for history document and Massachusetts MCAS *Framework* are also very different. The Colorado MCS for history are organized by a cross-matrix of six spiraling standards and three grade spans. It also has a glossary that defines key history terms for teachers and an index. The MCAS *Framework* has a section on the scope and sequence of the content, and a list of historical themes to be introduced into the grade level curriculum. It then introduces each grade level and the accompanying standards. It also has eight appendices. Two of the appendices recommend primary source documents for world and U.S. history. One suggests resources such as books, articles, and websites for teachers. One lists museums, historic sites, archives, and libraries in Massachusetts. Two other appendices provide recommendations for integrating history with English/language arts and mathematics. The appendices, which account for about one-third of the *Framework*, are useful aids to teachers who want their students to perform historical research. It is also valuable to elementary school teachers who want to know how to integrate social studies with No Child Left Behind (NCLB) subjects (English/Language Arts, Mathematics, Science) so it is not given insufficient attention.

In terms of content, the Colorado MCS for history and the Massachusetts *Framework* are very different in breadth and depth. Colorado devotes 2 standards to historiography: chronological structure and historical inquiry. It also devotes 4 standards to broad historical themes: the development of culture and society, the impact of science, technology, and economics on societies, the development of political institutions and theories, and the affect of religious and philosophical ideas. The four historical themes can be applied to any time period in history and to any society. Moreover, it is possible that a course can be organized into units so that the same history of a civilization is covered four times, but through four separate historical lenses. This can give students an appreciation for the richness and complexity of the history of that civilization.

Massachusetts emphasizes the learning of basic historical content, such as people, events, and societies. It is less analytical in its application of broad themes as historiographical tools for understanding history. It does not expect history instruction for each time period or society to be presented through multiple interpretive lenses. Instead it focuses on a chronological approach that integrates a narrative history with analytical thematic features to allow students to interpret history.

As a result of this thematic approach, the content of Colorado's standards is more rigorous and analytical in focus than that of Massachusetts, reflecting an emphasis on application of themes to historical contexts. On the other hand, the historical content focus of the Massachusetts standards reflects an emphasis on understanding historical trends and developments in U.S. history and world history.

Both Colorado and Massachusetts require students to understand the chronological organization of history. Although Massachusetts does not identify this as a broad historical standard like Colorado, nearly all of its grade levels have a concept and skills standard that addresses it. Each state begins with students learning how to create and interpret time lines and to identify cause-and-effect relationships in the lower grades.

Moreover, both sets of standards increase the degree of cognitive complexity for the chronological organization of history from K to 12. By high school, both states require students to distinguish between cause-and-effect relationships and sequential relationships. Both states also have a similar treatment of timelines. By grade span 9–12, however, Massachusetts emphasizes students distinguishing “intended and unintended consequences” and “long-term and short-term cause-and-effect relationships.” Colorado stresses “explaining cause-and-effect relationships using historical information that is organized chronologically,” and “using chronological order. . . to detect and analyze patterns of historical continuity and change.”

Standard 2 of the Colorado MCS is very similar to some of the MCAS *Framework* concepts and skills standards that appear at nearly every grade level. Both sets of standards have a spiral organization of some standards in historical inquiry skills, resources, and methods. Nevertheless, by grade span 9–12, the Colorado MCS for history are much more rigorous than the corresponding MCAS *Framework* standards. In grade span 9–12, Colorado students should be able to perform detailed critiques of primary and secondary sources. They should be able to compare historical documents to look for contradictions to support or reject hypotheses. They should be able to look for bias within sources and they should appreciate how modern media affect historical perspectives. In contrast, Massachusetts only expects students to be able to distinguish historical fact from opinion and to interpret the past from its own historical context rather than the present.

Standard 3 of the Colorado MCS is similar to two themes found in the MCAS *Framework*: (1) *The influence of economic, political, religious, and cultural ideas as human societies move beyond regional, national, or geographic boundaries*, and (2) *The birth, growth, and decline of civilizations*. Both sets of standards expect students to understand that societies are diverse and culturally develop over time. Most of the content-specific topic bullets in the Colorado MCS have corresponding standards in the MCAS *Framework*. For instance, in grade span 9–12, standards USI.28, USII.3, and USII.30 are similar to a topic bullet of benchmark 3.1, which requires students to explain the reasons for major periods of immigration to the United States. Similarly, in grade span K–4, the MCAS *Framework* has standards comparable to the second topic bullet of benchmark 3.1: describe the “contributions of various peoples and cultures that have lived in or migrated to the area that is now Colorado.” MCAS standards 4.15 and 4.16 address the cultural contributions of immigrant groups to the United States and Massachusetts.

However, the two sets of standards treat the concept of culture in qualitatively different ways. The Massachusetts *Framework* emphasizes that students should learn about specific societies and their cultural achievements, (e.g., “7.16 Summarize important achievements of Egyptian civilization”). Likewise, students are expected to identify the accomplishments of major historical figures (e.g. Socrates, Voltaire, Confucius). Within the Massachusetts themes, there is no explicit sense of increasing cognitive complexity across the standards. Nor is there an analytical structure that students apply to societies to effectively understand their cultural development as a historical theme. The Colorado MCS document is more rigorous in the spiral presentation of the standard across grade

spans. At each grade span, students learn how to understand culture as a historical thinking tool for understanding the development of societies.

Standard 4 of the Colorado MCS is similar to two themes found in the MCAS *Framework*: (1) *The growth and spread of free markets and industrial economies*, and (2) *The development of scientific reasoning, technology, and formal education over time and their effects on people’s health, standards of living, economic growth, government, religious beliefs, communal life, and the environment*. Both sets of standards expect students to understand how science, technology, and economics have affected the development of societies. More so than standard 3, most of the topic bullets of Colorado standard 4 have comparable standards in the MCAS *Framework* across all grade spans. Nevertheless, the MCAS *Framework* emphasizes learning about certain economic and scientific themes for societies within both a chronological narrative and a thematic structure. Tying the topic bullets to the benchmark, Colorado standard 4 is more rigorous in its presentation of science, technology, and economies as historical themes at each grade span.

Standard 5 of the Colorado MCS is similar to two themes found in the MCAS *Framework*: (1) *The evolution of the concepts of personal freedom, individual responsibility, and respect for human dignity*, and (2) *The growth and impact of centralized state power*. Both sets of standards expect students to understand the development of political institutions and theories over times. Many of the topics bullets of Colorado standard 5 have comparable standards in the MCAS *Framework* across all grade spans. The MCAS *Framework* emphasizes the learning of development of political culture and the expansion of human rights in U.S. history and world civilizations within both a chronological narrative and a thematic structure. It also recommends specific historical themes, people, events, and documents for instruction. The Colorado MCS is not as effective in organizing the theme as an analytical thinking tool for understanding the developments of societies. Most of the topic bullets do not explicitly address historical content rather than historical concepts. Even so, the Colorado standard has a more explicit analytical structure than the MCAS standards.

Standard 6 of the Colorado MCS is similar to one theme found in the MCAS *Framework*: (1) *The influence of economic, political, religious, and cultural ideas as human societies move beyond regional, national, or geographic boundaries*. Both sets of standards expect students to understand the impact of religious and philosophical ideas on societies. Many of the topic bullets of Colorado standard 6 have comparable standards in the MCAS *Framework*, but, for the most part, they emphasize learning specific names and terms for each society study. Colorado’s standard is more rigorous in treating the theme as a useful historical tool. For example, benchmark 6.2 requires students to explain “how. . . the power of the state has been both derived from religious authority and/or in conflict with religious authority.” This is an important analytical device for understanding the development of societies, for which Massachusetts does not have a corresponding standard.

Nevertheless, like the Colorado MCS for history, the Massachusetts *Framework* does require rigorous analysis of history. Although Massachusetts stresses the importance of learning basic history content, it uses the action verbs associated with each content standard to suggest the rigor and cognitive complexity of instruction. Students learn critical thinking skills, but in a less systematic approach. Historical analysis is more closely rooted to the individual standards.

Indiana

Both Colorado and Indiana provide history standards from kindergarten through high school. Unlike Colorado, however, Indiana articulates its standards by grade level rather than by grade span for kindergarten to grade 8. In high school, Indiana also organizes its standards into three courses. Colorado repeats the standards through spiral organization across grade spans. Indiana has specific courses organized for each grade level. In grades K–8, history is integrated with government, geography, and economics. In kindergarten, students examine the connections between their environment and the past. In grades 1 and 2, students study their local community and important national symbols and events. In grade 3, the curriculum expands to regional history, emphasizing the contributions of Native Americans and early European settlers. Historical thinking skills are further developed. Grade 4 focuses on Indiana state history. Grade 5 concentrates on early United States history from the Pre-Columbian era to the early republic. Grade 6 shifts to world history, focusing on European history and Latin American history from the classical civilizations to the present day. Grade 7 continues with world history, examining the history of the regions of Asia, the Middle East, Africa, and the Southwest Pacific, from the ancient civilizations to the present day. Grade 8 focuses on United States history from the colonial era to the end of Reconstruction. At high school, Indiana requires a two-semester course in United States history from the American Revolution to the present. It also requires students to take one of two world history courses, each of which is two semesters. The standard course traces world history from the beginning of human society to the present day. The alternative course looks at the entirety of world history with emphasis on geography.

Nevertheless, even though the organization and structure of the two sets of standards is mainly different, there are some similarities. Both Colorado and Indiana broaden students' understanding in history from the local and state level in grade span K–4, and the national and world level in later grade spans. Each state also spirally organizes standards in historical thinking skills, such as historical inquiry and chronological organization across grade spans. The cognitive complexity of the skills standards increases with each grade span.

There is also a repetition in historical content across grade spans in Colorado and Indiana. Because the grade level standards are fixed, the repetition of content is more explicit in the Indiana standards than in the Colorado standards. For instance, Indiana students study the American Revolution in grade 5, grade 8, and in the high school United States history course. They also cover every major world civilization twice, in either grade 6 or 7, and again in high school. This approach in the Colorado and Indiana standards has an important benefit. The repetition of content at upper grade levels allows for the

development of the cognitive complexity of the content and for the increased incorporation of analytical skills, building on instruction at lower grade levels.

The standard hierarchy and the number of standards are different between Colorado and Indiana. The Indiana standards are not organized around six general historical topics at each grade span and its standards. As a result, its standards are not comparable to the standards and benchmarks of the Colorado MCS. Similarities are strongest between the topic bullets of the Colorado standards and the indicators of the Indiana standards.

Indiana has two systems of standard hierarchy for grades K–8 and high school. At grade levels K–8, all of Indiana’s academic standards for social studies are organized together around four content areas: history, civics and government, geography, and economics. History is known as standard 1. Within the history content area, standards are divided into two separate categories: historical knowledge and historical thinking skills. Starting with grade 4, numerically coded indicators are arranged by historical themes or time periods in the historical content category. In high school, the three courses are organized by broad historical themes. For example, the United States history course has nine standards; standard 1 is Early National Development: 1775 to 1877. The final standard for the United States history course and the world history and civilization course covers historical methodology. Within each standard are specific corresponding indicators that summarize key ideas, events, and developments for that standard. Similar to K–8, the high school standards are organized chronologically within historical topics.

As a result, Indiana has far more indicators than Colorado has topic bullets. Indiana has 336 indicators, compared to Colorado’s 148 topic bullets. The larger number of indicators is because Indiana places more importance on students learning about specific historical events, figures, and concepts. The specificity of the Indiana standards has the advantage of articulating the scope of the content at each grade level. Indiana teachers have clearly defined syllabus units.

The design and layout of the Colorado MCS for history and the Indiana history standards have some similarities, but for the most part, they are different. Each has an introduction about the goals of history and social studies. Like Colorado, Indiana does not provide reference appendices or additional materials, such as teaching strategies, to aid teachers. Each of the Indiana standards, however, is presented separately and not as a set. Moreover, at K–8, the history standards are included with the other social studies standards.

Although Colorado and Indiana organize the curriculum in different ways and have different areas of mastery. Colorado stresses mastery of four overarching historical themes with which to analyze the historical development of the United States and other societies. The specific historical content of the United States or other societies is subordinated to each theme and used to illustrate the topics covered by the benchmarks. In this sense, Colorado places greater importance on the learning of historical themes over historical content. Like Massachusetts, Indiana stresses learning historical content, such as events, people, documents, or topics. Indiana’s standards cover the same

historical themes as Colorado, but in a way that is not as systematic. The standards emphasize development of a strong foundation in historical content as historical themes are addressed. As a result, Indiana subordinates understanding historical themes to understanding historical content.

Both Colorado and Indiana expect students to have an understanding of the chronological organization of history. Each state also spirally presents this content to increase the cognitive complexity of learning about chronological organization across grade spans. Colorado standard 1, however, is much broader in its coverage of the standard. For instance, at grade span 9–12, Colorado has 7 topic bullets devoted to the standard. Indiana has only 3 similar indicators. Colorado is also much more explicit about information addressed in the standard. Indiana expects high school students to have a basic appreciation of cause-and-effect relationships, i.e., students should be able to understand multiple causations in history, and identify patterns of history as they relate to continuity and change. Colorado, however, expects high school students also to be able to distinguish between sequential and cause-and-effect relationships, to reconstruct time structures from historical narratives, and organize history thematically, geographically, and chronologically.

Standard 2 of the Colorado MCS is similar to the historical skills and methodology section found at each grade level in the Indiana standards. Each state uses spiral organization of the standards to increase the cognitive complexity of learning about historical inquiry across grade spans. Similar to standard 1, Colorado's treatment of the standard is broader and more detailed than Indiana's. In high school, Indiana students are expected to "locate and analyze primary sources and secondary sources related to an event or issue of the past." In Colorado, students are expected to formulate historical hypotheses from multiple sources. They are also expected to gather and analyze primary and secondary sources, looking for contradictory information between them in order to support or reject hypotheses.

Standard 3 of Colorado's MCS for history is similar to many of the indicators of the Indiana standards, but overall the treatment of the standard is different. Many of the topic bullets covered in the Colorado MCS are addressed by indicators in the Indiana standards. The states' treatments of culture in grade span K–4 are very similar. However, Colorado's standard is more analytical, requiring the students to understand the concept of culture and society as an overarching theme used to analyze the historical development of civilizations. Indiana emphasizes understanding of culture as an element of society. For instance, both Colorado and Indiana cover the cultural development of ancient world civilizations in grade span 5–8. In this grade span, each state expects students to know the cultural contributions of different world civilizations. Indiana indicator 7.1.1 is similar to the fourth topic bullet of benchmark 3.1 in grade span 5–8, requiring students to discuss the rise of early agricultural river valley civilizations in Africa and Asia. Colorado, however, stresses that students should recognize basic elements of culture and social organization and explain how social organization is shaped by various factors such as tradition, gender, caste, race, and wealth. Indiana only requires students to explain the development and organization of cultural systems in specific civilizations. Colorado

provides students with the opportunity across grade spans to understand the concept of culture and to be able to apply it to different societies throughout history.

Standard 4 of the Colorado MCS is similar to many of the indicators of the Indiana standards, but overall the treatment of the standard is different. Each state requires students to understand the impact of science, technology, and economics on the development of societies throughout history. Each state has standards about the theme across grade spans, although Indiana only addresses in grade 4. Moreover, most of the topic bullets of the Colorado benchmarks have corresponding indicators in the Indiana standards at each grade span. However, Indiana does not treat science, technology, and economics as overarching themes. Except where mentioned, the Indiana academic standards address the scientific, technological, and economic development of certain societies and civilizations within both a chronological narrative and a thematic structure. Individual indicators are designated as ideal for teaching about people, society, and culture. Specific terms and examples, such as the transcontinental railroad and Silk Road, are also provided with some indicators. Like standard 3, the Colorado standard is more rigorous in addressing the theme as an analytical device for historical analysis.

Standard 5 of the Colorado MCS is similar to many of the indicators of the Indiana standards, but overall the treatment of the standard is different. Each state requires students to understand political institutions and theories across grade spans. Standard 5 of the Colorado MCS is the least analytical in approach. Although the benchmarks are written to provide an analytical approach to the subject, the topic bullets focus more on students learning specific content. As a result, the Colorado and Indiana standards are very similar at the topic bullet and indicator level. Nevertheless, there are differences. The Indiana academic standards address the political development of certain societies and civilizations within both a chronological narrative and a thematic structure. The Colorado MCS treat the understanding of political institutions and theories as an overarching theme of history. It is much more systematic in its organization of the theme than Indiana's is.

Standard 6 of the Colorado MCS is similar to many of the indicators of the Indiana standards, but overall the treatment of the standard is different. Each state has standards that address the influence of religious and philosophical ideas on societies throughout history across grade spans. Most of the topic bullets of the Colorado MCS are matched by indicators in the Indiana standards. The major difference is the approach to the theme. The Indiana academic standards treat religion and philosophy as subtopics of specific indicators. The influence of religion and philosophy is not treated as an overarching theme for historical analysis. The Indiana academic standards cover religious and philosophical developments for certain societies and civilizations within both a chronological narrative and a thematic structure. In contrast, Colorado addresses the historical development of religions and philosophies, how those religions and philosophies have affected societies, and finally, how art reflects religious and philosophical beliefs. In this sense, Colorado is more systematic in its approach to the theme. Students learn about specific religions and philosophies, but within a more clearly defined analytical framework.

Finland

There are similarities and differences in the grade articulations for Colorado and Finland. Both Colorado and Finland present their standards by grade spans. Finland has grade span standards for 5–6, 7–9, and upper secondary. Finland, however, does not provide history curriculum at grade span K–4. Moreover, after completing their basic education (grade levels 1–9), Finnish students continue in one of two tracks for their education at the upper secondary level. The first track prepares students for university instruction. The second track prepares students for vocational training and polytechnic institutes. Students on the vocational training track do not receive additional instruction in history after grade 9. As a result, not all Finnish students receive instruction in the standards reviewed for this report.

In grade span 5–6, Finnish students learn about local and regional history, Finnish history until the 19th century, and basic European history until the French Revolution. In grade span 7–9, students continue their study of Finnish and European history until the present day. They also study one of five themes, tracing it from the 19th century to the present day. The themes are the study of one culture outside of Europe, the evolution of equality, the evolution of culture, the development of technology, and the breakup and reunification of Europe. In the upper secondary level, Finnish students must take four compulsory history courses: *Man, the Environment and Culture*; *European Man*; *International Relations*; and *Turning Points in Finnish History*. They may also select from two specialization courses: *Finland from Prehistoric Times to Autonomy* and *Meeting of Cultures*.

Colorado has a clearer grade articulation for broadening students' understanding of history. It emphasizes local and state history in grade span K–4, and national and world history in grade spans 5–8 and 9–12. Finland combines local, regional, national, and European history in grade span 5–6. Grade span 7–9 focuses on national and European history. The upper secondary level covers a wide range of topics at the national, European, and world levels.

Repetition of content in the Finnish system is less likely, however, between grade spans 5–6 and 7–9. Standards for Finnish national history and European history are organized chronologically and sequentially between the two grade spans. Repetition of content mainly occurs at the upper secondary level. Students cover much of the same Finnish and European history as they learned in earlier grade spans. The opportunity for repetition of content also occurs between courses within the upper secondary level. The compulsory courses, *Man, the Environment, and Culture* and *European Man*, cover similar time periods of European history. Each, for instance, studies classical Greece and the medieval Europe. The specialization courses also repeat content learned in the compulsory courses, but in greater detail.

Moreover, unlike the Colorado model, the Finnish model makes no indication of a methodical spiral strategy in content to increase the cognitive complexity of the material. The only indication of spiraling curriculum between grade spans is that “the task of

history instruction in the seventh through ninth grades is to deepen the pupils' sense of the nature of historical knowledge.”

The standard hierarchy for Colorado and Finland is much different. In contrast to the 6 Colorado standards that apply across three grade spans, Finland organizes its history curriculum by listing distinct objectives for each grade span and for upper secondary courses. The objectives are followed by a list of core content that is organized by broad historical eras (e.g. grade span 5–6: Emergence of European civilization). Subordinate to these historical eras are bulleted topics (e.g. society and culture of ancient Athens and Rome). The upper secondary history curriculum also has an overarching set of objectives that covers all of the courses and a separate set of objectives for each course. After the core content in grade spans 5–6 and 7–9 there is also a section that provides guidelines for rating student performance.

For each grade span and upper secondary level course, the objectives are most similar to the Colorado standards. For example, Colorado standard 3, “Students understand that societies are diverse and have changed over time,” is similar to the Finland grade span 5–6 objective “understand different manifestations of culture and their diversity.”

Nevertheless, the similarity should not be overemphasized. The objectives are only bulleted general statements. They do not provide any explanation about their specific meaning or how they should be applied to the core content. The topic bullets of the Colorado MCS and the bulleted topics of the Finnish standards are also not comparable. The bulleted topics of the Colorado MCS are used to support and illustrate the intent of the benchmarks. The bulleted topics in the Finnish standards are limited content bullets (e.g., Sweden’s annexation of Finland). There is no elaboration beyond that. In terms of number of standards, Colorado has 6 standards, 18 benchmarks, and 148 topic bullets. Finland has 41 objectives and 133 bulleted topics.

The format and design of the two documents have similarities and differences. The Colorado MCS for history make up a distinct document created for teachers. The Finnish standards are part a of larger *National Core Curriculum* document. Each set of standards is short. The Colorado MCS for history are 31 pages and the Finnish history standards are 12 pages, if the basic education and upper secondary standards are combined. Moreover, like the Colorado standards, the Finnish standards also do not provide teachers with reference appendices or additional teaching materials to aid instruction. The major difference is that Colorado organizes its curriculum by a cross-matrix of six spiraling standards across three grade spans. Finland organizes its standards by grade spans, but the standards are specific to each grade span.

In terms of content, the Colorado MCS and Finnish standards are very different in scope and pedagogical approach. Colorado emphasizes learning historical themes to analyze history. Finland places more emphasis on learning historical content. Within the Finnish history standards, there is no clear rigorous analytical structure to understanding history. The standards are mainly organized chronologically into historical eras at each grade span. The objectives suggest learning outcomes that should be reached through the study of history (e.g., grades 5–6: learn to identify the continuity of history with aid of

examples; grades 7–9: explain the purposes and effects of human activity; upper secondary level: be able to acquire information about the past and assess it critically). There is no indication, however, how these objectives are to be reached. The Finnish history standards are presented predominantly as chronology history. Little critical analysis of history is present or emphasized. In this regard, the Colorado MCS for history are more rigorous in historical analysis. Moreover, unlike the Massachusetts or Indiana standards, the Finnish standards do not provide examples of specific topics, people, events, or documents to use to study the historical time periods. The Colorado MCS, although not thorough in suggesting examples, provide a lot more than Finland's.

Both Colorado and Finland expect students to learn about chronological organization of history. Both standards expect students to appreciate cause-and-effect relationships, thematic relationships, and historical change and continuity. Nevertheless, understanding the chronological organization of history as a historiographical tool is explicitly covered in much greater depth, rigor, and breadth at all grade spans in the Colorado MCS than the Finnish history curriculum. In the Finnish system, students are expected to be able to categorize history into time periods, identify continuity in history, and understand change. In the Colorado system, students are expected to learn these skills as well. They are also expected to know how to construct tiered timelines to show how different events occur simultaneously. They are also expected to know how to interpret historical data to understand cause-and-effect relationships and to explain patterns in history.

Both Colorado and Finland also expect students to learn basic methods of historical inquiry through the analysis of primary and secondary sources. However, the Colorado standards provide more explicit analytical training in this standard at all grade spans. For example, at upper secondary level, Finland requires students to “be able to acquire information about the past and assess it critically, understanding its susceptibility to multiple interpretations and the complexity of causal relationships.” In addition to these tasks, Colorado students gather information from primary and secondary sources and reconcile contradictory data to support or refute hypotheses. They should also recognize bias within documents, test the reliability of information from multiple sources, and analyze historical information to understand contemporary issues.

Both Colorado and Finland organize standards about culture and society across grade spans. Colorado addresses the topic as an analytical theme for understanding the development of civilizations over time. Finland treats it as a subtopic to be taught within specific historical time periods. For instance, in grade span 5–6, students learn about the division of work and the emergence of culture in the great river valley civilizations. Colorado is more rigorous and systematic, requiring students to describe the basic elements of culture and social organization. Students learn that gender, age, caste, race, and wealth are elements of social organization. Colorado students learn about the effects of interaction between two cultures.

Both Colorado and Finland expect students to understand the importance of science, technology, and economics in history. It is a stated objective in the Finnish upper secondary curriculum. Both Colorado and Finland cover similar time periods and

societies throughout the grade spans in order to understand the historical impact of science, technology, and economic. Like standard 3, however, Colorado treats the topics as overarching themes that are used to understand the historical development of societies. The Finnish history curriculum presents each topic within a specific historical theme (e.g., grade span 5–6, The dawn of the modern era: science’s expansion of the conception of the world) rather than treating it as a general theme for instruction. Instead of using the topics to analyze developments in history, Finland treats them as discrete historical experiences. In the compulsory upper secondary course *Man, the Environment and Culture*, Finnish students have units titled “The Mediterranean economic area during ancient times,” “The economic and social system in the Middle Ages,” “The world of industrialization,” and “The global consumer society.” Presumably, within these units, Finnish students will be instructed in the same concepts used by Colorado students to analyze scientific, technological, economic developments in history, but this is not made explicit in the documents.

Both Colorado and Finland expect students to learn about the historical development of political institutions and theories at each grade span. They also cover most similar historical topics and time periods to illustrate the development of political institutions and theories. Finland also devotes a course to international relationships and diplomacy at the upper secondary level. The Finnish curriculum specifies historical time periods that should be covered. The Colorado MCS are more explicit and detailed about specific political institutions and concepts that should be covered. The Colorado standards also attempt to provide an analytical structure for understanding the development of political institutions and theories.

Both Colorado and Finland instruct students in the impact of religious and philosophical ideas on societies throughout history. The Colorado MCS are more analytical in their treatment of the subject, requiring students to appreciate religions and philosophies as forces that shape history. The Colorado MCS are more specific about which religious and philosophical ideas should be covered. The Finnish standards are more intuitive about each topic, organizing curriculum into time periods, such as the Reformation and the Enlightenment, in which addressing religious or philosophical ideas is assumed.

A major difference between the Colorado and Finnish standards concerns when students begin studying history. Students in Colorado begin instruction in kindergarten. Students in Finland begin only in grade 5. This difference gives Colorado students a significant advantage in learning basic historical concepts and content. It prepares them for the curriculum in the later grades. Another significant difference is that students in grade span 7–9 in Finland are required to study the development of only one historical theme from pre-history to the 19th century. Finnish teachers can choose to teach about the evolution of trade, culture, or transportation. Colorado MCS for history address all of these topics.

Another significant difference between the Colorado and Finnish standards concerns the specificity of wording and content. Colorado uses specific action verbs (e.g., identify, describe, explain, and analyze) to suggest the cognitive level of the curriculum. Finland

uses very general action verbs (e.g., come to understand, be familiar with) in the objectives to suggest the cognitive level. Finland also does not use any verbs with its bulleted topics. It is the responsibility of the teacher to determine the cognitive complexity of the curriculum.

Singapore

The articulation of the standards for Colorado and Singapore are mainly different. Both Colorado and Singapore provide history standards in the equivalent of Colorado's K–4 grade span (beginning with Primary 1 in Singapore). At the Primary level (grades 1–6), Singapore integrates history instruction with other social studies subjects. Significant history instruction does not begin until grade 4 in Singapore. History instruction continues through grade span 9–12 in both systems as well. Colorado, however, organizes its standards by grade spans. Singapore organizes them into grade-level course syllabi.

After grade 6, students enter three instructional tracks at the Lower and Upper Secondary levels: the Secondary Express course or Secondary Normal course to prepare for studies at universities or polytechnic institutes; or the Secondary Normal Technical course to prepare for vocational education and polytechnic institutes.¹⁴ The Secondary Normal and Secondary Express courses have very similar syllabi and cover most of the same historical content. In these courses, history is taught as a separate subject. The Secondary Normal Technical courses, however, follow the pattern of the Primary level instruction and continue to integrate history instruction with other social studies subjects. As a result, not all Singapore students are taught the same history after the Primary level. The Secondary Normal/Express courses include Singaporean, Chinese, Indian, and Southeast Asian history. The Secondary Normal Technical courses focus only on Singaporean history. Thus, many students in Singapore are not exposed to the broadest and deepest content, which should be noted when making comparisons with Colorado's standards.

Both Colorado and Singapore use similar approaches to broaden students' understanding of history. In Primary 1, students learn about their school; in Primary 2, they learn about their neighborhood; in Primary 3, they study society; in Primaries 4, 5, and 6 they study their country, and in Primary 6 they study neighboring countries. Singapore uses spiral instruction of concepts through the grade levels. Nevertheless, there is very little repetition of content within and across the Primary and the Secondary levels.

The hierarchies of standards for Colorado and Singapore are mostly different. Each Singapore grade level has its own syllabus. The Singapore Primary school syllabi are organized by units and unit objectives. Each unit is organized into topics, content, and concepts. Accompanying the unit are three types of stated objectives: knowledge objectives, skills objectives, and attitudes and values objectives. Each objective lists specific goals the students should reach for the unit. The Singapore standards are also much more clearly delineated in scope of information. Teachers are given a prescribed

¹⁴ Singapore's secondary curriculum includes Lower Secondary and Upper Secondary, each lasting two to three years. Only the Lower Secondary syllabi and Primary syllabi are available on Singapore's website and are included in this review.

syllabus for each level that permits very little deviation for instruction. Content and concept bullets for each unit are not intended as suggested examples; they are the key ideas that must be taught.

The main similarities between the two sets of standards appear in the aim and objectives section of the Singapore social studies and history syllabi, as well as the learning outcome bullets of the Lower Secondary syllabus. They address some of the broad themes described in the Colorado MCS. The knowledge objectives are broadly written statements and refer to content (e.g., to acquire knowledge of how things were in the past and how things change and develop over time). The skills objectives are also broadly written (e.g., to apply decision-making skills).

The Singapore syllabi have more objectives and topic bullets than the Colorado standards. That, however, is largely because the Singapore syllabi tend to give each concept or term a separate bullet and the Colorado standards tend to combine common terms into topic bullets. Overall, the Colorado standards provide more information to teachers.

The design and format of the Colorado MCS for history and the Singapore syllabi are mainly different. Colorado presents the standards for all of the grade spans in one document. Singapore separates the syllabi for the Primary level, the Lower Secondary Normal, and the Secondary Technical Normal into individual documents. Generally speaking, each document has an introduction, a section outlining the aims and objectives, a section on the amount of time that should be devoted to the subject each week, a section explaining the framework of the syllabus, a section of suggested teaching strategies, a section on assessment, and an outline of the syllabus. The Primary level document is 19 pages; the Singapore Lower Secondary level document (Special/Express Course & Normal Academic Course) is 27 pages; and the Singapore Social Studies Lower Secondary Normal Technical level document is 17 pages.

In terms of content, the Colorado and Singapore standards are mainly different. Across all six content subcategories, the Colorado MCS for history are described in greater depth, breadth, and rigor. In comparing the two sets of standards at the K–4 grade span and part of the 5–8 grade span, Colorado is much more analytical in its approach to the history content and concepts. There are some similarities in the standards of some historical concepts, particularly historical chronology and historical inquiry, but for the most part, the two sets of standards are different.

Both Colorado and Singapore require students to learn about historical chronological organization and to understand historical relationships. However, the Colorado MCS for the K–4 and 5–8 grade spans emphasize an understanding of chronological organization and historical relationships as a major theme that students should understand. The Colorado standards elaborate more fully than the corresponding Singapore syllabi about different types of chronological organization and historical relationships. The Singapore standards do not progress much beyond basic sequential relationships and cause-and-effect relationships. For example, the Colorado MCS at grade span 5–8 require students

to construct tiered timelines for different themes. The Lower Secondary syllabi make no reference to that skill. Even at the Primary level, Singapore students are not required to work with timelines to understand chronology and historical organization.

The Colorado MCS place a greater emphasis on the development of historical inquiry skills. Both the Colorado MCS and the Singapore syllabi for primary and secondary education require students to develop skills in historical inquiry. They cover most of the same material in the subcategory. Each expects students develop information-gathering skills. Each emphasizes the importance of students being able to analyze a variety of primary and secondary sources and appreciate that there are multiple perspectives of history. Each expects students to be able to draw conclusions using historical data. Each expects students to recognize bias in sources and determine fact from opinion. The Colorado MCS, however, are more descriptive of the subcategory than the Singapore syllabi for primary and secondary education. The Colorado MCS are also somewhat more analytical and systematic in presentation of the concepts. For example, Singapore students at the Lower Secondary level are expected to “develop key historical skills such as recognizing bias in history writing, distinguishing between fact and opinion, and processing historical information.” Colorado students at the same level are expected to “examine data for point of view, historical context, bias, distortion, or propaganda.”

The Colorado MCS for history and Singapore standards are different in their treatment of society and culture as a historical theme. Both the Colorado MCS and the Singapore primary and secondary grade syllabi stress the importance of students learning about culture as a concept. Both the Colorado MCS for grade span 5–8 and the Lower Secondary syllabi discuss the concept of social organization. The Colorado MCS, however, articulate societies and culture as themes that spiral through the grade span curriculum and present them more effectively as analytical devices for understanding history. The Singapore syllabi stress the application of society and culture to Singaporean and Southeast Asian history. Unlike Colorado, Singapore does not treat the theme as a historiographical tool, i.e., there is no sense of culture being taught as a concept that shapes the historical development of societies. Students are expected to learn specific and concrete aspects of Singapore or Southeast Asian history and understand how they impact Singaporean society. The Singapore syllabi use culture as a device for instilling in students an appreciation for Singapore society. To emphasize this point for student, the Singapore Lower Secondary syllabi have a section on ethics associated with the subcategory, and in each unit students are expected to learn specific values, such as “appreciation for culture roots and heritage,” “good governance,” and “social cohesion and unity.”

The Colorado MCS for history are more rigorous than the Singapore standards in addressing the impact of science, technology, and economics on the historical development of societies. Both the Colorado MCS and the Singapore Lower Secondary history syllabi treat the importance of science, technology, and economics as important subjects of history, but the Singapore Primary level history syllabi do not significantly cover the subcategory. Moreover, the Singapore Lower Secondary history syllabi emphasize specific scientific, technological, and economic achievements in Singaporean

and Southeast Asian history. They are not treated as distinct historical themes that can be used to understand history. In contrast, the Colorado MCS articulate science, technology, and economics as themes that spiral through the grade span curriculum and present them more effectively as analytical devices for understanding history. Like the subcategory of culture, the Singapore Lower Secondary syllabi also have a section on ethics associated with the subcategory.

The Colorado MCS for history are more rigorous than the Singapore standards in addressing the impact of political institutions and theories on the historical development of societies. Both Colorado's MCS and the Singapore Lower Secondary history syllabi treat the importance of political institutions and political theories as important subjects of history, but the Singapore Primary level syllabi do not address political institutions and theories as historical themes for understanding history. Moreover, the Singapore Lower Level syllabi focus on political institutions and topics as they relate to Singaporean and Southeast Asian history, such as the development of kingdoms and empires. There is little discussion of the concept of democratic principles, except for the concept of meritocracy. As such, the Singapore syllabi are not very analytical about the theme. In contrast, the Colorado MCS articulate political institutions and theories as themes and present them more effectively as analytical devices for understanding history. The Singapore Lower Secondary syllabi also have a section on ethics associated with political institutions and theories.

The Colorado MCS for history are also more rigorous than the Singapore standards in addressing the impact of religious and philosophical ideas on the historical development of societies. Both Colorado MCS and the Singapore Lower Secondary history syllabi treat religion and philosophy as important subjects of history. The Singapore Primary level syllabi, however, do not treat religion and philosophy as historical themes for understanding history. Moreover, the Singapore Lower Secondary history syllabi address religious and philosophical topics primarily as they impact Singaporean and Southeast Asian history. They are not used as historiographical tools for analyzing societies. The Colorado MCS articulate religion and philosophy as themes and analytical devices for understanding history. The Singapore Lower Secondary syllabi also have a section on ethics associated with religious and philosophical ideas.

At both the Primary level and the Lower Secondary level, history instruction for Singapore students is very concrete. The curriculum mainly focuses on basic historical facts and concepts pertaining to specific topics. Students are expected to develop analytical skills, but abstract thinking which would require students to apply historical concepts to different time periods and societies is not emphasized as much. Colorado students are expected to master historical concepts and to learn to apply them at a much younger age. The Colorado standards also cover a wide range of historical topics. Singapore students focus on Singaporean and Southeast Asian history in the Primary and Lower Secondary levels. The Colorado standards address much of world history at the same grade spans.

The Colorado MCS for history are also more explicit in directing instruction through their use of action verbs. The Singapore history syllabi are more explicit at outlining the history courses. Similar to the Colorado MCS, the Singapore Secondary level syllabi use specific action verbs in the learning outcomes of each unit to indicate the cognitive level of instruction (e.g., describe, explain, identify). However, the Colorado MCS for grade span K–4 use specific action verbs to suggest the cognitive level of the standards. The Singapore Primary level syllabus uses only broad action verbs in its objectives (e.g. Primary 2 Knowledge Objective: pupils will be able to understand that people, places, and things change over time).

Review of Colorado’s History Standards for 21st Century Skills and Abilities and Postsecondary and Workforce Readiness

As described in the Methodology section of this report, analysts analyzed Colorado’s draft 21st Century Learning Skills and Abilities (21st Century Skills) and definition of Postsecondary and Workforce Readiness (PWR Skills) to determine the degree to which Colorado’s MCS contain the skills described in those draft documents. Findings from those analyses are presented below.

History Model Content Standards and the 21st Century Skills and Abilities

Critical thinking and reasoning

Critical thinking and reasoning skills are evident across the standards and the grade spans. Across grade spans, most of the benchmarks use language such as “analyze,” “explain,” and “compare and contrast,” that requires students to demonstrate critical thinking and reasoning skills. The cognitive complexity of reasoning skills noticeably increases at grade span 9–12. In only a couple standards at the lower grade spans are critical thinking skills not fully developed. Standard 6 at grade spans K–4 and 5–8 is rated as Partially. Benchmarks for this standard in these grade spans focus mainly on identifying and providing examples of concepts.

Information literacy

Across grade spans, all of the standards include skills that require information literacy. Standards 1 and 2 are most explicit in this regard, because they are historical skills-based standards requiring information gathering and management. The other standards provide opportunities to develop skills in information literacy, but presently these are not explicitly stated in the standards. Standard 2 could be updated to explicitly reference issues related to Internet-based research.

Collaboration

No language in the standards across the grade spans refers to collaboration. Ways for introducing collaboration into the standards include tasks that require students to work together to understand and communicate content, such as research projects, presentations, or planning and participation in events such as history-based celebrations.

Self-Direction

Self-direction is not stated in the standards. Because they are skills based, standards 1 and 2 offer the greatest opportunity for self-direction. All of the standards could be revised to adopt language that emphasizes self-direction (e.g., research, select, organize, report). Bullets could be added to the benchmarks under the standards to indicate explicitly the type of tasks the students should be expected to perform that would enable them to develop work ethics and personal initiative skills.

Invention

All of the standards across the grade spans provide many opportunities for students to demonstrate creativity, innovation, and the integration of ideas, but presently these are not explicitly stated in the standards.

History Model Content Standards and the Postsecondary and Workforce Readiness Skills

Application of reading, writing, and computing skills with minimal remediation

The focus of the Colorado MCS for history on historical thinking skills provides students with many opportunities to develop reading, writing, and computing skills in every standard, but presently these are not explicitly stated in the standards.

Logical reasoning and argumentation

The focus of the Colorado MCS for history on historical thinking skills provides students with many opportunities to develop reasoning and argumentation skills in every standard, but presently these are not explicitly stated in the standards.

Problem-solving skills

The focus of the Colorado MCS for history on historical thinking skills provides students with many opportunities to develop problem-solving skills in every standard, but presently these are not explicitly stated in the standards.

Information management skills

The focus of the Colorado MCS for history on historical thinking skills provides students with many opportunities to develop information management skills in every standard. These skills are particularly emphasized in standards 1 and 2.

Human relation skills

There are limited opportunities in the Colorado MCS for history where human relation skills are explicitly addressed. However, their inclusion would be appropriate.

Analysis and interpretation skills

The opportunities created in the Colorado MCS for history enable students to analyze and interpret a variety of primary and secondary sources in every standard. Standards 1 and 2 explicitly state these skills, but the other standards require them as well.

Recommendations

This section contains specific recommendations from the WestEd reviews, organized by the components of the analysis.

Internal Quality Review of Colorado's History Model Content Standards

The CDE may want to consider implementing the following recommendations, where appropriate:

- Shift away from grade span standards and create grade-level standards. Individual standards for each grade level would provide clearer instructional guidance to teachers as to how the standards should be taught in their particular grade. Standards may require different emphasis in instruction at different grade levels within a grade span because of the content taught. For instance, presumably standard 5 (political institutions and theories) would be taught differently in a United States history course in grade 5 than in an ancient world history course in grade 6. Moreover, the cognitive complexity of instruction at the end of a grade span should be substantively different from the cognitive complexity of instruction at the beginning. With grade span standards, that is not clear.
- Keep most of the content of all six standards as part of the Colorado MCS. All six standards address important analytical themes for understanding history.
- Continue to spiral the standards across the grade spans. The approach is effective for instruction.
- Expand benchmark 1.1 in grade 9–12 for each grade level/grade span. Each grade span would benefit from a course outline of historical time periods. It would indicate which time periods and societies are appropriate for instruction at different grade spans or grade levels. Currently, as they are written, standards 3, 4, 5, and 6 do not provide enough information about what history should be taught at the different grade spans.
- Incorporate language in standard 2 to refer to the Internet and other 21st century technology as valuable resources for research. Any reference should also require students to learn about problems related to performing research on the Internet and other electronic media (e.g., validity of website source, bias).
- Increase the depth of the standards by providing more historical content to support them. There are an insufficient number of examples to illustrate concepts.
- Increase the depth of benchmark 3.1 at grade span 9–12 by addressing the concepts of cultural assimilation, cultural adaptation, and cultural resistance.
- Increase the depth of benchmark 3.2 at grade span 5–8 by elaborating on the concept of civilization. Students should be asked to think critically about the meaning of the term *civilization* as it applies to ancient history but also modern society.
- Clearly delineate the beginning and endpoints of the standards between grade spans 5–8 and 9–12 for content. If both grade spans are expected to cover the entirety of United States and world history, this should be stated. Otherwise, the beginning and endpoints should be clarified.
- Delineate instruction at benchmark 3.1 for grade spans 5–8 and 9–12 by requiring greater depth in analysis of the benchmark in grade span 9–12.

- Expand the breadth of the content in standards 3, 4, 5, and 6. The standards could be improved if historical content is added to each. Benchmarks should indicate which societies, time periods, events, and people should be addressed to illustrate the themes.
- Eliminate extraneous content in benchmark 4.1 at grade span K–4. The names mentioned are outside the scope of the curriculum.
- Consider revising benchmark 4.2. Much of the content here is covered in Colorado MCS for economics.

External Referent Review for History

Based on the external referent review, the CDE may want to consider the following recommendations:

- Reformat the standards articulation and shift from grade-span standards to grade-level standards as seen in the Indiana and Massachusetts standards. This approach would allow emphasis on specific content to exemplify the concepts in each standard. It would also refine the cognitive complexity of the standards for each grade level.
- Organize its standards along a chronological thematic structure such as Indiana and Massachusetts or create a new standard along side the existing standards to indicate which specific time periods, civilizations, events, people, and documents should be covered at each grade level.
- Narrow the scope of the standards to emphasize more specific historical content. Doing so would tie the action verbs of its standards more closely to the content and refine the cognitive complexity of the standards.
- Create appendices that would provide teachers with useful resources and teaching strategies, as found in the Massachusetts standards. Teachers in grade spans K–4 and 5–8 tend to be generalists and could benefit from additional instructional guidance.

Suggestions for consideration of additional external referents

The Kansas Curricular Standards for History are very informative. Similar to the Colorado MCS, they are organized by benchmarks and indicators. However, they also provide grade-level standards for history. History curriculum in the Kansas standards is integrated with other social studies subjects. Finally, the Kansas standards include instructional strategies for many of the benchmarks and indicators.

CDE could also consider the NAEP U.S. History Framework for 2006. It organizes United States history into eight chronological time periods and encourages spiral instruction in each time period across grade spans, increasing the cognitive complexity of instruction at each grade span so that even though there is repetition of content, the depth and rigor of analysis increases at each grade level and increases students' appreciation of United States history.

Recommendations from the Review of 21st Century Skills and Abilities and Postsecondary and Workforce Readiness

Because of the interconnectedness of the findings and recommendations related to the 21st Century Skills and Abilities and Postsecondary and Workforce Readiness definition, recommendations related to the 21st Century and PWR skills are presented together in the Findings section of this report.

IV. REFERENCES AND EXTERNAL REFERENTS

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Civics External Referents

Massachusetts History and Social Science Curriculum Framework (August 2003)
Indiana’s Academic Standards, High School United States Government (October 2007)
Indiana’s Academic Standards, Social Studies — K–8th Grade (October 2007)
National Core Curriculum for Basic Education 2004, Ethics (Finland)
National Core Curriculum for Basic Education 2004, Social Studies (Finland)
National Core Curriculum for Upper Secondary Schools 2003, Ethics (Finland)
National Core Curriculum for Upper Secondary Schools 2003, Social Studies (Finland)
Civics and Moral Education Syllabus Primary 2007 (Singapore)
Civics and Moral Education Syllabus Secondary 2007 (Singapore)
Revised Pre-University Civics Syllabus 2007 (Singapore)
Social Studies Syllabus Primary 2006, Updated 2008 (Singapore)
Social Studies Syllabus Lower Secondary Normal (Technical) 2005 (Singapore)

Economic External Referents

Massachusetts History and Social Science Curriculum Framework (August 2003)
Indiana’s Academic Standards, High School Economics (October 2007)
Indiana’s Academic Standards, Social Studies – K – 8th Grade (October 2007)
National Core Curriculum for Basic Education 2004, Ethics (Finland)
National Core Curriculum for Basic Education 2004, Social Studies (Finland)
National Core Curriculum for Upper Secondary Schools 2003, Ethics (Finland)
National Core Curriculum for Upper Secondary Schools 2003, Social Studies (Finland)
Civics and Moral Education Syllabus Primary 2007 (Singapore)
Civics and Moral Education Syllabus Secondary 2007 (Singapore)
Revised Pre-University Civics Syllabus 2007 (Singapore)
Social Studies Syllabus Primary 2006, Updated 2008 (Singapore)
Social Studies Syllabus Lower Secondary Normal 2005 (Singapore)

Geography External Referents

Massachusetts History and Social Science Curriculum Framework (August 2003)
Indiana's Academic Standards, Geography and History of the World (October 2007)
Indiana's Academic Standards, World Geography (October 2007)
Indiana's Academic Standards, Social Studies – K – 8th Grade (October 2007)
National Core Curriculum for Basic Education 2004, Biology and Geography (Finland)
National Core Curriculum for Upper Secondary Schools 2003, Geography (Finland)
Geography Syllabus Lower Secondary 2006 (Singapore)
Social Studies Syllabus Primary 2006, Updated 2008 (Singapore)

History External Referents

Massachusetts History and Social Science Curriculum Framework (August 2003)
Indiana's Academic Standards, Geography and History of the World (October 2007)
Indiana's Academic Standards, World History and Civilization (October 2007)
Indiana's Academic Standards, United States History (October 2007)
Indiana's Academic Standards, Social Studies – K–8th Grade (October 2007)
National Core Curriculum for Basic Education 2004, History (Finland)
National Core Curriculum for Upper Secondary Schools 2003, History (Finland)
History Syllabus Lower Secondary 2006 (Singapore)
Social Studies Syllabus Primary 2006, Updated 2008 (Singapore)

The contents of this report were developed under a grant from the Department of Education. However, those contents do not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the Federal Government.

V. APPENDICES

Appendix A. Civics: Internal Quality Review

Depth

| Standard | Grade Span | Within Span | Across Span | Comments |
|----------|------------|-------------|-------------|---|
| 1 | K-4 | P | | Partial rating because missing from many of the benchmarks are bullet points that deal with basic understandings of definitions of such terms as <i>government, power, authority, constitution, rules, laws, rights, common good</i> , etc. Students are asked to provide examples or identify instances of these abstract concepts, which assumes an understanding of their meaning. Standard would have greater depth if these foundational concepts were addressed explicitly and then built on in a systematic way. |
| 1 | 5-8 | F | | |
| 1 | 9-12 | F | | |
| 1 | Across | | F | |
| 2 | K-4 | P | | Partial rating due to lack of clarity about how deep the coverage is expected to be for grades K-4. Standard assumes attention has been paid to foundational knowledge that is not explicitly addressed. For example, students need to learn that there are different levels of government before going on to identify what they do and the limitations of their powers. |
| 2 | 5-8 | F | | |
| 2 | 9-12 | F | | |
| 2 | Across | | F | |
| 3 | K-4 | P | | There is not enough content included in the benchmarks to cover the content at an appropriate depth. This may reflect the belief that dealing with foreign policy is developmentally inappropriate for this age group |
| 3 | 5-8 | F | | |
| 3 | 9-12 | F | | |
| 3 | Across | | F | |
| 4 | K-4 | F | | |
| 4 | 5-8 | F | | |
| 4 | 9-12 | F | | |
| 4 | Across | | F | This standard needs to be expanded to address civic skills and dispositions at an appropriate depth. |

Civics: Internal Quality Review

Coherence

| Standard | Grade Span | Appropriate Sequence | Appropriate Endpoints | Comments |
|----------|------------|----------------------|-----------------------|---|
| 1 | K-4 | | F | At grades K-4, Benchmark 1.5, second bullet, may be somewhat advanced for fourth graders. This content is addressed again at the 5-8, level where it seems more developmentally appropriate. |
| 1 | 5-8 | | F | |
| 1 | 9-12 | | F | |
| 1 | Across | F | F | |
| 2 | K-4 | | P | At grades K-4, Benchmark 2.2 could be extended to introduce the three branches of government and their basic functions, as part of the structure and functions of local, state, and national governments. |
| 2 | 5-8 | | F | |
| 2 | 9-12 | | F | |
| 2 | Across | F | F | |
| 3 | K-4 | | P | Partial rating due to Benchmark 3.1 missing a starting point that deals with the political organization of the world into nations, each with its own government, which interact with each other. The first bullet is an appropriate endpoint. |
| 3 | 5-8 | | F | |
| 3 | 9-12 | | F | |
| 3 | Across | F | F | |
| 4 | K-4 | | F | |
| 4 | 5-8 | | F | |
| 4 | 9-12 | | F | |
| 4 | Across | F | F | |

Civics: Internal Quality Review

Rigor

| Standard | Grade Span | Rigor | Comments |
|----------|------------|-------|--|
| 1 | K–4 | F | Standard deals primarily with knowledge, but also requires higher-level thinking skills (e.g., describe, give examples, and explain). |
| 1 | 5–8 | F | Wording of standard allows for incorporation of higher-level thinking skills (e.g., analyze and debate positions and issues). |
| 1 | 9–12 | F | Wording of standard allows for inclusion of the highest levels of Bloom's taxonomy as students analyze, evaluate, defend, and debate positions and issues. |
| 1 | Across | F | |
| 2 | K–4 | P | Standard deals primarily with knowledge, and the benchmarks seldom ask students to do more than "identify." The rigor could be increased. |
| 2 | 5–8 | F | This standard focuses mainly on "explaining" and "identifying," but also asks for "evaluation" at age-appropriate places. |
| 2 | 9–12 | F | Standard requires students to apply their knowledge as they analyze court decisions, historical conflicts, current public policy, and the meaning of the rule of law. |
| 2 | Across | F | |
| 3 | K–4 | P | The benchmarks for this standard regarding world affairs at grades K–4 are rated Partially because the indicators supporting the benchmarks lack illustrative examples and substantive action verbs. |
| 3 | 5–8 | F | The last benchmarks for this standard may be too rigorous at this level, depending on the curriculum and student's background knowledge of contemporary world affairs. |
| 3 | 9–12 | F | |
| 3 | Across | F | Because this standard addresses content more age-appropriate to the upper grades, it merits a fully rigorous overall rating but would benefit from additional benchmarks at the K–4 grade span. |
| 4 | K–4 | P | Partial rating due to lack of rigor in challenging students to begin developing the skills and dispositions that are the basis of civic engagement at a developmentally appropriate level. |
| 4 | 5–8 | P | Partial rating due to lack of examples of civic participation. Such skills would be appropriate given the standard's focus on political participation. |
| 4 | 9–12 | P | Partial rating due to lack of emphasis on the skills and dispositions that prepare students for active participation in the civic life of their community, state, and nation. |
| 4 | Across | P | Partial rating reflects the consensus within the civic education research community that knowledge is essential but insufficient to prepare students to become engaged citizens. A more rigorous approach would include a focus on the skills and experiences that both equip students for effective civic participation and develop their sense of personal political efficacy. |

Civics: Internal Quality Review

Breadth

| Standard | Grade Span | Breadth Within Span | Contains Essential Content | Free of Extraneous Content | Comments |
|----------|------------|---------------------|----------------------------|----------------------------|--|
| Across | K–4 | P | P | F | Partial rating for essential content due to lack of bullet points dealing with basic definitions and understandings of terms such as <i>government, laws, rules, power, authority, rights, constitution</i> , etc. The K–4 standards assume these understandings have been developed, perhaps in the lower grades and thus begin with application of that knowledge appropriate to the upper grades in this span. |
| 1 | K–4 | | P | P | Partial rating due to insufficient explanation of the principles of constitutional government (e.g., all citizens should have the same rights) and distinctive characteristics of our political culture (e.g., the Pledge of Allegiance, patriotic holidays, and other elements of U.S. political culture that would be appropriate for K–4). The final bullet point under Benchmark 1.5 may contain extraneous content, depending on how it is presented to students. Terms like "sovereign" and "indirect authority" are well above grade level for this age span. |
| 2 | K–4 | | P | F | Partial rating for essential content due to insufficient discussion of the three branches of government. Benchmarks could include the structure and function of local, state, and national government; the Colorado constitution; and identification of local, state, and national leaders. |
| 3 | K–4 | | P | F | Partial rating for this standard on the political relationship of the U.S. to the world due to insufficient discussion of the political organization of the world. This content may also be appropriate in geography. |
| 4 | K–4 | | P | F | Partial rating for essential content due to limited inclusion of civic engagement. Students are asked to "understand" how citizens carry out their roles, rights, and responsibilities in civic life. To carry out the spirit of the standard as expressed in its rationale, however, the benchmarks associated with this standard could focus on more than knowledge, including the skills and dispositions that are essential to "function effectively as citizens." |
| Across | 5–8 | F | P | F | A more comprehensive listing of content in the lower grades at all standards would make this a more robust set of expectations for all grades within the span. |
| 1 | 5–8 | | F | F | |

| Standard | Grade Span | Breadth Within Span | Contains Essential Content | Free of Extraneous Content | Comments |
|----------|------------|---------------------|----------------------------|----------------------------|--|
| 2 | 5–8 | | F | F | Benchmark 2.3 on "the place of law in the Colorado and U.S. constitutional systems" could include more explicit information on the role of the Bill of Rights in the Colorado context, which would clarify what students are intended to know or be able to do. The final bullet point would be more clear if it included examples of Supreme Court cases which involved Colorado. |
| 3 | 5–8 | | F | P | Partial rating for extraneous content due to inclusion of information which is above grade level (e.g., knowledge about current foreign policy issues, diplomatic strategies, agencies of the U.S. government that deal with foreign policy, and NGOs). Students in the 9–12 grade span are more likely to have the requisite exposure to contemporary U.S. history, world history, and U.S. foreign policy. |
| 4 | 5–8 | | P | F | Partial rating for essential content due to lack of skills and dispositions that encourage engagement in the community by participation in civic affairs. |
| Across | 9–12 | F | F | F | |
| 1 | 9–12 | | F | F | |
| 2 | 9–12 | | F | F | This standard emphasizes active engagement with public issues and problems by asking students to analyze, evaluate, defend, and debate. |
| 3 | 9–12 | | F | F | |
| 4 | 9–12 | | P | F | Partial rating for essential content due to limited inclusion of civic engagement. This is introduced in the last benchmark and bullet point in this standard, which point toward the development of civic skills and dispositions by practicing them. More emphasis on civic engagement throughout the standards would be beneficial. |
| Across | Across | F | F | F | |
| 1 | Across | | F | F | |
| 2 | Across | | F | F | |
| 3 | Across | | F | F | |
| 4 | Across | | P | F | Partial rating for essential content due to insufficient attention to civic skills and dispositions. |

Appendix B. Civics: External Referent Review—Massachusetts
External Referent: Massachusetts History and Social Science Curriculum Framework (August 2003)

Organization/Structure

| Subcategory | Similarities | Differences | Comments |
|------------------------|--|--|---|
| Grade Articulation | <p>Massachusetts has two types of standards. The first, Concepts and Skills Standards, are organized in three strands: History and Geography, Civics and Government, and Economics. These standards are specific to the content domain. The second, called Learning Standards, define the specific content for each grade or course.</p> <p>Massachusetts organizes its Concepts and Skills Standards for the upper grades in a single grade span—8–12. These standards include Civics and Government.</p> <p>The Colorado MCS for civics are organized by grade spans—K–4, 5–8, and 9–12.</p> | <p>Massachusetts organizes its Learning Standards by grade level for grades K–7 and by course for grades 8–12. It offers a grade 12 American Government course as an elective. There are no overarching standards that spiral from Kindergarten to grade 12.</p> <p>Colorado civics standards are designed to spiral through the K–12 grade years. At each of three grade spans, benchmarks and indicators communicate how these broad overarching standards are to be applied as students mature.</p> | <p>Overall, the grade articulation of standards in the two states is more different than similar.</p> <p>Massachusetts uses a grade-specific or course-specific method to articulate standards through the grades.</p> <p>Colorado uses a grade-span method of articulation that applies its K–12 standards in age-appropriate ways to three grade spans.</p> |
| Hierarchy of Standards | | <p>The Massachusetts Concepts and Skills and Learning Standards are listed sequentially without benchmarks or indicators.</p> <p>Colorado organizes its standards into a hierarchy of standards, benchmarks, and indicators at three grade spans.</p> | <p>Overall, the hierarchy of standards is more different than similar.</p> |

| Subcategory | Similarities | Differences | Comments |
|----------------------------|---|--|---|
| <p>Number of Standards</p> | <p>Counting Massachusetts’s civic standards is problematic. Its Concepts and Skills Standards are divided into strands. Its Learning Standards are coded as strands (History and Geography, Civics and Government, and Economics) with many standards receiving multiple codes. In some cases, the relationship of a specific standard to Civics and Government is direct and clear. In others, the connection is less clear. In still other cases where such a coding would seem appropriate, it is absent.</p> <p>In the Concepts and Skills category, 15 standards are listed under the Civics and Government strand for grades K–12. Another 8 are listed under the History and Geography strand, but are also coded for Civics, bringing the total number of Concepts and Skills Standards related to civics to 23.</p> <p>In the Learning Standards category, 51 content standards are coded for Civics in grades K–7. At the 8–12 level, all students are expected to complete at least two years of World History and two years of U.S. History. Of the Learning Standards listed for those four years of study, 31 are coded for Civics. The Grade 12 American Government elective includes another 53 civics standards. Altogether, Massachusetts lists 158 standards relating to Civics and Government. The Colorado Model Content Standards for Civics document lists 4 K–12 standards, 16 grade-span benchmarks, and 134 indicators. The total number of standards, benchmarks, and indicators is 154, which is close to the number of Massachusetts civics standards.</p> | <p>Although the counts of civics standards seems similar for both states, the comparison is not as strong, when one considers that the Colorado MCS standards all read as “pure civics,” while many of the double-or triple-coded Massachusetts standards mix civics content with history, geography, and economics content.</p> <p>The similarity also is less strong when one compares the number of Massachusetts civics standards with the number of Colorado MCS standards, benchmarks, and indicators at the three grade spans:</p> <p>Massachusetts K–4: 28 Colorado K–4: 46</p> <p>Massachusetts 5–7: 36 Colorado 5–8: 75</p> <p>Massachusetts 8–12: 92 Colorado 9–12: 73</p> | <p>If one compares only the Massachusetts standards coded only for civics with the Colorado MCS, the numbers look very different. Massachusetts has only 23 unique civics standards required for grades K–12. Another 53 are included for a high school elective course.</p> <p>Colorado, in contrast, offers 154 civics standards, benchmarks, and indicators.</p> <p>Overall, the numbers of standards are more different than similar.</p> |

| Subcategory | Similarities | Differences | Comments |
|---------------|--|--|---|
| Design/Format | <p>Both standards documents provide an introduction. In both, the introduction stresses the importance of preparing students for citizenship in a democratic society. Both also lay out a rationale for their standards.</p> | <p>Massachusetts lays out all of its social studies standards in one document, the <i>Massachusetts History and Social Science Curriculum Framework</i>. Its 130 pages cover standards for history, geography, civics, and economics. It also includes a number of appendices listing primary sources, resources for teachers, criteria for reviewing textbooks, and connections to language arts and math standards.</p> <p>Massachusetts divides its social studies standards into two categories: Concepts and Skills and Learning Standards. The Concepts and Skills Standards are organized into three general strands: History and Geography, Civics and Government, and Economics. The Learning Standards are laid out in a grade- and/or course-specific manner.</p> <p>Colorado presents its MCS standards for civics as a subdomain-specific document. The benchmarks and indicators for each overarching standard appear together for the three grade spans, allowing one to see how the content for standards spirals across the grade spans. The Colorado Model Content Standards for Civics document is 30 pages and includes a glossary and an index.</p> | <p>The Massachusetts approach enables teachers at each grade level to see what their students are expected to learn that year.</p> <p>The Colorado approach enables teachers to see all of the civics standards in one place and to understand how they articulate through the grades. In contrast, a teacher in Massachusetts would need to review the entire framework to see how civics standards are developed and articulated from K–12.</p> <p>Overall, the design and format to the documents are more different than similar.</p> |

| Subcategory | Similarities | Differences | Comments |
|-------------|--------------|---|----------|
| | | <p>In the civics strand, there are four broad standards that apply to K–12. Under these standards are listed grade-span specific benchmarks and indicators. The benchmarks show how the standard should be applied at each grade span. The indicators provide still more specific guidance as to what students should know and be able to do at each level.</p> | |

External Referent: Massachusetts History and Social Science Curriculum Framework (August 2003)

Content

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|---|--|---|
| Standard 1 | Both the Colorado MCS and the Massachusetts <i>Framework</i> are thorough in their emphasis on understanding the purposes of government and the basic constitutional principles of the United States. | Because Massachusetts embeds its civics standards in history courses at grade 5 and again in grades 8–11, its coverage of this standard is often integrated with standards referring to historical events. The Colorado standards, in contrast, are more focused on the present. | Overall, the coverage of the content in this standard is more similar than different. |
| Standard 2 | Both the Colorado MCS and the Massachusetts <i>Framework</i> address the structure and function of local, state, and national governments and the public policy process. | Colorado addresses this standard directly at the K–4 grade span whereas Massachusetts does not focus on this standard until grade 5. | Overall, the coverage of the content in this standard is more similar than different. |
| Standard 3 | Both the Colorado MCS and the Massachusetts <i>Framework</i> focus on the political relationship of the United States and its citizens to other nations and world affairs. | Colorado addresses this standard in a minor way at the K–4 grade span whereas Massachusetts does not focus on this standard until the upper grades. | Overall, the coverage of the content in this standard is more similar than different. |
| Standard 4 | Both the Colorado MCS and the Massachusetts <i>Framework</i> address how citizens exercise their roles, rights, and responsibilities in civic life. This expectation begins in the early grades and continues through high school. | Colorado’s benchmarks and indicators in this area are more extensive than the corresponding Massachusetts standards. | Overall, the coverage of the content in this standard is more similar than different. |
| Grades K–4 | Both the Colorado MCS and the Massachusetts <i>Framework</i> have standards addressing basic terms such as authority, justice, rules, rights, and responsibilities. Each focuses on characteristics of good citizenship in school and community contexts. Each has standards addressing the purpose of and need for governments and means of participating in government. Each also introduces students to key documents such as the Constitution and Bill of Rights. | Massachusetts includes a greater focus on American symbols such as the national anthem and Pledge of Allegiance, the American flag. It also focuses more on immigrants and their contributions and rights. The Colorado MCS standards for civics at this level have more breadth and rigor than those of Massachusetts. Students are introduced to such higher-level concepts | Overall, the emphasis at this grade span is more similar than different. |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|---|--|--|
| | | as limited government, the functions of government, representative government, international issues, and economic, personal, and political rights. | |
| Grades 5–8 | Both the Colorado MCS and the Massachusetts <i>Framework</i> have multiple standards addressing the history of government, the historical origins of the United States and its system of government, the development of and principles of the U.S. Constitution, the rights protected by the Bill of Rights, and the functions of state and local governments. | <p>Colorado goes beyond Massachusetts by addressing civics concepts such as public policy, federalism, the legal system, foreign policy, and the exercise of citizen’s rights.</p> <p>Massachusetts has more standards explicitly referring to ancient governments and modern governments in other parts of the world.</p> | Overall, the emphasis at this grade span is more similar than different. |
| Grades 9–12 | Both the Colorado MCS and the Massachusetts <i>Framework</i> include content requiring an understanding of the historical and intellectual origins of republican government in the United States, the development of the U.S. democratic form of government, the functions of governments at all levels, the workings of federalism, the development of public policy, elections, political parties, and the political process. | <p>The Massachusetts standards emphasize historical developments such as political reform movements in 19th century Europe or the key ideas expressed in the Federalist Papers. This is also true for the standards developed for the American Government elective.</p> <p>The Colorado standards are more contemporary in emphasis, focusing more on the exploration and evaluation of current issues. The Colorado MCS standards also call on students to engage more actively in political discussion and debate, and they focus more on international affairs.</p> <p>These differences in emphasis diminish if one includes the standards for Massachusetts’s Grade 12 American Government elective.</p> | Overall, the emphasis at this grade span is more similar than different. |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|---------------------|--|--|--|
| Across | Both the Colorado MCS and the Massachusetts <i>Framework</i> emphasize and understanding of the political system in which they live and their roles as citizens. The Colorado MCS standards, benchmarks, and indicators do not align perfectly to the Massachusetts Concepts and Skills Standards and Learning Standards. Some topics are emphasized earlier or later, depending on the state, but the topics covered are both similar and standard for this content area. | | Overall, the content addressed across the grades is more similar than different. |
| Wording/Specificity | | <p>Colorado MCS use more active verbs than the Massachusetts standards, particularly at the upper grades. Massachusetts students are asked to explain and describe, analyze, and summarize. The tone of the Massachusetts standards is consistently more academic than participatory.</p> <p>In contrast, the Colorado MCS ask students to go beyond explanation and analysis to developing, evaluating, defending, and debating positions on issues.</p> <p>Colorado’s civics standards are more specific at all grade levels if one does not include the Massachusetts American Government elective. The standards for that one-semester course are highly detailed and extensive.</p> | Despite the differences noted, overall, the wording and specificity of standards in both states are more similar than different. |

Appendix C. Civics: External Referent Review—Indiana
External Referent: Indiana’s Academic Standards, Social Studies—K–8th Grade & High School United States Government
(October 2007)

Organization/Structure

| Subcategory | Similarities | Differences | Comments |
|--------------------|--------------|---|--|
| Grade Articulation | | <p>The Colorado MCS for civics is organized by grade spans—K–4, 5–8, and 9–12. Its four overarching civics standards are designed to spiral through the K–12 grade years. At each grade span, benchmarks and indicators communicate how these broad overarching standards are to be applied as students progress.</p> <p>Indiana’s K–8 social studies standards are laid out grade-by-grade in four strands:</p> <ul style="list-style-type: none"> • History • Civics and Government • Geography • Economics <p>At each grade level, standards change as students progress through the grades.</p> <p>Indiana has course-specific standards at 9–12. Indiana’s high school United States Government course appears to be a graduation requirement.</p> | Overall, the grade articulation of standards in the two states is more different than similar. |

| Subcategory | Similarities | Differences | Comments |
|------------------------|--|---|---|
| Hierarchy of Standards | | <p>Colorado organizes its expectations into a hierarchy of standards, benchmarks, and indicators at three grade spans. The standards are consistent from K–12.</p> <p>Indiana has one civics standard at each grade level followed by a number of benchmarks organized under three headings: Foundations of Government, Functions of Government, and Roles of Citizens. While the headings remain the same at grades K–8, the standards and benchmarks are different from grade to grade.</p> <p>Indiana’s high school United States Government course has five overarching standards, each of which is followed by a number of benchmarks.</p> | Overall, the hierarchy of standards is more different than similar. |
| Number of Standards | <p>The Colorado Model Content Standards for Civics document lists 4 K–12 standards, 16 grade-span benchmarks, and 134 indicators. The total number of standards, benchmarks, and indicators is 154.</p> <p>Indiana has 9 standards and 64 benchmarks at the K–8 span. Its high school U.S. Government course has 5 standards and 60 benchmarks. Indiana’s total number of standards and benchmarks is 138, not markedly different from Colorado’s total of 154.</p> <p>The similarity also holds when one compares the number of standards, benchmarks, and indicators at the three grade spans:</p> | | Overall, the number of civics standards, benchmarks, and indicators in the two states is more similar than different. |

| Subcategory | Similarities | Differences | Comments |
|----------------------|--|--|---|
| | <p>Indiana K–4: 37 Colorado K–4: 46</p> <p>Indiana 5–7: 36 Colorado 5–8: 36</p> <p>Indiana U.S. Government: 65 Colorado 9–12: 73</p> | | |
| <p>Design/Format</p> | | <p>The Colorado Model Standards for civics document provides an introduction to the subject area and a rationale for the standards that follow. The document is 30 pages long and includes a glossary and index.</p> <p>The benchmarks and indicator for each overarching standard appear together for the three grade spans, allowing one to see how the content spirals across the grade spans.</p> <p>Indiana organizes each set of social studies standards grade by grade for K–8. The 9 grade-level standards documents, along with the U.S. Government standards, cover 80 pages. However, many of those pages address content other than civics.</p> <p>Each grade-level document begins with a short summary of that year’s course of study and a description of how the standards are organized around the four social studies strands. It notes that specific terms are defined and examples provided</p> | <p>The Indiana approach enables teachers at each grade level to see what their students are expected to learn that year.</p> <p>The Colorado approach enables teachers to see all of the civics standards in one place and to understand how they articulate through the grades. In contrast, a teacher in Indiana would need to review ten standards documents to see how civics standards are developed and articulated from K–12.</p> <p>Overall, the design and format of the Colorado and Indiana standards documents are more different than similar.</p> |

| Subcategory | Similarities | Differences | Comments |
|-------------|--------------|--|----------|
| | | <p>where necessary. It also notes the integration of thinking skills and civic skills and the examination of society and culture in the benchmarks for each strand.</p> <p>There is one civics standard per K–8 grade level. The benchmarks related to that broad standard are organized under three headings:</p> <ul style="list-style-type: none"> • Foundations of Government • Functions of Government • Roles of Citizens <p>Examples are often used to describe the intent of a benchmark. Civics terms such as <i>authority</i> are defined at point of use.</p> <p>The high school United States Government course has 5 overarching standards, each followed by from 7 to 20 detailed benchmarks.</p> | |

Civics: External Referent Review—Indiana
External Referent: Indiana’s Academic Standards, Social Studies—K–8th Grade & High School United States Government
(October 2007)

Content

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|---|--|---|
| Standard 1 | Both Colorado and Indiana are thorough in their emphasis on understanding the purposes of government and the basic constitutional principles of the United States. | Because Indiana embeds its civics standards in history and geography courses at grade 5–8, its coverage of this standard is often linked to historical events or geographical regions. | Overall, the coverage of the content in this standard is more similar than different. |
| Standard 2 | Both Colorado and Indiana have standards that address the structure and function of local, state, and national governments and the public policy process. | | Overall, the coverage of the content in this standard is more similar than different. |
| Standard 3 | Both Colorado and Indiana have standards that focus on the political relationship of the United States and its citizens to other nations and world affairs. | Colorado addresses this standard in a minor way at the K–4 grade span whereas Indiana does not focus on these topics until the upper grades. | Overall, the coverage of the content in this standard is more similar than different. |
| Standard 4 | Both Colorado and Indiana have standards that address how citizens exercise their roles, rights, and responsibilities in civic life. This standard is addressed in the early grades and continued through high school. | | Overall, the coverage of the content in this standard is more similar than different. |
| Grades K–4 | Both Colorado and Indiana have standards addressing basic terms such as authority, justice, rules, rights, and responsibilities. Each focuses on characteristics of good citizenship in a school and community context. Each has standards addressing the purpose of and need for governments and means of participating in government. Each also introduces students to key documents such as the Constitution and Bill of Rights. | Indiana focuses more on important American symbols such as the national anthem and Pledge of Allegiance, the American flag, etc. It focuses more on diversity and respect for differences. The state constitution is highlighted more prominently. | Overall, the emphasis at this grade span is more similar than different. |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|--------------------|---|---|--|
| | | <p>Beginning at grade 3, Indiana includes civics benchmarks calling on students to use varied information sources to research and report on a local or state issue. No Colorado standard asks students to engage in this type of research.</p> <p>Colorado introduces higher-level concepts such as limited government, representative government, and international issues at this grade span.</p> | |
| <p>Grades 5–8</p> | <p>Both Colorado and Indiana have multiple standards addressing the history of government, the historical origins of the United States and its system of government, the development of and principles of the U.S Constitution, the rights protected by the Bill of Rights, and the functions of state and local governments.</p> | <p>Indiana introduces much of the civics content in the context of U.S. history, world history, and regional geography. For example, at grade 6, students are asked to "define the term <i>nation-state</i> and describe the rise of nation-states headed by monarchs in Europe between 1500 and 1700." Grade 7 students are expected to "compare historical and contemporary governments in Asia, Africa, and the Southwest Pacific."</p> <p>Unlike Colorado, Indiana includes benchmarks on comparative government and international organizations. Grades 5 and 8 include a benchmark calling on students to use varied information sources to research, develop, and defend a position on a current issue. Grades 6 and 7 include a benchmark calling on students to compare citizenship and the citizen's role in different countries.</p> | <p>Overall, the emphasis at this grade span is more similar than different.</p> <p>Much attention has been paid in the Indiana civics standards at this grade level to the need to integrate them into the course of study for the year (U.S. history in grades 5 and 8, world history in grade 6, and regional geography in grade 7). This practice might make the challenge of addressing standards and benchmarks from four social studies strands in one year easier for teachers.</p> <p>In contrast, Colorado lists its standards, benchmarks, and indicators in general terms and allows teachers to decide when (during each grade span) and how to integrate that material into their courses of study.</p> |
| <p>Grades 9–12</p> | <p>The Colorado MCS standards, benchmarks, and indicators map reasonably well to the Indiana</p> | <p>The Indiana standards emphasize the study of foundational documents such as the</p> | <p>Overall, the emphasis at this grade span is more similar than different.</p> |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|---|---|--|
| | <p>United States Government course standards and benchmarks.</p> <p>Both sets of standards aim to give students a firm understanding of the political system in which they live and their roles as citizens. Both states expect students to deepen their understanding of the historical and intellectual origins of republican government in the United States, the development of our democratic form of government, the workings of federalism, the functions of governments at all levels, the development of public policy, elections and political parties and the political process, and the role of the United States in world affairs.</p> | <p>Seneca Falls Declaration of Sentiments and President Franklin Roosevelt’s “Four Freedoms” speech. They also bring in more economic content, probably reflecting the fact that economics is not a required course at the high school level in that state. Students are expected to describe fiscal and monetary policy and their impact on individuals and business. The benchmarks on foreign relations include references to non-governmental organizations and globalization.</p> <p>The Colorado standards call on students to engage more actively in political discussion and debate.</p> | |
| Across | | | Overall, the content addressed across the grades is more similar than different. |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|---------------------|--------------------------|---|---|
| Wording/Specificity | | <p>Colorado’s standards tend to use more active verbs than Indiana’s, particularly at the high school level. Indiana high school students are asked to identify, explain, describe, analyze, and summarize. The tone of the Indiana standards is consistently more academic than participatory.</p> <p>In contrast, the Colorado MCS standards sometimes ask students to go beyond explanation and analysis to developing, evaluating, defending, and debating positions on issues.</p> <p>Indiana’s civics standards are generally more specific from grade 5 through high school. In part, this specificity reflects the effort to integrate civics content into history and geography courses at grades 5–8. The standards for Indiana’s United States Government course are detailed and extensive.</p> | Despite the differences noted, overall, the wording and specificity of standards in both states is more similar than different. |

Appendix D. Civics: External Referent Review—Finland

External Referent: National Core Curriculum for Basic Education 2004, Ethics (Finland) and National Core Curriculum for Upper Secondary Schools 2003, Ethics (Finland)

Organization/Structure

| Subcategory | Similarities | Differences | Comments |
|------------------------|---|--|--|
| Grade Articulation | <p>Colorado’s MCS for civics are organized by grade spans—K–4, 5–8, and 9–12.</p> <p>Finland also organizes its descriptions of what students are expected to learn by grade span. Its first span covers grades 1–5; the second covers grades 6–9; and the is upper secondary, which is roughly equivalent to grades 9–12, plus a year of junior college.</p> | <p>The four Colorado MCS civics standards are designed to spiral through grades K–12. At each of the three grade spans, benchmarks and indicators communicate how these broad overarching standards are to be applied as students mature.</p> <p>Finland does not have performance descriptors that run from one level to the next.</p> | The grade articulation is more different than similar. |
| Hierarchy of Standards | | <p>Colorado organizes its performance expectations into a hierarchy of standards, benchmarks, and indicators at the three grade spans. The standards are consistent from grades K–12.</p> <p>Finland labels its expectations of what students will know and be able to do at the end of grade 5 as “Descriptions of Good Performance” and at the end of grade 8 as “Assessment Criteria.” Finland does not include any such expectations in its upper secondary course descriptions.</p> | The hierarchy of standards is more different than similar. |

| Subcategory | Similarities | Differences | Comments |
|----------------------------|--------------|---|--|
| <p>Number of Standards</p> | | <p>The Colorado MCS document lists 4 K–12 standards, 16 grade-span benchmarks, and 134 indicators. The total number of standards, benchmarks, and indicators is 154.</p> <p>Counting civics standards in Finland is complicated by the fact that its Core Curriculum for grades 1–9 is labeled Ethics, which is a multidisciplinary mix of “philosophy, the social sciences, and cultural studies.” Four of the 15 “Descriptions of Good Performance” for grade 5 contain what most U.S. educators would recognize as civics content. At grade 8, 5 of the 18 “Assessment Criteria” address civics content.</p> <p>Finish students also take Social Studies at grades 7–9. The content of this curriculum is a mix of culture, civics, and economics. The grade 8 “Assessment Criteria” for Social Studies lists 5 general performance indicators, all of which could be applied to civics content. This brings the total of Finnish civics performance indicators to 14.</p> <p>At the secondary level, students continue their study of Ethics. They also take a required course called “Politics and Society.” There are content descriptions but no performance expectations for this course.</p> | <p>The numbers of standards are more different than similar.</p> |

| Subcategory | Similarities | Differences | Comments |
|----------------------|--------------|--|--|
| <p>Design/Format</p> | | <p>The Colorado MCS provide an introduction to the subject area and a rationale for the standards, benchmarks, and indicators that follow. The document is 30 pages long and includes a glossary and index.</p> <p>Finland’s documents describing its Ethics and Social Studies curricula and upper secondary courses all have brief introductions that describe each unit of study’s purpose and general content. This is followed by a list of objectives and “Core Content” modules. Each module has a header followed by a few bullet points. A typical header in the grade 7–9 social studies curriculum reads “Welfare of the individual.” The last elements of these course descriptions at the lower levels are the performance or assessment indicators.</p> <p>Taken all together, the Ethics and Social Studies curricula and required and elective course descriptions cover 16 pages.</p> | <p>The design and format of the materials are more different than similar.</p> |

External Referent: National Core Curriculum for Basic Education 2004, Ethics (Finland) and National Core Curriculum for Upper Secondary Schools 2003, Ethics (Finland)

Content

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|--|--|---|
| Standard 1 | Both the Colorado MCS and the Finnish curricula include understanding the purposes of government and the principles on which their national government is based. | There is no mention in the Finnish curriculum of constitutional government. | The content is more similar than different. |
| Standard 2 | Both the Colorado MCS and the Finnish curricula include exploring the structure and function of their governments and the public policy process. | There is no discussion in the Finnish curriculum of a distinct political culture. | The content is more similar than different. |
| Standard 3 | Both the Colorado MCS and the Finnish curricula focus on the political relationship of their country and its citizens to other nations and world affairs. | The Finnish curriculum puts more emphasis on the environment and sustainable development as foreign political concerns. | The content is more similar than different. |
| Standard 4 | Both the Colorado MCS and the Finnish curricula include understanding how citizens exercise their roles, rights, and responsibilities in civic life. | The Finnish curriculum includes discussion of the welfare state and its relation to the individual. | The content is more similar than different. |
| Grades K–4 | Both the Colorado MCS and the Finnish curricula include understanding core concepts such as justice, rules, rights, and responsibilities. Both focus on characteristics of good citizenship. | The Finnish curriculum includes moral development, tolerance, Finnish culture, and the individual’s relationship to other people and to the environment. | The content is more similar than different. |
| Grades 5–8 | Both the Colorado MCS and Finnish curricula introduce students to the foundations of democratic government, human and civil rights, the justice system, foreign policy, and the nature of citizenship. | The Finnish curriculum includes the welfare state, the influence of the media, and national security and defense. | The content is more similar than different. |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|---------------------|--|---|--|
| Grades 9–12 | Both the Colorado MCS and the Finnish curricula include understanding the rights of citizens, the structure of the country’s government, political systems, the workings of a modern democracy, how citizens can influence the political process, the role of their nation in world affairs, the rule of law, the justice system, and social policy. | Colorado focuses on the workings of local, state, and national governments in our federal system of government. More emphasis is given to the United States’ foundational documents and key Supreme Court decisions. | The content is more similar than different. |
| Across | Much of the content across the grades is similar, although it is often described somewhat differently. Both the Colorado MCS and the Finnish curricula also share the basic goal of educating active, informed citizens who are prepared to take part in the civic life of their countries. | At all grade levels, Finland’s descriptions of civics content are general. There is no reference to a Finnish constitution, Finnish founding documents, Finnish patriotic symbols, etc. In contrast, U.S. history and political culture are deeply embedded in the Colorado MCS standards. | Overall, the content is more similar than different. |
| Wording/Specificity | | <p>The Finnish curriculum documents are succinct. Courses and curricula are described in an outline form with study module topics followed by brief bullet points.</p> <p>Finnish performance indicators are general and focused on how well students can use what they have learned to perform authentic tasks (e.g., “The pupil will be able to justify their ideas about social issues”).</p> <p>The Colorado standards document is longer and wordier, but also more specific as to what students are expected to know and be able to do.</p> | The wording and specificity are more different than similar. |

**Appendix E. Civics: External Referent Review—Singapore
External Referent: Civics and Moral Education Syllabus Primary 2007, Civics and Moral Education Syllabus Secondary 2007,
Revised Pre-University Civics Syllabus 2007 (Singapore)**

Organization/Structure

| Subcategory | Similarities | Differences | Comments |
|--------------------|---|--|---|
| Grade Articulation | <p>Colorado’s four overarching civics standards are designed to spiral through the K–12 grade years. At each of three grade spans, benchmarks and indicators communicate how these broad overarching standards are to be applied as students progress.</p> <p>Singapore divides its civics content among a number of syllabi:</p> <ul style="list-style-type: none"> • Social Studies Syllabus Primary • Social Studies Syllabus Secondary • Civics and Moral Education Syllabus Primary • Civics and Moral Education Syllabus Secondary • Pre-University Civics Syllabus <p>The two Social Studies syllabi share the same broad overarching goals that spiral through the grades.</p> <p>The two Civics and Moral Education syllabi focus on six values that spiral through grades as students advance:</p> <ul style="list-style-type: none"> • Respect • Responsibility • Integrity • Care • Resilience • Harmony | <p>Colorado’s MCS standards for civics are organized by grade spans—K–4, 5–8, and 9–12.</p> <p>While Singapore also organizes its expectations by grade span, the spans are different.</p> <p>Its first span, Primary, covers grades 1–6. Students exit that grade span around age 12.</p> <p>The second grade span, Secondary Express, Secondary Normal, or Vocational, covers the next two to four years, or grades 7–10, depending on the path students take. Most students exit the secondary level of education at ages 16–17.</p> <p>The last age span covers grades 10 to 12 or 13, again depending on the path students take toward either a college-preparatory or vocational-training institution. This grade span may include a year of junior college. Most students would leave this grade span at the age of 19.</p> | <p>The grade articulation is more different than similar.</p> |

| Subcategory | Similarities | Differences | Comments |
|-------------------------------|--------------|--|--|
| <p>Hierarchy of Standards</p> | | <p>The Colorado MCS performance expectations are organized into a hierarchy of standards, benchmarks, and indicators at the three grade spans. The standards are consistent from K–12.</p> <p>Singapore has only two levels of performance expectations.</p> <p>The Primary Social Studies Syllabus divides its performance expectations between overarching objectives for the six grades and grade-level expectations. Both levels are listed under these headings:</p> <ul style="list-style-type: none"> • Knowledge • Skills • Attitudes and Values <p>The grade-level objectives often spiral through the grades from simple to complex. Grade 1, for example, begins with being able to “express ideas orally based on knowledge, observation, and experience.” By grade 6, students are expected to being able to “make sound arguments to persuade others to accept their points of view, decision, or solutions.”</p> <p>In the Secondary Social Studies Syllabus, similar broad “General Aims” are listed again under the same three headings. In addition, more specific “Learning Outcomes” appear for each of six “Themes.” These themes focus on the</p> | <p>The hierarchies of standards are more different than similar.</p> |

| Subcategory | Similarities | Differences | Comments |
|---------------------|--------------|---|---|
| | | <p>history, growth, government, culture, environment, and future of Singapore (e.g., under “Growth of Singapore” one finds “recognize the role of the government in providing jobs”).</p> <p>The both of the Civics and Moral Education Syllabi list broad objectives under the headings “Moral Knowing,” “Moral Feeling,” and “Moral Action” that apply grades 1–6 (e.g., under “Moral Action” at the Primary Level, one finds “put good values into practice”).</p> <p>More specific “Learning Objectives” are listed for each of the key six values (e.g., under “Responsibility” at the secondary level, one finds “be aware that rights come with responsibility”).</p> <p>The Pre-University Civics Syllabus has only one level of “Learning Outcomes” tied to four “Big Ideas” and “Essential Questions,” (e.g., under the question “How can I contribute to the well-being of others” students will be able to “explore different ways of making a difference in their community”).</p> | |
| Number of Standards | | The Colorado Model Content Standards for civics document lists 4 K–12 standards, 16 grade-span benchmarks, and 134 indicators. The total number of standards, benchmarks, and indicators is 154. | The number of standards is more similar than different. |

| Subcategory | Similarities | Differences | Comments |
|-------------|--------------|---|----------|
| | | <p>Singapore Civics Standards: Social Studies Syllabus Primary:</p> <ul style="list-style-type: none"> • Overarching objectives listed under Knowledge, Skills, and Values & Attitudes: 12 • Grade-specific Knowledge, Skills, and Values & Attitudes objectives related to civics: 22 <p>Social Studies Syllabus Secondary:</p> <ul style="list-style-type: none"> • Overarching objectives listed under Knowledge, Skills, and Values & Attitudes: 13 • Learning outcomes related to civics: 15 <p>Civics and Moral Education Syllabus Primary:</p> <ul style="list-style-type: none"> • Overarching objectives listed under Moral Knowing, Moral Feeling, and Moral Action: 20 • Value-specific learning objectives related to civics: 16 <p>Civics and Moral Education Syllabus Secondary:</p> <ul style="list-style-type: none"> • Overarching objectives listed Moral Knowing, Moral Feeling, and Moral Actions: 20 • Value-specific learning objectives related to civics: 22 <p>Pre-University Civics Syllabus:</p> <ul style="list-style-type: none"> • Learning Outcomes: 18 <p>All together, the number of overarching</p> | |

| Subcategory | Similarities | Differences | Comments |
|----------------------|--------------|---|--|
| | | <p>objectives and civics-related learning objectives and learning outcomes for the three levels totals 158.</p> | |
| <p>Design/Format</p> | | <p>The Colorado MCS document for civics document provides an introduction to the subject area and a rationale for the standards, benchmarks, and indicators that follow. The document is 30 pages long and includes a glossary and index.</p> <p>Unlike the Colorado standards, benchmarks, and indicators, the Singapore learning objectives and outcomes for civics are distributed throughout the several civics, social studies, and civics and moral education curricula.</p> <p>The Singapore curricula all begin with introductions to the content, rationales, overarching goals and objectives, as well as a summary of various teaching approaches and discussions of implementation and assessment strategies. Because civics content is spread over so many curricula, the total number of pages for the five documents is 190.</p> | <p>The design and format of the materials are more different than similar.</p> |

External Referent: Civics and Moral Education Syllabus Primary 2007, Civics and Moral Education Syllabus Secondary 2007, Revised Pre-University Civics Syllabus 2007

Content

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|---|---|--|
| Standard 1 | Both the Colorado MCS and Singapore syllabi have standards that address the purposes of government and the basic principles on which their national government is based. | There is neither mention in the Singapore curricula of constitutional government nor is there a distinction drawn between limited and unlimited government. Each topic is prominent in the Colorado civics standards document. | The content is more similar than different. |
| Standard 2 | Both the Colorado MCS and Singapore syllabi have standards that address the structure and function of their governments and the public policy process. Both are concerned that students understand the place of law in a well-governed society. | The Singapore standards integrate the content of this standard with values, culture, and contemporary problems. Singapore does not differentiate in the curricula among levels of government, a significant topic in the Colorado standards. | The content is more similar than different. |
| Standard 3 | Both the Colorado MCS and Singapore syllabi have standards that focus on the political relationship of their country and its citizens to other nations and world affairs. | Singapore emphasizes the need for national defense and its role in regional organizations such as ASEAN. Colorado emphasizes the creation of foreign policy, domestic and foreign influences on U.S. foreign policy, and how U.S. policies affect other countries. | The content is more similar than different. |
| Standard 4 | Both the Colorado MCS and Singapore syllabi have standards that focus on how citizens exercise their roles, rights, and responsibilities in civic life. | Singapore emphasizes the responsibilities students have to their school, community, society, and nation. The Singapore curricula do not discuss how citizenship is acquired or the meaning of citizenship, nor do they emphasize the civil rights that are found in the Colorado standards. Singapore’s curricula place far more emphasis on the skills and attitudes and values that prepare a student to engage in | Overall, the content is more different than similar. |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------------|---|---|---|
| | | <p>civic life. The Pre-University Civics Syllabus includes the application of knowledge, skills, values, and attitudes and an exploration of how students can make a difference in their families, community, nation, and the world.</p> | |
| <p>Grades K–4</p> | <p>Both the Colorado MCS and Singapore syllabi have standards that introduce students to such core concepts as rules, laws, fairness, respect and responsibilities. Each focuses on characteristics of good citizenship and on founding principles and national ideals.</p> | <p>Singapore emphasizes cultural and national identity, skills such as decision-making and teamwork, moral reasoning, and values such as harmony.</p> <p>Colorado addresses a number of topics that Singapore does not, such as the purpose and functions of government, limited and unlimited government, democratic principles, and citizenship.</p> <p>In general, the Colorado civics standards are focused on knowledge about government. The Singapore objectives are more focused on the cultural awareness, self-identity, skills, and attitudes that prepare students for citizenship.</p> | <p>Overall, the content is more different than similar.</p> |
| <p>Grades 5–8</p> | <p>Both the Colorado MCS and Singapore syllabi have standards that address representative democracy, the structure and functions of government, rights, the justice system, and foreign policy.</p> | <p>At grades 5 and 6, Singapore’s Primary Social Studies Syllabus focuses on national identity, skills and attitudes and values. The grade 6 objectives address Singapore’s relationship with the rest of the world. They also address the individual’s responsibility to the environment.</p> <p>At grades 7 and 8, Singapore’s Secondary Social Studies Syllabus requires a more formal study of government than at the</p> | <p>Overall, the content is more different than similar.</p> |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|--------------------|--|---|---|
| | | <p>earlier grades. The three objectives covering this content are, however, both spare and very general (e.g., “explain the principles of good government”).</p> <p>The Colorado MCS standards for Civics are broader and more rigorous about the expectations for understanding basic knowledge about government. Less attention is paid to skills and attitudes.</p> | |
| <p>Grades 9–12</p> | <p>Both the Colorado MCS and Singapore syllabi have standards that require students to apply what they have learned in earlier grades to issues related to the common good.</p> | <p>The Colorado civics standards are detailed and specific and focus mainly on political issues and debates.</p> <p>In contrast, Singapore’s Pre-University Civics Syllabus is built around the theme, “Making a Difference” as applied to four topics: Singapore’s growth and development, Singapore’s future, families and communities, and people who inspire change. Each topic has a big idea and essential question to guide students in discussion and service learning projects. The focus is on inquiry and process-based approaches designed “to engage students in more meaningful learning through reflection and inquiry, and help them to internalize values of good leadership.”</p> | <p>Overall, the content is more different than similar.</p> |
| <p>Across</p> | <p>Some of the content across the grades is similar, although it is often described differently. Both the Colorado MCS and the Singapore syllabi share the basic goal of educating active, informed citizens who are prepared to take part in the civic life of their countries.</p> | <p>Singapore approaches the challenge of preparing students for citizenship in a fundamentally different way from Colorado. It focuses on the development of general knowledge, participation and communication skills, and attitudes and values far more than on detailed</p> | |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|----------------------------|---|---|--|
| | | <p>knowledge of government, policy-making, and the legal system.</p> <p>Civic knowledge is the primary goal of most of the Colorado MCS standards, benchmarks, and indicators. Far more emphasis is placed on learning the principles of government than on learning about skills, attitudes, and values.</p> | |
| <p>Wording/Specificity</p> | <p>The wording of Colorado standards and Singapore learning objectives are generally similar.</p> <p>Both Colorado and Singapore use action verbs in their standards at the upper grade levels that encourage higher-level thinking.</p> <p>At the 9–12 level, Colorado students are asked to explain, analyze, evaluate, develop, and defend.</p> <p>Singapore students at the pre-university level are asked to understand, examine, appreciate, explore, and initiate.</p> | <p>The Singapore syllabi are intended to describe courses of study, not just learning outcomes, and hence tend to be longer compared to Colorado’s standards documents.</p> <p>The Colorado civics standards are much more specific and detailed than those of Singapore.</p> | <p>Overall, the wording and specificity are more different than similar.</p> |

Appendix F. Civics: 21st Century Skills and Postsecondary and Workforce Readiness Review

21st Century Skills

| Standard | Grade Span | Critical thinking and reasoning | Information literacy | Collaboration | Self-direction | Invention | Comments |
|----------|------------|---------------------------------|----------------------|---------------|----------------|-----------|--|
| 1 | K-4 | P | N | N | N | F | <p>Critical Thinking and Reasoning: There is very little critical reasoning at this grade span. Emphasis is on identification and description.</p> <p>Information Literacy: There is no evidence of information literacy at this grade span.</p> <p>Collaboration: There is no evidence of collaboration at this grade span.</p> <p>Self-direction: There is no evidence of self-direction at this grade span.</p> |
| 1 | 5-8 | F | N | N | N | F | <p>Information Literacy: There is no evidence of information literacy at this grade span.</p> <p>Collaboration: There is no evidence of collaboration at this grade span.</p> <p>Self-direction: There is no evidence of self-direction at this grade span.</p> |
| 1 | 9-12 | F | N | N | N | F | <p>Information Literacy: There is no evidence of information literacy at this grade span.</p> <p>Collaboration: There is no evidence of collaboration at this grade span.</p> <p>Self-direction: There is no evidence of self-direction at this grade span.</p> |
| 1 | Across | F | N | N | N | F | <p>Information Literacy: There is no evidence of information literacy at this grade span.</p> <p>Collaboration: There is no evidence of collaboration at this grade span.</p> <p>Self-direction: There is no evidence of self-direction at this grade span.</p> |

| Standard | Grade Span | Critical thinking and reasoning | Information literacy | Collaboration | Self-direction | Invention | Comments |
|----------|------------|---------------------------------|----------------------|---------------|----------------|-----------|--|
| 2 | K-4 | P | N | N | N | F | <p>Critical Thinking and Reasoning: There is very little critical reasoning at this grade span. Emphasis is on identification and description.</p> <p>Information Literacy: There is no evidence of information literacy at this grade span.</p> <p>Collaboration: There is no evidence of collaboration at this grade span.</p> <p>Self-direction: There is no evidence of self-direction at this grade span.</p> |
| 2 | 5-8 | F | P | N | N | N | <p>Information Literacy: There is some evidence of information literacy at this grade span. Students are required to examine public policy and the media.</p> <p>Collaboration: There is no evidence of collaboration at this grade span.</p> <p>Self-direction: There is no evidence of self-direction at this grade span.</p> |
| 2 | 9-12 | F | P | N | N | F | <p>Information Literacy: There is some evidence of information literacy at this grade span. Students are required to examine public policy and the media. Collaboration: There is no evidence of collaboration at this grade span.</p> <p>Self-direction: There is no evidence of self-direction at this grade span.</p> |

| Standard | Grade Span | Critical thinking and reasoning | Information literacy | Collaboration | Self-direction | Invention | Comments |
|----------|------------|---------------------------------|----------------------|---------------|----------------|-----------|---|
| 2 | Across | F | P | N | N | F | <p>Information Literacy: There is some evidence of information literacy at this grade span. Students are required to examine public policy and the media.</p> <p>Collaboration: There is no evidence of collaboration at this grade span.</p> <p>Self-direction: There is no evidence of self-direction at this grade span.</p> |
| 3 | K-4 | N | N | N | N | F | <p>Critical Thinking and Reasoning: There is no critical reasoning at this grade span. Emphasis is on identification and description.</p> <p>Information Literacy: There is no evidence of information literacy at this grade span.</p> <p>Collaboration: There is no evidence of collaboration at this grade span.</p> <p>Self-direction: There is no evidence of self-direction at this grade span.</p> |
| 3 | 5-8 | N | N | N | N | F | <p>Critical Thinking and Reasoning: There is no critical reasoning at this grade span. Emphasis is on identification and description.</p> <p>Information Literacy: There is no evidence of information literacy at this grade span.</p> <p>Collaboration: There is no evidence of collaboration at this grade span.</p> <p>Self-direction: There is no evidence of self-direction at this grade span.</p> |

| Standard | Grade Span | Critical thinking and reasoning | Information literacy | Collaboration | Self-direction | Invention | Comments |
|----------|------------|---------------------------------|----------------------|---------------|----------------|-----------|---|
| 3 | 9-12 | F | N | N | N | F | <p>Information Literacy: There is some evidence of information literacy at this grade span. Students are required to examine public policy and the media.</p> <p>Collaboration: There is no evidence of collaboration at this grade span.</p> <p>Self-direction: There is no evidence of self-direction at this grade span.</p> |
| 3 | Across | N | N | N | N | F | <p>Critical Thinking and Reasoning: Across the grade spans there is little evidence of critical thinking in this standard. Emphasis is on identification and description.</p> <p>Information Literacy: There is no evidence of information literacy across the grade spans.</p> <p>Collaboration: There is no evidence of collaboration at this grade span.</p> <p>Self-direction: There is no evidence of self-direction at this grade span.</p> |
| 4 | K-4 | P | N | N | N | F | <p>Critical Thinking and Reasoning: There is very little critical reasoning at this grade span. Emphasis is on identification and description.</p> <p>Information Literacy: There is no evidence of information literacy at this grade span.</p> <p>Collaboration: There is no evidence of collaboration at this grade span.</p> <p>Self-direction: There is no evidence of self-direction at this grade span.</p> |

| Standard | Grade Span | Critical thinking and reasoning | Information literacy | Collaboration | Self-direction | Invention | Comments |
|----------|------------|---------------------------------|----------------------|---------------|----------------|-----------|--|
| 4 | 5-8 | F | P | N | N | F | <p>Information Literacy: There is some evidence of information literacy at this grade span. Students are required to examine public policy and the media.</p> <p>Collaboration: There is no evidence of collaboration at this grade span.</p> <p>Self-direction: There is no evidence of self-direction at this grade span.</p> |
| 4 | 9-12 | F | P | N | N | F | <p>Information Literacy: There is some evidence of information literacy at this grade span. Students are required to examine public policy and the media.</p> <p>Collaboration: There is no evidence of collaboration at this grade span.</p> <p>Self-direction: There is no evidence of self-direction at this grade span.</p> |
| 4 | Across | F | P | N | N | F | <p>Information Literacy: There is some evidence of information literacy at this grade span. Students are required to examine public policy and the media.</p> <p>Collaboration: There is no evidence of collaboration at this grade span.</p> <p>Self-direction: There is no evidence of self-direction at this grade span.</p> |

| Standard | Grade Span | Critical thinking and reasoning | Information literacy | Collaboration | Self-direction | Invention | Comments |
|----------|-----------------|--|--|---|---|-----------|----------|
| | Comments | Critical thinking and reasoning skills are evident in all of the standards. They predominate in grade span 5-8 and 9-12. | Colorado's civics standards deal with the role of the media, but not explicitly with information literacy. Standards could be revised to emphasize information gathering through the Internet or library for each grade span for all of the standards. | None of the standards across the grade spans address the skill of collaboration. Revisions of the standards might include reference to team-building and leadership skills such as reporting on city council meetings, holding model United Nations meetings, or mock trials. | None of the standards across the grade spans address the skill of self-direction. | | |

Postsecondary and Workforce Readiness

| Standard | Grade Span | Application of reading, writing, and computing skills with minimal remediation or training | Logical reasoning and argumentation abilities | Identification and solving of problems | Information management skills | Human relation skills | Analysis and interpretation skills | Comments |
|----------|------------|--|---|--|-------------------------------|-----------------------|------------------------------------|--|
| 1 | 9-12 | F | F | N | F | N | F | Identification and Problem-Solving: There are no Colorado civics standards that address problem-solving skills, such as self-monitoring or self-correcting performance. Human relation skills: There are no Colorado civics standards that address human relation skills. |
| 2 | 9-12 | F | F | N | F | N | F | Identification and Problem-Solving: There are no Colorado civics standards that address problem-solving skills, such as self-monitoring or self-correcting performance. Human relation skills: There are no Colorado civics standards that address human relation skills. |
| 3 | 9-12 | F | F | N | F | N | F | Identification and Problem-Solving: There are no Colorado civics standards that address problem-solving skills, such as self-monitoring or self-correcting performance. Human relation skills: There are no Colorado civics standards that address human relation skills. |

| Standard | Grade Span | Application of reading, writing, and computing skills with minimal remediation or training | Logical reasoning and argumentation abilities | Identification and solving of problems | Information management skills | Human relation skills | Analysis and interpretation skills | Comments |
|----------|-----------------|--|---|---|-------------------------------|---|------------------------------------|--|
| 4 | 9-12 | F | F | N | F | N | F | <p>Identification and Problem-Solving: There are no Colorado civics standards that address problem-solving skills, such as self-monitoring or self-correcting performance.</p> <p>Human relation skills: There are no Colorado civics standards that address human relation skills.</p> |
| | Comments | | | There are no Colorado civics standards that address problem solving directly. One model for addressing this skill is the Center for Civic Education's Project Citizen, which challenges students to identify a local problem, research alternative solutions, and formulate a public policy solution or recommendation. | | There are no Colorado civics standards addressing dealing with human relation skills. | | |

Appendix G. Economics: Internal Quality Review

Depth

| Standard | Grade Span | Within Span | Across Span | Comments |
|----------|------------|-------------|-------------|---|
| 1 | K-4 | P | | Partial rating due to minimal content for the grade span. Basic concepts are introduced in Kindergarten, and could be expanded upon over the next four grades, but this is not specified. Benchmarks assume a basic understanding of a number of economic terms and concepts that need to be taught. |
| 1 | 5-8 | F | | The depth of Standard 1 increases substantially at the higher grades. |
| 1 | 9-12 | F | | |
| 1 | Across | | F | |
| 2 | K-4 | F | | An appropriate amount of standard basic knowledge about economic systems is introduced in this standard at the K-4 grade span. |
| 2 | 5-8 | F | | Includes that same information in increased depth at the 5-8 grade span. Missing is any discussion of markets and their role, but that content can be inferred from the benchmarks. |
| 2 | 9-12 | F | | |
| 2 | Across | | F | |
| 3 | K-4 | F | | |
| 3 | 5-8 | F | | |
| 3 | 9-12 | F | | |
| 3 | Across | | F | At both the 5-8 and 9-12 grade spans, the benchmarks and bullet points are dense with ideas, relationships, and new content of appropriate depth for the grade spans (e.g., describe "the use of monetary and fiscal policies; and . . . how fiscal or monetary policies can affect exchange rates and international trade.") |

Economics: Internal Quality Review

Coherence

| Standard | Grade Span | Appropriate Sequence | Appropriate Endpoints | Comments |
|----------|------------|----------------------|-----------------------|---|
| 1 | K-4 | | P | Partial rating due to the standard not fully developing the application of the concepts for this level. For example, the standard could include analyzing how economic incentives affect economic decisions made by individuals, families, and communities, a task not introduced until the 5-8 grade span. |
| 1 | 5-8 | | F | |
| 1 | 9-12 | | F | |
| 1 | Across | F | F | The sequence from K-12 is coherent, with each grade span building on and expanding on what has been learned earlier. |
| 2 | K-4 | | F | |
| 2 | 5-8 | | F | |
| 2 | 9-12 | | F | |
| 2 | Across | F | F | There is a logical sequence in this standard from general understandings to rather specific application of these understandings at the higher grade spans. |
| 3 | K-4 | | F | |
| 3 | 5-8 | | F | |
| 3 | 9-12 | | F | |
| 3 | Across | F | F | The emphasis of content for this standard is at the 9-12 span. However, the earlier grades build the framework for the work to be done at that level in a coherent sequence of benchmarks. |

Economics: Internal Quality Review

Rigor

| Standard | Grade Span | Rigor | Comments |
|----------|------------|-------|--|
| 1 | K–4 | P | The expectations of what K–4 students can do with the concepts developed in this standard seem limited. To increase rigor, students could be asked to apply economic choices, scarcity, resources, and incentives to situations they observe at school, home, or in their community. |
| 1 | 5–8 | P | The verb "identify" is used extensively throughout the bullet points in the Standard 2 benchmarks. This choice reflects the introduction of new content. However, by grade 8, students should be doing more application and analysis using concepts that were introduced earlier. |
| 1 | 9–12 | F | Full rating due to the rigor of the final bullet point in Benchmark 1.3. It asks students to "identify personal investment strategies for different economic goals, such as retirement, a child's education, or saving for a new house." Particularly challenging are the specific tasks on investing listed in the parentheses that follow the benchmark (e.g., "students should be familiar with the risk-reward level of various types of investments, how risk is matched with the time horizon of the need for the funds invested, and how mutual funds work"). |
| 1 | Across | P | Partial rating due to low-level comprehension skills required across the grade spans for this standard. |
| 2 | K–4 | F | Students are asked to explore relationships between supply and demand, as well as different economic systems. |
| 2 | 5–8 | F | |
| 2 | 9–12 | F | |
| 2 | Across | F | |
| 3 | K–4 | F | The rigor for Standard 3 is demonstrated in its focus on abstract concepts such as voluntary exchange, interdependence, money, and mediums of exchange. |
| 3 | 5–8 | P | Partial rating due to benchmarks, which do not increase in rigor in comparison to similar topics in the lower grade span, with the exception of the introduction of banking, credit, and exchange rates. The rigor of these topics could be increased at this level. |
| 3 | 9–12 | F | |
| 3 | Across | F | Overall, the standard has sufficient rigor, although more could be expected at the 5–8 grade span. |

Economics: Internal Quality Review

Breadth

| Standard | Grade Span | Breadth Within Span | Contains Essential Content | Free of Extraneous Content | Comments |
|----------|------------|---------------------|----------------------------|----------------------------|---|
| Across | K-4 | F | F | F | Breadth could be increased by increasing coverage of topics such as jobs and how people earn a living, or saving money and why it is important for individuals to save. |
| 1 | K-4 | | F | F | |
| 2 | K-4 | | F | F | |
| 3 | K-4 | | F | F | Could introduce specialization here in the context of trade and the voluntary exchange of goods. |
| Across | 5-8 | F | F | F | |
| 1 | 5-8 | | F | F | Could introduce entrepreneurship, which is viewed by many economists as the fourth factor of production. Could also include marginal costs and benefits, as well as marginal utility. |
| 2 | 5-8 | | F | F | The role of markets is implied in this standard, but not defined or discussed. It should be made more explicit. |
| 3 | 5-8 | | P | F | Partial rating due to the lack of specificity in Benchmark 3.2, on "the role of the banks in the monetary system." Interpretation could include banks' roles as financial intermediaries between borrowers and lenders, how students might use banks, the role of banks in creating and destroying money, or the banking system including the Federal Reserve System. |
| Across | 9-12 | F | F | F | |
| 1 | 9-12 | | F | F | |
| 2 | 9-12 | | F | P | This standard addresses several important topics. Partial rating for extraneous content due to minor importance of the final bullet point, "contrasting the concept of customer and consumer." |
| 3 | 9-12 | | P | F | Partial rating due to missing content regarding a country's monetary system. There is no reference to the money supply and how it is measured and manipulated by a central bank. That may be implicit in the bullet on monetary and fiscal policy, but it would be useful to have more detail here. |

| Standard | Grade Span | Breadth Within Span | Contains Essential Content | Free of Extraneous Content | Comments |
|----------|------------|---------------------|----------------------------|----------------------------|--|
| Across | Across | F | F | F | Overall, Colorado's economics standards cover what is generally included in K–12 economics standards and courses. Attention has been paid to developing "an economic way of thinking" by repeatedly asking students to deal with issues involving scarcity, tradeoffs, incentives, and the allocation of resources. Some commonly included economics concepts not present are entrepreneurship, utility, capitalism, free enterprise system, intellectual property, laissez-faire, elasticity, subsidy, equilibrium, price ceilings and floors, free riders, compounding, money supply, saving rate, money supply, purchasing power, offshoring, outsourcing, globalization, business cycle, national debt, deficit spending, economic development, balance of trade, etc. Given the brevity and generality of most of the Colorado economic standards, it is not clear where many of these useful concepts are likely to be addressed. Some of the topics may be considered in revising the economic standards. Standard should also include personal financial literacy. |
| 1 | Across | | F | F | |
| 2 | Across | | F | F | |
| 3 | Across | | F | F | |

Appendix H. Economics: External Referent Review—Massachusetts
External Referent: Massachusetts History and Social Science Curriculum Framework (August 2003)

Organization/Structure

| Subcategory | Similarities | Differences | Comments |
|------------------------|--|--|---|
| Grade Articulation | <p>Massachusetts organizes its Concepts and Skills Standards for the upper grades in a single grade span—8–12. These standards include General Economic Skills and U.S. Economic Skills.</p> <p>The Colorado MCS for economics are organized by grade spans: K–4, 5–8, and 9–12.</p> | <p>Massachusetts organizes its Learning Standards by grade level for grades K–7 and by course for grades 8–12. The Concepts and Skills Standards for grades K–7 are listed by grade level. The Massachusetts <i>Framework</i> lists a grade 12 elective economics course. There are no overarching standards that spiral from Kindergarten to grade 12.</p> <p>Colorado’s three overarching economics standards are designed to spiral through the K–12 grade years. At each grade span, benchmarks and indicators communicate how these broad standards are to be applied as students progress.</p> | <p>Overall, the grade articulation of standards is more different than similar.</p> <p>Massachusetts uses a grade-specific or course-specific method of articulation through the grades.</p> <p>Colorado uses a grade-span method of articulation that applies its K–12 standards in age-appropriate ways to three grade spans.</p> |
| Hierarchy of Standards | | <p>Massachusetts Concepts and Skills Standards and Learning Standards are listed sequentially without benchmarks or indicators.</p> <p>Colorado organizes its standards into a hierarchy of standards, benchmarks, and indicators at three grade spans.</p> | <p>Overall, the hierarchy of standards is more different than similar.</p> |
| Number of Standards | <p>At the K–4 grade span, the numbers of economics standards in Colorado and Massachusetts are similar, with 30 for Colorado compared to 26 for Massachusetts.</p> | <p>The Massachusetts <i>Framework</i> Concepts and Skills Standards are divided into strands. Its Learning Standards are coded as to strand (history and geography, civics and government, and economics) with many standards receiving multiple codes.</p> | <p>Overall, the numbers of standards are more different than similar. Massachusetts has only 40 “pure “ economics standards for grades K–12. Another 61 are listed for an elective.</p> |

| Subcategory | Similarities | Differences | Comments |
|-------------|--------------|--|--|
| | | <p>In the Concepts and Skills category, 24 standards are listed under the economics strand for grades K–7. Another 3 are listed under the history and geography strand, but are also coded for economics. The total number of Concepts and Skills Standards related to economics in the lower grades is 27.</p> <p>In the Learning Standards category, 81 content standards are coded for Economics in grades K–7. However, 31 of those standards apply to content that is labeled “Optional.”</p> <p>At the 8–12 grade span, all students are expected to complete at least two years of World History and two years of U.S. History. Of the Concepts and Skills Learning Standards listed for those four years of study, 16 are either General Economics Skills or U.S. Economics Skills. Another 7 are listed under the History and Geography strand, but are also coded for Economics. The total number of Concepts and Skills Standards related to Economics in the higher grades is 23.</p> <p>Among the Learning Standards for the required courses in grades 8–12, 51 are coded for Economics. The grade 12 Economics elective includes another 61 Economics standards. All together, Massachusetts has 243 standards relating</p> | <p>Colorado, in contrast, expects all students to meet its 92 economics standards, benchmarks, and indicators.</p> |

| Subcategory | Similarities | Differences | Comments |
|-------------|--------------|---|----------|
| | | <p>to economics. Of these 92 are optional or appear in an elective.</p> <p>The Colorado MCS for Economics lists 3 K–12 standards, 8 grade-span benchmarks, and 72 indicators. The total of standards, benchmarks, and indicators is 83.</p> <p>This total is far less than the number of Massachusetts economics standards. Even if the optional and elective Massachusetts standards are not included, the Massachusetts lists <i>Framework</i> 151 economics standards compared to 83 Colorado MCS for economics.</p> <p>The differences are significant when the Massachusetts economics standards are compared with the Colorado MCS standards, benchmarks, and indicators at the three grade spans:</p> <p>Massachusetts K–4: 26 Colorado K–4: 30</p> <p>Massachusetts 5–7: 80 (29 optional) Colorado 5–8: 37</p> <p>Massachusetts 8–12 w/o economics elective: 74 Massachusetts 8–12 with economics elective: 135 Colorado 9–12: 36</p> | |

| Subcategory | Similarities | Differences | Comments |
|---------------|---|---|---|
| Design/Format | <p>Both the Colorado and Massachusetts documents provide an introduction. Each document also explains the intent for its standards.</p> | <p>Massachusetts presents its social studies standards in one document, the <i>Massachusetts History and Social Science Curriculum Framework</i>. Its 130 pages cover standards for history, geography, civics, and economics. It also includes a number of appendices listing primary sources, resources for teachers, criteria for reviewing textbooks, and connections to language arts and math standards.</p> <p>Massachusetts divides its social studies standards into two categories: Concepts and Skills Standards and Learning Standards. The Concepts and Skills Standards are organized into three general strands: History and Geography, Civics and Government, and Economics. These standards are presented year-by-year for grades K–7 and then as one group to span grades 8–12. The Learning Standards are presented in a grade- and/or course-specific manner.</p> <p>The Colorado MCS document for economics is 21 pages long and includes a glossary and an index.</p> | <p>Overall, the design and format to the documents are more different than similar.</p> <p>The Massachusetts approach facilitates understanding of grade-level expectations.</p> <p>The Colorado approach contains all of the economics standards in one document facilitating an understanding of how they articulate throughout the grades. In contrast, a teacher in Massachusetts would need to review the entire framework to see how economics standards are addressed at all grades.</p> |

External Referent: Massachusetts History and Social Science Curriculum Framework (August 2003)

Content

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|---|---|---|
| Standard 1 | Both the Colorado MCS and the Massachusetts <i>Framework</i> curricula address the basic concepts of scarcity and the need to make decisions about how to use limited resources from the early grades onward. | | Overall, the coverage of the content in this standard is more similar than different. |
| Standard 2 | Both the Colorado MCS and the Massachusetts <i>Framework</i> address different economic systems and how each economic system impacts decision-making about the production and distribution of goods and services. | The Colorado MCS addresses this standard directly at the K–4 grade span whereas the Massachusetts <i>Framework</i> does not focus on this standard until grade 5. | Overall, the coverage of the content in this standard is more similar than different. |
| Standard 3 | Both the Colorado MCS and the Massachusetts <i>Framework</i> address how trade and exchange create interdependence among individuals, households, businesses, and nations. | The Colorado MCS addresses this standard in a minor way at the K–4 grade span whereas the Massachusetts <i>Framework</i> does not focus on this standard until the upper grades. | Overall, the coverage of the content in this standard is more similar than different. |
| Grades K–4 | Both the Colorado MCS and the Massachusetts <i>Framework</i> address basic concepts such as jobs, money, goods, services, buyers, sellers, scarcity, choices, producers, consumers, taxes, specialization, barter, natural resources, tradeoffs, prices, and markets. | <p>The Colorado MCS has more breadth than the Massachusetts <i>Framework</i> in this grade span, introducing economic systems, economic incentives, interdependence, mediums of exchange, and currencies at this level.</p> <p>The Massachusetts <i>Framework</i> has standards addressing jobs, a topic not addressed by the Colorado benchmarks and indicators. Beginning in grade 3, the Massachusetts <i>Framework</i> also includes Learning Standards that integrate economics in grade-level courses on Massachusetts history and the geography of Canada.</p> | Overall, the emphasis at this grade span is more similar than different. |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|---|--|--|
| Grades 5–8 | Both the Colorado MCS and the Massachusetts <i>Framework</i> address concepts listed for grades K–4 in more sophisticated ways and address additional concepts and content, such as productivity, economic systems, allocation of resources, the interplay of supply and demand, the role of prices, the role of government in the economy, interdependence, the role of banks, credit, interest rates, and exchange rates. | <p>The Colorado MCS standards for grade span 5–8 introduce concepts such as cost/benefit analysis, externalities, productivity, and banking. The Massachusetts <i>Framework</i> addresses these concepts at grade span 8–12 with the Concepts and Skills Standards or the Grade 12 Economics elective.</p> <p>The Massachusetts <i>Framework</i> is more explicit in addressing saving, entrepreneurship, historical economic development, and the role of economics in motivating historical events. It also introduces per capita GDP as a way of comparing living standards at this grade span.</p> | Overall, the emphasis at this grade span is more similar than different. |
| Grades 9–12 | Both the Colorado MCS and the Massachusetts <i>Framework</i> increase the cognitive complexity of concepts developed in the earlier grades, such as analyzing economic goals and incentives and how they impact economic choices, and the allocation of economic resources. Both the Colorado MCS and the Massachusetts <i>Framework</i> address more advanced concepts such as comparative advantage, inflation, trade policy, and fiscal and monetary policy. | <p>The Colorado MCS standards for Economics at the 9–12 grade span begin to address personal financial literacy and planning with indicators on “personal investment strategies” and “explaining the costs and benefits of the use of credit.”</p> <p>Colorado MCS standards address various types of business and market structures, topics that are reserved in the Massachusetts <i>Framework</i> for its Grade 12 Economics elective.</p> <p>The Massachusetts <i>Framework</i> Concepts and Skills Standards for grades 8–12 introduce a few topics that do not appear in the Colorado MCS standards for Economics explicitly. Examples include</p> | Overall, the emphasis at this grade span is more similar than different. |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|--|---|--|
| | | <p>financial markets, stock market, recession, depression, deflation, equilibrium prices, absolute advantage vs. comparative advantage, the banking system and Federal Reserve system, and national budget and nation debt. The Learning Standards for the required history courses also ask students to apply economic thinking to a wide variety of historical events and trends.</p> <p>The Massachusetts <i>Framework</i> grade 12 Economics elective is very detailed and has very specific standards organized around these topics:</p> <ul style="list-style-type: none"> • Scarcity and Economic Reasoning • Supply and Demand • Market Structures • The Role of Government • National Economic Performance • Money and the Role of Financial Institutions • Trade | |
| Across | Both the Colorado MCS and the Massachusetts <i>Framework</i> address how the economy works and how people can use economic thinking to make reasoned choices regarding the allocation of scarce resources. The topics covered are mostly similar as well as standard in this subject area. | The Colorado MCS standards, benchmarks, and indicators do not map perfectly to the Massachusetts <i>Framework</i> grade articulation. Colorado introduces some of the economic concepts earlier or later in the grade spans than the Massachusetts <i>Framework</i> . | Overall, the content addressed across the grades is more similar than different. |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|---------------------|---|--|---|
| Wording/Specificity | The Colorado MCS standards for economics occasionally ask students to go beyond explanation to compare and contrast or interpret, but the differences are very minor. | <p>The Colorado MCS standards are generally more specific in the early grades. At the 8–12 grade span, the Massachusetts Framework standards are more specific than the Colorado MCS standards, even if one does not include the Massachusetts grade 12 Economics elective. The standards for that one-semester course are also very detailed and extensive.</p> <p>Colorado MCS standards use more active verbs than the Massachusetts <i>Framework</i>, particularly at the upper grades. In Massachusetts grade span 8–12 Concepts and Skill Standards for Economics, students are asked to identify, describe and explain.</p> | Overall, wording and specificity of standards in both states are more similar than different. |

Appendix I: Economics: External Referent Review—Indiana
External Referent: Indiana’s Academic Standards, Social Studies—K–8th Grade (October 2007) & High School Economics (October 2007)

Organization/Structure

| Subcategory | Similarities | Differences | Comments |
|--------------------|--------------|--|--|
| Grade Articulation | | <p>Colorado’s MCS standards for economics are organized by grade spans—K–4, 5–8, and 9–12. Its three overarching economics standards are designed to spiral through the K–12 grade years. At each of three grade spans, benchmarks and indicators communicate how these broad overarching standards are to be applied as students mature.</p> <p>Indiana’s K–8 social studies standards are laid out grade by grade in four strands:</p> <ul style="list-style-type: none"> • History • Civics and Government • Geography • Economics <p>At each grade level, standards change as students progress through the grades.</p> <p>Indiana has course-specific standards at 9–12. Economics appears to be an elective that is highly recommended, but not required for graduation.</p> | Overall, the grade articulation of standards in the two states is more different than similar. |

| Subcategory | Similarities | Differences | Comments |
|------------------------|--------------|--|--|
| Hierarchy of Standards | | <p>Colorado organizes its expectations into a hierarchy of standards, benchmarks, and indicators at three grade spans. The standards are consistent from K–12.</p> <p>Indiana has one economics standard at each grade followed by 4 to 11 benchmarks.</p> <p>Indiana’s high school Economics elective has seven overarching standards, each of which is followed by a number of benchmarks.</p> | Overall, the hierarchy of standards is more different than similar. |
| Number of Standards | | <p>The Colorado MCS for economics lists 3 K–12 standards, 8 grade-span benchmarks, and 72 indicators. The total of standards, benchmarks, and indicators is 83.</p> <p>Indiana has 9 standards and 76 benchmarks at the K-8 span. Its high school Economics elective has 8 standards and 81 benchmarks. Indiana’s total number of standards and benchmarks is 174, more than double Colorado’s 83.</p> <p>The difference is greatest at the high school level, which becomes apparent when one compares the number of economics standards, benchmarks, and indicators at the three grade spans:</p> <p>Indiana K–4: 42 Colorado K–4: 30</p> <p>Indiana 5-7: 43</p> | Overall, the number of economics standards, benchmarks, and indicators in the two states is more different than similar. |

| Subcategory | Similarities | Differences | Comments |
|----------------------|--------------|--|---|
| | | <p>Colorado 5–8: 37</p> <p>Indiana Economics elective: 89</p> <p>Colorado 9–12: 36</p> | |
| <p>Design/Format</p> | | <p>The Colorado MCS document for economics provides an introduction to the subject area and a rationale for the standards that follow. The document is 21 pages long and includes a glossary and index.</p> <p>Colorado divides its social studies standards into four strands:</p> <ul style="list-style-type: none"> • History • Geography • Civics • Economics <p>Colorado then groups the standards for each strand together in four strand-specific documents. The benchmarks and indicator for each overarching standard appear together for the three grade spans, allowing one to see how the content spirals from simple to more complex as students move through the grades.</p> <p>Indiana lays out each set of social studies standards grade-by-grade for K-8. The 9 grade-level standards documents, along with the high school Economics standards, cover 79 pages, but many of those pages deal with content other than economics.</p> <p>Each grade-level document begins with a short summary of that year’s course of</p> | <p>The Indiana format enables teachers at each grade level to see what their students are expected to learn that year.</p> <p>The Colorado format enables teachers to see all of the economics standards in one place and to understand how they articulate through the grades. In contrast, a teacher in Indiana would need to review ten standards documents to see how economics standards are developed and articulated from K–12.</p> <p>Overall, the design and format of the Colorado and Indiana standards documents are more different than similar.</p> |

| Subcategory | Similarities | Differences | Comments |
|-------------|--------------|---|----------|
| | | <p>study and a description of how the standards are organized around the four social studies strands. Specific terms are defined and examples provided where necessary. It also notes the integration of thinking skills, civic skills, and the examination of society and culture in the benchmarks for each strand.</p> <p>There is one economics standard per K-8 grade level. The benchmarks related to that broad standard are numbered sequentially. Examples are often used to flesh out the intent of a benchmark. Economics terms such as <i>opportunity cost</i> are defined at point of use.</p> <p>The high school Economics elective has 8 overarching standards, each followed by from 9 to 11 detailed benchmarks.</p> | |

Economics: External Referent Review—Indiana

External Referent: Indiana’s Academic Standards, Social Studies—K–8th Grade & High School Economics (October 2007)

Content

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|--|---|---|
| Standard 1 | Both Colorado and Indiana include the basic concepts of scarcity and the need to make decisions about how to use limited resources from the early grades onward. | Because Indiana embeds its economics standards in history and geography courses at grade span 5–8, its coverage of this content is often linked to historical events or geographical regions. | Overall, the coverage of the content in this standard is more similar than different. |
| Standard 2 | Both Colorado and Indiana include study of different economic systems and to understand how each structure impacts decision making about the production and distribution of goods and services. | | Overall, the coverage of the content in this standard is more similar than different. |
| Standard 3 | Both Colorado and Indiana include understanding how trade and exchange create interdependence among individuals, households, businesses, and nations. | | Overall, the coverage of the content in this standard is more similar than different. |
| Grades K–4 | Both Colorado and Indiana have standards in the early grades addressing basic concepts such as jobs, money, goods, services, buyers, sellers, scarcity, choices, producers, consumers, voluntary exchange, specialization, barter, productive resources, tradeoffs, prices, taxes, trade, and markets. Both also begin to address global economic connections. | <p>Indiana focuses more on jobs in the early grades. It also introduces cost/benefit analyses, productivity, and saving at this level.</p> <p>A grade 3 Indiana benchmark includes gathering data from a variety of resources about issues that will impact the community. No Colorado standard addresses this type of research.</p> <p>Colorado’s economic standards at this level focus more than Indiana’s on economic systems and the three basic questions all economic systems must answer.</p> | Overall, the emphasis at this grade span is more similar than different. |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------------|--|---|---|
| <p>Grades 5–8</p> | <p>Both Colorado’s and Indiana’s standards at this level include more sophisticated application of the concepts listed for grades K–4, they also address such concepts and content as productivity, economic systems, allocation of resources, the interplay of supply and demand, the role of prices, the role of government in the economy, interdependence, the role of banks, credit, interest rates, trade barriers, and exchange rates. Both also consider the impact of technology on economic development.</p> | <p>Indiana introduces much of this content in grades 5 to 8 in the context of U.S. history, world history, and regional geography courses. For example, at grade 5, many economics benchmarks are presented in the context of colonial history. A grade 6 benchmark asks students to use GDP per capita to compare living standards in Europe and the Americas. A grade 8 benchmark links technological change to the development of the U.S. economy in the 19th century. Grade 8 students are also expected to examine the history of the U.S. banking system and understand the gold standard.</p> <p>Personal financial literacy comes into the Indiana standards at the 5–8 grade span. Personal budgets are introduced at grade 5. An examination of individual investment and savings options begins at grade 6. At grade 7 students focus on the importance of individual savings and the power of compound interest. A grade 8 benchmark deals with the use of credit.</p> <p>The Indiana standards go beyond Colorado’s in other small but noticeable ways. For example, Grade 6 includes a benchmark calling on students to use varied information sources to analyze current economic issues in other countries.</p> | <p>The Indiana curriculum includes the need to integrate the Indiana curriculum standards into the course of study for the year (U.S. history in grades 5 and 8, world history in grade 6, and regional geography in grade 7).</p> <p>In contrast, Colorado lists its standards, benchmarks, and indicators in general terms and allows the decision of when (during each grade span) and how to integrate that material into the course of study to be a local decision.</p> <p>Overall, the emphasis at this grade level is more similar than different. However, Indiana’s standards are broader, perhaps reflecting that grade 8 is the last year in which economics standards apply to all students.</p> |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|--|---|--|
| Grades 9–12 | Both Colorado’s and Indiana’s standards expect students at this grade span to address a deeper understanding of the concepts and understandings developed in the earlier grades, such as analyzing economic goals and incentives and how they impact economic choices and the allocation of economic resources. Both also address more advanced concepts such as comparative advantage, inflation, trade policy, and fiscal and monetary policy. | <p>The Indiana economics standards at this level are more numerous and detailed than Colorado’s. For example, Colorado addresses the relationship between supply and demand by asking students to “describe how changes in the number of producers, production costs, or the prices of substitute and complementary products cause changes in supply.” A similar indicator focuses on demand. Both statements are dense in terms of the content, understanding, and analysis needed to demonstrate mastery.</p> <p>Indiana unpacks this content into a number of more specific benchmarks, starting with “Define supply and demand” and ending with “Demonstrate how changes in supply influence equilibrium price and quantity in the product, resource, and financial markets.” These terser statements are easier to understand and translate into lessons or assessments.</p> | Overall, the emphasis at this grade level is more similar than different. Colorado’s 9–12 standards are relatively few and fully packed. Indiana’s are more numerous and less all-inclusive. |
| Across | Both sets of standards include content that would provide a firm understanding of how the economy works and how people can use economic thinking to make reasoned choices regarding the allocation of scarce resources. Colorado’s standards, benchmarks, and indicators do not map to Indiana’s Economics elective, but the general topics addressed are comparable. | | Overall, the content addressed across the grades is more similar than different. |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|---------------------|--------------------------|--|---|
| Wording/Specificity | | <p>In general, Indiana’s standards and benchmarks are more concrete and specific than Colorado’s, particularly at grade span 5–8 and in its high school Economics elective. At the middle grades, economic concepts are often linked to specific historical or geographical content. At high school, benchmarks often define a reasonable sequence of learning, beginning with defining and moving on to comparing, explaining, predicting, illustrating and demonstrating.</p> <p>Colorado’s standards, benchmarks, and indicators are often more general in nature than Indiana’s. At the high school level, students are occasionally asked to go beyond just “knowing” to interpret, compare, or contrast, but no sequence of learning is implied at any grade span.</p> | Overall the wording and specificity of standards in both states is more different than similar. |

Appendix J. Economics: External Referent Review—Finland
External Referent: National Core Curriculum for Basic Education 2004, Ethics (Finland) and National Core Curriculum for Upper Secondary Schools 2003, Ethics (Finland)

Organization/Structure

| Subcategory | Similarities | Differences | Comments |
|------------------------|---|---|--|
| Grade Articulation | <p>Colorado’s MCS for economics are organized by grade spans—K–4, 5–8, and 9–12.</p> <p>Finland also organizes its descriptions of what students are expected to learn by grade span. Its first span covers grades 1–5; the second covers grades 6–9; and the last covers upper secondary, which is roughly equivalent to a U.S. high school plus a year of junior college.</p> | <p>Colorado’s three overarching Economics standards are designed to spiral through grades K–12. At each of three grade spans, benchmarks and indicators communicate how these broad overarching standards are to be applied as students mature.</p> <p>Finland does not have performance descriptors that run from one level to the next.</p> | The grade articulation is more different than similar. |
| Hierarchy of Standards | | <p>Colorado organizes its performance expectations into a hierarchy of standards, benchmarks, and indicators at the three grade spans. The standards are consistent from K–12.</p> <p>Finland labels its expectations of what students will know and be able to do at the end of grade 5 as “Descriptions of Good Performance” and at the end of grade 8 as “Assessment Criteria.” Finland does not include any such expectations in its upper secondary course descriptions.</p> | The hierarchy of standards is more different than similar. |

| Subcategory | Similarities | Differences | Comments |
|----------------------------|--------------|---|--|
| <p>Number of Standards</p> | | <p>The Colorado MCS for economics document lists 3 K–12 standards, 8 grade-span benchmarks, and 72 indicators. The total of standards, benchmarks, and indicators is 83.</p> <p>Counting Economics standards in Finland is complex because the Core Curriculum for Ethics for grades 1–9 is a multidisciplinary mix of “philosophy, the social sciences, and cultural studies.” None of the 15 “Descriptions of Good Performance” for grade 5 contain what most U.S. educators would recognize as economics content. At grade 8, only 3 of the 18 “Assessment Criteria” touch on Economics content.</p> <p>Finnish students also take Social Studies at grades 7–9. The content of this curriculum is a mix of culture, civics, and economics. The grade 8 “Assessment Criteria” for Social Studies lists 5 very general performance indicators, 3 of which refer to “economic solutions” or “economic activity.” This brings the number of Finnish economics performance indicators to 6.</p> <p>At the secondary level, students continue their study of Ethics, but they also take a required course called “Economics.” There is a description but no performance expectations for this course.</p> | <p>The number of standards is more different than similar.</p> |

| Subcategory | Similarities | Differences | Comments |
|---------------|--------------|--|--|
| Design/Format | | <p>The Colorado MCS for economics provides an introduction to the subject area and a rationale for the standards, benchmarks, and indicators that follow. The document is 21 pages long and includes a glossary and index.</p> <p>Finland’s documents describing its Ethics and Social Studies curricula and upper secondary courses all have brief introductions that describe each unit of study’s purpose and general content. This is followed by a list of objectives and “Core Content” modules. Each module has a header followed by a few bullet points. The grade 7–9 Social Studies curriculum has three economics-related headers, including “Economic policy.” The last elements of these course descriptions at the lower levels are the performance or assessment indicators.</p> <p>Taken all together, the Ethics and Social Studies curricula and required and elective course descriptions cover 16 pages.</p> | <p>The design and format of the materials are more different than similar.</p> |

External Referent: National Core Curriculum for Basic Education 2004, Ethics (Finland) and National Core Curriculum for Upper Secondary Schools 2003, Ethics (Finland)

Content

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|--|---|---|
| Standard 1 | Both the Colorado MCS and Finnish curricula include understanding basic economic concepts. | <p>The Colorado standard with its related benchmarks and indicators spells out in detail the economic concepts to be taught and begins to introduce them in the early grades.</p> <p>The Finnish course descriptions do not specify which “basic economic concepts” are to be taught and does not focus on them until the upper secondary Economics course. There is not explicit mention of scarcity, tradeoffs, or opportunity costs.</p> | The content is more different than similar. |
| Standard 2 | Both the Colorado MCS and Finnish curricula understanding production and distribution of goods and services. | <p>The Colorado standard with its related benchmarks and indicators include economic systems and how they impact decisions regarding the use of resources and production of goods and services.</p> <p>There is no discussion of economic systems in the Finnish curriculum. The Finnish curriculum does include “primary production” and “economic activity.”</p> | The content is more different than similar. |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|---|--|---|
| Standard 3 | Both the Colorado MCS and Finnish curricula include understanding the importance of trade and the global economy. | <p>The Colorado MCS with its related benchmarks and indicators focuses on exchange, specialization, interdependence, the role of the monetary system, and use of money and credit.</p> <p>The Finnish curriculum puts more emphasis on Finland’s role in the global economy and the impact of globalization, perhaps reflecting the fact that the Finnish economy is export-driven.</p> | The content is more different than similar. |
| Grades K–4 | | <p>In the early grades, Colorado’s MCS deal with basic concepts such as jobs, money, goods, services, buyers, sellers, scarcity, choices, producers, consumers, voluntary exchange, specialization, barter, productive resources, tradeoffs, prices, taxes, trade, and markets.</p> <p>None of this content appears in Finland’s grades 1–5 Ethics curriculum.</p> | The content is more different than similar. |
| Grades 5–8 | Both the Colorado MCS and Finnish curricula include at this grade span a focus on the role of individuals and households in the economy, the importance of foreign trade, the impact of inflation, and economic policy. | <p>The Colorado MCS and related benchmarks and indicators are far more detailed than Finland’s course descriptions. For example, whereas Colorado has a benchmark asking students to “understand how a country’s monetary system facilitates the exchange of resources,” Finland simply includes a bullet point about “the importance of trade and the global economy.”</p> <p>The Finnish curriculum places a greater emphasis on personal finance. It has a study module titled “Managing one’s finances,” which includes such topics as work,</p> | The content is more similar than different. |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|---|--|--|
| | | entrepreneurship, and managing private finances. | |
| Grades 9–12 | Both the Colorado MCS and Finnish curriculum include in this grade span an increased understanding of how their nations’ economies work. The language they use is different, but the range of topics, from supply and demand to fiscal and monetary policy, is generally similar. | <p>Colorado’s MCS and related benchmarks and indicators are more specific in terms of content. They also focus on the workings of the U.S. economy.</p> <p>Finland’s Economics course is more focused on the Finnish economy. It begins with a module on “Finns’ sources of livelihood” and ends with one on “Finland in international trade.”</p> | The content is more similar than different. |
| Across | Much of the content referenced by both Colorado and Finland from the middle grades onward is similar, although it is often described very differently. | <p>Colorado’s economics standards reflect what is often described by educators as “the economic way of thinking.” This way of thinking begins with a few key understandings on which the standards, benchmarks, and indicators are ultimately based. Two of the most important of these understandings are that scarcity forces us to make choices and that people respond in predictable ways to incentives.</p> <p>Finland’s curriculum and course descriptions do not reflect this model. A number of topics are listed without suggesting how students are to think about or analyze this information.</p> | Overall, the content is more similar than different. |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|---------------------|--------------------------|--|--|
| Wording/Specificity | | <p>The Finnish curriculum documents are spare in the use of action verbs. Courses and curricula are described in an outline form with study module topics followed by brief bullet points.</p> <p>Finnish performance indicators are general and focused on how well students can use what they have learned to perform authentic tasks (e.g., “The pupil will understand that social decision-making and economic solutions involve numerous alternatives”).</p> <p>The Colorado MCS document is longer and broader, but also more specific as to what students are expected to know and be able to do.</p> | The wording and specificity are more different than similar. |

**Appendix K: Economics: External Referent Review —Singapore
 External Referent: Civics and Moral Education Syllabus Primary 2007, Civics and Moral Education Syllabus Secondary 2007,
 Revised Pre-University Civics Syllabus 2007, Social Studies Syllabus Primary 2006 and Social Studies Syllabus Lower
 Secondary Normal 2005 (Singapore)**

Organization/Structure

| Subcategory | Similarities | Differences | Comments |
|--------------------|---|---|---|
| Grade Articulation | <p>Colorado’s three overarching economics standards are designed to spiral through the K–12 grade years. At each of three grade spans, benchmarks and indicators communicate how these broad overarching standards are to be applied.</p> <p>Singapore divides its economics content among a number of syllabi:</p> <ul style="list-style-type: none"> • Social Studies Syllabus Primary • Social Studies Syllabus Secondary • Civics and Moral Education Syllabus Primary • Civics and Moral Education Syllabus Lower Secondary • Pre-University Civics Syllabus <p>The two Social Studies syllabi share the same broad overarching goals that spiral through the grades.</p> <p>The two Civics and Moral Education syllabi focus on six values that spiral through grades as students advance:</p> <ul style="list-style-type: none"> • Respect • Responsibility • Integrity • Care • Resilience • Harmony | <p>Colorado’s MCS for economics are organized by grade spans—K–4, 5–8, and 9–12.</p> <p>While Singapore also organizes its expectations by grade span, the spans are different.</p> <p>Its first span, Primary, covers grades 1–6. Students exit that span around age 12.</p> <p>The second grade span, Secondary Express, Secondary Normal, or Vocational, covers the next two to four years, or grades 7–10, depending on the path students take. Most students exit the secondary level of education at ages 16–17.</p> <p>The last grade span covers grades 10 to 12 or 13, again depending on the path students take toward either a college-preparatory or vocational-training institution. This grade span may include a year of junior college. Most students would leave this grade span at the age of 19.</p> | <p>The grade articulation is more different than similar.</p> |

| Subcategory | Similarities | Differences | Comments |
|-------------------------------|--------------|--|--|
| <p>Hierarchy of Standards</p> | | <p>The Colorado MCS performance expectations are organized into a hierarchy of standards, benchmarks, and indicators at the three grade spans. The standards are consistent from K–12.</p> <p>Singapore has only two levels of performance expectations.</p> <p>The Primary Social Studies Syllabus divides its performance expectations between overarching objectives for the six grades and grade-level expectations. Both levels are listed under these headings:</p> <ul style="list-style-type: none"> • Knowledge • Skills • Attitudes and Values <p>The grade-level objectives often spiral through the grades from simple to complex. Grade 1, for example, begins with being able to “understand that scarcity of resources requires students to make choices.” By grade 5, students are expected to be able to “understand that resources are scarce and have to be allocated through various mechanisms.”</p> <p>In the Secondary Social Studies Syllabus, similar broad “General Aims” are listed again under the same three Knowledge, Skills, and Values & Attitudes headings. In addition, more specific “Learning Outcomes” appear for</p> | <p>The hierarchies of standards are more different than similar.</p> |

| Subcategory | Similarities | Differences | Comments |
|---------------------|--------------|--|---|
| | | <p>each of six “Themes.” These themes focus on the history, growth, government, culture, environment, and future of Singapore (e.g., under “Growth of Singapore” one finds “describe the types of jobs and skills needed in different industries”).</p> <p>Both of the Civics and Moral Education Syllabi list broad objectives under the headings “Moral Knowing,” “Moral Feeling,” and “Moral Action” that apply to grades 1–6 (e.g., under “Moral Knowing” at the Primary Level, one finds “know the values essential to the well-being of our nation”).</p> <p>More specific “Learning Objectives” are listed for each of the key six values (e.g., under “Responsibility” at the Secondary Level, one finds “be responsible for making financial decisions”).</p> <p>The Pre-University Civics Syllabus has only one level of “Learning Outcomes” tied to four “Big Ideas ” and “Essential Questions,” (e.g., under “How can I contribute to the well-being of others?” students will be able to “explore different ways of making a difference in their community”).</p> | |
| Number of Standards | | The Colorado MCS for economics document lists 3 K–12 standards, 8 grade-span benchmarks, and 72 | The number of standards is more similar than different. |

| Subcategory | Similarities | Differences | Comments |
|-------------|--------------|---|----------|
| | | <p>indicators. The total of standards, benchmarks, and indicators is 83.</p> <p>The number of objectives for the Singapore curricula is as follows:</p> <p>Social Studies Syllabus Primary:</p> <ul style="list-style-type: none"> • Overarching objectives listed under Knowledge, Skills, and Values & Attitudes: 12 • Grade-specific Knowledge, Skills, and Values & Attitudes objectives related to economics: 6 <p>Social Studies Syllabus Secondary:</p> <ul style="list-style-type: none"> • Overarching objectives listed under Knowledge, Skills, and Values & Attitudes: 13 • Learning outcomes related to economics: 13 <p>Civics and Moral Education Syllabus: Primary</p> <ul style="list-style-type: none"> • Overarching objectives listed under Moral Knowing, Moral Feeling, and Moral Action: 20 • Value-specific learning objectives related to economics: 3 <p>Civics and Moral Education Syllabus: Secondary</p> <ul style="list-style-type: none"> • Overarching objectives listed Moral Knowing, Moral Feeling, | |

| Subcategory | Similarities | Differences | Comments |
|---------------|--------------|--|---|
| | | <p>and Moral Actions: 20</p> <ul style="list-style-type: none"> • Value-specific learning objectives related to economics: 7 <p>Pre-University Civics Syllabus:</p> <ul style="list-style-type: none"> • Learning Outcomes related to economics: 6 <p>All together, the number of overarching objectives and civics-related learning objectives and learning outcomes for the three levels totals 100.</p> | |
| Design/Format | | <p>The Colorado Model Standards document for economics provides an introduction to the subject area and a rationale for the standards, benchmarks, and indicators that follow. The document is 21 pages and includes a glossary and an index.</p> <p>Unlike the Colorado standards, benchmarks, and indicators, the Singapore learning objectives and outcomes for economics are distributed throughout the civics, social studies, civics, and moral education curricula.</p> <p>The Singapore curricula begin with introductions to the content, rationales, overarching goals and objectives, as well as a summary of various teaching approaches and discussions of implementation and assessment strategies. Because civics content is spread over so many curricula, the total</p> | The design and format of the materials are more different than similar. |

| Subcategory | Similarities | Differences | Comments |
|--------------------|---------------------|--|-----------------|
| | | number of pages for the five documents is 190. | |

External Referent: Civics and Moral Education Syllabus Primary 2007, Civics and Moral Education Syllabus Secondary 2007, Revised Pre-University Civics Syllabus 2007, Social Studies Syllabus Primary 2006 and Social Studies Syllabus Lower Secondary Normal 2005 (Singapore)

Content

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|--|---|---|
| Standard 1 | Both the Colorado MCS and Singapore syllabi introduce the basic economic idea that scarcity forces people to make decisions about the allocation of resources. | The Colorado MCS address concepts related to scarcity, such as choices, tradeoffs, opportunity costs, and economic incentives in some detail. Singapore addresses this idea in a very general way. | The basic content is more similar than different. |
| Standard 2 | Both the Colorado MCS and Singapore syllabi address the basic economic idea that governments have a role to play in their nation's economies. | The Colorado MCS address economic systems and how they impact decisions regarding the use of resources and production of goods and services. There is no discussion in the Singapore syllabi of economic systems, goods and services, or their production and distribution, nor are there objectives dealing with specifics such as taxation, regulation, or economic measurement. | The content is more different than similar. |
| Standard 3 | Both the Colorado MCS and Singapore syllabi address the importance of trade and the global economy. | The Colorado MCS address exchange, specialization, interdependence, the role of the monetary system, and use of money and credit. The Singapore syllabi emphasize the need for Singapore to maintain global competitiveness and to overcome economic constraints. | The content is more different than similar. |
| Grades K–4 | | At this grade span, the Colorado MCS standards address basic concepts such as | The content is more different than similar. |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|--------------------|---|---|--|
| | | <p>jobs, money, goods, services, buyers, sellers, scarcity, choices, producers, consumers, voluntary exchange, specialization, barter, productive resources, tradeoffs, prices, taxes, trade, and markets.</p> <p>None of these economic concepts appear in Singapore’s primary syllabi.</p> | |
| <p>Grades 5–8</p> | <p>Both the Colorado MCS and the Singapore syllabi address the role of individuals in the economy and the importance of foreign trade at this grade span.</p> | <p>The Colorado MCS standards for this grade span cover economics more rigorously and broadly than Singapore’s secondary learning objectives and outcomes.</p> <p>For example, where the Colorado MCS has a benchmark asking students to describe, “how economic interdependence between countries around the world affects the standard of living.” Singapore has a more general social studies learning outcome, asking students to “explain the need for Singapore to remain globally competitive.”</p> <p>In its Secondary Civics and Moral Education Syllabus, Singapore focuses on “the need for Singapore to be resilient in the face of globalization.” It also calls on students to “be responsible for making financial decisions.”</p> | <p>The content is more different than similar.</p> |
| <p>Grades 9–12</p> | | <p>Colorado’s 9–12 grade span standards are much broader and more rigorous than the learning outcomes in Singapore’s Pre-University Civics Syllabus. The focus of</p> | <p>The content is more different than similar.</p> |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|--------------------------|---|--|
| | | the latter is not on economics concepts or content. | |
| Across | | <p>Colorado’s MCS standards address what educators often describe as “the economic way of thinking.” This way of thinking begins with a few key understandings on which the standards, benchmarks, and indicators are ultimately based. Two of the most important of these understandings are that scarcity forces us to make choices and that people respond in predictable ways to incentives.</p> <p>Singapore’s economics-related learning objectives are tied to a much narrower focus on the moral development of students as caring, responsible, resilient, respectful, cooperative, and honest human beings. Throughout the syllabi, the emphasis is on a process-based approach to teaching that emphasizes the “why” and “how” instead of the “what.” Knowledge is on an equal footing with skills and dispositions.</p> | Overall, the content is more different than similar. |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|----------------------------|--|---|---|
| <p>Wording/Specificity</p> | <p>The wording of the Colorado MCS standards and Singapore learning objectives are generally similar.</p> <p>Both the Colorado MCS and Singapore syllabi have standards at the upper grades that require higher-level thinking skills.</p> <p>The Colorado MCS standards at the 9–12 grade span use the following action verbs: explain, analyze, compare, interpret, and describe.</p> <p>The Singapore syllabi at the pre-university level use the following action verbs: examine, appreciate, and explore.</p> | <p>The Singapore syllabi are intended to describe courses of study, not just learning outcomes, and hence are long compared to the Colorado MCS standards.</p> <p>However, the Colorado MCS standards document are more specific and detailed as to what students are expected to know and be able to do.</p> | <p>The wording and specificity are more different than similar.</p> |

Appendix L. Economics: 21st Century Skills and Postsecondary and Workforce Readiness Review

21st Century Skills

| Standard | Grade Span | Critical thinking and reasoning | Information literacy | Collaboration | Self-direction | Invention | Comments |
|----------|------------|---------------------------------|----------------------|---------------|----------------|-----------|---|
| 1 | K-4 | P | N | N | N | P | <p>Critical Thinking and Reasoning: Partial for critical thinking—students are asked to describe consequences of economic choices in the future (cause-and-effect reasoning)</p> <p>Information Literacy: Knowledge acquisition, systems management, and other information literacy skills are not emphasized at this grade span.</p> <p>Collaboration: Collaboration is not addressed in the standards at this grade span.</p> <p>Self-direction: Self-direction skills are not addressed in the standards at this grade span.</p> <p>Invention: Invention is partially addressed; students identify resources that can be used in a variety of ways.</p> |

| Standard | Grade Span | Critical thinking and reasoning | Information literacy | Collaboration | Self-direction | Invention | Comments |
|----------|------------|---------------------------------|----------------------|---------------|----------------|-----------|--|
| 1 | 5-8 | F | N | N | N | N | <p>Information Literacy: Knowledge acquisition, systems management, and other information literacy skills are not emphasized at this grade span.</p> <p>Collaboration: Collaboration is not addressed in the standards at this grade span.</p> <p>Self-direction: Self-direction skills are not addressed in the standards at this grade span.</p> <p>Invention: Invention is not addressed in the standards at this grade span.</p> |
| 1 | 9-12 | F | N | N | N | F | <p>Information Literacy: Knowledge acquisition, systems management, and other information literacy skills are not emphasized at this grade span.</p> <p>Collaboration: Collaboration is not addressed in the standards at this grade span.</p> <p>Self-direction: Self-direction skills are not addressed in the standards at this grade span.</p> |

| Standard | Grade Span | Critical thinking and reasoning | Information literacy | Collaboration | Self-direction | Invention | Comments |
|----------|------------|---------------------------------|----------------------|---------------|----------------|-----------|--|
| 1 | Across | F | N | N | N | P | <p>Information Literacy: Knowledge acquisition, systems management, and other information literacy skills are not emphasized at any grade span.</p> <p>Collaboration: Collaboration is not addressed in the standards at any grade span.</p> <p>Self-direction: Self-direction skills are not addressed in the standards at any grade span.</p> <p>Invention: Invention is only partially addressed in the standards across the grade spans.</p> |
| 2 | K-4 | P | N | N | N | N | <p>Critical Thinking and Reasoning: Partial for critical thinking since students relate price to supply and demand (cause-and-effect reasoning).</p> <p>Information Literacy: Knowledge acquisition, systems management, and other information literacy skills are not emphasized at this grade span.</p> <p>Collaboration: Collaboration is not addressed in the standards at this grade span.</p> <p>Self-direction: Self-direction skills are not addressed in the standards at this grade span.</p> <p>Invention: Invention is not addressed in the standards at this grade span.</p> |

| Standard | Grade Span | Critical thinking and reasoning | Information literacy | Collaboration | Self-direction | Invention | Comments |
|----------|------------|---------------------------------|----------------------|---------------|----------------|-----------|--|
| 2 | 5-8 | P | N | N | N | N | <p>Critical Thinking and Reasoning: Partial for critical thinking since students describe the relationships among price, supply, and demand (logical reasoning).</p> <p>Information Literacy: Knowledge acquisition, systems management, and other information literacy skills are not emphasized at this grade span.</p> <p>Collaboration: Collaboration is not addressed in the standards at this grade span.</p> <p>Self-direction: Self-direction skills are not addressed in the standards at this grade span.</p> <p>Invention: Invention is not addressed in the standards at this grade span.</p> |
| 2 | 9-12 | F | N | N | N | P | <p>Information Literacy: Knowledge acquisition, systems management, and other information literacy skills are not emphasized at this grade span.</p> <p>Collaboration: Collaboration is not addressed in the standards at this grade span.</p> <p>Self-direction: Self-direction skills are not addressed in the standards at this grade span.</p> <p>Invention: Invention is partially addressed in the standards at this grade span. Students can describe changes in income, taste, and preferences.</p> |

| Standard | Grade Span | Critical thinking and reasoning | Information literacy | Collaboration | Self-direction | Invention | Comments |
|----------|------------|---------------------------------|----------------------|---------------|----------------|-----------|--|
| 2 | Across | P | N | N | N | N | <p>Critical Thinking and Reasoning: Partial across the grade spans because most of the action verbs in grade spans K-4 and 5-8 focus on description and identification.</p> <p>Information Literacy: Knowledge acquisition, systems management, and other information literacy skills are not emphasized at any grade span.</p> <p>Collaboration: Collaboration is not addressed in the standards at any grade span.</p> <p>Self-direction: Self-direction skills are not addressed in the standards at any grade span.</p> <p>Invention: Invention is not substantively addressed in the standards across the grade spans.</p> |

| Standard | Grade Span | Critical thinking and reasoning | Information literacy | Collaboration | Self-direction | Invention | Comments |
|----------|------------|---------------------------------|----------------------|---------------|----------------|-----------|---|
| 3 | K-4 | P | N | N | N | N | <p>Critical Thinking and Reasoning: Partial because students must explain the concept of money and describe how the exchange of goods and services creates economic interdependence.</p> <p>Information Literacy: None of the standards at this grade span emphasize knowledge acquisition, systems management or other information literacy skills.</p> <p>Collaboration: Collaboration is not addressed in the standards at this grade span.</p> <p>Self-direction: Self-direction skills are not addressed in the standards at this grade span.</p> <p>Invention: Invention is not addressed in the standards at this grade span.</p> |
| 3 | 5-8 | F | N | N | N | N | <p>Information Literacy: Knowledge acquisition, systems management, and other information literacy skills are not emphasized at this grade span.</p> <p>Collaboration: Collaboration is not addressed in the standards at this grade span.</p> <p>Self-direction: Self-direction skills are not addressed in the standards at this grade span.</p> <p>Invention: Invention is not addressed in the standards at this grade span.</p> |

| Standard | Grade Span | Critical thinking and reasoning | Information literacy | Collaboration | Self-direction | Invention | Comments |
|----------|------------|---------------------------------|----------------------|---------------|----------------|-----------|--|
| 3 | 9-12 | F | N | N | N | N | <p>Information Literacy: Knowledge acquisition, systems management, and other information literacy skills are not emphasized at this grade span.</p> <p>Collaboration: Collaboration is not addressed in the standards at this grade span.</p> <p>Self-direction: Self-direction skills are not addressed in the standards at this grade span.</p> <p>Invention: Invention is not addressed in the standards at this grade span.</p> |
| 3 | Across | F | N | N | N | N | <p>Information Literacy: Knowledge acquisition, systems management, and other information literacy skills are not emphasized at any grade span.</p> <p>Collaboration: Collaboration is not addressed in the standards at any grade span.</p> <p>Self-direction: Self-direction skills are not addressed in the standards at any grade span.</p> <p>Invention: Invention is not addressed in the standards at any grade span.</p> |

| Standard | Grade Span | Critical thinking and reasoning | Information literacy | Collaboration | Self-direction | Invention | Comments |
|----------|-----------------|--|---|---|---|--|----------|
| | Comments | Colorado does include indicators calling for analysis, but they are mostly concentrated at the upper grades. Most indicators focus on the acquisition of information rather than the use of or application of information to authentic problems or situations. | Colorado's economic standards do not address the media and information literacy. If indicators are revised to emphasize personal financial awareness, information literacy could be included with those indicators. | There are no Colorado economics standards addressing collaboration in the development of leadership and teamwork skills. Indicators could be revised to encourage more collaboration in team projects and activities. | There are no Colorado economics standards addressing self-direction. If the standards are revised to include more personal financial awareness, indicators could be revised to include more self-direction. | Invention is not substantively addressed across the standards. There are many opportunities where it could be emphasized if the standards are revised. | |

Postsecondary and Workforce Readiness

| Standard | Grade Span | Application of reading, writing, and computing skills with minimal remediation or training | Logical reasoning and argumentation abilities | Identification and solving of problems | Information management skills | Human relation skills | Analysis and interpretation skills | Comments |
|----------|-----------------|--|---|--|--|---|--|----------|
| 1 | 9-12 | F | F | N | P | N | F | |
| 2 | 9-12 | F | F | N | F | N | F | |
| 3 | 9-12 | F | F | N | F | N | F | |
| | Comments | There are many opportunities in the economic standards for students to demonstrate the application of reading, writing, and computing skills, although presently these are not explicitly stated. CDE may want to consider emphasizing computing skills in a number of its indicators. | There are many opportunities for students to demonstrate their logical reasoning and argumentation abilities, although presently these are not explicitly stated. | There are no Colorado economic standards that address problem-solving directly. This might be addressed by revision of indicators to focus more on personal finance. | There are many opportunities in the Colorado economic standards for students to demonstrate information management skills. CDE might consider emphasizing personal finance awareness in some of its indicators to strengthen this skill. | None of the Colorado standards currently addresses the human relations skill. | There are many opportunities in the Colorado standards to demonstrate analysis and interpretation skills, although these are not explicitly stated in the current standards. | |

Appendix M. Geography: Internal Quality Review

Depth

| Standard | Grade Span | Within Span | Across Span | Comments |
|----------|------------|-------------|-------------|--|
| 1 | K–4 | F | | Important geographic examples could be provided for Benchmark 1.2 and understanding the difference between relative and absolute location could be discussed. Specific vocabulary terms could be provided for Benchmark 1.3. |
| 1 | 5–8 | F | | The third bullet of Benchmark 1.2 could provide greater specificity of physical and human features required. The second bullet of Benchmark 1.3 could identify the factors that affect the location of human activities. |
| 1 | 9–12 | F | | |
| 1 | Across | | F | The depth of knowledge for students understanding and using geographical tools is appropriate across the grade spans. |
| 2 | K–4 | F | | Benchmark 2.1 could identify which human and physical processes shape places. Benchmark 2.2 could identify different types of regions (e.g., economic, physical, cultural). |
| 2 | 5–8 | F | | Benchmark 2.2 could identify different types of regions (e.g., economic, physical, cultural). |
| 2 | 9–12 | F | | |
| 2 | Across | | F | The depth of knowledge for students understanding the concepts of physical and human characteristics to define and study regions is appropriate across the grade spans. |
| 3 | K–4 | P | | Partial rating due to excessive depth of content in standard. Understanding the effects of the Earth-Sun relationship and understanding the water cycle may be more appropriate in the 5–8 grade span. |
| 3 | 5–8 | F | | Benchmark 3.2 could identify the local and world patterns of ecosystems. |
| 3 | 9–12 | F | | |
| 3 | Across | | F | The depth of knowledge for students understanding how physical processes shape patterns and systems is appropriate across the grade spans. |

| Standard | Grade Span | Within Span | Across Span | Comments |
|----------|------------|-------------|-------------|---|
| 4 | K-4 | F | | Benchmark 4.1 could provide examples of the causes of human migration. Benchmark 4.2 could identify the elements of culture. Benchmark 4.4 could classify the types of settlements. |
| 4 | 5-8 | F | | Benchmark 4.3 could identify the factors that influence the location and distribution of economic activities. |
| 4 | 9-12 | F | | |
| 4 | Across | | F | The depth of knowledge for students understanding how various processes shape human activities is appropriate across the grade spans. |
| 5 | K-4 | F | | |
| 5 | 5-8 | F | | |
| 5 | 9-12 | F | | |
| 5 | Across | | F | The depth of knowledge for students understanding the effects of interactions between human and physical systems is appropriate across the grade spans. |
| 6 | K-4 | P | | Partial rating due to lack of specificity in the benchmarks. Greater explanation of the intent of geographical historical determination for each benchmark would be beneficial. |
| 6 | 5-8 | F | | Both benchmarks could provide examples to illustrate intent. |
| 6 | 9-12 | F | | |
| 6 | Across | | F | The depth of knowledge for students understanding how geography affects perception of the past and future is appropriate across the grade spans. |

Geography: Internal Quality Review

Coherence

| Standard | Grade Span | Appropriate Sequence | Appropriate Endpoints | Comments |
|----------|------------|----------------------|-----------------------|---|
| 1 | K-4 | | F | |
| 1 | 5-8 | | F | |
| 1 | 9-12 | | F | |
| 1 | Across | F | F | This standard spirals appropriately across the grade spans. There is an increase in complexity in the way students use geographic tools across the grade spans. |
| 2 | K-4 | | F | |
| 2 | 5-8 | | F | |
| 2 | 9-12 | | F | |
| 2 | Across | F | F | This standard spirals appropriately across the grade spans. The expectation for complexity in the students/ understanding of physical and human characteristics of places increases across the grade spans. |
| 3 | K-4 | | F | |
| 3 | 5-8 | | F | |
| 3 | 9-12 | | F | |
| 3 | Across | F | F | This standard spirals appropriately across the grade spans. There is greater complexity in the benchmarks across the grade spans. |
| 4 | K-4 | | F | |
| 4 | 5-8 | | F | |
| 4 | 9-12 | | F | |
| 4 | Across | F | F | This standard spirals appropriately across the grade spans. The complexity of the instruction of the concept increases across the grade spans. |
| 5 | K-4 | | F | |
| 5 | 5-8 | | F | |
| 5 | 9-12 | | F | |
| 5 | Across | F | F | This standard spirals appropriately across the grade spans. The cognitive complexity of the instruction of the concept increases across the grade spans. |
| 6 | K-4 | | F | |
| 6 | 5-8 | | F | Benchmark 6.1 is very similar in grade spans K-4 and 5-8. |
| 6 | 9-12 | | F | |
| 6 | Across | F | F | |

Geography: Internal Quality Review

Rigor

| Standard | Grade Span | Rigor | Comments |
|----------|------------|-------|--|
| 1 | K-4 | F | |
| 1 | 5-8 | F | |
| 1 | 9-12 | F | |
| 1 | Across | F | The rigor of the geographic thinking skill is appropriate at each grade span. |
| 2 | K-4 | F | The level of abstraction of Benchmark 2.3 may be above grade span level. |
| 2 | 5-8 | F | |
| 2 | 9-12 | F | |
| 2 | Across | F | |
| 3 | K-4 | P | The explanation of the Earth-Sun relationships is most likely above cognitive ability of the grade span. |
| 3 | 5-8 | F | |
| 3 | 9-12 | F | |
| 3 | Across | F | The rigor of the geographic thinking skill is appropriate at each grade span. |
| 4 | K-4 | F | |
| 4 | 5-8 | F | |
| 4 | 9-12 | F | |
| 4 | Across | F | The rigor of the geographic thinking skill is appropriate at each grade span. |
| 5 | K-4 | F | |
| 5 | 5-8 | F | |
| 5 | 9-12 | F | |
| 5 | Across | F | The rigor of the geographic thinking skill is appropriate at each grade span. |
| 6 | K-4 | P | The cognitive complexity of the geographic skill may be above grade level. |
| 6 | 5-8 | F | |
| 6 | 9-12 | F | |
| 6 | Across | F | |

Geography: Internal Quality Review

Breadth

| Standard | Grade Span | Breadth Within Span | Contains Essential Content | Free of Extraneous Content | Comments |
|----------|------------|---------------------|----------------------------|----------------------------|---|
| Across | K-4 | F | F | F | |
| 1 | K-4 | | F | F | |
| 2 | K-4 | | F | F | |
| 3 | K-4 | | F | P | The standard may contain too much information for the grade span, such as explaining Earth-Sun relationships and the water cycle. |
| 4 | K-4 | | F | F | |
| 5 | K-4 | | F | F | |
| 6 | K-4 | | F | F | The first bullet of Benchmark 6.2 may be extraneous at this grade span. |
| Across | 5-8 | F | F | F | |
| 1 | 5-8 | | P | F | Benchmark 1.2 does not sufficiently require students to have a basic knowledge of world geography (e.g., location of countries, major cities, major rivers, and mountain chains). |
| 2 | 5-8 | | F | F | |
| 3 | 5-8 | | F | F | |
| 4 | 5-8 | | F | F | |
| 5 | 5-8 | | F | F | |
| 6 | 5-8 | | F | F | |
| Across | 9-12 | F | F | F | |
| 1 | 9-12 | | F | P | The second bullet of Benchmark 1.2 may be extraneous. |
| 2 | 9-12 | | F | F | |
| 3 | 9-12 | | F | P | The first bullet of Benchmark 3.1 may be more appropriate in a science course. |
| 4 | 9-12 | | F | F | |
| 5 | 9-12 | | F | F | |
| 6 | 9-12 | | F | F | |
| Across | Across | F | F | F | |

| Standard | Grade Span | Breadth Within Span | Contains Essential Content | Free of Extraneous Content | Comments |
|-----------------|-------------------|----------------------------|-----------------------------------|-----------------------------------|-----------------|
| 1 | Across | | F | F | |
| 2 | Across | | F | F | |
| 3 | Across | | F | F | |
| 4 | Across | | F | F | |
| 5 | Across | | F | F | |
| 6 | Across | | F | F | |

Appendix N. Geography: External Referent Review—Massachusetts
External Referent: Massachusetts History and Social Science Curriculum Framework (August 2003)

Organization/Structure

| Subcategory | Similarities | Differences | Comments |
|--------------------|--|---|---|
| Grade Articulation | In both Colorado and Massachusetts, state geography standards are addressed in the K–4 grade span. | <p>Colorado organizes its geography standards by grade spans K–4, 5–8, and 9–12.</p> <p>The <i>Massachusetts History and Social Science Curriculum Framework</i> has distinct geography standards for specific grade levels. At grade 2, basic geography is addressed. At grade 3, the geography of Massachusetts is addressed. At grade 4, the geography of North America (United States, Mexico, Canada) is addressed. The geography of Central America and the Caribbean islands is offered as an optional topic. At grade 6, the geography of the world, excluding North America and Central America, is emphasized. At every other grade level, geographic skills and standards are introduced. However, they are to be embedded within history curriculum and are not focused on as a distinct geography unit. No significant geography is addressed after grade 6.</p> | The grade articulation between Colorado and Massachusetts is more different than similar. |

| Subcategory | Similarities | Differences | Comments |
|-------------------------------|--|---|--|
| <p>Hierarchy of Standards</p> | <p>The five major geography themes embedded in the standards at grade 6 loosely match the 6 MCS standards.</p> | <p>The <i>Massachusetts History and Social Science Curriculum Framework</i> includes only standards and not strands, benchmarks, or indicators. There are two types of standards that appear at each grade level: Concepts & Skills standards and content standards. Under each standard are listed specific places or geographic concepts that may be used to illustrate the standard. The standards are very detailed to a specific geographic topic (e.g., 4.10 “Identify the states, state capitals, and major cities in each region”).</p> <p>At grade 6, there are 5 embedded major concepts: location, place, human interaction with the environment, movement, and region. These are not described in significant detail.</p> <p>The grade 6 standards are organized into 7 regions: Africa, Western Asia, Central and South Asia, Southeast Asia and Oceania, North and East Asia, Europe, and South America. The first three standards for each region are similar. The remaining standards are optional curriculum topics for that specific region.</p> <p>The third standard of each region focuses on five factors that influence settlement and economies of that region (absolute and relative location, climate, major physical characteristics, major natural resources, and population size).</p> | <p>The hierarchy of standards between Colorado and Massachusetts is more different than similar.</p> |

| Subcategory | Similarities | Differences | Comments |
|---------------------|--------------|--|----------|
| Number of Standards | | <p>Colorado MCS geography has 6 standards for all grade spans. The <i>Massachusetts History and Social Science Curriculum Framework</i> standards by grade level:</p> <ul style="list-style-type: none"> • Pre K–K: 4 standards • Grade 1: 7 standards • Grade 2: 11 standards • Grade 3: 8 standards • Grade 4: 26 standards • Grade 5: 14 standards • Grade 6: 79 standards • Grade 7: 12 standards • Grade 8–12 concepts & skills: 4 standards • World History I: 7 standards • World History II: 0 standards • U.S. History I: 3 standards • U.S. History II: 2 standards | |

| Subcategory | Similarities | Differences | Comments |
|---------------|--|---|--|
| Design/Format | Both sets of standards are recommended to teachers, but are not required . | <p>The Colorado geography MCS are organized by a cross matrix of six spiraling standards and three grade spans. They also have a glossary that defines key geography terms for teachers. The document is 30 pages.</p> <p>The Massachusetts <i>Framework</i> is largely organized around history. Other subjects, such as geography, are subordinated to history. The document provides an overview of the scope and sequence of the curriculum and a list of historical themes to be introduced into the grade level. It then introduces each grade level and the standards that are to be addressed. Only at grades 3, 4 and 6, when it outlines the regions and states of the United States, is geography given any preeminence.</p> | The designs/formats of the Colorado and Massachusetts standards are more different than similar. |

External Referent: Massachusetts History and Social Science Curriculum Framework (August 2003)

Content

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|--|---|--|
| Standard 1 | Both Colorado and Massachusetts <i>Framework</i> focus on the same set of geography skills in K–4. | <p>Colorado MCS standard 1 applies to every grade span. The corresponding Massachusetts standards apply to K–4 and grade 6. Colorado MCS standard 1 is covered in much greater detail than in the Massachusetts <i>Framework</i>.</p> <p>Massachusetts standards require the use of longitude and latitude lines at grade 4. Colorado standards do not require this until grade 5.</p> | The Colorado MCS have more rigor, breadth, and depth in this subcategory than the Massachusetts <i>Framework</i> . |
| Standard 2 | Both Colorado and Massachusetts <i>Framework</i> include the concepts of physical and human characteristics of places in grades 4 and 6. | <p>Colorado MCS standard 2 is covered in much greater depth, rigor, and breadth than the corresponding standards. Colorado MCS standard 2 also clearly spirals between the grade spans. There is no indication in the Massachusetts standards of spiraling across grade spans.</p> <p>Massachusetts lists every country and major physical feature that should be examined in a grade 6 world geography course.</p> <p>Massachusetts focuses primarily on describing physical and human characteristics of specific U.S. and world regions.</p> <p>Colorado focuses on describing physical and human characteristics of regions, but also understanding the concept of region as an analytical tool for comprehending</p> | The Colorado MCS have more rigor, breadth, and depth in this subcategory than the Massachusetts <i>Framework</i> . |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|--|--|--|
| | | <p>human and physical geography.</p> <p>The grade 6 geography standard refers teachers to the science standards to introduce the concept of physical geography.</p> | |
| Standard 3 | | <p>Colorado MCS standard 3 is covered in much greater depth, rigor, and breadth than the Massachusetts standards. The Massachusetts standards focus little attention on understanding how physical processes shape Earth's surface patterns and systems. Colorado MCS standard 3 also clearly spirals between the grade spans. There is no indication in the Massachusetts of standards spiraling across grade spans.</p> <p>In grade 6, the geography standard refers teachers to the science standards to introduce the concept of physical geography.</p> | The Colorado MCS have more rigor, breadth, and depth in this subcategory than the Massachusetts <i>Framework</i> . |
| Standard 4 | The corresponding Massachusetts standards regarding how economic, political, cultural, and social processes affect human populations are covered mainly in grade 6 and, to a lesser extent, in grade 4. Massachusetts standards 4.15 and 4.16 address the contributions of diverse groups of peoples to American culture. In grade 6, the third standard for each region addresses the topics of demographics and economics. Many of the optional topics for each region also address the impact of cultural, political, economic, and social processes on that specific region. | Colorado standard 4 is covered in much greater depth, rigor, and breadth than the Massachusetts standards. The Massachusetts standards provide little guidance as to how to approach the subcategory. Colorado MCS standard 4 also clearly spirals across the grade spans. There is no indication in the Massachusetts of standards spiraling across grade spans. | The Colorado MCS standards have more rigor, breadth, and depth in this subcategory than the Massachusetts <i>Framework</i> . |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|--|--|--|
| Standard 5 | The corresponding Massachusetts standards for understanding the effects of interactions between human and physical systems and the changes in meaning, use, distribution, and importance of resources are addressed by standards for grades 4 and 6. Grade 4 standards focus on the major physical features and natural resources of the regions of the United States, Canada, and Mexico. In grade 6, two of the subtopics in the third standard for each region address the impact of major physical characteristics and natural resources on that specific region’s economic and demographic development. Several of the optional topics for each region also address the impact of a region’s natural resources and physical characteristics on its development. | Colorado MCS standard 5 is covered in much greater depth, rigor, and breadth than the Massachusetts standards. The Massachusetts standards provide little guidance as to how to approach the subcategory. Colorado MCS standard 5 clearly spirals across grade spans. There is no indication in the Massachusetts of standards spiraling across grade spans. | The Colorado MCS standards have more rigor, breadth, and depth in this subcategory than the Massachusetts <i>Framework</i> . |
| Standard 6 | | Colorado MCS standard 6 has no equivalent standard in the Massachusetts <i>Framework</i> . | The Colorado MCS standards have more rigor, breadth, and depth in this subcategory than the Massachusetts <i>Framework</i> . |
| Grades K–4 | | Massachusetts standards focus on one year of North American geography at grade 4. | The Colorado MCS standards have more rigor, breadth, and depth at this grade span than the Massachusetts <i>Framework</i> . |
| Grades 5–8 | | Massachusetts standards focus on one year of world geography at grade 6. | The Colorado MCS standards have more rigor, breadth, and depth at this grade span than the Massachusetts <i>Framework</i> . |
| Grades 9–12 | | Massachusetts standards do not address geography in grades 9–12. | The Colorado MCS standards have more rigor, breadth, and depth at this grade span than the Massachusetts <i>Framework</i> . |
| Across | | The Colorado MCS are covered in much greater depth, rigor, and breadth than the Massachusetts standards. The | The Colorado MCS standards have more rigor, breadth, and depth than the Massachusetts <i>Framework</i> . In |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|----------------------------|--------------------------|--|--|
| | | <p>Massachusetts standards provide little guidance as to how to approach geography. The Colorado MCS clearly spiral across the grade spans. There is no indication in the Massachusetts standards spiraling across grade spans.</p> | <p>Massachusetts, significant geography is only addressed in grades 4 and 6.</p> |
| <p>Wording/Specificity</p> | | <p>The Colorado MCS are much more specific in their use of action verbs. The standards are also much clearer regarding the content that they address. The Massachusetts standards indicate at grades 4 and 6 which specific countries and major physical features should be addressed.</p> | |

Appendix O. Geography: External Referent Review—Indiana
External Referent: Indiana’s Academic Standards, Social Studies—K–8th Grade (October 2007), High School Geography and History of the World (October 2007), and World Geography (October 2007)

Organization/Structure

| Subcategory | Similarities | Differences | Comments |
|--------------------|--------------|---|--|
| Grade Articulation | | <p>Colorado organizes its geography standards by grade spans K-4, 5-8, and 9-12.</p> <p>The geography standards for Indiana’s Academic Standards are introduced for each grade level and not for grade spans.</p> <ul style="list-style-type: none"> • Kindergarten focuses on basic geography skills, such as map reading, and understanding the geography of the local community. • Grade 1 & 2 focus on building upon the skills learned in Kindergarten and applying them to understanding the geography of the local community and region. • Grade 3 expands on the geography skills learned in earlier grades, with emphasis placed on understanding the geography of Indiana and the Midwest region. Students also begin instruction on the relationship between humans and their physical environment. • Grade 4 continues to expand on skills developed at earlier grade levels, with emphasis placed on understanding the human and | <p>The grade articulation is different. Colorado focuses on grade spans and Indiana focuses on grade levels.</p> |

| Subcategory | Similarities | Differences | Comments |
|-------------|--------------|---|----------|
| | | <p>physical geography of Indiana.</p> <ul style="list-style-type: none"> • Grade 5 builds on the skills developed in earlier grades, with emphasis placed on learning the geography of the United States. Significant effort is made to teach historical geography of the United States (e.g., Explain how the Spanish, British, and French colonists altered the character and use of the land in early America). • Grade 6 builds on the skills developed in earlier grades, with emphasis placed on learning the geography of Europe and the Americas. Geographic skills learned at grade 6 begin to stress basic reasoning (e.g., Explain that cultures change in three ways: cultural diffusion, invention, and innovation). • Grade 7 builds on the skills developed in earlier grades with emphasis placed on learning the geography of Africa, the Middle East, Asia, and the Southwest Pacific. Geographic skills that are developed stress basic reasoning. • Grade 8 returns to understanding the geography of the United States and builds on the skills developed in earlier grades. Emphasis is placed on historical geography. | |

| Subcategory | Similarities | Differences | Comments |
|-------------------------------|---|---|--|
| | | <ul style="list-style-type: none"> • High school World Geography focuses on modern world geography. Emphasis is placed on developing complex reasoning skills to understand geographic information and concepts (e.g., assess the growing worldwide impact of tourism and recreation and explain the economic, social, and political effects of these activities). • High school Geography and History of the World focuses on the relationship between geography and history. Emphasis is placed on looking at world history through the framework of ten geographic themes. Strong emphasis is placed on complex reasoning. | |
| <p>Hierarchy of Standards</p> | <p>Both Colorado and Indiana organize content around basic geographic concepts. Colorado refers to them as standards. Indiana includes them as subtopics of the geography standard.</p> | <p>At grade levels K-8, all of Indiana’s Academic Standards for social studies are organized together around four content areas: history, civics and government, geography, and economics. Geography is known as Standard 3. In K-8, the geography standard is divided into geographic subtopics: (1) the world in spatial terms, (2) places and regions, (3) physical systems, (4) human systems, (5) and environment and society. Within the geographic concepts appear specific numerically coded indicators.</p> <p>The high school World Geography course follows the same organizational structure,</p> | <p>The hierarchy of the Colorado and Indiana standards is more different than similar.</p> |

| Subcategory | Similarities | Differences | Comments |
|----------------------------|--------------|---|---|
| | | <p>although the five geographic subtopics are referred to as standards. The high school Geography and History of the World course is divided into 10 standards, each representing a specific geographic theme. Within each standard appear coded indicators.</p> | |
| <p>Number of Standards</p> | | <p>The Colorado MCS has 6 geography standards.</p> <p>In the Indiana Academic Standards for geography have indicators for specific grade levels:</p> <ul style="list-style-type: none"> • Kindergarten: 7 indicators • Grade 1: 9 indicators • Grade 2: 7 indicators • Grade 3: 11 indicators • Grade 4: 12 indicators • Grade 5: 12 indicators • Grade 6: 14 indicators • Grade 7: 14 indicators • Grade 8: 11 indicators • High school World Geography: 5 standards/38 Indicators • High school Geography and History of the World: 10 standards/54 Indicators | |
| <p>Design/Format</p> | | <p>The Colorado geography MCS is organized by a cross-matrix of six spiraling standards and three grade spans. It also has a glossary that defines key history terms for teachers and an index. The document is 35 pages.</p> <p>Indiana presents its geography standards in</p> | <p>The design/format of the Colorado and Indiana geography curricula are different.</p> |

| Subcategory | Similarities | Differences | Comments |
|-------------|--------------|---|----------|
| | | <p>separate documents for each grade level. For K-8, the geography standards are presented with other social studies standards, because geography instruction is supposed to be taught within the broader context of social studies. Each K-8 document has a brief one-page overview that explains the goals of the social studies course and outlines the broad content area standard. Afterward, each content area standard and its indicators are listed. There are no accompanying glossaries, reference materials, or appendices.</p> <p>Similar to the K-8 documents, each high school geography course is presented as a separate document. There is a brief one-page overview of the goals of the course and the standards are outlined. Afterwards, each standard and its indicators are listed. There are no accompanying glossaries, reference materials, or appendices.</p> <p>The Indiana Academic Standards range in length from 4 to 21 pages. All together they are 114 pages. This figure includes the other social studies subjects in the K-8 documents.</p> | |

External Referent: Indiana’s Academic Standards, Social Studies—K–8th Grade (October 2007), High School Geography and History of the World (October 2007), World Geography (October 2007)

Content

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|--|--|---|
| Standard 1 | <p>The Indiana World in Spatial Terms category aligns to this standard.</p> <p>An understanding of how to use geographic tools, such as maps and globes, for understanding geographic concepts is an important geographic skill that spirals through grades K-12 in both Colorado and Indiana.</p> | <p>Colorado MCS standard 1 has more breadth of coverage than the Indiana World in Spatial Terms category.</p> <p>Indiana begins instruction in using longitude and latitude at grade level 4. Colorado begins at grade span 5-8.</p> <p>Indiana students are required to work with GPS devices.</p> | <p>The content of the subcategory in Colorado and Indiana is more similar than different.</p> |
| Standard 2 | <p>The Indiana Places and Regions category aligns to this standard.</p> <p>An understanding of the physical and human characteristics of places and regions is an important geographic skill that spirals through grades K-12 in both Colorado and Indiana.</p> | <p>Colorado MCS standard 2 has more depth of coverage than the Indiana Places and Regions category. The Indiana Academic Standards are more explicit about which geographic content should be covered to understand the geographic concept.</p> <p>The Colorado standards are much stronger in treating the concept of region as a geographic concept than the Indiana standards. Indiana does not require students to understand region as a geographic concept until the high school World Geography course.</p> <p>Colorado students learn about how and why regions change at an earlier grade span (5-8).</p> <p>Colorado students learn about regional perceptions at an earlier grade level (5-8)</p> | <p>The content of the subcategory in Colorado and Indiana is more similar than different.</p> |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------------|---|--|---|
| | | <p>Indiana standards cover relative location at an earlier grade level (grade 1).</p> | |
| <p>Standard 3</p> | <p>The Indiana Physical Systems category aligns to this standard.</p> <p>An understanding of how physical processes shape geographic patterns and systems is an important geographic concept that spirals through grades K-12 in both Colorado and Indiana.</p> | <p>Colorado MCS standard 3 is more systematic than the Indiana Physical Systems standard in the high school World Geography course.</p> <p>Overall the Indiana Academic Standards have more breadth of concepts and are more explicit about which geographic content should be covered to understand the geographic concept.</p> <p>Indiana requires learning about the terms <i>lithosphere</i>, <i>hydrosphere</i>, and <i>biosphere</i> at grade 4. This content appears in grade span 9-12 for Colorado.</p> <p>Indiana explicitly requires students to learn about currents. Currents do not appear in the Colorado standards.</p> <p>Indiana explicitly requires students to learn about the effects of erosion. Erosion does not appear in the Colorado standards.</p> <p>Colorado requires students to understand the concept of ecosystems. Indiana does not.</p> | <p>The content of the subcategory in Colorado and Indiana is more similar than different.</p> |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|--|---|---|
| Standard 4 | <p>The Indiana Human Systems category aligns to this standard.</p> <p>An understanding of how economic, political, cultural, and social processes shape human geography is an important geographic concept that spirals through grades K-12 in both Colorado and Indiana. The high school standards for Colorado and Indiana are equivalent.</p> | <p>Colorado MCS standard 4 has more depth and breadth of coverage of the concept than the Indiana Human Systems standard for grades K-8. Overall, the Indiana Academic Standards are more explicit about which geographic content should be covered and emphasize historical geography.</p> <p>The Indiana standards focus mainly on cultural processes that shape geography.</p> <p>The Indiana standards are tied more closely to the understanding historical geography at K-8.</p> <p>The Indiana standards do not address economic forces on geography except as they relate to the economic history of regions and societies.</p> <p>Indiana does not cover settlement and migration patterns significantly except as they relate to historical development of regions.</p> <p>The Indiana standards in the high school World Geography course have more depth and breadth in coverage of the material.</p> | <p>The content of the subcategory in Colorado and Indiana is more similar than different.</p> |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|--|--|---|
| Standard 5 | <p>The Indiana Environment and Society category aligns to this standard.</p> <p>An understanding of the effects of interactions between humans and physical systems is an important geographic concept that spirals through grades K-12 in both Colorado and Indiana.</p> <p>Both require knowledge of natural resources at K-4. Both require knowledge of how the environment shapes human activity at K-4.</p> <p>Both require students to understand that humans modify the environment at K-4.</p> | <p>Colorado MCS standard 5 has more depth and breadth of coverage of the concept than the Indiana Environment and Society standard for grades K-8. The high school standards for Colorado and Indiana are equivalent.</p> <p>Overall, the Indiana Academic Standards are more explicit about which geographic content should be covered and emphasize historical geography.</p> <p>Colorado emphasizes the concept of recycling at a lower grade level.</p> <p>Indiana encourages problem-solving of environmental issues at K-4 and high school. Colorado does not, except for recycling. Colorado discusses evaluating different programs and policies that affect the environment at high school.</p> | <p>The content of the subcategory in Colorado and Indiana is more similar than different.</p> |
| Standard 6 | | <p>Colorado MCS standard 6 is included at all grade spans. Indiana does not cover the concept of how geography affects people's perspectives of the past or future in any significant way, except as a subtopic in the high school course Geography and History of the World.</p> | <p>The content of the subcategory in Colorado and Indiana is more different than similar.</p> |
| Grades K-4 | <p>Both Colorado and Indiana include local and state geography at this grade span.</p> | | <p>The instruction of geography in this grade span is more similar than different.</p> |
| Grades 5-8 | <p>Both Colorado and Indiana include United States and world geography at this grade span.</p> | <p>Indiana is clearer about at which grade levels United States and world geography should be taught.</p> | <p>The instruction of geography in this grade span is more similar than different.</p> |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|---------------------|--|---|--|
| Grades 9-12 | Both Colorado and Indiana include world geography at this grade span. | Indiana offers two specific courses for world geography at this grade span. One focuses on modern world geography. The other examines history from the perspective of geography. | The instruction of geography in this grade span is more similar than different. |
| Across | The geography content in Colorado and Indiana is similar across the grade spans. Spiraling geographic concepts is done through the grade spans and both cover, local, state, United States, and world geography. Both also include geographic history. | | The instruction of geography in Colorado and Indiana across the grade spans is more similar than different. |
| Wording/Specificity | Both Colorado and Indiana use strong action verbs to indicate the cognitive level of instruction of geographic concepts. Both provide examples to illustrate some of the geographic concepts. | Indiana is more explicit about content should be covered to illustrate the geographic concepts. It also indicates more clearly how those geographic concepts can be integrated into the instruction of the broader social studies topics. | The wording of the standards in Colorado and Indiana is more similar than different. The specificity of the geographic content in Colorado and Indiana is more different than similar. |

Appendix P. Geography: External Referent Review—Finland

External Referent: National Core Curriculum for Basic Education 2004, Biology and Geography (Finland) and National Core Curriculum for Upper Secondary Schools 2003, Geography (Finland)

Organization/Structure

| Subcategory | Similarities | Differences | Comments |
|--------------------|--|--|---|
| Grade Articulation | <p>Finland has grade span instruction for geography at grade span 5–6 and grade span 7–9, and in upper secondary school.</p> <p>In grade span 5–8, Colorado covers United States geography. In grade 5–6, and grade span 7–9, Finland covers Finnish geography.</p> <p>In grade span 5–8, Colorado covers world geography. In grade span 5–6 and grade span 7–9, Finland covers European and world geography.</p> <p>In grade span 9–12, Colorado focuses on world geography. In the upper secondary school level, Finland focuses on world geography.</p> | <p>Colorado organizes its geography standards by grade spans K–4, 5–8, and 9–12.</p> <p>Finland provides no geography instruction at grade span K–4. Colorado teaches geography, focusing on local and state geography, at grade span K–4.</p> <p>At grade span 5–6, Finland’s geography instruction is combined with biology instruction. In grade span 7–9, geography is separated from biology for individual course instruction.</p> <p>Finland has two tracks for students after their basic education (K–9). Students may prepare to attend universities in general upper secondary schools or they may enter vocational upper secondary education and training. There is no indication that students on the vocational upper secondary education and training track are required to have any instruction in geography.</p> <p>In the upper secondary school level, Finland offers several specific geography courses that are labeled as either compulsory or specialization:</p> | <p>The grade articulation is mostly different between Colorado and Finland.</p> |

| Subcategory | Similarities | Differences | Comments |
|-------------------------------|--|--|---|
| | | <ol style="list-style-type: none"> 1. <i>The blue planet</i> (compulsory) 2. <i>A common world</i> (compulsory) 3. <i>A world of hazards</i> (specialization) 4. <i>Regional studies</i> (specialization) | |
| <p>Hierarchy of Standards</p> | <p>The objectives in the Finnish standards are mostly similar to the Colorado standards.</p> | <p>Colorado organizes its curriculum around six standards across all of the grade spans. Each standard has subordinated benchmarks.</p> <p>Finland organizes its geography curriculum by listing objectives for individual grade spans or upper secondary courses (e.g., grade span 5–6: “The pupils will familiarize themselves with Europe’s geography and the world’s other regions and learn to appreciate and take a positive attitude towards other countries and their peoples and cultures”). The objectives are followed by a list of core content, which is organized by broad geographic/biological themes (e.g., grade span 5–6: “Europe as part of the world”). Subordinate to these themes are bulleted topics for instruction (e.g., grade 5–6: “Europe’s climate zones, vegetation zones, and human activity”).</p> <p>At the end of each grade span, there is also a description of good performance, indicating what the students should have accomplished (e.g. grade span 5–6: “The pupils will know, generally, Europe’s states and their capitals, and be able to describe the variation of natural conditions and human activity”). These performance descriptors reinforce the intent of the</p> | <p>The hierarchy of standards is more different than similar.</p> |

| Subcategory | Similarities | Differences | Comments |
|----------------------------|--------------|---|--|
| | | <p>grade span objectives.</p> <p>The upper secondary geography curriculum also has an overarching set of objectives that cover all of the courses and a separate set of objectives for each course.</p> | |
| <p>Number of Standards</p> | | <p>Colorado organizes its curriculum around six standards across all of the grade spans. Each standard has subordinated benchmarks.</p> <ul style="list-style-type: none"> • Grade span 5–6: 13 objectives/ 5 geography & biology themes/ 13 bulleted topics • Grade span 7–9: 9 objectives/ 4 geography themes/ 14 bulleted topics <p>Upper secondary geography courses:</p> <ul style="list-style-type: none"> • 8 overarching objectives • <i>The Blue Planet</i>: 6 objectives/ 7 geography themes/ 20 bulleted topics • <i>A Common World</i>: 7 objectives/ 8 geography themes/ 25 bulleted topics • <i>A World of Hazards</i>: 7 objectives/ 5 geography themes/ 6 bulleted topics • <i>Regional Studies</i>: 7 objectives/ 3 geography themes/ 9 bulleted topics | |
| <p>Design/Format</p> | | <p>The Colorado geography MCS document is organized by a cross-matrix of six spiraling standards and three grade spans.</p> | <p>The design and format of the Colorado and Finnish standards are mostly different.</p> |

| Subcategory | Similarities | Differences | Comments |
|-------------|--------------|---|----------|
| | | <p>It also has a glossary for key geography terms, a reference list of geography books for teachers, and an index. (The document is 30 pages.)</p> <p>The geography curriculum for Finnish basic education is organized by grade span. Each grade span provides an overview of instruction and stated objectives. It then lists the core curriculum for the course.</p> <p>Finally, it lists a description of good performance for the grade span. The description of good performance for each grade span frequently elaborates on the objectives and bulleted topics. For instance, a bulleted topic in the grade span 5–6 is listed only as “world map’s main nomenclature; map skills.” Under the description of good performance, map skills are described as “The pupils will know how to look in an atlas for places they are studying; they will make good use of the map symbols and scales when reading a map and know how to interpret various maps. The pupils will know how to interpret statistics, diagrams, and pictures, as well as information transmitted by electronic messages, and how to evaluate different data sources critically. The pupils will know how to draw simple maps and diagrams by themselves.”</p> | |

| Subcategory | Similarities | Differences | Comments |
|-------------|--------------|---|----------|
| | | <p>The geography curriculum for Finnish general upper secondary schools is organized by course. The beginning of the document has a general statement about geography and the expectations of geography education. It then provides a list of overall objectives for geography instruction at the upper secondary level. Next, there is a brief statement about assessment of geography knowledge and skills. Finally, the courses objectives and core curriculum of the individual courses are listed.</p> <p>The Finnish geography standards are not accompanied by a glossary of terms, reference materials, or appendices.</p> <p>The geography curriculum for the basic education courses, which includes biology curriculum, is 9 pages. The geography curriculum for the upper secondary education courses is 5 pages.</p> | |

External Referent: National Core Curriculum for Basic Education 2004, Biology and Geography (Finland) and National Core Curriculum for Upper Secondary Schools 2003, Geography (Finland)

Content

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|---|--|--|
| Standard 1 | <p>Both the Colorado MCS and Finnish curricula include understanding of how to use and construct maps, globes, and other geographic tools to understand geographic concepts.</p> <p>Understanding how to use geographic tools for analysis is a stated objective in the Finnish geography curriculum.</p> | <p>Understanding how to use geographic tools for analysis is explicitly covered in much greater depth, rigor, and breadth at grade span 5–8 in the Colorado MCS than in the Finnish geography curriculum.</p> <p>The Finnish upper secondary specialization geography course <i>Regional Studies</i> is devoted primarily to learning how to use a wide range of geography tools to study the geography of a region.</p> <p>Otherwise, the Colorado MCS covers the topic in much greater depth, rigor, and breadth at the grade span 9–12.</p> | <p>The Colorado MCS has more rigor, breadth, and depth in describing the geography skills that should be taught.</p> |
| Standard 2 | <p>Both the Colorado MCS and Finnish curricula include knowing the physical and human characteristics of places to understand regions and patterns of change.</p> <p>Knowing physical and human geography of regions is a stated objective in the Finnish geography curriculum.</p> | <p>Knowing physical and human geography of regions is explicitly covered in much greater depth, rigor, and breadth at all grade spans in the Colorado MCS than in the Finnish geography curriculum. It treats the concept of region as an analytical device to classify and to understand geography.</p> <p>Finland emphasizes learning about regions so that students will understand Finland’s and Europe’s relationship to other regions in the world.</p> | <p>The Colorado MCS has more rigor, breadth, and depth in describing the geography skills that should be taught.</p> |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------------|--|--|---|
| <p>Standard 3</p> | <p>Both the Colorado MCS and Finnish curricula include knowing how physical processes shape Earth’s surface patterns and systems.</p> <p>Understanding how physical processes shape Earth is a stated objective in the Finnish geography curriculum.</p> | <p>Understanding how physical processes shape Earth’s surface patterns and systems is explicitly covered in much greater depth, rigor, and breadth at grade span 5–8 in the Finnish geography standards than in the Colorado MCS geography standards.</p> <p>Finland integrates biology with geography in grade span 5–6, which gives students a more comprehensive appreciation for the environment.</p> <p>The Finnish upper secondary compulsory geography course <i>The Blue Planet</i> is devoted strictly to the topic of how physical processes shape Earth’s surface patterns and systems, and covers it in greater detail than the Colorado grade span 9–12.</p> <p>Colorado requires knowledge of the Earth-Sun relationships at K–4. Finland does not require it until grade span 7–9.</p> <p>Colorado requires knowledge of physical systems, such as the water cycle, at K–4. Finland begins requiring it in the upper secondary level.</p> | <p>The Colorado MCS is more systematic in its approach. Instruction in many of the concepts begins at an earlier grade span than in the Finnish curriculum.</p> |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|--|--|--|
| Standard 4 | <p>Both the Colorado MCS and Finnish curricula include understanding how economic, political, cultural, and social processes shape human geography.</p> <p>Knowing how economic, political, cultural, and social process shape human geography is a stated objective in the Finnish geography curriculum.</p> <p>The Finnish upper secondary compulsory geography course <i>A Common World</i> is devoted to understanding how economic, political, cultural and social processes shape human geography, and covers it at the same level of depth, rigor, and breadth as Colorado grade span 9–12.</p> | <p>Knowing how economic, political, cultural, and social processes shape human geography is explicitly covered in much greater depth, rigor, and breadth at grade span 5–8 in the Colorado MCS than in the Finnish geography curriculum.</p> <p>Colorado begins its instruction in population characteristics and population distributions in grade span K–4. Finland begins it in grade span 7–9.</p> <p>Colorado begins instruction in understanding patterns and networks of economic interdependence at grade span K–4. Finland begins in grade span 7–9.</p> <p>Colorado is broader in its treatment of economic geography in the lower grade spans.</p> <p>Colorado is much more explicit in addressing migration and settlement patterns as geographic concepts. Finland mainly refers to human activities.</p> | <p>The Colorado MCS has more rigor, breadth, and depth in describing the geography skills that should be taught.</p> |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|---|---|---|
| Standard 5 | <p>Both Colorado MCS and Finnish curricula include understanding the effects of interactions between human and physical systems.</p> <p>Understanding the effects of interactions between human and physical systems is a stated objective in the Finnish geography curriculum.</p> | <p>Knowing the effects of interactions between human and physical systems is explicitly covered in much greater depth and rigor at grade span 5–8 in the Colorado MCS than in the Finnish geography curriculum.</p> <p>The Finnish geography curriculum emphasizes environmental awareness and activism more than the Colorado MCS (e.g., grade span 5–6: “Objective: develop their environmental literacy, act in an environmentally friendly way, care for their local environment, and protect nature”).</p> | <p>The Colorado MCS has more rigor and depth in describing the geography skills that should be taught. Finland’s curriculum emphasizes environmental awareness.</p> |
| Standard 6 | <p>Both the Colorado MCS and Finnish curricula include understanding how perspectives are shaped by geography in grade span 9–12. Finland addresses it in the upper secondary course <i>A Common World</i>.</p> | <p>The topic of viewing the past and future from a geographic perspective is explicitly covered in much greater depth, rigor, and breadth at grade span 5–8 in the Colorado MCS than in the Finnish geography curriculum.</p> <p>Finland does not address the subcategory in the lower grade spans.</p> | <p>The Colorado MCS has more rigor, depth, and breadth in describing the geography skills and concepts that should be taught.</p> |
| Grades K–4 | | <p>Finland has no geography instruction at grade span K–4.</p> | <p>Colorado prepares its students to understand geography at a much younger age than Finland does.</p> |
| Grades 5–8 | <p>In grade span 5–8, Colorado covers United States geography. In grade spans 5–6 and 7–9, Finland covers Finnish geography.</p> <p>In grade span 5–8, Colorado covers world geography. In grade spans 5–6 and 7–9, Finland covers European and world geography.</p> | <p>In grade span 5–8, Colorado organizes geography instruction around the six standards. Finland organizes geography instruction around specific geography topics (e.g. grade 5–6: Europe as part of the world; grade 7–9: Finland in the world).</p> | <p>The Colorado MCS standards are more explicit and better organized than the Finnish geography standards for grade spans 5–6 and 7–9.</p> |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|---------------------|--------------------------|---|---|
| Grades 9–12 | | In grade span 9–12, Finland organizes its geography courses by specific themes that concentrate on one or two of the subcategories. | The Colorado MCS standards are more organized around geographic concepts. The Finnish standards are more organized around specific geographic topics. |
| Across | | <p>The Colorado MCS provides clearer guidance for spiral instruction of the geography skills and concepts across the grade levels.</p> <p>Finland organizes its geography instruction into content-based themes (e.g. Europe, Finland in the world)</p> | The Colorado MCS standards are more explicit and more organized than the Finnish geography standards. |
| Wording/Specificity | | Colorado uses specific action verbs to suggest the cognitive level of instruction for students (e.g. describe, explain, analyze). Finland uses very general action verbs in the objectives to suggest cognitive level instruction (learn, come to understand, know). The core content in the Finland geography curriculum contains no action verbs. | The Colorado MCS is more explicit in directing instruction through its use of action verbs. |

Appendix Q: Geography: External Referent Review—Singapore

External Referent: Social Studies Syllabus Primary 2006, Social Studies Syllabus, Social Studies Syllabus Lower Secondary Normal Technical, and Geography Syllabus Lower Secondary 2006 (Singapore)

Organization/Structure

| Subcategory | Similarities | Differences | Comments |
|--------------------|--------------|--|--|
| Grade Articulation | | <p>Colorado organizes its standards by grade spans K–4, 5–8, and 9–12. The Singapore geography curriculum is organized by grade level, and units within grade level, not by grade span.</p> <p>Singapore offers geography as an integrated component of social studies at the primary school level. Geography is not treated as a distinct subject.</p> <p>At the secondary school level, geography is offered as a separate subject in the Normal Academic Course track and the Special/Express Course track. The Normal Academic Course track is 5 years. The Special/Express Course track is 4 years. In both cases, the combined Lower Secondary 1 and 2 syllabuses should be covered over a period of two years.</p> <p>Secondary 1 focuses on physical geography. Secondary 2 focuses on human geography and the relationship between humans and the environment.</p> <p>For the Secondary Normal Technical Course track, geography is offered as an</p> | <p>The grade articulation for Colorado and Singapore is more different than similar.</p> |

| Subcategory | Similarities | Differences | Comments |
|-------------------------------|---|--|---|
| | | <p>integrated component of social studies at the primary school level. Geography is not treated as a distinct subject. The Secondary Normal Technical Course is 4 years. The Lower Secondary Normal Technical Course social studies syllabus should be covered in two years.</p> <p>In the Secondary Normal Technical track, understanding the geography of Singapore is emphasized. Southeast Asian and world geography are not included.</p> <p><i>Note: The Upper Secondary Track syllabi are not available for review.</i></p> <p>Geography is offered at the Junior Colleges/Centralised Institute as a subject to qualify for GCE A-Level examinations. Note: Curriculum for this level is not available for review.</p> | |
| <p>Hierarchy of Standards</p> | <p>The aims and objectives section of the Singapore social studies and geography syllabi, as well as the learning outcome bullets of the Lower Secondary syllabus, are most similar to the standards sections of the Colorado MCS, addressing some of the broad themes described in the Colorado MCS.</p> | <p>Colorado organizes its curriculum around six standards across all of the grade spans. Each standard has subordinated benchmarks.</p> <p>The Singapore Primary Grades syllabus is organized by units and unit objectives. Each unit is organized into topics, content, and concepts. Accompanying the unit are three types of stated objectives: knowledge objectives, skills objectives, and values & attitudes objectives. Each objective lists specific unit-related goals for students.</p> <p>The standards for the geography</p> | <p>The hierarchies of standards for Colorado and Singapore are more different than similar.</p> |

| Subcategory | Similarities | Differences | Comments |
|---------------------|--------------|--|---|
| | | <p>curriculum for the Lower Secondary Special/Express Course and the Lower Secondary Normal Academic Course are organized into two grade levels: Lower Secondary 1 and Secondary 2. Each grade level is further divided into themes. (Secondary One: 3 themes; Secondary Two: 2 themes). Each theme is divided into four areas: content, learning outcomes, concepts, values & attitudes. Key terms are listed under each area of instruction.</p> <p>The standards for the social studies curriculum of the Lower Secondary Normal Technical Course are organized into two grade levels: Lower Secondary 1 and Lower Secondary 2. Both grade levels focus on aspects of Singapore, (e.g., Governing Singapore, Looking Ahead). Secondary 1 has two broad themes. Secondary 2 has four broad themes.</p> <p>Each theme is divided into specific topics (e.g., Managing Population Changes). Those topics are divided into four areas: content, learning outcomes, concepts, and values & attitudes. Key terms are listed under each area of instruction.</p> | |
| Number of Standards | | <p>Colorado MCS geography has 6 standards for all grade spans.</p> <p>Singapore Primary Grades:</p> <ul style="list-style-type: none"> • Overarching objectives for Primary 1 to Primary 6: | Singapore has more standards than Colorado. |

| Subcategory | Similarities | Differences | Comments |
|-------------|--------------|---|----------|
| | | <ul style="list-style-type: none"> a. 2 general objectives b. 4 knowledge objectives c. 4 skills objectives d. 4 attitudes & values objectives <p>Individual Primary Grade curricula:</p> <p>Primary 1:</p> <ul style="list-style-type: none"> • 3 topics, 4 content bullets, 8 concept bullets <p>Primary 2:</p> <ul style="list-style-type: none"> • 3 topics, 7 content bullets, 9 concept bullets <p>Primary 3:</p> <ul style="list-style-type: none"> • 1 topic, 2 content bullets, 7 concept bullets <p>Primary 4:</p> <ul style="list-style-type: none"> • 5 topics, 9 content bullets, 14 concept bullets <p>Primary 5:</p> <ul style="list-style-type: none"> • 5 topics, 13 content bullets, 16 concept bullets <p>Primary 6:</p> <ul style="list-style-type: none"> • 4 topics, 13 content bullets, 17 concept bullets <p>Lower Secondary Special/Express Course and Normal Academic Course:</p> <p>Singapore Lower Secondary 1–2:</p> <ul style="list-style-type: none"> • Overarching objectives for Special/Express & Normal Academic courses: <ul style="list-style-type: none"> a. 4 general objectives b. 4 knowledge objectives c. 4 skills objectives | |

| Subcategory | Similarities | Differences | Comments |
|-------------|--------------|--|----------|
| | | <p>d. 4 values and attitudes objectives</p> <p>Lower Secondary 1:</p> <ul style="list-style-type: none"> • 3 themes, 43 content bullets, 36 learning outcome bullets, 86 concept bullets, 43 values & attitudes bullets (The Lower Secondary Normal Academic Course has 7 fewer content bullets). <p>Lower Secondary 2:</p> <ul style="list-style-type: none"> • 2 themes, 31 content bullets, 25 learning outcome bullets, 72 concepts bullets, 53 values & attitudes bullets (The Lower Secondary Normal Academic Course has 5 fewer content bullets). <p>Lower Secondary Normal Technical:</p> <p>Overarching Objectives for Lower Secondary Normal Technical:</p> <ul style="list-style-type: none"> • 5 general objectives • 6 knowledge objectives • 4 skills objectives • 3 values & attitudes objectives <p>Lower Secondary Normal Technical 1:</p> <ul style="list-style-type: none"> • 2 themes, 6 topics, 13 content bullets, 25 learning outcome bullets, 28 concept bullets, | |

| Subcategory | Similarities | Differences | Comments |
|---------------|--------------|---|---|
| | | <p>26 values & attitudes bullets</p> <p>Lower Secondary Normal Technical 2:</p> <ul style="list-style-type: none"> • 3 themes, 5 topics, 11 content bullets, 25 learning outcome bullets, 27 concept bullets, 21 values & attitudes bullets. | |
| Design/Format | | <p>The Colorado history MCS are organized by a cross-matrix of six spiraling standards and three grade spans. It also has a glossary that defines key history terms for teachers and an index. The document is 31 pages.</p> <p>The Singapore Primary, Lower Secondary, and Lower Secondary Technical course syllabi are presented as separate documents. Generally speaking, each document has:</p> <ul style="list-style-type: none"> • an introduction • a section outlining the aims and objectives • a section on the amount of time that should be devoted to the subject each week • a section explaining the framework of the syllabus • a section of suggested teaching strategies • a section on assessment • an outline of the syllabus <p>The geography syllabi for the Lower Secondary Special/Express Course and Normal Academic Course also provide</p> | The design and format for Colorado and Singapore are more different than similar. |

| Subcategory | Similarities | Differences | Comments |
|-------------|--------------|--|----------|
| | | <p>appendices showing the differences between the Special/Express Course and the Normal Academic Course, case studies for instruction, basic geography equipment, and suggested references for geography teachers.</p> <p>The Singapore Social Studies Primary Level syllabus is 19 pages.</p> <p>The Singapore Lower Secondary Geography Syllabus (Special/Express Course & Normal Academic Course) is 37 pages.</p> <p>The Singapore Social Studies Lower Secondary Normal Technical Level syllabus is 17 pages.</p> | |

External Referent: Social Studies Syllabus Primary 2006, Social Studies Syllabus, Social Studies Syllabus Lower Secondary Normal Technical, and Geography Syllabus Lower Secondary 2006 (Singapore)

Content

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|--|---|---|
| Standard 1 | <p>There is some basic map reading in the Singapore Primary Level syllabus. The Secondary Level syllabus focuses on significant map-reading skills and includes physical and human features.</p> <p>Both the Colorado MCS and the Singapore Primary Level syllabus emphasize a spatial understanding of neighborhoods and local communities.</p> | <p>The Colorado MCS geography standards emphasize an understanding of how to use geography tools as a major theme.</p> <p>The Singapore Primary Level syllabus requires very little geography beyond basic map reading. Primary 6 level course focuses on significant geography of Singapore and Southeast Asia.</p> <p>The Singapore Primary levels do not include identification of countries, cities, or physical features on maps.</p> <p>The Singapore Lower Secondary Normal course does not emphasize map-reading skills required to identify human features (e.g., major cities, countries).</p> <p>The Singapore Lower Secondary Technical course does not emphasize map reading, because the themes focus primarily on Singapore history, economics, and culture.</p> | <p>The Colorado MCS standards are more rigorous than the Singapore syllabi in this subcategory.</p> |
| Standard 2 | <p>Both the Colorado MCS and the Singapore Lower Secondary course syllabi emphasize knowledge of physical and human characteristics of areas.</p> <p>The Singapore Primary Level syllabus emphasizes a familiarity with cultural sites in</p> | <p>The Colorado MCS geography standards emphasize knowledge of physical and human characteristics of areas at the K–4 grade span as an important geographic theme. The Singapore Primary Level syllabus does not treat this as an important theme, except at Primary 6.</p> | <p>The Colorado MCS standards are more rigorous than the Singapore syllabi in this subcategory.</p> |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|--|---|--|
| | <p>Singapore. The Colorado MCS standards emphasize cultural and historical sites in the United States.</p> <p>The Singapore Lower Secondary Technical course addresses an understanding of the cultural significance of some historic sites, but pertaining only to Singapore.</p> | <p>The Colorado MCS geography standards approach the concept of region as a geographic concept that can be used to categorize and analyze areas. The Singapore standards make no reference to the term <i>region</i> as a concept at the Primary level or the Lower Secondary level.</p> <p>The Colorado MCS geography standards emphasize cultural geography.</p> | |
| Standard 3 | <p>The Colorado MCS and Singapore Lower Secondary standards include physical geography as a geography theme.</p> | <p>Physical geography is not a significant theme in the Singapore Primary Level syllabus.</p> <p>The Singapore Lower Secondary syllabus is more detailed in curriculum than the Colorado MCS.</p> <p>The Singapore Lower Secondary syllabus applies much of the physical geography curriculum to understanding Singapore and Southeast Asia.</p> <p>The Singapore Lower Secondary Technical syllabus does not cover physical geography in significant detail.</p> | <p>The Colorado MCS have more breadth in scope than the Singapore syllabi.</p> |
| Standard 4 | <p>The Colorado MCS and Singapore Primary and Lower Secondary standards address human geography as a geography theme.</p> | <p>The Singapore Primary Level syllabus covers the same geographic themes as the Colorado MCS at K–4, but only as they pertain to Singapore.</p> | <p>The Singapore syllabi are more concrete and detailed than Colorado’s standards in this subcategory.</p> |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|---|---|--|
| | | <p>The Colorado MCS emphasize the importance of cultural geography more than the Singapore Lower Secondary syllabus does.</p> <p>The Singapore Lower Secondary syllabus is more detailed in curriculum than the Colorado MCS.</p> <p>The Singapore Lower Secondary Technical syllabus does not cover the subcategory in a significant detail except for population pressures in Singapore.</p> <p>The Singapore Primary and Secondary syllabi stress the importance of understanding the ethics associated with the subcategory.</p> | |
| Standard 5 | Both the Colorado MCS and the Singapore Primary and Secondary level syllabi emphasize the relationship between humans and the physical environment as an important geography theme. | <p>The Singapore syllabi place more emphasis than the Colorado MCS on the relationship between humans and the environment.</p> <p>The Singapore Primary Level course syllabus stresses the impact of land scarcity on Singapore’s development.</p> <p>The Singapore Lower Secondary syllabus stresses how humans modify the environment and the consequences of those modifications.</p> <p>The Singapore Lower Secondary syllabus is much more concrete in its application of concepts than the Colorado MCS.</p> <p>The Singapore Primary and Secondary</p> | The Singapore syllabi are more rigorous than the Colorado MCS standards in this subcategory. |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|---|--|---|
| | | syllabi stress the importance of understanding the ethics associated with the subcategory. | |
| Standard 6 | | The Colorado MCS stress geography affecting perception of the past and future. The Singapore Primary and Secondary Level syllabi devote no attention to this subcategory. | The Colorado MCS standards are more rigorous than the Singapore syllabi in this subcategory. |
| Grades K–4 | Both the Colorado MCS and Singapore Primary level syllabus focus on the neighborhood, the local community, and the city, as well as the nation, at this grade span. | <p>The Colorado MCS are more rigorous and thematic than the Singapore Primary Level syllabus.</p> <p>The Colorado MCS treat geography as a distinct content area. The Singapore Primary level syllabus integrates geography curriculum into a general social studies course.</p> <p>The Colorado MCS provide the opportunity to cover the geography of the entire world at this grade span. The Singapore Primary Level syllabus only focuses on the geography of Singapore.</p> | The Colorado MCS standards are more rigorous at this grade span than the Singapore PrimaryLevel syllabus. |
| Grades 5–8 | Colorado and Singapore focus on similar geography concepts at this grade span. | The Singapore Lower Secondary syllabus is more concrete and detailed regarding curriculum expectations. The Colorado MCS are more theoretical and broader in scope. | The Singapore Lower Secondary syllabus is more concrete and detailed than Colorado regarding curriculum expectations. The Colorado MCS are more theoretical and broader in scope. |
| Grades 9–12 | | | <p>Could not be aligned.</p> <p>Geography is offered at the Junior Colleges/Centralised Institute as a subject to qualify for GCE A–Level examinations</p> |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|---------------------|--|---|---|
| Across | Both the Colorado MCS and the Singapore syllabi cover similar geography concepts. | <p>Colorado standards are structured around six geography themes that are spiraled across the grade spans.</p> <p>Colorado standards focus on how geography shapes one’s perception of the past and the future. Singapore’s syllabi do not.</p> <p>The Singapore standards are more specific about what content and concepts should be included in the curriculum.</p> | <p>in Singapore. Curriculum for this level is not available.</p> <p>The Colorado standards are more rigorous and have more breadth and depth than the Singapore standards across the grade spans.</p> |
| Wording/Specificity | <p>Similar to the Colorado MCS, the Singapore Secondary Level syllabi use specific action verbs in the learning outcomes of each unit to indicate the cognitive level of curriculum (e.g., describe, explain, identify).</p> <p>Both the Colorado MCS and the Singapore syllabi emphasize specific geography terms and concepts.</p> | <p>Colorado MCS for grade span K–4 use specific action verbs to suggest the cognitive level of curriculum for students.</p> <p>The Singapore Primary Level syllabus uses only broad action verbs in its objectives (e.g., Primary 2 Knowledge Objective: pupils will be able to understand that people, places, and things change over time.)</p> <p>The Singapore syllabi address specific geography content. The Colorado MCS do not indicate what geography content should be focused on at each grade span and only recommend examples for some benchmarks.</p> | The Colorado MCS are explicit regarding their use of action verbs. |

Appendix R. Geography: 21st Century Skills and Postsecondary and Workforce Readiness Review

21st Century Skills

| Standard | Grade Span | Critical thinking and reasoning | Information literacy | Collaboration | Self-direction | Invention | Comments |
|----------|------------|---------------------------------|----------------------|---------------|----------------|-----------|---|
| 1 | K-4 | F | F | N | F | F | Collaboration: Students could play games to practice locating features on maps, or create maps together about the local community. |
| 1 | 5-8 | F | F | N | F | F | Collaboration: Students could hold a scavenger hunt, using maps with coordinated grids or GPS devices. |
| 1 | 9-12 | F | F | N | F | F | Collaboration: Students could work on case studies together. |
| 1 | Across | F | F | N | F | F | |
| 2 | K-4 | P | F | N | P | F | Critical Thinking and Reasoning: At this grade span, the standard and benchmarks emphasize identifying and describing physical and human characteristics of places. Students are not expected to demonstrate significant critical thinking. Collaboration: Students could work in groups to research and report on the geography of the 50 states. |

| Standard | Grade Span | Critical thinking and reasoning | Information literacy | Collaboration | Self-direction | Invention | Comments |
|----------|------------|---------------------------------|----------------------|---------------|----------------|-----------|--|
| 2 | 5-8 | F | F | N | P | F | <p>Collaboration: Students could work in groups to research and report on the geography of the ancient civilizations.</p> <p>Self-direction: Students could research the geography of a country.</p> |
| 2 | 9-12 | F | F | N | P | F | <p>Collaboration: Students could work in groups to research and report on the geography of other countries.</p> <p>Self-direction: Students could choose a country and research its geography.</p> |
| 2 | Across | F | F | N | P | F | |
| 3 | K-4 | F | F | | P | F | |
| 3 | 5-8 | F | F | | P | F | |
| 3 | 9-12 | F | F | | P | F | |
| 3 | Across | F | F | | P | F | |

| Standard | Grade Span | Critical thinking and reasoning | Information literacy | Collaboration | Self-direction | Invention | Comments |
|----------|------------|---------------------------------|----------------------|---------------|----------------|-----------|---|
| 4 | K-4 | P | F | N | P | F | <p>Critical Thinking and Reasoning: At this grade span, the standard and benchmarks emphasize identifying and describing human geography. Students are not expected to demonstrate significant critical thinking.</p> <p>Collaboration: Students could play games to understand economic relationships such as seeing in which countries their clothes were made.</p> |
| 4 | 5-8 | F | F | N | P | F | <p>Collaboration: Students could work together on case studies.</p> |
| 4 | 9-12 | F | F | N | P | F | <p>Collaboration: Students could work together on case studies.</p> |
| 4 | Across | F | F | N | P | F | |
| 5 | K-4 | P | F | N | P | F | <p>Critical Thinking and Reasoning: At this grade span, the standard and benchmarks emphasize identifying and describing the effects of interactions between human and physical systems. Students are not expected to demonstrate significant critical thinking.</p> <p>Collaboration: Students could play games identifying different types of resources.</p> |

| Standard | Grade Span | Critical thinking and reasoning | Information literacy | Collaboration | Self-direction | Invention | Comments |
|----------|------------|---------------------------------|----------------------|---------------|----------------|-----------|---|
| 5 | 5-8 | F | F | N | P | F | Collaboration: Students could work together on case studies. |
| 5 | 9-12 | F | F | N | P | F | Collaboration: Students could work together on case studies. |
| 5 | Across | F | F | | P | F | |
| 6 | K-4 | F | F | N | P | F | Collaboration: Students could work together on case studies about their local communities. |
| 6 | 5-8 | F | F | N | P | F | Collaboration: Students could work together on case studies. |
| 6 | 9-12 | F | F | N | P | F | Collaboration: Students could work together on case studies. |
| 6 | Across | F | F | N | P | F | |

| Standard | Grade Span | Critical thinking and reasoning | Information literacy | Collaboration | Self-direction | Invention | Comments |
|----------|-----------------|---|--|---|--|---|----------|
| | Comments | The structure of the Colorado MCS for geography provides students with many opportunities to develop critical thinking and reasoning skills across the grade spans. | The focus of the Colorado MCS for geography on acquisition and development of skills provides students with many opportunities to become fluent in information literacy. | The Colorado MCS for geography indicate little opportunity for students to develop skills that emphasize collaboration. The language of the standards could be revised to emphasize working together and cooperating. Also, the benchmarks could include bulleted items to indicate the types of tasks students should be expected to perform to help them develop collaboration skills. See the grade span comments for suggested tasks. | The Colorado MCS for geography imply opportunities for students to take self-direction in their studies. The language of the standards could be revised to emphasize self-direction (e.g., researching, choosing, creating, planning, organizing). Also, the benchmarks could include bulleted items to indicate the types of tasks the students should be expected to perform that would enable them to develop work initiative skills. | The Colorado MCS for geography provide many opportunities for students across the grade spans to be creative in their understanding of geography. | |

Postsecondary and Workforce Readiness

| Standard | Grade Span | Application of reading, writing, and computing skills with minimal remediation or training | Logical reasoning and argumentation abilities | Identification and solving of problems | Information management skills | Human relation skills | Analysis and interpretation skills | Comments |
|----------|-----------------|---|--|---|-------------------------------|--|---|--|
| 1 | 9-12 | F | F | F | F | | F | |
| 2 | 9-12 | F | F | | | | F | |
| 3 | 9-12 | F | F | | | | F | |
| 4 | 9-12 | F | F | P | | P | F | Human relation skills: This standard provides students the opportunity to learn about cooperation and tolerance. |
| 5 | 9-12 | F | F | P | | | F | |
| 6 | 9-12 | F | F | P | | P | F | Human relation skills: This standard provides students the opportunity to learn about cooperation and tolerance. |
| | Comments | The Colorado MCS provide many opportunities for students to develop their reading, writing, and computing skills. | The Colorado MCS provide many opportunities for students to develop reasoning and argumentation abilities. | The Colorado MCS could stress problem-solving and coming up with solutions to problems. | | The Colorado MCS standards do not align to the PWR human relation skill. | The Colorado MCS provide many opportunities for students to develop their analytical and interpretation skills. | |

Appendix S. History: Internal Quality Review

Depth

| Standard | Grade Span | Within Span | Across Span | Comments |
|----------|------------|-------------|-------------|---|
| 1 | K-4 | F | | Benchmark 1.1 could provide greater detail about which historical eras should be addressed, as is provided in grade span 9-12. |
| 1 | 5-8 | F | | Benchmark 1.1 could provide greater detail about which historical eras should be addressed, as is provided in grade span 9-12. |
| 1 | 9-12 | F | | |
| 1 | Across | | F | |
| 2 | K-4 | F | | |
| 2 | 5-8 | F | | |
| 2 | 9-12 | F | | Benchmark 2.2 could include an appreciation of the validity of different historical interpretations and theses for the same historical event. |
| 2 | Across | | F | The depth of knowledge for interpreting and evaluating primary and secondary sources required for students is appropriate for each grade span. |
| 3 | K-4 | P | | Partial rating due to lack of specificity. The standard does not require students to know what the term <i>culture</i> means. Benchmark 3.1 does not indicate which contributions of "various peoples and cultures" should be addressed. Benchmark 3.2 does not indicate what are the "important components of the cultural heritage of the United States." |
| 3 | 5-8 | P | | Partial rating due to insufficient detail about which topics should be covered. Benchmark 3.1 requires students to describe the "common traits and characteristics that unite the United States" but does not indicate what they are. Benchmark 3.2 could be more explicit in the use of the term <i>civilization</i> for understanding the formation of societies in ancient history, particularly as a transition from hunter-gatherer communities. |
| 3 | 9-12 | P | | Although the standard provides useful examples of cultural interaction and exchange, partial rating due to lack of emphasis on the importance of the concepts of <i>cultural assimilation</i> , <i>cultural adaptation</i> , and <i>cultural resistance</i> as mechanisms for the development of cultures. |
| 3 | Across | | P | Partial rating due to insufficient depth of explanation about the relationship of culture and society. |
| 4 | K-4 | P | | Although Benchmark 4.1 provides examples for understanding the impact of scientific and technological developments on individuals and societies, partial rating due to Benchmark 4.2 missing examples and not indicating which historical events or eras should be addressed. Similarly, Benchmark 4.3 does not indicate to which historical contexts the characteristics of economic systems should apply. |

| Standard | Grade Span | Within Span | Across Span | Comments |
|----------|------------|-------------|-------------|---|
| 4 | 5–8 | P | | Partial rating due to lack of concrete examples for Benchmark 4.1 to illustrate the consequences of scientific and technological change on different societies. The intent of Benchmark 4.2 is described as it relates to Western United States history, but is left vague as it relates to world history. It would be useful to indicate which economic factors and world societies should be addressed under the benchmark. Benchmark 4.3 for the grade span makes no reference to world societies. |
| 4 | 9–12 | F | | Although rated fully, the standard at the 9–12 grade span would benefit from concrete historical examples to illustrate the historical concepts addressed. |
| 4 | Across | | P | Partial rating due to insufficient explanation of how to apply historical contexts, particularly for world history, or historical examples to guide instruction. |
| 5 | K–4 | F | | The standard would benefit from specific examples to illustrate the benchmarks. |
| 5 | 5–8 | P | | Partial rating due to lack of specificity about how political institutions and theories apply to specific historical time periods. Without any application of the concepts to historical contexts, it is difficult to see how the concepts develop over time. |
| 5 | 9–12 | F | | |
| 5 | Across | | F | |
| 6 | K–4 | F | | |
| 6 | 5–8 | P | | Although the standard identifies important religious and philosophical beliefs that have shaped historical development, it does not provide sufficient examples or identify any historical contexts to which they apply. |
| 6 | 9–12 | P | | Although the standard identifies important religious and philosophical beliefs that have shaped historical development, it does not provide sufficient examples or identify any historical contexts to which they apply. |
| 6 | Across | | P | Important religious and philosophical beliefs are identified in the standard but there is little application of the concepts to specific historical periods. |

History: Internal Quality Review

Coherence

| Standard | Grade Span | Appropriate Sequence | Appropriate Endpoints | Comments |
|----------|------------|----------------------|-----------------------|---|
| 1 | K-4 | | F | |
| 1 | 5-8 | | F | |
| 1 | 9-12 | | F | |
| 1 | Across | F | F | |
| 2 | K-4 | | F | |
| 2 | 5-8 | | F | |
| 2 | 9-12 | | F | |
| 2 | Across | F | F | This standard spirals well across the three grade spans. There is an increase in cognitive complexity as students learn processes and resources of historical inquiry. |
| 3 | K-4 | | F | |
| 3 | 5-8 | | P | Partial rating due to lack of distinction in the cognitive complexity of the concept between grade spans 5-8 and 9-12. |
| 3 | 9-12 | | P | Partial rating due to lack of distinction in the cognitive complexity of the concept between grade spans 5-8 and 9-12. |
| 3 | Across | P | P | Partial rating due to lack of distinction in the cognitive complexity of the concept between grade spans 5-8 and 9-12. Benchmark 3.1 for grade spans 5-8 and 9-12 requires students to describe the "interactions and contributions" of various peoples to the Western Hemisphere and United States, respectively. Benchmark 3.2 requires students to explain "how forces of tradition" have influenced social organization throughout history in both grade spans. |
| 4 | K-4 | | F | |
| 4 | 5-8 | | F | |
| 4 | 9-12 | | F | |
| 4 | Across | F | F | This standard spirals well across the three grade spans. The impact of science, technology, and economics on history is addressed at the appropriate level of complexity for each grade level. |
| 5 | K-4 | | F | |
| 5 | 5-8 | | F | |
| 5 | 9-12 | | F | |

| Standard | Grade Span | Appropriate Sequence | Appropriate Endpoints | Comments |
|----------|------------|----------------------|-----------------------|---|
| 5 | Across | F | F | This standard spirals well across the three grade spans. There is an increase in cognitive complexity in understanding the impact of political science. |
| 6 | K-4 | | F | |
| 6 | 5-8 | | F | |
| 6 | 9-12 | | F | |
| 6 | Across | F | F | Although standard is rated fully, the cognitive complexity for Benchmark 6.3 for grade spans 5-8 and 9-12 is not as distinct as it could be. |

History: Internal Quality Review

Rigor

| Standard | Grade Span | Rigor | Comments |
|----------|------------|-------|--|
| 1 | K-4 | F | |
| 1 | 5-8 | F | |
| 1 | 9-12 | F | |
| 1 | Across | F | The rigor of the historical thinking skill is appropriate at each grade span. |
| 2 | K-4 | F | |
| 2 | 5-8 | F | |
| 2 | 9-12 | F | |
| 2 | Across | F | The rigor of the historical thinking skill is appropriate at each grade span. |
| 3 | K-4 | F | |
| 3 | 5-8 | F | |
| 3 | 9-12 | F | |
| 3 | Across | F | The rigor of the historical thinking skill is appropriate at each grade span. |
| 4 | K-4 | F | Although standard is rated fully at K-4, the concepts addressed in the first bullet in Benchmark 4.3 may be too abstract for the grade span level. |
| 4 | 5-8 | F | |
| 4 | 9-12 | F | |
| 4 | Across | F | The rigor of the historical thinking skill is appropriate at each grade span. |
| 5 | K-4 | F | |
| 5 | 5-8 | F | |
| 5 | 9-12 | F | |
| 5 | Across | F | The rigor of the historical thinking skill is appropriate at each grade span. |
| 6 | K-4 | F | |
| 6 | 5-8 | F | |
| 6 | 9-12 | F | |
| 6 | Across | F | The rigor of the historical thinking skill is appropriate at each grade span. |

History: Internal Quality Review

Breadth

| Standard | Grade Span | Breadth Within Span | Contains Essential Content | Free of Extraneous Content | Comments |
|----------|------------|---------------------|----------------------------|----------------------------|---|
| Across | K-4 | F | F | F | Although grade span rated fully overall, some essential content could be added (see below). |
| 1 | K-4 | | I | F | Although the standard requires students to apply the concept of chronology to Colorado state history, insufficient rating for essential content is due to the standard not indicating which aspects of Colorado history should be covered (e.g., European exploration, westward expansion, industrialization). |
| 2 | K-4 | | F | F | |
| 3 | K-4 | | F | F | |
| 4 | K-4 | | F | P | Partial rating for extraneous content due to higher-grade level of the examples provided for Benchmark 4.1. |
| 5 | K-4 | | P | F | Partial rating due to the standard not providing examples, such as historical figures, national celebrations, and symbols, to illustrate Benchmark 5.1. The reference to the historical background of the Colorado constitution seems out of place. No historical examples are provided to illustrate Benchmark 5.3. |
| 6 | K-4 | | F | F | |
| Across | 5-8 | I | I | F | Insufficient rating for essential content due to lack of historical context and content to illustrate the historical concepts and skills. |
| 1 | 5-8 | | I | P | Insufficient rating for essential content due to Benchmark 1.1 not indicating which historical content, such as people or events, or historical themes of United States history should be addressed; Benchmark 1.2 does not indicate which world cultures should be addressed. Partial rating for extraneous content due to the first bullet in Benchmark 1.2. Benchmark 1.3 does not identify any patterns or themes of world history that are essential for instruction. |
| 2 | 5-8 | | F | F | |

| Standard | Grade Span | Breadth Within Span | Contains Essential Content | Free of Extraneous Content | Comments |
|----------|------------|---------------------|----------------------------|----------------------------|--|
| 3 | 5–8 | | I | F | Insufficient rating for essential content due to Benchmark 3.1 not adequately indicating which historical groups, societies, or ideas should be taught to illustrate the concept of cultural exchange. Benchmark 3.2 does not provide a historical framework in United States history or world history to understand the concept of social organization. |
| 4 | 5–8 | | I | P | Insufficient rating for essential content due to the standard not providing historical contexts, such as civilizations or time periods, to illustrate the impact of science and technology on historical development. Benchmark 4.2 does not indicate which historical societies should be examined to understand how societies are linked by economic factors. Partial rating for extraneous content due to the first bullet of Benchmark 4.2 being covered in the Colorado MCS Economics standards. |
| 5 | 5–8 | | I | F | Insufficient rating for essential content due to the standard not providing historical contexts to understand the political concepts. |
| 6 | 5–8 | | I | F | Insufficient rating for essential content due to the standard not providing historical contexts to understand the historical impact of religious and philosophical ideas. |
| Across | 9–12 | I | I | F | Insufficient rating for essential content due to insufficient historical context and content to illustrate the historical concepts and skills. |
| 1 | 9–12 | | F | F | The standard was rated as fully because eras of United States history and eras in world history were provided. Nevertheless, the breadth of the world history eras may prove challenging for ordering events and themes. |
| 2 | 9–12 | | F | F | |
| 3 | 9–12 | | P | F | Partial rating due to insufficient historical context to illustrate the concept of society diversity. The second bullet of Benchmark 3.2 does not indicate which past and present societies should be discussed to understand cultural diffusion. Benchmark 3.2 does not indicate which societies or historical eras should be discussed to understand the concept of social organization. |

| Standard | Grade Span | Breadth Within Span | Contains Essential Content | Free of Extraneous Content | Comments |
|----------|------------|---------------------|----------------------------|----------------------------|--|
| 4 | 9–12 | | P | F | Partial rating due to insufficient historical context to understand the importance of scientific, technological, and economic influences on history. Benchmark 4.1 identifies important historical eras and themes (e.g., scientific revolution), but Benchmark 4.2 could be more specific as to the influence of systems of exchanges and other economic developments on the history of civilizations. |
| 5 | 9–12 | | I | F | Although the standard requires students to understand the impact of political institutions and political theories over time, insufficient rating for essential content due to the standard not providing sufficient historical context to illustrate the institutions and theories. Benchmark 5.1 provides good examples for United States history. Benchmarks 5.2, 5.3, and 5.4 would benefit from greater specificity to help teachers organize lessons. |
| 6 | 9–12 | | I | F | Insufficient rating due to insufficient historical context to illustrate the impact of religious and philosophical ideas on the United States. Benchmark 6.2 states that teachers should provide examples to indicate how religion has affected societies but does not specify which religious beliefs or societies should be discussed. |
| Across | Across | I | I | F | Although rated fully, some essential content may be missing (see above) |
| 1 | Across | | I | F | Insufficient Information to determine essential content due to standard’s lack of chronological organization (as in Benchmark 1.1 at 9–12) at grade spans K–4 and 5–8. Although rated fully for extraneous content, some essential content may be missing (see above) |
| 2 | Across | | F | F | |
| 3 | Across | | I | F | Insufficient Information to determine essential content due to standard’s focus on historical themes, not historical content. Although rated fully for extraneous content, some essential content may be missing (see above) |
| 4 | Across | | I | P | Insufficient Information to determine essential content due to standard’s focus on historical themes, not historical content. Rated Partially for extraneous content, due to higher-grade level of the examples provided for Benchmark 4.1 at grades K–4 and the first bullet of Benchmark 4.2 in grades 5–8 being covered in the Colorado MCS Economic standards. |

| Standard | Grade Span | Breadth Within Span | Contains Essential Content | Free of Extraneous Content | Comments |
|----------|------------|---------------------|----------------------------|----------------------------|--|
| | | | | | |
| 5 | Across | | I | F | Insufficient Information to determine essential content due to standard's focus on historical themes, not historical content. Although rated fully for extraneous content, some essential content may be missing (see above) |
| 6 | Across | | I | F | Insufficient Information to determine essential content due to standard's focus on historical themes, not historical content. Although rated fully, some essential content may be missing (see above) |

Appendix T. History: External Referent Review —Massachusetts
External Referent: Massachusetts History and Social Science Curriculum Framework (August 2003)

Organization/Structure

| Subcategory | Similarities | Differences | Comments |
|--------------------|---|---|---|
| Grade Articulation | Both the Colorado MCS and Massachusetts <i>Framework</i> include history from Kindergarten through high school. Massachusetts has course-specific standards for grades 8–12. The U.S. history and world history courses may be offered at any year, but world history and U.S. history are separated. | Colorado organizes its history standards by grade spans K–4, 5–8, and 9–12. The <i>Massachusetts History and Social Science Curriculum Framework</i> introduces distinct history standards for the K–7 grade levels. Pre–K to K focuses on basic American symbols. Grade 1 emphasizes United States leaders, symbols, events, and holidays. Grade 2 introduces historical skills. Grade 3 focuses on local and Massachusetts’ state history. Grade 4 provides optional study for Chinese history. Grade 5 focuses on United States history from Pre–Columbian civilizations to westward expansion. Grade 6 does not address history at all. Grade 7 focuses on ancient and classical civilizations in the Mediterranean region before the fall of the Roman Empire. World history since the fall of the Roman Empire is divided into two year-long courses for grade span 8–11. U.S. history since 1763 is also divided into two year-long courses. There is very little repetition of content across the grade spans. The history of the American Revolution and the early republic overlaps at grade 5 and the high school U.S. history I course. Most repetition occurs in the accompanying | The grade articulation between Colorado and Massachusetts is more different than similar. The Colorado MCS emphasize grade spans. The Massachusetts <i>Framework</i> stresses grade levels. |

| Subcategory | Similarities | Differences | Comments |
|------------------------|---|--|---|
| Hierarchy of Standards | The Colorado MCS align most closely to the Massachusetts <i>Framework</i> themes. | <p>history concepts and skills that appear at each grade level.</p> <p>The <i>Massachusetts History and Social Science Curriculum Framework</i> includes only standards and not strands, benchmarks, or indicators. There are two types of standards that appear at each grade level: Concept & Skills Standards and Content Standards. Under each standard are listed specific people, places, or terms that may be used to discuss the standard. The standards are very detailed and focus on a specific historical theme or event (e.g., 5.4: Explain why the Aztec and Inca civilizations declined in the 16th Century). There are 9 accompanying historical themes that apply to several of the grade levels. They are used to provide a historical framework for the standards, but they are separate from the standards and appear in the <i>Massachusetts Framework</i> overview.</p> | The hierarchical structure of the standards for the two documents is very different. The Colorado MCS focus on broad themes and supporting historical conceptual benchmarks. The <i>Massachusetts Framework</i> emphasizes discrete content standards for each grade level and discusses specific historical themes, time periods, and civilizations. |
| Number of Standards | | <p>Colorado MCS History has 6 standards. The <i>Massachusetts History and Social Science Curriculum Framework</i> standards by grade level:</p> <ul style="list-style-type: none"> • PreK–K: 5 standards • Grade 1: 10 standards • Grade 2: 6 standards • Grade 3: 12 standards • Grade 4: 12 standards • Grade 5: 37 standards • Grade 6: 0 standards • Grade 7: 46 standards | The <i>Massachusetts Framework</i> has more standards than Colorado because the standards address specific content. |

| Subcategory | Similarities | Differences | Comments |
|--|--|--|---|
| | | <ul style="list-style-type: none"> • Grade 8–12 Concepts & Skills: 11 standards • World History I: 38 standards • World History II: 48 standards • U.S. I History: 41 standards • U.S. II History: 33 standards | |
| <p style="text-align: center;">Design/Format</p> | <p>Both sets of standards are recommendations to teachers and are not considered to be required.</p> | <p>The Colorado history MCS are organized by a cross–matrix of six spiraling standards and three grade spans. They also have a glossary that defines key history terms for teachers and an index. The document is 31 pages.</p> <p>The Massachusetts <i>Framework</i> first provides an overview of the scope and sequence of curriculum and a list of historical themes to be introduced in each grade level. It then introduces each grade level and the standards that are to be addressed at that grade level. It also has eight appendices. Two of the appendices recommend primary source documents for world and U.S. history curriculum. One suggests resources such as books, articles, and websites for teachers. One lists museums, historic sites, archives, and libraries in Massachusetts. Two other appendices provide recommendations for integrating history with English/Language Arts and Mathematics. The document is 130 pages.</p> | <p>The design or format of the two documents is very different. By focusing on grade-level curriculum, the Massachusetts <i>Framework</i> suggests what the classroom curriculum should be.</p> |

External Referent: Massachusetts History and Social Science Curriculum Framework (August 2003)

Content

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|--|---|---|
| Standard 1 | Standard 1 of the Colorado MCS is very similar to some of the Massachusetts <i>Framework</i> Concepts and Skills standards that appear at nearly every grade level. Both sets of standards require an increasing degree of cognitive complexity for the chronological organization of history from K to 12. | The Colorado MCS emphasize the importance of understanding chronology as a historical thinking skill. The Massachusetts <i>Framework</i> treats it as a skill that should be addressed in addition to the historical content. | The two sets of standards are very similar in this subcategory. |
| Standard 2 | Standard 2 of the Colorado MCS is very similar to some of the Massachusetts <i>Framework</i> Concepts and Skills standards that appear at nearly every grade level. Both sets of standards require some understanding of historical inquiry skills, resources, and methods. | The Colorado MCS make mastery of historical inquiry skills an essential part of history. Colorado standards focus on skills regarding the use of primary and secondary sources when understanding history. The Massachusetts <i>Framework</i> treats historiographic methodology as a skill that should be addressed, but not emphasized. | The Colorado MCS are more rigorous than Massachusetts in this subcategory. |
| Standard 3 | Standard 3 of the Colorado MCS is similar to two themes found in the Massachusetts <i>Framework</i> : (1) “The influence of economic, political, religious, and cultural ideas as human societies move beyond regional, national, or geographic boundaries,” (2) “The birth, growth, and decline of civilizations.” Many of the topic bullets in the Colorado MCS align to similar standards in the Massachusetts <i>Framework</i> . | Standard 3 of the Colorado MCS is much more rigor and depth in its description than the Massachusetts <i>Framework</i> themes. The Massachusetts <i>Framework</i> themes are short paragraphs indicating what they are and to which grade levels they apply. The Massachusetts <i>Framework</i> emphasizes certain societies and civilizations within both a chronological narrative and a thematic structure. Specific historical themes, people, events, and documents are also emphasized. | The Colorado MCS has more rigor and depth in describing historical themes to be addressed. The Massachusetts <i>Framework</i> has more breadth in emphasizing the specific historical content that should be addressed. |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|--|---|--|
| Standard 4 | Standard 4 of the Colorado MCS is similar to two themes found in the Massachusetts <i>Framework</i> : (1) “The growth and spread of free markets and industrial economies,” (2) “The development of scientific reasoning, technology, and formal education over times and their effects on people’s health, standards of living, economic growth, government, religious beliefs, communal life, and the environment.” Many of the topic bullets in the Colorado MCS align to similar standards in the Massachusetts <i>Framework</i> . | Standard 4 of the Colorado MCS has more rigor and depth in its description than the Massachusetts <i>Framework</i> themes. The Massachusetts <i>Framework</i> themes are short paragraphs indicating what they are and to which grade levels they apply. The Massachusetts <i>Framework</i> emphasizes learning about certain economic and scientific themes for specific societies and civilizations within both a chronological narrative and a thematic structure. Specific historical themes, people, events, and documents are curriculum recommendations. | The Colorado MCS has more rigor and depth in describing the historical theme to be addressed. The Massachusetts <i>Framework</i> has more breadth emphasizing the specific historical content to be addressed. |
| Standard 5 | Standard 5 of the Colorado MCS is similar to two themes found in the Massachusetts <i>Framework</i> : (1) “The evolution of the concepts of personal freedom, individual responsibility, and respect for human dignity.” (2) “The growth and impact of centralized state power.” Many of the topic bullets in the Colorado MCS align to similar standards in the Massachusetts <i>Framework</i> . | Standard 5 of the Colorado MCS has more rigor and depth in its description than the Massachusetts <i>Framework</i> themes. The Massachusetts <i>Framework</i> themes are short paragraphs that indicate what they are and to which grade levels they apply. The Massachusetts <i>Framework</i> emphasizes the development of political culture and the expansion of human rights in specific societies and civilizations within both a chronological narrative and a thematic structure. Specific historical themes, people, events, and documents are also emphasized. | The Colorado MCS has more rigor and depth in describing the historical theme to be addressed, but this specific standard is not as analytical as other standards. The Massachusetts <i>Framework</i> has more breadth in emphasizing the specific historical content that should be addressed. |
| Standard 6 | Standard 6 of the Colorado MCS is similar to one theme found in the Massachusetts <i>Framework</i> : (1) The influence of economic, political, religious, and cultural ideas as human societies move beyond regional, | Standard 6 of the Colorado MCS has more rigor and depth in its description than the Massachusetts <i>Framework</i> . The Massachusetts <i>Framework</i> themes are short paragraphs indicating what they are and to which grade levels they | The Colorado MCS has more rigor and depth in the historical theme to be addressed. The Massachusetts <i>Framework</i> is much has more breadth in emphasizing the specific historical content that should be addressed. |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|--|---|---|
| | national, or geographic boundaries. | apply. The Massachusetts <i>Framework</i> emphasizes the learning of development of religious and philosophical thought in specific societies and civilizations within both a chronological narrative and a thematic structure. Specific historical themes, people, events, and documents are recommended for curriculum. | |
| Grades K–4 | Both Colorado and Massachusetts emphasize local and state history at these grades. | | Colorado and Massachusetts standards are more similar than different in this grade span. |
| Grades 5–8 | Both Colorado and Massachusetts emphasize early U.S. history and ancient world history at this grade span. | Massachusetts standards suggest that U.S. history from the Pre–Columbian era to the early Westward Expansion is addressed in grade 5. Massachusetts standards also recommend that ancient history is addressed in grade 7. It recommends World History I at grade eight. | Colorado and Massachusetts standards are more different than similar in this grade span. |
| Grades 9–12 | Both Colorado and Massachusetts emphasize U.S. and World history in this grade span. | Massachusetts suggests that U.S. I and U.S. II history are addressed in grades nine and ten, respectively, and that World History II at grade eleven. | Colorado and Massachusetts standards are more different than similar in this grade span. |
| Across | Both Colorado and Massachusetts emphasize world history in both grade spans 5–8 and 9–12. | Massachusetts articulates specific historical time periods in U.S. history and world history for specific grade levels across the grade spans. Colorado is less specific about suggesting chronological periods. | Colorado and Massachusetts standards are more different than similar in this subcategory. |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|---------------------|--------------------------|--|---|
| Wording/Specificity | | Massachusetts is much more specific about its action verbs for all grade levels. Massachusetts is also much more specific about the historical content to be addressed. Standards focus on specific people, historical themes, documents, events, and dates in U.S. and world history at all grade levels. | Colorado and Massachusetts standards are more different than similar in this subcategory. |

Appendix U. History: External Referent Review—Indiana

External Referent: Indiana’s Academic Standards, Social Studies—K–8th Grade (October 2007), High School United States History (October 2007), World History and Civilization (October 2007), Geography and History of the World (October 2007)

Organization/Structure

| Subcategory | Similarities | Differences | Comments |
|--------------------|---|--|--|
| Grade Articulation | Both Colorado and Indiana include history from kindergarten through high school. Indiana has course-specific standards at high school. U.S. and world history are not required by a specific grade level. Indiana repeats U.S. and world history content at different grade levels. | <p>Colorado organizes its history standards by grade spans K–4, 5–8, and 9–12.</p> <p>Indiana organizes its history standards by grade level and not grade spans.</p> <ul style="list-style-type: none"> • Kindergarten focuses on examining the connections between the students’ environments and the past and on learning basic chronological thinking. • Grades 1 & 2 focus on the local community and important national symbols and events. Standards also focus on students’ understanding of chronological thinking and historical analysis. • Grade 3 focuses on local and regional history, emphasizing the contributions of Native Americans and early European settlers, as well as historical thinking skills. • Grade 4 focuses on all of Indiana state history and historical thinking skills. • Grade 5 focuses on U.S. history from the pre-Columbian era to the early republic in addition to further historical thinking skills. | The grade articulation of Colorado and Indiana is more different than similar. The Colorado MCS emphasize grade spans while the Indiana Academic Standards emphasize grade levels. |

| Subcategory | Similarities | Differences | Comments |
|-------------|--------------|--|----------|
| | | <ul style="list-style-type: none"> • Grade 6 focuses on European history and Latin American history from the classical civilizations to the present day. Standards regarding historical thinking skills are increasingly more analytical and complex. • Grade 7 concentrates on the history of the regions of Asia, the Middle East, Africa, and the Southwest Pacific, from the ancient civilizations to the present day. Standards regarding historical thinking skills are increasingly more analytical and complex. • Grade 8 examines United States history from the colonial era to the end of the Reconstruction Era. Standards regarding historical thinking skills are increasingly more analytical and complex. • High school United States History offers a two-semester course with standards focusing on U.S. history from the American Revolution to the present. • High school World History and Civilization offers a two-semester course with standards focusing on world history from the pre-historic era to the present. • High school Geography and World History offers a two- | |

| Subcategory | Similarities | Differences | Comments |
|-------------------------------|--|--|--|
| | | <p>semester course with standards focusing on world history from ancient history to the present with an emphasis on understanding the relationship between geography and history.</p> | |
| <p>Hierarchy of Standards</p> | <p>Similarities are strongest between the topic bullets of the Colorado MCS and the indicators of the Indiana standards.</p> | <p>The Indiana Academic Standards do not stress broad historical themes that apply to different eras.</p> <p>At grade levels K–8, all of Indiana’s Academic Standards for social studies are organized around four content areas: history, civics and government, geography, and economics. History is known as standard 1. Within the history content area, standards are divided into two separate categories: historical knowledge and historical thinking skills. Starting with grade 4, numerically coded indicators are arranged by historical themes or time periods in the appropriate historical content category.</p> <p>The two-semester history courses for high school are arranged by standards, which indicate historical time periods (e.g., United States History: Standard 1—Early National Development: 1775 to 1877). Within the standards are specific corresponding indicators, which summarize key ideas, events, and developments for those standards.</p> | <p>The structures of the standards are very different. The Colorado MCS focus on broad themes and supporting historical conceptual benchmarks. The Indiana Academic Standards emphasize discrete content standards for each grade level.</p> |
| <p>Number of Standards</p> | | <p>The Colorado MCS include 6 history standards.</p> | <p>The Indiana Academic Standards contain more standards than Colorado because they address</p> |

| Subcategory | Similarities | Differences | Comments |
|----------------------|---|---|--|
| | | <p>Indiana Academic Standards (History):</p> <ul style="list-style-type: none"> • Kindergarten: 5 indicators • Grade 1: 10 indicators • Grade 2: 7 indicators • Grade 3: 8 indicators • Grade 4: 18 indicators • Grade 5: 21 indicators • Grade 6: 24 indicators • Grade 7: 24 indicators • Grade 8: 31 indicators • High school U.S. History: 9 standards/58 indicators • High school World History and Civilization: 9 standards/76 indicators • High school Geography and History of the World: 10 standards/ 54 indicators | <p>more specific content at the standard level.</p> |
| <p>Design/Format</p> | <p>Neither the Colorado MCS nor the Indiana standards provide reference appendices.</p> | <p>The Colorado MCS for history are organized by a cross-matrix of six spiraling standards and three grade spans. They also include a glossary that defines key history terms for teachers and an index. The document is 31 pages.</p> <p>Indiana presents its history standards in separate documents for each grade level. For K–8, the history standards are presented with other social studies standards, because history included is within the broader context of social studies. Each document for K–8 has a brief one-page overview that explains the goals of the social studies course and outlines the broad content area standard.</p> | <p>The two sets of standards are very different in format.</p> |

| Subcategory | Similarities | Differences | Comments |
|-------------|--------------|---|----------|
| | | <p>Afterwards, each content area standard and its indicators are listed.</p> <p>Similar to the K–8 documents, each high school history course is presented as a separate document. There is a brief one-page overview of the goals of the course and the standards are outlined.</p> <p>Afterwards, each standard and its indicators are listed.</p> <p>The Indiana Academic Standards for history range in length from 4 to 21 pages. All together they are 95 pages. This number includes the other social studies subjects in the K–8 documents.</p> | |

History: External Referent Review—Indiana

External Referent: Indiana’s Academic Standards, Social Studies—K–8th Grade (October 2007), High School United States History (October 2007), World History and Civilization (October 2007), Geography and History of the World (October 2007)

Content

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|--|--|--|
| Standard 1 | An understanding of chronological organization of history is an important historical analytical skill on which both Colorado and Indiana K–12 standards focus. | The Colorado MCS are more explicit in their expectations of curriculum skills at each grade level or high school course. | The treatment of the subcategory is more similar than different. |
| Standard 2 | An understanding of historical inquiry is an important analytical skill on which both Colorado and Indiana K–12 standards focus. | The Colorado MCS are more explicit in their expectations of curriculum skills at each grade level or high school course. | The treatment of the subcategory is more similar than different. ? |
| Standard 3 | The historical concepts of society and culture are treated similarly in K–4 with standards focusing on identifying and describing elements of culture and society. Most of the topic bullets covered in the Colorado MCS are addressed by indicators in the Indiana standards. | Colorado MCS standard 3 is covered in much greater depth, rigor, and breadth than the Indiana Academic Standards. The Indiana Academic Standards treat culture and society as subtopics for specific indicators. Societal diversity is not treated as an overarching theme used to analyze the historical development of civilizations. For the most part, the Indiana Academic Standards focus on certain societies and civilizations within both a chronological narrative and a thematic structure. Specific indicators are designated as ideal for addressing the topics of individuals, society, and culture. Specific terms and examples are also provided with some indicators. | The Colorado MCS are much stronger in addressing historical themes. The Indiana Academic Standards are much stronger in emphasizing specific historical content. |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|---|---|--|
| Standard 4 | <p>Standard 6 of the Indiana high school course Geography and History of the World, covers a similar theme as Colorado MCS standard 4. Standard 6 of the Indiana high school course World History and Civilization, covers a similar theme, but only as it relates to the time period 1500 to 1900. Most of the topic bullets covered in the Colorado MCS are addressed by indicators in the Indiana standards.</p> | <p>Colorado MCS standard 4 is covered in much greater depth, rigor, and breadth than the Indiana Academic Standards. The Indiana Academic Standards treat science, technology, and economic activity as subtopics for specific indicators. The influence of science, technology, and economics is not treated as an overarching theme for historical analysis. Except where mentioned, the Indiana Academic Standards focus on the scientific, technological, and economic development of certain societies and civilizations within both a chronological narrative and a thematic structure. Specific terms and examples are also provided with some indicators.</p> | <p>The Colorado MCS are much stronger in describing the historical theme to be addressed. The Indiana Academic Standards are much stronger in emphasizing specific historical content to be addressed.</p> |
| Standard 5 | <p>Both sets of standards cover the importance of the development of political institutions and political theories over time. The K–4 curricula are similar in historical content. Most of the topic bullets covered in the Colorado MCS are addressed by indicators in the Indiana standards.</p> | <p>Colorado MCS standard 5 is more analytical than the Indiana Academic Standards. The Indiana Academic Standards treat political institutions and political theories as subtopics for specific indicators. The influence of political institutions and political theories is not treated as an overarching theme for historical analysis. The Indiana Academic Standards include political development of certain societies and civilizations within both a chronological narrative and a thematic structure. Specific terms and examples are also provided with some indicators.</p> | <p>The Colorado MCS are much stronger in describing the historical theme to be addressed. The Indiana Academic Standards are much stronger in emphasizing specific historical content to be addressed.</p> |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|---|---|---|
| Standard 6 | Both sets of standards cover the importance of religion in the historical development of societies over time. Most of the topic bullets covered in the Colorado MCS are addressed by indicators in the Indiana standards. | Colorado MCS standard 6 is covered in much greater depth, rigor, and breadth than the Indiana Academic Standards. The historical theme of religion is not addressed in the Indiana Academic Standards for grade span K–4. The Indiana Academic Standards treat religion and philosophy as subtopics for specific indicators. The influence of religion and philosophy is not treated as an overarching theme for historical analysis. The Indiana Academic Standards include religious and philosophical developments for certain societies and civilizations within both a chronological narrative and a thematic structure. Specific terms and examples are also provided with some indicators. | The Colorado MCS are much stronger in describing the historical theme to be addressed. They are also much more systematic in their approach. The Indiana Academic Standards are much stronger in emphasizing specific historical content to be addressed. |
| Grades K–4 | Both Colorado and Indiana standards emphasize local and state history in these grades. | | The Colorado and Massachusetts standards are more similar than different in these grades. |
| Grades 5–8 | Both Colorado and Indiana standards emphasize early US history and ancient world history in these grades. | Indiana standards address U.S. history to the end of the Reconstruction Era in grades 5 and 8. Indiana standards address all world history in grades 6 and 7. | The Colorado and Massachusetts standards are more different than similar in these grades. |
| Grades 9–12 | Both Colorado and Indiana standards emphasize US and World history in these grades. | Indiana provides a detailed curriculum for a specific U.S. history course. Indiana provides a detailed curriculum for two separate world history courses. | The Colorado and Massachusetts standards are more different than similar in these grades. |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|---------------------|---|--|--|
| Across | Both Colorado and Indiana standards include spiraling content regarding U.S. history and world history between grade spans 5–8 and 9–12 so that students may study the same historical content in later grades as covered in earlier grades, but with greater analytical rigor. | Indiana standards articulate specific historical time periods in U.S. history and world history at specific grade levels across the grade spans. Colorado is much looser in its suggested time periods for instruction. Colorado structures historical instruction at every grade span around its 6 broad historical themes. | The Colorado and Massachusetts standards are more different than similar across all grades. |
| Wording/Specificity | Both Colorado and Indiana standards provide examples to illustrate concepts. | Indiana standards are much more specific about their action verbs across all grade levels. Indiana standards are also much more specific about historical content. Standards emphasize specific historical topics in U.S. and world history at all grade levels. | The wording and specificity of Colorado and Massachusetts standards are more different than similar. |

Appendix V. History: External Referent Review—Finland

External Referent: National Core Curriculum for Basic Education 2004, History (Finland) and National Core Curriculum for Upper Secondary Schools 2003, History (Finland)

Organization/Structure

| Subcategory | Similarities | Differences | Comments |
|--------------------|--|--|---|
| Grade Articulation | <p>Finland has grade span instruction for history at grade span 5–6 and grade span 7–9, and upper secondary school.</p> <p>Colorado and Finland begin instruction in national history in grade span 5–6.</p> <p>Colorado and Finland begin instruction in world history in grade span 5–6.</p> | <p>Colorado organizes its history standards by grade spans K–4, 5–8, and 9–12.</p> <p>Finland provides no history instruction at grade span K–4.</p> <p>Finland has two tracks for students after their basic education (K–9). Students may prepare to attend universities in general upper secondary schools or they may enter vocational upper secondary education and training. There is no indication that students on the vocational upper secondary education and training track are required to have any instruction in history.</p> <p>Colorado emphasizes modern United States history and modern world history in grade span 9–12. As part of basic education in grade span 7–9, Finland’s instruction focuses on Finnish and world history in the 19th and 20th centuries.</p> <p>In the upper secondary school level, Finland offers several specific history courses that are labeled as either compulsory or specialization:</p> | <p>The grade articulation is mostly different between Colorado and Finland.</p> |

| Subcategory | Similarities | Differences | Comments |
|------------------------|--|--|---|
| | | <ol style="list-style-type: none"> 1. <i>Man, the Environment and Culture</i> (compulsory) 2. <i>European Man</i> (compulsory) 3. <i>International Relations</i> (compulsory) 4. <i>Turning Points in Finnish History</i> (compulsory) 5. <i>Finland from Prehistoric Times to Autonomy</i> (specialized) 6. <i>Meeting of Cultures</i> (specialized) | |
| Hierarchy of Standards | <p>The 6 Colorado history standards and the objectives of the Finnish grade spans are minimally similar. For example, Colorado standard 3, “Students understand that societies are diverse and have changed over time,” is similar to Finland grade span 5–6 objective “understand different manifestations of culture and their diversity.”</p> | <p>Colorado organizes its curriculum around six standards across all of the grade spans. Each standard has subordinated benchmarks.</p> <p>Finland organizes its history curriculum by listing objectives for each grade span or upper secondary course (e.g., grade span 5–6: “learn to present reasons for historical changes”). The objectives are followed by a list of core content, which is organized by broad historical eras (e.g., grade span 5–6: Emergence of European civilization). Subordinate to these historical eras are bulleted topics for instruction (e.g., society and culture of ancient Athens and Rome).</p> <p>The upper secondary history curriculum also has an overarching set of objectives that cover all of the courses and a separate set of objectives for each course.</p> | <p>The hierarchy of standards is more different than similar.</p> |
| Number of Standards | | <ul style="list-style-type: none"> • Grade span 5–6: 5 objectives, 8 historical themes, 17 bulleted topics | |

| Subcategory | Similarities | Differences | Comments |
|---------------|---|--|--|
| | | <ul style="list-style-type: none"> • Grade span 7–9: 5 objectives, 10 historical themes, 26 bulleted topics <p>Upper secondary history courses:</p> <ul style="list-style-type: none"> • 6 overarching objectives • <i>Man, the environment and culture</i>: 4 objectives, 7 historical themes, 20 bulleted topics • <i>European man</i>: 5 objectives, 6 historical themes, 15 bulleted topics • <i>International relations</i>: 3 objectives, 4 historical themes, 16 bulleted topics • <i>Turning points in Finnish history</i>: 3 objectives, 8 historical themes, 18 bulleted topics • <i>Finland from prehistoric times to autonomy</i>: 5 objectives, 5 historical themes, 11 bulleted topics • <i>Meeting of cultures</i>: 5 objectives, 10 historical societies | |
| Design/Format | <p>The Colorado MCS and Finnish history standards are not accompanied by reference materials, or appendices.</p> <p>The Finnish history curriculum is very short. The history curriculum for the basic education courses is 5 pages. The history curriculum for the upper secondary education courses is 7 pages.</p> | <p>The Colorado history MCS is organized by a cross-matrix of six spiraling standards and three grade spans. It also has a glossary that defines key history terms for teachers and an index. The document is 31 pages.</p> | <p>The design and format of the Colorado and Finnish standards are similar in brevity. The layout of the grade span 9–12 courses is different.</p> |

| Subcategory | Similarities | Differences | Comments |
|-------------|--|---|----------|
| | <p>The history curriculum for Finnish basic education is organized by grade span. Each grade span provides an overview of instruction and stated objectives. It then lists the core curriculum for the course. Finally, it lists a description of good performance for the grade span.</p> | <p>The history curriculum for Finnish general upper secondary schools is organized by course. The beginning of the document has a general statement about history and the expectations of history education. It then provides a list of overall objectives for history instruction at the upper secondary level. Next, there is a brief statement about assessment of historical knowledge and skills. Finally, the course objectives and core curriculum of the individual courses are listed.</p> <p>The Finnish standards are part of a larger <i>National Core Curriculum</i> document.</p> | |

External Referent: National Core Curriculum for Basic Education 2004, History (Finland) and National Core Curriculum for Upper Secondary Schools 2003. History (Finland)

Content

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|---|---|--|
| Standard 1 | <p>Both the Colorado MCS and Finnish curricula include understanding of chronology, cause-and-effect relationships, thematic relationships, and historical continuity and change.</p> <p>Understanding chronological relationships is part of the stated objectives in the Finnish history curriculum.</p> | <p>Understanding chronological organization of history as a historiographical tool is explicitly covered in much greater depth, rigor, and breadth at all grade spans in the Colorado MCS than in the Finnish history curriculum.</p> <p>The Finnish curriculum implies an understanding of the chronological and thematic organization of history through its chronological and thematic structuring of the course curricula. Specific historical themes are provided for each course.</p> | <p>The Colorado MCS has more rigor, breadth, and depth in describing the historical theme that should be taught.</p> |
| Standard 2 | <p>Both the Colorado MCS and Finnish curricula include understanding historical inquiry. Colorado and Finnish students are expected to be familiar with primary sources, how to use them, and to appreciate multiple interpretations.</p> <p>Understanding and using primary sources is a stated objective of the Finnish history curriculum.</p> | <p>Understanding history inquiry as a historiographical tool is explicitly covered in much greater depth, rigor, and breadth at all grade spans in the Colorado MCS than in the Finnish history curriculum.</p> | <p>The Colorado MCS has more rigor, breadth, and depth in describing the historical theme that should be taught.</p> |
| Standard 3 | <p>Both Colorado MCS and Finnish curricula include understanding the concepts of society, diversity, culture, and civilization.</p> <p>Understanding the concepts of culture and diversity are stated objectives of the Finnish upper secondary school curriculum.</p> | <p>Understanding the concepts of society and cultural diversity as historiographical themes is explicitly covered in much greater depth, rigor, and breadth at all grade spans in the Colorado MCS than in the Finnish history curriculum. The Colorado MCS is much stronger in describing the historical theme that should be taught.</p> | <p>The Colorado MCS has more rigor, breadth, and depth in describing the historical theme that should be taught.</p> |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|--|--|--|
| Standard 4 | <p>Both Colorado MCS and Finnish curricula include understanding the impact of science, technology, and economics on the historical development of societies.</p> <p>Understanding the impact of science, technology, and economics on the historical development of societies is a stated objective of the Finnish upper secondary school curriculum.</p> | <p>Understanding the concepts of science, technology, and economics as historiographical themes is explicitly covered in much greater depth, rigor, and breadth at all grade spans in the Colorado MCS than in the Finnish history curriculum.</p> <p>The Finnish history curriculum presents each topic within a specific historical theme (e.g., grade span 5–6: “The dawn of the modern era: science’s expansion of the conception of the world”) rather than treating it as a general theme for instruction.</p> | <p>The Colorado MCS has more rigor, breadth, and depth in describing the historical theme that should be taught.</p> |
| Standard 5 | <p>Both Colorado MCS and Finnish curricula include understanding the impact of political institutions and theories on the historical development of societies.</p> | <p>Understanding the concepts of political institutions and political theories as historiographical themes is explicitly covered in much greater depth, rigor, and breadth at all grade spans in the Colorado MCS than in the Finnish history curriculum.</p> <p>The Finnish history curriculum presents each topic within a specific historical theme (e.g., grade span 7–9: “The Depression and the era of totalitarianism, life in the democracies and dictatorships”).</p> | <p>The Colorado MCS has more rigor, breadth, and depth in describing the historical theme that should be taught.</p> |
| Standard 6 | <p>Both Colorado MCS and Finnish curricula include understanding the impact of religion and philosophy on the historical development of societies.</p> | <p>Understanding the concepts of religion and philosophy as historiographical themes is explicitly covered in much greater depth, rigor, and breadth at all grade spans in the Colorado MCS than in the Finnish history curriculum.</p> | <p>The Colorado MCS has more rigor, breadth, and depth in describing the historical theme that should be taught.</p> |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|---|--|---|
| | | The Finnish history curriculum presents each topic within a specific historical theme (e.g., upper secondary school courses, <i>European Man, The Age of Enlightenment, Enlightenment philosophy and its effects on society and art</i>). | |
| Grades K–4 | | There is no history instruction in grade span K–4 in Finland. | Colorado has history standards at an earlier grade span than Finland does. |
| Grades 5–8 | Colorado MCS and Finnish curricula address the national histories and ancient European history in this grade span. | The Finnish history curriculum covers modern European history to the 19 th century in grade span 5–6. Colorado covers more world history than Finland, addressing societies outside of the Western civilization canon (e.g., Africa, India, Mesoamerica). | The Colorado MCS and Finnish curricula address similar historical content; however, Colorado expands its content to cover more world history than Finland does. |
| Grades 9–12 | Colorado MCS and Finnish curricula include national histories and world history in this grade span. They address many of the same topics. | The Finnish history curriculum organizes the national history and world history into specified courses. | The historical content covered is very similar in the Colorado and Finnish curricula. |
| Across | | Colorado structures its instruction around six historical themes, which spiral across the grade spans. Finland provides opportunities for building upon skills and content learned in previous grades but does not explicitly treat them as objectives. | The historical content covered is very similar in the Colorado and Finnish curricula. The Colorado MCS is much stronger in providing historiographical themes for understanding history whereas the Finnish history curriculum is much better at outlining the history courses. Neither curriculum provides substantive detail for their courses. |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|---------------------|--------------------------|--|--|
| Wording/Specificity | | <p>Colorado uses specific action verbs to suggest the cognitive level of instruction for students. Finland uses very general action verbs in the objectives to suggest cognitive level instruction (e.g., “grade span 5–6: The pupils will come to learn to present reasons for historical changes”). Finland does not use action verbs in the core content to indicate cognitive level of instruction for topics.</p> <p>The historical content is more prescribed in the Finnish history curriculum than in the Colorado history standards. The Finnish standards indicate specific historical themes, topics, and civilizations that should be covered for each course. As such, the Finnish history curriculum is more specific in its treatment of history content.</p> | <p>The Colorado MCS is more explicit in directing instruction through its use of action verbs. The Finnish history curriculum is much better at outlining the history courses.</p> |

Appendix W. History: External Referent Review—Singapore
External Referent: Social Studies Syllabus Primary 2006, Social Studies Syllabus Lower Secondary Normal (Technical) 2005, and History Syllabus Lower Secondary 2006 (Singapore)

Organization/Structure

| Subcategory | Similarities | Differences | Comments |
|--------------------|---|---|---|
| Grade Articulation | <p>Colorado grade span K–4 is similar to Singapore primary school education. Primary Level 1 focuses on the school. Primary Level 2 focuses on the neighborhood. Primary Level 3 focuses on society. Primary Level 4 and 5 address the country. Primary Level 6 addresses the country, neighboring countries, and the world.</p> <p>History and concepts skills are intended to spiral at the primary school level.</p> | <p>Colorado organizes its history standards by grade spans K–4, 5–8, and 9–12. The Singapore history curriculum is organized by grade level and by units within grade level, not by grade span.</p> <p>Singapore offers history as an integrated component of social studies at the primary school level. History is not treated as a distinct subject. Substantive history does not appear until the fourth year of primary school education. Primary school lasts 6 years.</p> <p>At the secondary school level, history is offered as a separate subject in Normal Academic Course track and the Special/Express Course track. The Normal Academic Course track is 5 years. The Special/Express Course track is 4 years. In both cases, the combined Lower Secondary 1 and 2 syllabi should be covered over a period of two years.</p> <p>At the secondary school level, history content focuses on ancient India, Southeast Asia, and China, as well as the entire history of Singapore. Broadening the content to include more</p> | <p>Both Colorado and Singapore have similar grade spans. However, Singapore also has specific grade-level curricula within the grade spans.</p> |

| Subcategory | Similarities | Differences | Comments |
|-------------|--------------|--|----------|
| | | <p>world history not related to that of Singapore is not part of the curriculum.</p> <p>For the Secondary Normal Technical Course track, history is offered as an integrated component of social studies at the primary school level. History is not treated as a distinct subject. The Secondary Normal Technical Course is 4 years. The Lower Secondary Normal Technical Course social studies syllabus should be covered in two years.</p> <p>In the Secondary Normal Technical track, understanding the history of Singapore is emphasized. Southeast Asian or world history content are not included.</p> <p>There is very little repetition of content in the Singapore syllabi within and across the primary and secondary levels.</p> <p>Note: It is not clear what history is taught at the upper secondary level. The syllabi for the upper secondary courses were not provided.</p> <p>History is offered at the Junior Colleges/Centralised Institute as a subject to qualify for GCE A-Level examinations. Note: Curriculum for this level is not available for review.</p> | |

| Subcategory | Similarities | Differences | Comments |
|---|---|---|--|
| <p style="text-align: center;">Hierarchy of Standards</p> | <p>The aims and objectives section of the Singapore social studies and history syllabi, as well as the learning outcome bullets of the Lower Secondary syllabus, are most similar to the standards sections of the Colorado MCS, addressing some of the broad themes described in the Colorado MCS.</p> | <p>Colorado organizes its curriculum around six standards across all of the grade spans. Each standard has subordinated benchmarks.</p> <p>The Singapore Primary school syllabus is organized by unit and unit objectives. Units are organized into topics, content, and concepts. Accompanying each unit are three types of stated objectives: knowledge objectives, skills objectives, and, values & attitude objectives. Each objective lists specific student goals per unit.</p> <p>The standards for the history curriculum for the Lower Secondary Special/Express Course and the Lower Secondary Normal Academic Course are organized into two grade levels: Lower Secondary 1 and Secondary 2. Lower Secondary 1 concentrates on the history of ancient India, Southeast Asia, and China. Lower Secondary 2 focuses on Singapore history. Within each grade level, the standards are organized into specific historical thematic units (6 units for Lower Secondary 1, 4 units for Secondary 2). Each unit is divided into four areas: content, learning outcomes, concepts, and values & attitudes. Key terms are listed under each area of instruction.</p> <p>The standards for the social studies curriculum for the Lower Secondary</p> | <p>The Colorado MCS and Singapore syllabi have different hierarchies of standards.</p> |

| Subcategory | Similarities | Differences | Comments |
|----------------------------|--------------|--|----------|
| | | <p>Normal Technical Course are organized into two grade levels: Lower Secondary 1 and Lower Secondary 2. Both grade levels focus on aspects of Singapore (e.g., Journey to Nationhood, Governing Singapore, Looking Ahead). Secondary 1 has two broad themes. Secondary 2 has four broad themes.</p> <p>Each theme is divided into specific topics (e.g., Overview of Singapore’s History up to 1942). These topics are divided into four areas: content, learning outcomes, concepts, and values & attitudes. Key terms are listed under each area of instruction.</p> | |
| <p>Number of Standards</p> | | <p>Singapore Primary Grades:</p> <ul style="list-style-type: none"> • Overarching objectives for Primary 1 to Primary 6: <ul style="list-style-type: none"> a. 2 general objectives b. 4 knowledge objectives c. 4 skills objectives d. 4 attitudes & values objectives <p>Individual Primary Grade Curricula:</p> <p>Primary 1:</p> <ul style="list-style-type: none"> • 3 topics, 4 content bullets, 8 concept bullets <p>Primary 2:</p> <ul style="list-style-type: none"> • 3 topics, 7 content bullets, 9 concept bullets <p>Primary 3:</p> | |

| Subcategory | Similarities | Differences | Comments |
|-------------|--------------|---|----------|
| | | <ul style="list-style-type: none"> • 1 topic, 2 content bullets, 7 concept bullets Primary 4: <ul style="list-style-type: none"> • 5 topics, 9 content bullets, 14 concept bullets Primary 5: <ul style="list-style-type: none"> • 5 topics, 13 content bullets, 16 concept bullets Primary 6: <ul style="list-style-type: none"> • 4 topics, 13 content bullets, 17 concept bullets Singapore Lower Secondary 1–2: <ul style="list-style-type: none"> • Overarching objectives for Special/Express & Normal Academic courses: <ul style="list-style-type: none"> a. 4 general objectives b. 4 knowledge objectives c. 3 skills objectives d. 6 values & attitudes objectives Lower Secondary 1: <ul style="list-style-type: none"> • 6 units, 13 content bullets, 13 learning outcome bullets, 29 concept bullets, 21 values & attitudes bullets Lower Secondary 2: <ul style="list-style-type: none"> • 4 units, 10 content bullets, 15 learning outcome bullets, 33 concept bullets, 26 values & attitudes bullets | |

| Subcategory | Similarities | Differences | Comments |
|----------------------|--------------|---|---|
| | | <p>Lower Secondary Normal Technical Overarching Objectives for Lower Secondary Normal Technical:</p> <ul style="list-style-type: none"> • 5 general objectives • 6 knowledge objectives • 4 skills objectives • 3 values & attitudes objectives <p>Lower Secondary Normal Technical 1:</p> <ul style="list-style-type: none"> • 2 themes, 6 topics, 13 content bullets, 25 learning outcome bullets, 28 concept bullets, 26 values & attitudes bullets <p>Lower Secondary Normal Technical 2:</p> <ul style="list-style-type: none"> • 3 themes, 5 topics, 11 content bullets, 25 learning outcome bullets, 27 concept bullets, 21 values & attitudes bullets | |
| <p>Design/Format</p> | | <p>The Colorado history MCS document is organized by a cross-matrix of six spiraling standards and three grade spans. They also have a glossary that defines key history terms for teachers and an index. The document is 31 pages.</p> <p>The Singapore Primary, Lower Secondary, and Lower Secondary Technical course syllabi are presented as separate documents. Generally speaking, each document has:</p> <ul style="list-style-type: none"> • an introduction • a section outlining the aims | <p>The Colorado MCS and Singapore syllabi are designed and formatted differently.</p> |

| Subcategory | Similarities | Differences | Comments |
|-------------|--------------|--|----------|
| | | <p>and objectives</p> <ul style="list-style-type: none"> • a section on the amount of time that should be devoted to the subject each week • a section explaining the framework of the syllabus • a section of suggested teaching strategies • a section on assessment • an outline of the syllabus <p>The Lower Secondary Special/Express & Normal Academic Course includes a section on suggested textbook, monograph, and Internet resource references for history teachers.</p> <p>The Singapore Social Studies Primary Level syllabus is 19 pages.</p> <p>The Singapore Lower Secondary History syllabus (Special/Express Course & Normal Academic Course) is 27 pages.</p> <p>The Singapore Social Studies Lower Secondary Normal Technical Level syllabus is 17 pages.</p> | |

External Referent: Social Studies Syllabus Primary 2006, Social Studies Syllabus Lower Secondary Normal (Technical) 2005, and History Syllabus Lower Secondary 2006 (Singapore)

Content

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|--|---|---|
| Standard 1 | <p>Both the Colorado MCS and Singapore syllabi for primary and secondary education focus on an understanding of chronological organization and historical relationships.</p> <p>Both the Colorado MCS and Singapore syllabi spiral content in the subcategory from the community level, through the local level, to the national level and finally the world level.</p> | <p>The Colorado MCS history standards emphasize an understanding of chronological organization and historical relationships. They elaborate more fully than the corresponding Singapore syllabi about different types of chronological organization and historical relationships. The Singapore syllabi do not progress significantly beyond basic sequential relationships and cause-and-effect relationships. For example, the Colorado MCS at grade span 5–8 examine the construction of tiered timelines for different themes. The Singapore Lower Secondary syllabi make no reference to that skill.</p> | <p>The Colorado MCS are more analytical than Singapore syllabi, but Colorado and Singapore cover similar material at both grade spans.</p> |
| Standard 2 | <p>Both the Colorado MCS and the Singapore syllabi for primary and secondary education emphasize the importance of analyzing a variety of primary and secondary sources and appreciating that there are multiple perspectives of history.</p> <p>Both the Colorado MCS and Singapore syllabi spiral content in the subcategory from the community level, through the local level, to the national level and finally the world level.</p> | <p>The Colorado MCS are slightly more descriptive of the subcategory than the Singapore syllabi for primary and secondary education.</p> <p>The Singapore Lower Secondary Normal Technical syllabus provides little instruction in this subcategory. The Lower Secondary Normal Technical syllabus states information gathering and analysis as an objective, but provides no guidance regarding how that should be implemented in the specific themes.</p> | <p>The Colorado MCS are more analytical than Singapore syllabi, but both Colorado and Singapore cover similar material at both grade spans.</p> |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------------|--|--|--|
| <p>Standard 3</p> | <p>Both the Colorado MCS and the Singapore primary and secondary grade syllabi stress the importance of examining culture as a concept. Both the Colorado MCS for grade span 5–8 and Singapore Lower Secondary syllabi discuss the concept of social organization.</p> <p>Both the Colorado MCS and Singapore syllabi spiral content in the subcategory from the community level, through the local level, to the national level, and finally the world level.</p> | <p>The Colorado MCS articulate societies and culture as themes that spiral through the grade spans and present them more effectively as analytical devices for understanding history.</p> <p>The Singapore syllabi stress the application of society and culture to Singapore history and, in the Lower Secondary syllabus, Southeast Asian history. The subcategory is not emphasized significantly as a historiographical tool. Syllabi address specific and concrete aspects of Singapore or Southeast Asian history and how they impact Singapore society. The Singapore syllabi use culture as a device for instilling students with an appreciation for Singapore society.</p> <p>The Singapore Lower Secondary syllabi stress the importance of understanding the ethics associated with the subcategory.</p> | <p>The Colorado MCS are more explicit in describing the historical theme to be addressed than the Singapore syllabi.</p> |
| <p>Standard 4</p> | <p>Both Colorado MCS and the Singapore Lower Secondary history syllabi value the importance of science, technology, and economics as important subjects of history.</p> | <p>The Colorado MCS articulate science, technology, and economics as themes that spiral through the grade-span curricula and present them more effectively as analytical devices for understanding history.</p> <p>The Singapore Primary history syllabus does not significantly address this subcategory. The Singapore Lower Secondary history syllabi emphasize specific scientific, technological, and</p> | <p>The Colorado MCS is more explicit in describing the historical theme to be addressed than the Singapore syllabi.</p> |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------------|--|--|--|
| | | <p>economic achievements in Singapore and Southeast Asian history, but do not address them as distinct historical themes to be used to understand history.</p> <p>The Singapore Lower Secondary syllabi stress the importance of understanding the ethics associated with this subcategory.</p> | |
| <p>Standard 5</p> | <p>Both Colorado MCS and the Singapore Lower Secondary history syllabi emphasize the importance of political institutions and political theories as important subjects of history.</p> | <p>The Colorado MCS articulate political institutions and theories as themes that spiral through the grade-span curricula and present them more effectively as analytical devices for understanding history.</p> <p>The Singapore Primary Level syllabus does not address political institutions or theories as historical themes for understanding history. The Singapore Lower Secondary Level syllabi emphasize political institutions and themes relevant to Singapore and Southeast Asian history (e.g., kingdoms, empires). There is little discussion of the concept of democratic principles, except for the concept of meritocracy. There is a unit on government and society, which focuses on ancient Indian, Southeast Asia, and Chinese history.</p> <p>The Singapore Lower Secondary syllabi stress the importance of understanding the ethics associated with this subcategory.</p> | <p>The Colorado MCS are more explicit than the Singapore syllabi in describing the historical theme to be addressed.</p> |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|-------------|---|--|---|
| Standard 6 | Both Colorado MCS and the Singapore Lower Secondary history syllabi emphasize religion and philosophy as important subjects of history. | <p>The Colorado MCS articulate religion and philosophy as themes that spiral through the grade-span curricula and present them more effectively as analytical devices for understanding history.</p> <p>The Singapore Primary Level syllabus does not address religion or philosophy as historical themes for understanding history. The Singapore Lower Secondary history syllabi address religious and philosophical topics primarily as they impact Singapore and Southeast Asian history.</p> <p>The Singapore Lower Secondary syllabi stress the importance of understanding the ethics associated with this subcategory.</p> | The Colorado MCS are more explicit than the Singapore syllabi in describing the historical theme to be addressed. |
| Grades K–4 | Both Colorado and Singapore emphasize the neighborhood and local community in this grade span. | Colorado focuses on broad historical themes for understanding history that are applicable to any historical context or time period. | Colorado and Singapore are similar in their focus on the local level in this grade span, but the Colorado MCS are more analytically rigorous. |
| Grades 5–8 | Both Colorado and Singapore emphasize national history and some world history in this grade span. | Colorado focuses on broad historical themes for understanding history that are applicable to any historical context or time period. Colorado MCS also focus broadly on world history and all major world civilizations. Singapore syllabi focus on specific Singapore and Southeast Asia contexts. | The Colorado MCS are more analytically rigorous at this grade span. The Singapore syllabi focus on specific historical themes and concrete historical people, events, and topics. |
| Grades 9–12 | | | Could not be aligned. History is offered at Singapore’s Junior Colleges/Centralized Institute level as a |

| Subcategory | Similarities in emphasis | Differences in emphasis | Comments |
|---------------------|--|--|---|
| | | | subject to qualify for GCE A–Level examinations. Curriculum for this level is not available. |
| Across | | Colorado standards are organized around six historical themes, which spiral the historical themes across the grade spans. Singapore focuses mainly on Singapore and Southeast Asian history. It organizes its curriculum at the primary and secondary levels around historical themes directly relevant to Singapore and Southeast Asian history. | The Colorado standards are more analytically rigorous than the Singapore syllabi. The Singapore history syllabi are more explicit at outlining the history courses than Colorado. The Singapore history syllabi emphasize curriculum in values and attitudes with each unit at every grade level. |
| Wording/Specificity | <p>Similar to the Colorado MCS, the Singapore Secondary Level syllabi use specific action verbs in the learning outcomes of each unit to indicate the cognitive level of curriculum (e.g., describe, explain, identify).</p> <p>Both the Colorado MCS and the Singapore syllabi include specific history terms and concepts.</p> | <p>Colorado MCS for grade span K–4 use specific action verbs to suggest the cognitive level of curriculum. The Singapore Primary Level syllabus uses only broad action verbs in its objectives (e.g., Primary 2 Knowledge Objective: “pupils will be able to understand that people, places, and things change over time.”)</p> <p>The Singapore syllabi address specific historical content. The Colorado MCS do not indicate specific historical content at each grade span and only recommend examples for some benchmarks.</p> | <p>The Colorado MCS are more explicit in directing instruction through its use of action verbs than the Singapore syllabi. The Singapore history syllabi are much better at outlining the history courses than Colorado.</p> |

Appendix X. History: 21st Century Skills and Postsecondary and Workforce Readiness Review

21st Century Skills

| Standard | Grade Span | Critical thinking and reasoning | Information literacy | Collaboration | Self-direction | Invention | Comments |
|----------|------------|---------------------------------|----------------------|---------------|----------------|-----------|---|
| 1 | K-4 | F | F | N | F | F | Collaboration: Students could work together creating timelines of historical time periods from individual facts. |
| 1 | 5-8 | F | F | N | F | F | Collaboration: Students could research ancient civilizations together and create calendars based on their systems. Students could also compare the chronological dating systems of societies to understand the ages of civilizations (e.g., Jewish calendar, Julian calendar, Chinese calendar). |
| 1 | 9-12 | F | F | | F | F | Collaboration: Collaboration is not an essential 21st Century skill in this grade span. |
| 1 | Across | F | F | N | F | F | Collaboration: The standard is an appropriate standard to encourage collaboration across the grade spans, but the skill is not present in the standard. |
| 2 | K-4 | F | F | N | F | F | Collaboration: Students could visit local historical societies, museums, or libraries to view historical artifacts. |

| Standard | Grade Span | Critical thinking and reasoning | Information literacy | Collaboration | Self-direction | Invention | Comments |
|----------|------------|---------------------------------|----------------------|---------------|----------------|-----------|---|
| 2 | 5-8 | F | F | N | F | F | Collaboration: Students could work on research projects together, using the Internet, public library, and government records offices. |
| 2 | 9-12 | F | F | N | P | F | Collaboration: Students could work on research projects together, using the Internet, public library, and government records offices. |
| 2 | Across | F | F | N | P | F | Collaboration: The standard is an appropriate standard to encourage collaboration across the grade spans, but the skill is not present in the standard. |
| 3 | K-4 | P | F | N | P | F | Critical Thinking and Reasoning: There is not significant critical reasoning at this grade span. Collaboration: The standard requires identification and description but could also include student participation in activities celebrating the contributions of various peoples in their local communities and state. |
| 3 | 5-8 | F | F | N | P | F | Collaboration: Students could participate in historically structured theme weeks to learn about U.S. culture and world cultures (e.g., westward expansion week, colonial times week). |

| Standard | Grade Span | Critical thinking and reasoning | Information literacy | Collaboration | Self-direction | Invention | Comments |
|----------|------------|---------------------------------|----------------------|---------------|----------------|-----------|--|
| 3 | 9-12 | F | F | N | P | F | Collaboration: Students could participate in historically structured theme weeks to learn about how modern world cultures influence each other. |
| 3 | Across | F | F | N | P | F | Collaboration: The standard is an appropriate standard to encourage collaboration across the grade spans, but the skill is not present in the standard. |
| 4 | K-4 | F | F | | P | F | |
| 4 | 5-8 | F | F | | P | F | |
| 4 | 9-12 | F | F | | P | F | |
| 4 | Across | F | F | | P | F | Collaboration: Collaboration is not an essential 21st Century skill in this standard. |
| 5 | K-4 | F | F | N | P | F | Collaboration: Students could work together developing reports about national holidays. |
| 5 | 5-8 | F | F | N | P | F | Collaboration: Students could debate events in U.S. and world history (e.g., the U.S. Constitutional Convention). |
| 5 | 9-12 | F | F | N | P | F | Collaboration: Students could debate events in U.S. and world history (e.g., the Vietnam War, the New Deal). |

| Standard | Grade Span | Critical thinking and reasoning | Information literacy | Collaboration | Self-direction | Invention | Comments |
|----------|------------|---------------------------------|----------------------|---------------|----------------|-----------|---|
| 5 | Across | F | F | N | P | F | Collaboration: The standard is an appropriate standard to encourage collaboration across the grade spans, but the skill is not present in the standard. |
| 6 | K-4 | P | F | N | P | F | Critical Thinking and Reasoning: There is not significant critical reasoning at this grade span. The standard mainly requires students to provide examples of the benchmark concepts. |
| 6 | 5-8 | P | F | N | P | F | Critical Thinking and Reasoning: The standard primarily requires students to provide examples of the benchmark concepts. Collaboration: Students could perform scenes from important plays that illustrate the values and beliefs of various cultures (e.g., Greek tragedies). |
| 6 | 9-12 | F | F | N | P | F | Collaboration: Students could perform scenes from important plays that illustrate the values and beliefs of various cultures (e.g., U.S. plays from the Cold War era). |
| 6 | Across | P | F | N | P | F | Collaboration: The standard is an appropriate standard to encourage collaboration across the grade spans, but the skill is not present in the standard. |

| Standard | Grade Span | Critical thinking and reasoning | Information literacy | Collaboration | Self-direction | Invention | Comments |
|----------|------------------------|--|----------------------|--|--|-----------|----------|
| | <p>Comments</p> | <p>Critical thinking and reasoning is a fundamental 21st Century skill utilized across the grade spans. It is not sufficiently developed in two of the standards at the lower grade spans.</p> | | <p>Collaboration is an appropriate 21st Century skill to encourage at each grade span, but it is not present in the standards. The standards could be revised to adopt language that emphasizes collaboration (e.g., working together, cooperating).</p> | <p>Self-direction is only implied by the standards. The standards could adopt language that emphasizes self-direction (e.g., research, select, organize, report). The benchmarks could include bulleted items to indicate explicitly the types of tasks the students should be expected to perform that would enable them to develop work initiative skills.</p> | | |

Postsecondary and Workforce Readiness

| Standard | Grade Span | Application of reading, writing, and computing skills with minimal remediation or training | Logical reasoning and argumentation abilities | Identification and solving of problems | Information management skills | Human relation skills | Analysis and interpretation skills | Comments |
|----------|-----------------|--|--|--|---|--|---|----------|
| 1 | 9-12 | F | F | F | F | | F | |
| 2 | 9-12 | F | F | F | F | | F | |
| 3 | 9-12 | F | F | F | F | | F | |
| 4 | 9-12 | F | F | F | F | | F | |
| 5 | 9-12 | F | F | F | F | | F | |
| 6 | 9-12 | F | F | F | F | | F | |
| | Comments | The focus of the Colorado MCS for history on historical thinking skills provides students with many opportunities to develop reading, writing, and computing skills. | The focus of the Colorado MCS for history on historical thinking skills provides students with many opportunities to develop reasoning and argumentation skills. | The focus of the Colorado MCS for history on historical thinking skills provides students with many opportunities to develop problem-solving skills. | The focus of the Colorado MCS for history on historical thinking skills provides students with many opportunities to develop informational management skills. | Human relation skills may occur in learning situations, but are not specified in the Colorado MCS for history. | The Colorado MCS for history enable students to analyze and interpret a variety of primary and secondary sources. | |