

# **The Common Core State Standards Initiative: An Overview**

**Michael G. Watt**

Copyright (c) 2011 by Michael G. Watt

This publication is in the public domain and may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise.

Author: Michael G. Watt

Address: 316 Churchill Avenue, Sandy Bay, Tasmania 7005, Australia

Phone: 61 3 6225 1335

E-mail: michaelgwatt@internode.on.net

Cataloguing in Publication Data

Watt, Michael G.

The Common Core State Standards Initiative: An Overview

1. Educational standards – United States of America.

## Preface

National academic standards for what students should be taught in schools were established in response to President George H. W. Bush's Charlottesville Education Summit held in September 1989. Policy makers now view adaptation of the national standards arising from these efforts by state jurisdictions has increased variability in what students learn. In response to these perceptions, policy makers have initiated innovative activities to overcome such variability by developing Common Core State Standards. This innovation is likely to have substantial implications for teaching and learning in schools during the next decade.

This report represents an attempt to gain a better understanding of the change process involved in this innovation, and to draw some conclusions about its likely success. The demands of such a task required assistance and advice from people working in the field. The author wishes to acknowledge the contributions made by the following people with regard to aspects in the report referring to planning, structuring and implementing the Common Core State Standards Initiative. Ilene Berman, formerly program director with the National Governors Association Center for Best Practices, and Stephanie Shipton, policy analyst with the National Governors Association Center for Best Practices, reviewed and commented on drafts of the report. Morgan Saxby, research associate with Achieve, reviewed and commented on sections referring to Achieve. Chester Finn, president of the Thomas B. Fordham Institute, Carrie Heath Phillips, senior associate with the Council of Chief State School Officers, and Allison Armour-Garb, formerly director of education studies with the Nelson A. Rockefeller Institute of Government are thanked for reviewing and commenting on an earlier draft version of the section on the Common Core State Standards Initiative. Paul Barton, education consultant and author of the report, *National Education Standards: Getting beneath the Surface*, is thanked for reviewing and commenting on various aspects relating to the Common Core State Standards Initiative.

The author wishes to acknowledge the contributions made by the following people with regard to aspects in the report referring to particular states. Mary Knuck of the Arizona Department of Education, Tom Adams of the California Department of Education, Jo O'Brien of the Colorado Department of Education, Denise DiSabatino Allen of the Delaware Department of Education, Tamara Reavis and Michelle Croft of the District of Columbia Office of the State Superintendent of Education, Mary Tappen of the Florida Department of Education, Pamela Smith of the Georgia Department of Education, Schauna Findlay of the Indiana Department of Education, Rita Martens and Elaine Watkins-Miller of the Iowa Department of Education, Michael Miller of the Kentucky Department of Education, Carolyn Sessions of the Louisiana Department of Education, Judy Jenkins and Susan Spinnato of the Maryland State Department of Education, Susan Whettle of the Massachusetts Department of Elementary and Secondary Education, Abigail Groff of the Michigan Department of Education, Beth Aune of the Minnesota Department of Education, Trecina Green of the Mississippi Department of Education, Sharon Hoge of the Missouri Department of Elementary and Secondary Education, Deborah Wiswell of the New Hampshire Department of Education, Jean Stevens and Erik Sweet of the New York State Education Department, Cindy Bennett and Maria Pitre Martin of the North Carolina Department of Public Instruction, Denny Thompson of the Ohio Department of Education, Kerri White and Jennifer Watson

of the Oklahoma State Department of Education, Edward Vollbrecht of the Pennsylvania Department of Education, Phyllis Lynch of the Rhode Island Department of Elementary and Secondary Education, Brenda Hales and Sydnee Dickson of the Utah State Office of Education, Marty Gephart of the Vermont Department of Education, Jessica Vavrus of the Washington State Office of Superintendent of Public Instruction, Carla Williamson of the West Virginia Department of Education, Rebecca Vail of the Wisconsin Department of Public Instruction, and Alan Moore and Tom Collins of the Wyoming Department of Education reviewed and commented on draft profiles referring to their respective states. Joanne White of the Connecticut State Department of Education supplied copies of documents used to draft the profile on Connecticut. Patty Yoo of the National Association of State Boards of Education provided information on the regional conferences held by the National Association of State Boards of Education.

### **Biographical note**

Michael Watt taught in several secondary schools in Tasmania, and worked as an education officer in the Tasmania Department of Education. He holds masters' degrees in educational studies and education from the University of Tasmania, and a doctorate in education from the University of Canberra. He currently works as an education consultant.

# **The Common Core State Standards Initiative: An Overview**

## **Abstract**

The purpose of this study was to evaluate decision making in the Common Core State Standards Initiative as the change process moved from research, development and diffusion activities to adoption of the Common Core State Standards by the states. A decision-oriented evaluation model was used to describe the four stages of planning, structuring, implementing and recycling decisions in the Common Core State Standards Initiative. Content analysis and survey methods were used to analyse literature referring to the Common Core State Standards and to obtain verification of information reported on the Common Core State Standards from officials of national organisations and state education agencies. The results showed that planning, structuring and implementing decisions made during the change process were effective in producing Common Core State Standards that satisfied the expectations of most stakeholders, but recycling decisions needed to modify the Common Core State Standards Initiative remain unresolved. Awareness about a lack of agreement between what standards based education is intended to be and what it actually is led policy makers to determine that common standards offered a solution to this problem. The setting for decision making in attaining this solution involved attempting a large change supported by a low understanding of how to accomplish the change. This setting required the National Governors Association Center for Best Practices and the Council of Chief State School Officers to design an action plan for programming the segments of research, development, diffusion and adoption of the Common Core State Standards in advance. Decisions about the extent, to which the desired ends of the Common Core State Standards Initiative have been attained, have focused attention on determining a new governance structure. All of the states, except for Alaska and Texas, joined the Common Core State Standards Initiative by signing a memorandum of agreement. By July 2011, all of the participating states, except for Montana, Nebraska and Virginia, had adopted the Common Core State Standards formally or provisionally. State profiles for each of these states describe the process of adoption and implementation of the Common Core State Standards by referring to plans for teacher development, curriculum alignment, instructional materials selection, assessment alignment, and accountability systems design. The results showed that effective decision making in planning, structuring and implementing the Common Core State Standards Initiative led most of the participating states to adopt the Common Core State Standards readily, and to initiate plans for implementation by aligning state standards and curriculum to the Common Core State Standards and to provide professional development for educators.

# **The Common Core State Standards Initiative: An Overview**

## **Introduction**

The movement for educational reform was an outcome of the public debate on social, economic and political issues ensuing from the release of a report by Peters and Waterman (1982). Extended to the education sector, this debate resulted in a spate of national studies on excellence in education, following the release of the report by the National Commission on Excellence in Education (1983). Generally, the reports of these studies were critical of the poor quality of public education, recommending a variety of strategies to reform education, particularly at the secondary level. Two waves of reforms during the 1980s effected improvements through small-scale school reform projects and by decentralising decision making authority to local communities, but failed to bring about national education reform. A multiplicity of trends in American education concurred in the early 1990s, leading conservatives and liberals to forge a consensus about focusing on what students should learn. From this consensus, the definition of national standards based on academic disciplines issued from the six National Education Goals expounded following the Charlottesville Education Summit convened by President George H. W. Bush in September 1989. Policy makers set nationally recognised groups in key academic disciplines the task of developing national standards consisting of content, performance and opportunity-to-learn standards (National Education Goals Panel, 1993).

The Goals 2000: Educate America Act, passed by the Clinton Administration in March 1994, required the states to use the national standards as blueprints to develop and align state standards to state assessments. Beginning in July 1994, state education agencies applied to the U.S. Department of Education for Goals 2000 grants under Title III to develop and implement comprehensive education improvement plans, which included establishing challenging state standards. Each state education agency was required to appoint a broadly representative panel to develop state improvement plans in consultation with the state governor and the chief state school officer. The Improving America's School Act, passed by the Clinton Administration in October 1994, required each state to develop state content and performance standards for mathematics and reading, and state assessments aligned to these standards. Enactment of the No Child Left Behind Act by President George W. Bush in December 2001 led to new regulations being issued in November 2002. These regulations required each state to measure students' progress in reading and mathematics in each of grades 3 through to 8, and at least once during grades 10 to 12 by 2005-2006. By 2007-2008, states were required to administer assessments in science at least once each in grades 3 to 5, 6 to 9, and 10 to 12. At the beginning of 2003, each state was required to establish a definition of adequate yearly progress, based on a set of criteria, to use each year to determine the achievement of each district and school. In defining adequate yearly progress, each state set the minimum levels of improvement that districts and schools must achieve within time frames specified in the No Child Left Behind Act. Each state began by setting a starting point that is based on the performance of its lowest achieving demographic group or the lowest achieving schools. The state then set the level of student achievement that a school must

attain in order to make adequate yearly progress. Subsequent thresholds must increase at least once every three years until at the end of 12 years, all students in the state are achieving at the proficient level in state assessments for reading language arts and mathematics.

The regulations of the No Child Left Behind Act, permitting states to set levels of student achievement, increased the variation in what states demanded of students. Contending that the No Child Left Behind Act created incentives for states to manipulate the law by lowering standards, both conservative and progressive policy makers advocated development of national standards and assessments. The effects of global economic competition, poor student performances on international studies of educational achievement, achievement gaps between socioeconomic and ethnic groups and the increasing diversity of state standards and curricula were important factors shaping the debate concerning national academic standards. By 2004, conversations among policy makers and the conduct of the American Diploma Project had shifted policy making towards accepting the notion of national standards and assessments.

In 2001, Achieve, the Education Trust, the Thomas B. Fordham Foundation and the National Alliance of Business launched the American Diploma Project to help states prepare students for college. A set of content standards reflecting employer and higher education expectations, the American Diploma Project benchmarks, emerged from this research. In 2005, Achieve formed the American Diploma Project Network to help states close the significant gap between what students need to know for academic success and what states require them to demonstrate in order to earn a high school diploma. This objective was accomplished by alignment institutes, in which Achieve provides state teams with analyses of state standards, the American Diploma Project benchmarks, and assistance in aligning their standards. Achieve (2008) reported a study of the standards' revision process conducted in 16 states, which participated in alignment institutes, and five states, which worked independently to revise their standards. Recognised content experts judged how well college- and career-readiness standards for 12 states in English and 16 states in mathematics aligned with the American Diploma Project benchmarks. The alignment of English standards was found to be quite strong with those states participating in alignment institutes being more aligned than those states working independently. The alignment of mathematics standards was found to be quite strong with little difference between states participating in alignment institutes or working independently. The results of this study allowed Achieve to define a common core of American Diploma Project benchmarks, based on whether 75 percent of the states included them in their standards with good alignment rating. The findings of this study into the outcomes of the American Diploma Project advanced knowledge about the nature of common standards and provided the basis for inventing the Common Core State Standards.

It led the National Governors Association (NGA), the Council of Chief State School Officers (CCSSO) and Achieve to appoint an International Benchmarking Advisory Group, consisting of 22 education experts and policy makers, to offer insight into policy issues for states to benchmark their education systems to those of high performing countries. Based on the International Benchmarking Advisory Group's work, the National Governors Association, Council of Chief State School Officers and Achieve (2008) examined the need for action in international benchmarking and recommended five action steps that state leaders should take, derived from the practice of international benchmarking. The rationale for state governments to

compare performance and learn from countries of high performance in educational achievement is based on four factors. Technological, economic and political trends have increased demand for higher skills whilst heightening competition for quality jobs. As a consequence, educational achievement of American students needs to improve for future workers to compete with skilled workers from foreign countries. The position of American schools has declined, because other countries, which formerly lagged far behind the USA, have responded to results of international studies of educational achievement by benchmarking schools, investigating best practices, and revising curricula. International benchmarking offers state policy makers with ideas for improvement that cannot be found from examining practices within the borders of the USA. Five action steps were identified to help states apply international benchmarking to augment the range of strategies they can apply to the regular policy planning process. However, state policy makers should be prepared to collect information on practices abroad to supplement the five action steps. Leaders in higher education should also be invited to join international benchmarking efforts so that elementary, secondary and higher education policies are better coordinated. Action 1 proposes that states upgrade their standards by adopting a common core of internationally benchmarked standards in mathematics and language arts for kindergarten to grade 12 to ensure that students are equipped with the necessary knowledge and skills to be globally competitive. Action 2 proposes that states leverage collective influence to ensure that textbooks, digital media, curricula, and assessments are aligned to internationally benchmarked standards and draw on lessons from high-performing countries and states. Action 3 proposes that states revise policies for recruiting, preparing, developing, and supporting teachers and school leaders to reflect the human capital practices of high-performing countries and states. Action 4 proposes that states hold schools and systems accountable through monitoring interventions, and support to ensure consistently high performance, drawing upon international best practices. Action 5 proposes that states measure educational performance globally by examining student achievement and attainment in an international context to ensure that, over time, students are receiving the education they need to compete in the twenty-first century economy. While states must take the lead in implementing these action steps, the federal government can play an enabling role by granting funds, offering research and development in this area to states, providing incentives to make the action steps easier to achieve, and aligning federal laws with the lessons learned from international benchmarking.

The five action steps set out in this report provided the basis for establishing the Common Core State Standards Initiative and supporting states in designing standards-based education systems to implement the Common Core State Standards. The purpose of this study is to evaluate decision making in the Common Core State Standards Initiative as the change process moves from research, development and diffusion activities to adoption of the Common Core State Standards by the states. Initially, the activities of policy makers in advancing knowledge about why current standards-based education has failed to meet its intent and how common standards developed through a deliberative process could address this failure are examined. Then, the work of the coordinating organisations in prompting stakeholders and politicians to address the need for developing common standards, based on a set of criteria, is discussed. The dynamic process of interaction among officials representing the coordinating organisations, key partners and stakeholders in determining policy choices for developing the Common Core State Standards and contributing resources for diffusing and adopting the Common Core State Standards is investigated. The

activities of the Thomas B. Fordham Institute in influencing policy makers to accept a different governance structure for the Common Core State Standards Initiative are reported. Following adoption of the Common Core State Standards as part of each state's academic standards, the policy choices of state officials are examined in a set of state profiles outlining professional development, curriculum, instructional materials, assessments, and accountability measures needed to support the Common Core State Standards. Judgments are made about the outcomes of the Common Core State Standards Initiative and the adoption of the Common Core State Standards by the states in relation to activities in the change process. The report concludes by discussing the part that the Common Core State Standards Initiative is playing in the national reform agenda of the Obama Administration.

## **Methodology**

Since the purpose of the study is to evaluate decision making in the change process, a model for program evaluation was used to describe four stages in the Common Core State Standards Initiative. In the first stage, planning decisions provide a rationale for determining objectives to address major changes. The need for planning decisions in standards-based education arose from a lack of agreement between what it is intended to be and what it actually is. In the second stage, structuring decisions determine how resources are to be used to meet the objectives. The basis for structuring decisions is an action plan specifying outcomes to be achieved, work to be performed, and resources and time to be used to develop the Common Core State Standards. In the third stage, implementing decisions utilise, control and refine procedures for carrying out the action plan. Implementing decisions involve making choices regarding the procedures for developing the Common Core State Standards. In the fourth stage, recycling decisions provide judgments and reactions about attainments. Recycling decisions focus on the extent, to which the desired ends of the Common Core State Standards Initiative have been attained, so decisions can be made about whether to continue, terminate, evolve or drastically modify the action plan.

Since application of this decision-oriented model of evaluation in the study may provide advice for making policy decisions, limitations of the design need to be taken into account. It is recognised that a comprehensive evaluation of the change process should involve a team of experts reviewing various aspects of these activities by examining documents, interviewing stakeholders and analysing information collected from these sources. However, two main problems pertained to accomplishing this aim. First, the approach applied in this study depended largely on the review of documents, since it was impracticable for an independent researcher to interview a wide range of stakeholders. Second, the change process was operating in the initial phase of adoption at the time of conducting this study. This situation meant that judgments made about some attributes of training, trial, installation and institutionalisation of the innovation by state education agencies are based largely on statements of intent. These threats to the validity of the study were controlled by adhering to the following procedures for collecting and analysing data.

The procedures for collecting information for the study involved following a sequence of steps. The first step involved identifying policy documents and educational literature referring to the Common Core State Standards Initiative.

Searches of the web site of *Education Week*, the newspaper on education published by Editorial Projects in Education, based at Bethesda, Maryland, provided the main source for identifying information referring to the Common Core State Standards. Once relevant news articles were identified from this source, searches were conducted on the web sites of legislatures, national education organisations, philanthropic foundations and state education agencies to identify documents referring to the Common Core State Standards. At the national level, policy documents, standards documents, curriculum guides, implementation guides, reports of evaluative studies on standards documents, reports and videos on meetings, and webinars published by the U.S. House of Representatives, the Nelson A. Rockefeller Institute of Government, the James B. Hunt, Jr., Institute for Educational Leadership, the National Research Council of the National Academies, the Thomas B. Fordham Institute, Achieve, NGA, CCSSO, the Alliance for Excellent Education, the Bill and Melinda Gates Foundation, the National Association of State Boards of Education, the National Parent Teacher Association, and the Council of State Governments were identified. At the state level, policy documents, state standards, reports on alignment studies of standards, states' applications for Race to the Top funding, implementation plans, and the minutes of state board meetings were the most important documents examined.

Furthermore, officials from the coordinating organisations and key partners involved in the Common Core State Standards Initiative and state officials responsible for implementing the Common Core State Standards were contacted during the course of the study. In addition to responding to various issues relating to the Common Core State Standards Initiative, officials from the coordinating organisations and key partners were invited to review sections of the draft relevant to their organisation's work. A state official in each state, which had adopted the Common Core State Standards, was contacted to review and comment on the draft for his or her state. Officials, who reviewed drafts at several junctures during the drafting process to confirm their accuracy, are acknowledged in the Preface. Considerable reliance was placed on the comments of these officials in revising the report.

The procedure for analysing information contained in educational literature involved following a sequence of steps. In the first step, content analysis method was used to summarise the subject matter of relevant documents. Reporting the results involved preparing summaries, organising the summaries chronologically, and incorporating them into the appropriate section of the report. The second step involved defining sets of questions and criteria to compare activities undertaken by state education agencies during the change process. These criteria were used to classify the extent of involvement by state education agencies in particular activities associated with the adoption of the Common Core State Standards.

## **Common Core State Standards Initiative**

### ***Planning the Initiative***

The rationale for planning common standards arose from awareness in the conversations and debates among education leaders about a lack of agreement between what standards-based education is intended to be and what it actually is.

Ravitch (2005), a prominent education historian, argued in a widely read opinion piece that the prevailing situation of each state using its own standards and assessments had failed to improve student achievement. In an article for *Editorial Projects in Education's* annual report on the condition of education, Ravitch (2006) argued that national standards should be set by teachers and professors, brought together in college boards, and assessed by national tests. Founded in January 2006 as an independent organisation committed to affecting education policy, *Education Sector* (2006) reported hosting five experts to debate the need for national standards in March 2006. Greifner (2007) reported that CCSSO discussed the issue of national standards at its annual meeting in April 2007. The outcome of these discussions, which focused on which groups should be involved in the process, concluded that business groups, non-profit organisations, and state and local officials should be involved in the process. State officials were wary about involving the federal government in the process in case national assessments were mandated. However, McNeil (2007) reported that the National Conference of State Legislatures, meeting at its annual conference at Denver in August 2007, opposed the concept of national standards in a vote of its members. On the other hand, Manzo (2008) reported that the National Association of Secondary School Principals released a position statement in May 2008 calling on Congress to appoint an independent panel to determine common standards for reading and mathematics.

In October 2007, the Nelson A. Rockefeller Institute of Government, based in the State University of New York at Albany, convened a symposium at Chicago, attended by 40 state and federal education officials, policy makers, testing experts and educational researchers, to consider intergovernmental approaches for strengthening academic standards and assessments. Prior to the symposium, a framework paper outlining structural problems in educational accountability, some possible functions of an intergovernmental entity, and institutional alternatives was circulated to the participants. Armour-Garb (2007) reported that the participants identified several possible approaches to advance work on national standards and assessments. A state-led collaborative, modelled on the American Diploma Project, was considered to be a promising approach. A second approach considered was modelled on that used in England by the Qualifications and Curriculum Development Agency, which contracts examination boards to design and administer tests based on the National Curriculum. With sufficient oversight to guarantee comparability of examinations, examination bodies could make more options available for students while maintaining rigour. Approaches based on federal models could lead to the creation of an independent oversight agency to audit state testing programs and test publishers, or the federal government could fund a competitive grants' process for states that agree to develop common standards and assessments. Alternatively, a consortium of private foundations could underwrite a national competition to develop standards and assessments.

In August 2007, the James B. Hunt, Jr., Institute for Educational Leadership and Policy commissioned the National Research Council of the National Academies to investigate the way current state standards are functioning. The National Research Council appointed an ad hoc Committee on State Standards in Education, which commissioned papers on the policy context of state standards (Massell, 2008), the variability of state standards (Porter, Polikoff and Smithson, 2008; Porter, Polikoff and Smithson, 2009) and the costs of standards-based reform activities (Harris and Taylor, 2008) and held two workshops in January and

March of 2008. Beatty (2008a; 2008b) reported that the first workshop examined the role that standards play in state education policy and practice, the strengths and weaknesses of state standards-based reform efforts, and how these strengths and weaknesses are related to state standards. The Committee developed an options and evaluation framework for addressing policy choices about the developmental process, scope and implementation of common standards, and evaluating the factors of quality, equity, feasibility and opportunity cost. In the second workshop, the participants used the framework to examine the quality and impact of state standards and the cost, political feasibility and legal implications of transferring to common standards. Several key points emerged from presentations and discussions in the two workshops. First, participants agreed that standards are an accepted part of the educational landscape and that they play multiple roles in public education. Second, participants believed there was significant variability among states in the nature of their standards, but they lacked agreement about the reasons for these variations. Third, participants agreed that the existing system of standards-based education had failed to meet its intent, because mechanisms for teachers to adapt instruction and political will to address disparities in educational opportunities offered to students in different settings were lacking. Fourth, many participants argued that assessment has become the principal driver in most states' standards-based reform efforts. Although the participants concluded that common standards could address these issues, simply creating them would not accomplish this goal. Furthermore, significant practical obstacles hindered development and implementation of common standards. Although common standards would yield some saving in expenditure, such a saving would not justify adopting this approach. On the other hand, the political landscape at present provided an opportunity to proceed with this approach.

Based on the findings of this study, the James B. Hunt, Jr., Institute for Educational Leadership and Policy (2008) recommended five elements for a state-led effort to develop Common Core State Standards. First, the nature of quality in content standards needs to be defined. Influential content standards, which are specific in their message, consistent among themselves, have authority through official adoption and power through compliance and stability over time. They will effect changes in the curriculum, assessment, instruction, teacher preparation, professional development, student supports and accountability systems. Second, an effective developmental process needs to be established. Such a process should involve a wide range of stakeholders, but needs to avoid a consensus-driven process. An external group of experts needs to review the process and standards to ensure that they are rigorous. Third, the influence of assessment needs to be considered. States could pool their resources to purchase assessments that use new technologies to provide crucial information about student learning. Fourth, the influence of performance standards needs to be considered. A joint state effort to set performance standards is likely to avoid the pressure that state leaders face in setting lower performance standards to limit political backlash arising from large numbers of students failing to reach proficiency on state assessments. Fifth, political feasibility and leadership in setting Common Core State Standards needs to be considered. Leaders need to set priorities, build the will for change, manage opposition, and extend capacity for states to implement Common Core State Standards.

### ***Structuring the Initiative***

The need for structuring the means to achieve common standards arose from a series of meetings that the NGA Center for Best Practices and CCSSO convened with stakeholders. These meetings served as a forum for decision makers to choose between alternative types of change based on an analysis of the degree of change stakeholders perceived was needed to provide a solution and the amount of understanding available to effect the desired change. The analysis showed that large change was being attempted in the face of a low understanding about how to accomplish the change, a setting requiring research, development, diffusion and adoption activities to be planned in advance. The action plan, based upon structuring decisions, took the form of a memorandum of agreement setting out a rationale, process and organisational structure for undertaking these activities.

In January 2009, the NGA Center for Best Practices and CCSSO convened leaders from 39 education, business, civil rights and other organisations in a meeting at Washington, DC, to form a National Policy Forum for the Common Core State Standards Initiative. Participants were informed that the initiative would be based on ownership of the process by the states and a measure of success would be state adoption of the Common Core State Standards. The focus of the initiative would be the development of higher, clearer and fewer standards, benchmarked against those of leading countries performing in international studies of educational achievement, grounded in research and best practices, capable of preparing students for college and the workplace, and inclusive of the skills students need for success in contemporary society. The process for developing the Common Core State Standards would be determined in consultation with partners. Achieve, the Alliance for Excellent Education, the James B. Hunt, Jr., Institute for Educational Leadership and Policy, the National Association of State Boards of Education, and the Business Roundtable were initially named as key partners in the venture.

The NGA Center for Best Practices and CCSSO took further steps to advance the Common Core State Standards Initiative. Hoff (2009) reported that NGA adopted a policy statement in February 2009 endorsing a process to develop the Common Core State Standards. McNeil (2009) reported that the NGA Center for Best Practices and CCSSO convened a meeting in Chicago in April 2009 attended by governors' education advisers and chief state school officers from 41 states. The purpose of the meeting was to explain current thinking about Common Core State Standards, present a developmental process and timeline, discuss the product and adoption procedure, and outline the means for accessing funds available through the American Recovery and Reinvestment Act of 2009. Participating state leaders, who committed to support the Common Core State Standards Initiative, would be expected to be involved in the development of a prototype for high school graduation standards in mathematics and language arts by the middle of 2009, and grade-by-grade standards in mathematics and language arts by the end of 2009.

In April 2009, the House of Representatives' Committee on Education and Labor conducted a hearing to examine how states can prepare students to compete in a global economy by using internationally benchmarked common standards. In opening the hearing, Congressman George Miller, chair of the committee, called on Congress to support the state-led initiative and sought to learn from witnesses how the federal government could best support it. James B. Hunt, Jr., chair of the Institute for Educational Leadership and Policy, recommended that Congress should ensure that the state-led initiative is based on empirical evidence of what students need to know, sponsor development of curriculum aligned to the common

standards, support the design of assessments aligned to the standards, fund the redesign of teacher preparation programs, support creation of a database of instructional strategies, fund design of professional development for teachers, and require school and higher education systems to work together. T. Kenneth James, president of CCSSO, outlined work being undertaken by the Common Core State Standards Initiative. Greg James, chair of California Business for Excellence in Education, reported on what lessons could be learnt from California's experience in establishing standards-based education. David Levin, co-founder of the Knowledge is Power Program, outlined how this alliance of 66 schools across 19 states could benefit from the Common Core State Standards. Randi Weingarten, president of the American Federation of Teachers, suggested that cross-sectoral partnerships, funded by the federal government, in which policy makers coordinate work across subject areas and involve teachers in the process, would be the best model for developing the Common Core State Standards. In submitting testimony on behalf of NGA, Sonny Perdue, Governor of Georgia, emphasised the importance of states to act collectively with support from the federal government in benchmarking academic standards internationally. Klein (2009) reported that there was broad, bipartisan support for the Common Core State Standards Initiative among committee members, although some Republicans were wary about involving the federal government in case the undertaking led to a national curriculum.

Following publication of its report on four models for developing national standards and assessments (Finn, Julian and Petrilli, 2006a), the Thomas B. Fordham Institute commissioned a team of experts on international benchmarking based at Michigan State University to investigate whether lessons could be learnt from other countries, which had adopted national standards and assessments. In May 2009, the Thomas B. Fordham Institute hosted a conference in Washington, DC, for policy makers, education officials and business leaders to discuss what lessons could be learnt from standards and assessments in other countries. Participants heard a keynote address by an official of the U.S. Department of Education, and contributed to two panel discussions, in which the issues outlined in a policy brief were discussed. Following the conference, staff of the Thomas B. Fordham Institute worked with the project team to produce a report on the project. Schmidt, Houang and Shakrani (2009) reported from a comparative study of 10 countries that innovations in developing and implementing national standards and assessments in Brazil, Canada, China, France, Germany, India, the Netherlands, Russia, Singapore and South Korea had raised student performances in the Trends in International Mathematics and Science Study (TIMSS). Schmidt, Houang and Shakrani argued that six lessons could be learnt from these innovations. Since a central authority establishes an instructional foundation in all these countries, except Canada, while preserving some discretion for state and local levels over curricular decisions, establishing national standards should not lead to a loss of local control. Based on Germany's experience, in which the Standing Conference of Ministers of Education and Cultural Affairs of the Lander in the Federal Republic of Germany established common standards linked to a quality assurance system, an independent, quasi-governmental institution should be founded to oversee development of national standards and assessments, and produce reports for the nation. Also applying Germany's experience, in which the Federal Ministry of Education and Research developed a blueprint for developing common standards, the federal government should provide resources to support the standards-setting process. Based on evidence from the 10 countries, coherent, focused and rigorous standards, beginning with English, mathematics

and science, should be set. From evidence showing that most of the countries do not assess students every year, national assessments should be administered every two years in grades 4, 8 and 12. As accountability across the 10 countries spans student, classroom, school, regional and national levels, assessment results in grade 12 should be used as an accountability measure and indicator for college and workplace readiness.

In June 2009, the James B. Hunt, Jr., Institute for Educational Leadership and Policy and the NGA Center for Best Practices convened the annual Governors Education Symposium at Cary, North Carolina. The proceedings of the symposium examined standards and assessment, longitudinal data systems, teacher effectiveness, and support for failing schools, the four education priorities outlined in the American Recovery and Reinvestment Act. The governors received a briefing booklet discussing each issue, and heard from the Secretary of Education, Arne Duncan that the U.S. Department of Education would commit at least \$350 million of the Race to the Top Fund to support creation of rigorous assessments linked to the Common Core State Standards.

In June 2009, NGA and CCSSO released the names of the states and territories, which had signed a memorandum of agreement to participate in developing a set of Common Core State Standards. The governors and chief state school officers of all the states, except for Alaska, Missouri, South Carolina and Texas, had signed the memorandum of agreement, and the District of Columbia, Puerto Rico and the Virgin Islands also agreed to take part. Alaska did not sign the agreement, because adoption of the Common Core State Standards would increase work for its limited human resources. However, state officials would monitor progress of the Common Core State Standards Initiative. Missouri postponed completing the process of signing the agreement due to an on-going search for a new commissioner, although Governor Jay Nixon had signed it. Following appointment of Chris Nicasastro as the new commissioner, the State Board of Education voted in early August 2009 to authorise the commissioner to sign the agreement. Initially, Governor Mark Sanford refused to sign the agreement, and State Superintendent Jim Rex intended that South Carolina would participate unofficially in the Common Core State Standards Initiative. However, Governor Sanford signed the agreement in August 2009, and South Carolina joined the partnership. Texas did not sign the agreement, because Commissioner Robert Scott with the support of Governor Rick Perry believed that the costs of replacing the Texas Essential Knowledge and Skills with the Common Core State Standards and adopting new textbooks would be excessive.

The memorandum of agreement set out the purpose, background and benefits to states, and the process and structure for developing the Common Core State Standards. Its purpose is to develop Common Core State Standards in English language arts and mathematics for kindergarten to grade 12 through a state-led process. The development of common assessments aligned to the Common Core State Standards would constitute the second phase of the initiative. The efforts that individual states had made in developing high quality standards through the American Diploma Project formed the main activity shaping the Common Core State Standards Initiative. Common Core State Standards would benefit states in five ways. They could articulate to teachers, parents and the public the expectations that students should achieve. Curricula, textbooks and digital media could be aligned to the Common Core State Standards. Professional development of educators could be based on identified needs and best practice. An

assessment system could be developed and implemented to measure student performance against the Common Core State Standards. Policy changes, needed to help students meet the Common Core State Standards, could be evaluated.

### ***Implementing the Initiative***

The change strategy for carrying through the action plan involved programming the segments of research, development, diffusion and adoption of the Common Core State Standards Initiative over a relatively long time span. Research to advance knowledge for developing the Common Core State Standards involved synthesising research findings produced by policy groups to establish a research and evidence base for developing the Common Core State Standards, and reviewing state and international standards to benchmark the Common Core State Standards. Development of the Common Core State Standards involved forming groups to develop the components over two phases. In the first phase, work groups and feedback groups were formed to develop and review college- and career-readiness standards. An advisory group of representatives drawn from Achieve, ACT, the College Entrance Examination Board, the National Association of State Boards of Education and the State Higher Education Executive Officers supported the work groups and feedback groups on developing the standards. In the second phase, work groups and feedback groups were formed to develop and review kindergarten to grade 12 standards. An advisory group of representatives drawn from Achieve, ACT, the College Entrance Examination Board, the National Association of State Boards of Education and the State Higher Education Executive Officers supported the work groups and feedback groups on developing the standards. The process involved combining the college- and career-readiness standards and the kindergarten to grade 12 standards to form the Common Core State Standards. Following completion of the developmental phase, a Validation Committee certified whether the Common Core State Standards met a set of criteria. Diffusion of the Common Core State Standards involved members of the National Policy Forum building support for adoption by convening meetings to inform their constituents. Adoption of the Common Core State Standards was facilitated by key partners, foundations and advocacy groups contributing resources and guidelines to assist states to implement the Common Core State Standards.

### ***Development of the College- and Career-Readiness Standards***

The NGA Center for Best Practices and CCSSO coordinated the process for developing the college- and career-readiness standards. In June 2009, the coordinating organisations appointed 15 content experts, drawn largely from Achieve, ACT and the College Entrance Examination Board, to form the Work Group for Mathematics and 18 content experts, drawn largely from Achieve, ACT and the College Entrance Examination Board, to form the Feedback Group for Mathematics. In addition, 14 content experts, drawn largely from Achieve, ACT and the College Entrance Examination Board, were appointed to form the Work Group for English Language Arts and 17 content experts, drawn largely from Achieve, ACT and the College Entrance Examination Board, were appointed to form the Feedback Group for English Language Arts. In addition to representatives from these organisations, the work groups were expanded to include academics, education consultants and members of school improvement

groups as the work advanced. An independent facilitator and an independent writer, as well as resource advisers, were appointed to support each work group. The work groups were responsible for developing a set of expectations and standards for the end of high school characterised by five attributes. The standards would be fewer, clearer and higher, aligned with college and work expectations, inclusive of rigorous content and knowledge, internationally benchmarked, and based on research and evidence. The feedback groups were responsible for offering input about the draft expectations and standards based on research evidence. Participating states and national education organisations also offered input into drafting the expectations and standards.

The work groups reviewed a wide range of documents from sources in the USA, foreign countries and international organisations in drafting the college- and career-readiness standards. References cited by the Work Group for English Language Arts were classified into the four categories of college-readiness, career-readiness, illustrative international benchmarks, and illustrative alignment with state and other standards. Frequently-cited references under college-readiness included ACT (2006a), College Board (2008), Milewski, Johnsen, Glazer and Kubota (2005), the Florida American Diploma Project survey results, and the Virginia Postsecondary Outreach Campaign and Data Collection essential English skills analysis. Frequently-cited references for career-readiness included ACT (2006b), ACT WorkKeys, writing level 3 requirements, and the National Alliance of Business (2004). Frequently cited references under illustrative international benchmarks included curriculum documents from New South Wales and Victoria in Australia, Alberta, British Columbia and Ontario in Canada, Finland, Hong Kong, Ireland, Singapore, the Programme for International Student Assessment (2003), and the Programme for International Student Assessment (2007). Frequently-cited references under illustrative alignment with state and other standards included Achieve (2008), and standards documents from California and Massachusetts. References cited by the Work Group for Mathematics for mathematical practices included Bransford, Brown and Cocking (1999), Kilpatrick, Swafford and Bradford (2001), Steen (2001), Kilpatrick, Martin and Schifter (2003), the National Mathematics Advisory Panel (2008), and the National Council of Teachers of Mathematics (2009). References cited by the Work Group for Mathematics for the mathematical principles were classified into the four categories of national reports, college-readiness, illustrative international benchmarks, and illustrative alignment with state standards. Frequently-cited national reports included the American Mathematical Association of Two-Year Colleges (1995), the National Council of Teachers of Mathematics (2000), the National Council of Teachers of Mathematics (2006) and the National Assessment Governing Board (2008). Frequently-cited references for college-readiness included Conley (2003), the American Diploma Project (2004), the College Board (2006), ACT (2008), and the College Board (2009). Frequently-cited references under illustrative international benchmarks included curriculum documents from Alberta in Canada, Belgium, China, England, Hong Kong, India, Ireland, Japan, Korea, Singapore, Taiwan, and research findings by Mullis, Martin, Ruddock, O'Sullivan, Arora and Erberber (2005), the International Baccalaureate Organisation (2006), the Programme for International Student Assessment (2006), and Edexcel (2009). Frequently-cited references under illustrative alignment with state standards included standards documents from California, Florida, Georgia, Massachusetts and Minnesota.

After the work groups completed the first drafts of the college- and career-readiness standards in July 2009, the coordinating organisations circulated the drafts to the feedback groups for comment. Following revision of the drafts by the work groups based on the feedback groups' comments, the second drafts were released in August 2009 with a set of questions, to which state education agencies and national organisations responded. Core Knowledge Foundation, an organisation founded by education reformer E. D. Hirsch Jr. at Charlottesville, Virginia, to which the drafts had been made available by a reviewer, released them into the public domain by posting them on its web site and offered a disparaging commentary on the College- and Career-Readiness Standards for English Language Arts. Release of the drafts led to a public debate over their quality. In screening the initial reactions of eminent subject matter experts, Cavanagh and Gewertz (2009) reported that the draft standards elicited differing opinions. In commenting on the decision making process used to develop the first drafts, Cavanagh (2009a) reported that some subject associations, teacher unions and parent groups criticised the lack of openness in the process, although acknowledging that officials of the coordinating organisations were responsive to suggestions to broaden consultation.

Following revision by the work groups, the coordinating organisations released the third draft of the college- and career-readiness standards for public review in September 2009. The third draft consisted of a separate set of documents for English language arts and mathematics. The English language arts document consisted of an introduction, core standards for reading informational and literary texts, core standards for writing, core standards for speaking and listening, applications of the core for research and media, ten illustrative texts, and a sample of works consulted. The introduction set out a rationale for core standards, a set of eight capacities that students exhibit, a statement on the use of evidence in setting the standards, and a statement for reading the document. The core standards for reading informational and literary texts consisted of five standards for the range and content of student reading, and 18 standards for student performance. The core standards for writing consisted of five standards for the range and content of student writing, and 18 standards for student performance. The core standards for speaking and listening consisted of three standards for the range and content of student speaking and listening, and eight standards for student performance. The mathematics document consisted of an introduction, a statement on the use of evidence in setting the standards, six core practices of mathematical practice students should meet, core concepts and core skills for ten content standards, and a sample of works consulted. The introduction outlined the three components of the document, the aims of the standards, and their relationship to curriculum and assessment. Content standards for number, quantity, expressions, equations, functions, modelling, shape, coordinates, probability and statistics were supported by sets of example tasks.

The National Governors Association and the Council of Chief State School Officers (n.d.a) reported that 988 respondents, representing groups of subjects, responded to the public review through an on-line survey. In addition, some 35 groups and individuals submitted feedback directly to the NGA Center for Best Practices and CCSSO. The responses were categorised according to whether they referred only to the English language arts standards, only to the mathematics standards, or to both the English language arts and mathematics standards. The English language arts standards elicited 255 general comments and 87 comments to specific standards. The mathematics standards elicited 169 general comments

and 96 comments to specific standards. Both sets of standards elicited 359 comments. Opinions were expressed by respondents about a range of issues relevant to the development of the college- and career-readiness standards. Many respondents commented on the need for curriculum, assessments and professional development to support standards-based education. A few respondents expressed anti-standards sentiments, which were based on the view that a focus on standards diverted attention from the needs of individual students. Some respondents questioned the transparency of the developmental process and the extent, to which teachers were represented on the work groups. The majority of respondents reacted favourably to the English language arts standards, but they wanted other topics related to their expertise added to the standards. A number of respondents believed a literature standard and a reading list should be added to the standards. Whilst respondents reacted positively to the mathematics standards, they wanted the content adjusted. The main issues related to determining how much mathematics is required for preparation for life beyond high school and the nature of content included in the standards. Respondents from the higher education sector indicated that the standards lacked key content, but high school teachers believed the content was well beyond what was needed by work-bound students and those going onto non-mathematics study at college level. Respondents commented that the organisation of the standards formed artificial breaks in the subject of mathematics or failed to indicate which topics deserved priority. Respondents felt that example problems were central to conveying the intention of the standards, but wanted more and better example problems. Respondents also commented on issues of consistency and accuracy in the drafts in terms of mathematical flaws, imprecise language, and lack of internal consistency. Following completion of the public review in October 2009, the work groups revised the standards to produce the final drafts.

Cavanagh (2009b) reported on a favourable review of the draft college- and career-readiness standards. In a study conducted by Thomas B. Fordham Institute staff and four subject matter experts, Carmichael, Wilson, Finn, Winkler and Palmieri (2009) evaluated the quality of the third draft of the college- and career-readiness standards. In addition, the National Assessment of Educational Progress (NAEP) mathematics framework for 2009, the TIMSS 2007 assessment frameworks, the PISA framework for assessing scientific, reading and mathematical literacy, the NAEP reading framework for 2009 and writing framework for 2011, and the PISA reading literacy framework for 2009 were evaluated. Initially, the subject matter experts devised a set of content expectations for students in grades 4, 8 and 12 as well as at age 15. To facilitate comparisons between English language arts and mathematics, a common grading metric was developed for assigning two scores, one for 'content and rigour' on a 0-7 point scale and the other for 'clarity and specificity' on a 0-3 point scale. Then, the scores on both scales were combined to provide a final A to F grade on a 10-point scale. The college- and career-readiness standards for mathematics scored 5 for 'content and rigour' and 3 for 'clarity and specificity'. The NAEP mathematics framework scored 5 for 'content and rigour' and 1 for 'clarity and specificity'. The TIMSS assessment frameworks scored 6 for 'content and rigour' and 3 for 'clarity and specificity'. The PISA framework for assessing scientific, reading and mathematical literacy scored 4 for 'content and rigour' and 0 for 'clarity and specificity'. The college- and career-readiness standards for English language arts scored 5 for 'content and rigour' and 2 for 'clarity and specificity'. The NAEP reading and writing frameworks scored 5 for 'content and rigour' and 2 for 'clarity and specificity'. The PISA reading literacy framework scored 3 for 'content and rigour' and 1 for 'clarity and

specificity'. Following release of the report, the Thomas B. Fordham Institute held an event called *National Education Standards circa 2009* in November 2009, at which the findings of the study were discussed by a panel including the authors of the report.

### *Development of the Kindergarten to Grade 12 Standards*

In November 2009, the coordinating organisations appointed 50 content experts, drawn mainly from schools, state education agencies and institutions of higher education, to form the Work Group for Mathematics and 19 content experts, drawn mainly from schools, state education agencies and institutions of higher education, to form the Feedback Group for Mathematics. In addition, 48 content experts, drawn mainly from schools, state education agencies and institutions of higher education, were appointed to form the Work Group for English Language Arts and 12 content experts, drawn mainly from schools and institutions of higher education, were appointed to form the Feedback Group for English Language Arts. As the work groups drafted and revised the standards, they were submitted to the feedback groups for comments on multiple occasions. From January 2010, participating states, national education organisations and community groups representing teachers, higher education faculty, civil rights groups, English language learners and students with disabilities, also offered input on multiple occasions into drafting the standards. Gewertz (2010a) reported that reviewers from these groups found the first drafts lacked sufficient clarity for teachers to use the documents. Following review of the first drafts by the feedback groups, participating states and national education organisations, the drafts were revised by the work groups before being released in March 2010 for a three-week public review. In screening the initial reactions of representatives from subject associations and state officials, Gewertz (2010b) reported that the drafts released for public review elicited both praise and scepticism.

The drafts released for public review consisted of an introduction and separate documents for English language arts and mathematics. The introduction outlined the decision making process used to develop the Common Core State Standards. The English language arts document consisted of three main sections: kindergarten to grade 5 standards for English language arts and literacy in history-social studies and science; grades 6 to 12 standards for English language arts; and grades 6 to 12 standards for literacy in history-social studies and science. The English language arts document was supplemented by three appendices. Appendix A presented a case for why complexity in what students read matters and described a model for assessing text complexity based on qualitative and quantitative measures, and reader and task considerations. Appendix B presented illustrative texts organised by the genres of stories, drama, poetry and informational texts for kindergarten and grade 1, grades 2 and 3, grades 4 and 5, grades 6 to 8, grades 9 and 10, and grade 11 to college- and career-readiness. Appendix C presented samples of student writing organised by grade from kindergarten to grade 12. The mathematics document consisted of two main sections. Eight standards for mathematical practice presented ways in which students engage with mathematical topics. Content standards were organised by domains for each grade from kindergarten to grade 12. An appendix on designing high school mathematics courses, based on the Common Core State Standards, was made available on the web site of the Common Core State Standards Initiative.

The National Governors Association and the Council of Chief State School Officers (n.d.b) reported that almost 10,000 responses were received to the on-line questionnaire seeking feedback about the Common Core State Standards during the public review. Analysis of the feedback indicated that 8 percent of the respondents represented groups or organisations, whilst 92 percent were individual respondents. Of these, 48 percent were teachers, 20 percent were parents, 6 percent were school administrators, 5 percent were higher education faculty members or researchers, 2 percent were students and 2 percent represented other categories. Respondents were provided with the option to provide feedback for either English language arts or mathematics, or both subject areas at a general or more detailed level or at both general and detailed levels. About one quarter each of the respondents chose to respond to either English language arts or mathematics, whilst about one half responded to both subject areas. Most respondents provided general feedback only. In revising the standards, members of the work groups considered all of the feedback, which consisted of general comments about the Common Core State Standards, general and specific comments about the English language arts standards, and general and specific comments about the mathematics standards. Three quarters of the respondents showed positive attitudes about the Common Core State Standards. However, most respondents commented on the need for greater clarity in the standards, which took three main forms. Since respondents found the documents' language difficult, suggestions were received to append glossaries, to both the English language arts and the mathematics standards. Respondents also preferred examples to be included with each standard to clarify expectations. Respondents also reported the need for more components or further development of particular aspects of the standards documents. On the other hand, many respondents believed there were too many standards, particularly in mathematics at the high school level. In contrast, some respondents called for standards to be developed for additional areas in their subject areas. Many respondents raised concerns about implementation of the Common Core State Standards and the availability of curricula, resources and professional development to support the standards. Few respondents believed that the education system was well-prepared to implement the Common Core State Standards. Many respondents were concerned about the type and frequency of assessments. Respondents believed that the Common Core State Standards should be modified for children with special needs, learners of English as a second language and students from economically disadvantaged backgrounds as well as gifted students. Particular sub-groups of parents expressed opposition to national standards imposed by the federal government and the appropriateness of standards in relation to child development, although they wanted health standards. General responses made about the English language arts standards were positive about issues covered in the range of questions. Two-thirds of the respondents registered approval about the detailed questions relating to the English language arts standards. Most comments related to the range and level of text complexity outlined in Appendix A and the range of genres, contexts and stages of development covered in Appendix B.

In a study conducted by Thomas B. Fordham Institute staff and three subject matter experts, Carmichael, Wilson, Martino, Finn, Porter-Magee and Winkler (2010) evaluated the quality of the public draft of the kindergarten to grade 12 standards. The reviewers used the same common grading metric employed in the study of the college- and career-readiness standards with two minor modifications. The 10-point scale for scores gained on both the 'content and rigour' and 'clarity

and specificity' scales was modified to provide A, A-, B+, B, C, D and F grades. Scores for the mathematics standards were varied to reflect that understanding of addition, subtraction, multiplication and division facts were required through demonstration of instant recall of these facts. The reviewers found that the mathematics standards were clear and rigorous, setting out most of the essential content students must master. They awarded the mathematics standards scores of 7 for 'content and rigour', 2 for 'clarity and specificity' and a final grade of A-. The reviewer found that the English language arts standards were strong, but in need of more adjustment. The reviewer awarded the English language arts standards scores of 5 for 'content and rigour', 2 for 'clarity and specificity' and a final grade of B. Following release of the report, the Thomas B. Fordham Institute held an event in April 2010 called *Understanding Common Core Standards*, at which two drafters of the standards discussed aspects of the developmental process.

In September 2009, the coordinating organisations appointed a Validation Committee to review the Common Core State Standards, and validate the process used by the work groups. Selected by six governors and six chief state school officers, the 25-member Validation Committee consisted of 21 national and four international experts drawn from Australia, France, Taiwan and the United Kingdom. During the course of its work, the Australian member resigned and four new members - two school principals and two teachers - were appointed to the Validation Committee. Denis P. Doyle, chief academic officer of Schoolnet, was commissioned to prepare a report on the work of the Validation Committee. In the report published by the National Governors Association and the Council of Chief State School Officers (2010), Doyle outlined the decision making process used by the Validation Committee and the findings its work. The Validation Committee met on two occasions at Washington, DC in December 2009 and April 2010. Staff of the NGA Center for Best Practices and CCSSO augmented these meetings with intermittent telephone calls and members of the Validation Committee exchanged e-mails. At the second meeting, the Validation Committee presented suggestions for revising the draft standards. In response to the final draft of the standards circulated to members in May 2010, the Validation Committee found that the Common Core State Standards met seven criteria. They are reflective of the core knowledge and skills in English language arts and mathematics that students need to be college and career ready. They are appropriate in terms of their level of clarity and specificity. They are comparable to the expectations of other nations. They are informed by available research and evidence. They were developed through processes reflecting best practice for standards development. They provide a solid starting point for adoption of cross-state common core standards. They provide a sound basis for development of standards-based assessments. Twenty-four of the 28 members of the Validation Committee certified that the Common Core State Standards were consistent with these criteria. Whilst certification of the Common Core State Standards represented a historic milestone, the coordinating organisations recognised the need for a validation committee to perform a similar role in revisions of the Common Core State Standards initiated by the states in the future.

Early in June 2010, the Common Core State Standards were released in Peachtree Ridge High School at Suwanee, Georgia. The event featured a panel discussion involving five representatives of education interest groups moderated by Robert Wise, president of Alliance for Excellent Education. Gewertz (2010c) concluded that release of the standards at a high school in Georgia signalled the

coordinating organisations' desire for development of the Common Core State Standards to be seen as a state-led initiative supported by a wide range of stakeholders. At the same time, the Council of the Great City Schools announced that 55 superintendents, chancellors and chief executive officers, representing large urban school districts, had signed an open letter urging the states to adopt the standards. Coinciding with the release of the Common Core State Standards, the Cato Institute, a conservative Washington-based public research foundation, hosted a policy forum called *National Education Standards: Hopeful Change or Hollow Promise?*, at which a panel of four speakers discussed whether the rationale, underpinning the assumption that national standards will improve educational outcomes, is justified. In June 2010, the coordinating organisations convened a webinar, at which two leaders of the work groups outlined the design and organisation of the English language arts and mathematics standards, elaborated on key advances and design limitations of the standards, and responded to questions referring to various aspects relating to the standards.

The English language arts document consists of four sections. The introduction presents a rationale for developing Common Core State Standards for English language arts, key design considerations, aspects not covered by the standards, the attributes of students who meet the standards, and a statement about reading the document. The other sections, consisting of kindergarten to grade 5 standards for English language arts and literacy for history-social studies, science and technical subjects, grades 6 to 12 standards for English language arts, and grades 6 to 12 standards for literacy for history-social studies, science and technical subjects, present college- and career-readiness anchor standards and grade-level standards organised by reading, writing, speaking and listening, and language strands. Ten reading standards referring to key ideas and details, craft and structure, integration of knowledge and ideas, and range of reading and level of text complexity for literature are specified for literature and informational text sub-strands. In addition, the kindergarten to grade 5 standards include reading standards, referring to print concepts, phonological awareness, phonics and sound recognition and fluency, are specified for the foundational skills sub-strand. Ten writing standards refer to text types and purposes, production and distribution of writing, research to build and present knowledge, and range of writing. Six speaking and listening standards refer to comprehension and collaboration, and presentation of knowledge and ideas. Six language standards refer to conventions of Standard English, knowledge of language, and vocabulary acquisition and use. A method for measuring text complexity, the attributes of text types, and a list of literary and informational texts are appended. The grades 6 to 12 standards for literacy for history-social studies, science and technical subjects present college- and career-readiness anchor standards and grade-level standards organised by reading and writing strands. Appendix A consists of a statement on research supporting key elements of the standards and a glossary of key terms. The statement presents a case for why complexity in what students read matters and describes a model for assessing text complexity based on qualitative and quantitative measures, and reader and task considerations. Appendix B presents text exemplars and sample performance tasks organised by the genres of stories, drama, poetry and informational texts for kindergarten and grade 1, grades 2 and 3, grades 4 and 5, grades 6 to 8, grades 9 and 10, and grade 11 to college- and career-readiness. Appendix C presents samples of student writing organised by grade from kindergarten to grade 12.

The mathematics document consists of five sections. The introduction presents a rationale for developing Common Core State Standards for mathematics, the attributes of the standards, and a statement about reading the document. The second section presents eight standards for mathematical practice and describes the attributes of content standards providing points of connection to the standards for mathematical practice. The third section sets out grade-level standards for kindergarten to grade 8 and high school organised by domains. The standards for kindergarten to grade 5 refer to counting and cardinality (kindergarten only), operations and algebraic thinking, number and operations in base ten, number and operations – fractions (grades 3, 4 and 5), measurement and data, and geometry. The standards for grades 5 to 8 refer to ratio and proportional relationship (grades 6 and 7), the number system, expressions and equations, functions (grade 8), geometry, and statistics and probability. The standards for high school are organised into six categories. Number and quantity refer to the real number system, quantities, the complex number system, and vector and matrix quantities. Algebra refers to seeing structure in expressions, arithmetic with polynomials and rational expressions, creating equations, and reasoning with equations and inequalities. Functions refer to interpreting functions, building functions, linear, quadratic and exponential models, and trigonometric functions. Modelling standards appear under other categories of the high school standards. Geometry refers to congruence, similarity, right triangles and trigonometry, circles, expressing geometric properties with equations, geometric measurement and dimension, and modelling with geometry. Statistics and probability refer to interpreting categorical and quantitative data, making inferences and justifying conclusions, conditional probability and rules of probability, and using probability to make decisions. The fourth section presents a glossary and a set of tables illustrating terms in the glossary. The fifth section lists a sample of works consulted in developing the mathematics standards.

Sawchuk (2010a) reported that a study comparing each state's standards in English language arts and mathematics to the Common Core State Standards showed that the Common Core State Standards are superior to most states' standards in terms of clarity and specificity, and content and rigour. In a study conducted by Thomas B. Fordham Institute staff and three subject matter experts, Carmichael, Martino, Porter-Magee and Wilson (2010) compared the quality of the English language arts and mathematics standards used in the 50 states and the District of Columbia to the Common Core State Standards. On three occasions in 2009 and 2010, Thomas B. Fordham Institute staff searched the web sites of state education agencies to identify standards documents, assessment frameworks and curriculum frameworks. The reviewers screened all of the documents to identify whether they were readily available to teachers, intended to guide instruction, and used to define student outcomes. Those documents, which met these guidelines, were selected for review. The reviewers used the same common grading metric employed in the study on the draft kindergarten to grade 12 standards. However, the reviewers concluded that the criteria and common grading metric were not sensitive enough to declare with confidence that a set of standards earning just one point more than another set was clearly superior. Consequently, the reviewers adopted the decision rule that a set of standards needed to be at least two points above another set of standards to be considered 'clearly superior'. The reviewers found that the final version of the Common Core State Standards for English language arts represented an improvement over the draft, whilst the final version of the Common Core State Standards for mathematics maintained the quality of the draft. In terms of clarity and specificity, the English language arts standards were

fairly specific about the skills students should master. However, the reviewer identified instances of vague and unmeasurable language and inappropriate organisation of the reading strand. In terms of content and rigour, the English language arts standards were strong, but a focus on skills over content in the reading standards, repetition in the writing standards, and sporadic attention to research and media skills meant that a substantial amount of essential content was missing. The reviewer awarded the English language arts standards scores of 2 for 'clarity and specificity', 6 for 'content and rigour' and a final grade of B+. The use of examples in the mathematics standards increased their clarity and specificity. However, the standards were often long and difficult to read. The standards for high school were not organised in a mathematically coherent way. The mathematics standards covered nearly all of the essential content with appropriate rigour. The reviewers awarded the mathematics standards scores of 2 for 'clarity and specificity', 7 for 'content and rigour' and a final grade of A-. Analyses of each state's English language arts and mathematics standards in terms of clarity and specificity and content and rigour were presented with final scores and a grade. The reviewers rated the states' standards for English language arts and mathematics as 'clearly superior', 'too close to call' or 'clearly inferior' to the Common Core State Standards. Awards of 'A' to the English language arts standards of California, the District of Columbia and Indiana mean that these states' standards are clearly superior to the Common Core State Standards for English language arts. Awards of 'A-' to the English language arts standards of Massachusetts, Tennessee and Texas, 'B+' to the English language arts standards of Colorado, Georgia, Louisiana, Oklahoma and Virginia, and 'B' to the English language arts standards of Alabama, Arizona and Florida mean that these states' standards are equivalent to the Common Core State Standards for English language arts. Awards of 'C' to the English language arts standards of Hawaii, Idaho, Kansas, Maine, Maryland, Minnesota, Nevada, New Hampshire, New Jersey, New Mexico, New York, Ohio, Oregon, South Dakota, Utah and Washington, 'D' to the English language arts standards of Arkansas, Connecticut, Illinois, Kentucky, Michigan, Mississippi, Missouri, North Carolina, North Dakota, Pennsylvania, Rhode Island, South Carolina, Vermont, West Virginia, Wisconsin and Wyoming, and 'F' to the English language arts standards of Alaska, Delaware, Iowa, Montana and Nebraska mean that these states' standards are clearly inferior to the Common Core State Standards for English language arts. Awards of 'A' to the mathematics standards of California, the District of Columbia, Florida, Indiana and Washington, 'A-' to the mathematics standards of Georgia, Michigan and Utah, and 'B+' to the mathematics standards of Alabama, Massachusetts, Oklahoma and Oregon mean that these states' standards are equivalent to the Common Core State Standards for mathematics. Awards of 'B' to the mathematics standards of Arizona, Delaware, Idaho, Minnesota, New York and West Virginia, 'C' to the mathematics standards of Arkansas, Colorado, Hawaii, Iowa, Louisiana, Maine, Mississippi, Nebraska, Nevada, New Jersey, New Mexico, North Dakota, Ohio, South Carolina, South Dakota, Tennessee, Texas and Virginia, 'D' to the mathematics standards of Alaska, Connecticut, Illinois, Kentucky, Maryland, Missouri, New Hampshire, North Carolina and Rhode Island, and 'F' to the mathematics standards of Kansas, Montana, Pennsylvania, Vermont, Wisconsin and Wyoming mean that these states' standards are clearly inferior to the Common Core State Standards for mathematics. Thomas B. Fordham staff compared the results for states' standards with those reported by Finn, Julian and Petrilli (2006b). The comparison showed that the quality of states' mathematics standards had improved over this period, but their English language arts standards had languished. However, Finn, Julian and Petrilli (2006b) reported that states

had improved the quality of their English language arts standards between 2000 and 2005 in response to the recommendations of the National Reading Panel. They contended that shortcomings in the quality of states' English language arts standards were due to five problems. First, states focus on meta-cognitive reading strategies instead of mastery of essential reading content. Second, states fail to delineate genre-specific and grade-specific expectations sufficiently. Third, states fail to mention American literature specifically. Fourth, few states provide adequate guidance on texts through reading lists. Fifth, states fail to provide adequate guidance regarding the quality of writing expected of students. The reviewers concluded that the Common Core State Standards for English language arts avoid some of these problems, but still fail to address specific genres or American literature. Similarly, states' mathematics standards exhibit five shortcomings. First, states do not prioritise content in arithmetic. Second, few states require students to know the standard algorithm for whole-number multiplication. Third, states fail to specify a strategy for understanding fractions. Fourth, some states have failed to ban the use of computers in mastering basic computations. Fifth, the concept of functions is introduced before it can be of much mathematical use. The reviewers found that the Common Core State Standards for mathematics avoid many of these problems, but the high school standards are less satisfactory.

### *Diffusion of the Common Core State Standards*

In July 2009, the coordinating organisations launched a web site for the Common Core State Standards Initiative, designed to provide information about the decision making process. Late in 2009, the coordinating organisations and members of the National Policy Forum launched a campaign to build support for the Common Core State Standards Initiative among school board members, teachers and parents.

In October 2009, the National Association of State Boards of Education received a grant from the Bill and Melinda Gates Foundation to convene four regional meetings to inform state policy makers and school board members about the Common Core State Standards. Representatives from states attended regional meetings at Jacksonville in January 2010, Las Vegas and Philadelphia in February 2010 and St Louis in March 2010. Speakers at the meetings addressed a wide range of topics focusing on the resources needed to support adoption and implementation of the Common Core State Standards. Gewertz (2010d) reported that the meeting at Las Vegas involved representatives of the coordinating organisations responding to questions from state board members about adoption and implementation of the Common Core State Standards. In 2011, the National Association of State Boards of Education received a second grant from the Bill and Melinda Gates Foundation to conduct four regional conferences to assist state board members to implement the Common Core State Standards. Representatives from seven states attended the north-eastern conference at Philadelphia in April 2011, representatives from four states attended the central conference at Chicago in May 2011, representatives from 13 states attended the southern conference at White Sulphur Springs, West Virginia in June 2011, and representatives from 12 states will attend the western conference at Las Vegas in August 2011. Speakers at the conferences included Susan Zelman, an education consultant and former Ohio state superintendent, and representatives from the coordinating organisations, the National Council of Teachers of Mathematics, the National Council of Teachers of English, the World-Class Instructional Design

Assessment Consortium, the National Center and State Collaborative, the Partnership for the Assessment of Readiness for College and Careers, and the SMARTER Balanced Assessment Consortium. As part of the grant, the National Association of State Boards of Education will develop a toolkit of resources and media strategies to assist state board members. In 2012, the National Association of State Boards of Education will focus on providing technical assistance to state board members.

Cavanagh (2009c) reported that the National Parent Teacher Association launched a three-year program in December 2009 funded by a grant from the Bill and Melinda Gates Foundation to inform National Parent Teacher Association members and parents about the Common Core State Standards focusing on early outreach in Florida, Georgia, Minnesota, Mississippi, New Jersey, North Carolina, Ohio and Washington. At its national legislative conference convened at Washington, DC in March 2010, the National Parent Teacher Association hosted a core standards panel discussion to inform parent representatives about the Common Core State Standards. In February 2011, the National Parent Teacher Association released the *Parents' Guide to Student Success*, consisting of a component for each grade from kindergarten to grade 8, and a component each for English language arts and mathematics in high school. Each component sets out key items that children should be learning in English language arts and mathematics, activities parents can do to support their child's learning and ways parents can build stronger relationships.

The Council of State Governments received a grant from the Bill and Melinda Gates Foundation to convene meetings for state legislators, state board members and state education officials to discuss adoption and implementation of the Common Core State Standards. In March 2010, the Council of State Governments conducted a webinar for state policy makers and representatives of stakeholders to ask questions about the Common Core State Standards Initiative. Five regional summits, at which chairs of house and senate education committees or leaders of state houses and senates were informed about the Common Core State Standards Initiative, were held in April and May of 2010 at Miami, Florida, Washington, DC, Chicago, Illinois, San Diego, California and St Petersburg, Florida. Between April and August of 2010, roundtable meetings were held in 14 states to give legislators', state education leaders' and stakeholders' opportunities to discuss the potential impact of the Common Core State Standards. In December 2010, the Council of State Governments held a policy workshop in its national conference at Providence, Rhode Island, for state policy makers to discuss issues associated with adoption and implementation of the Common Core State Standards. The Council of State Governments also developed a clearinghouse of information on state policy examples, state legislative activities and educational resources for states involved in the Common Core State Standards Initiative.

In December 2009, the House of Representatives' Committee on Education and Labor conducted a second hearing to learn more about states' efforts to adopt the Common Core State Standards. In opening the hearing, Congressman George Miller, chair of the committee, recalled what had been learnt at the first hearing and sought to learn from witnesses about progress made since that hearing. Hon. Bill Ritter, Jr., Governor of Colorado, representing NGA, outlined activities to form the National Policy Forum, gain support from the states, develop the college and career readiness standards, adopt the standards, implement the five state-level

action steps, incorporate an assessment system, and involve federal government support. Gene Wilhoit, executive director of CCSSO, outlined the rationale for adopting the Common Core State Standards, described the policy of collective state-led education reform, the principles of higher, clearer and fewer standards, international benchmarking, evidence, research and alignment of standards with expectations, outlined the developmental process, and specified the benefits of the Common Core State Standards. Douglas Kubach, president of Pearson Assessment and Information, outlined the need for organisations specialising in student assessment to collaborate, the role of assessments in preserving accountability and increasing transparency, and the prospect for developing on-line assessment systems at this juncture. Cathy Allen, chair of St Mary's Board of Education in Maryland, presented a perspective of a local school board member about the need for state-led Common Core State Standards to meet local flexibility and the role of the federal government in supporting the state-led effort.

### *Adoption of the Common Core State Standards*

Adoption of the Common Core State Standards was facilitated through the activities of various groups. Key partners in the Common Core State Standards Initiative contributed resources to support adoption of the Common Core State Standards. In addition, the coordinating organisations conducted activities to ensure publishing companies aligned their products to the Common Core State Standards, foundations funded the development of materials, and advocacy groups promoted the need for curriculum guidelines.

Beginning in 1994, CCSSO and the Wisconsin Center for Education Research in the University of Wisconsin at Madison led a team of educators, assessment specialists and researchers in developing, reviewing and field-testing surveys for mathematics and science. In 1998, the partners collaborated with teachers in 11 states to conduct the Study of Enacted Curriculum, intended to analyse the implementation of standards-based reform in mathematics and science. Key steps in the study included development of valid survey instruments for measuring instructional practices, collection and analysis of data, and the design of reporting formats and summary scales. An outcome of the study, a set of data collection, analysis and reporting tools, called the Surveys of Enacted Curriculum, were designed between 1998 and 2001. The Surveys of Enacted Curriculum provide teachers with a detailed set of indicators that support reflection on their instructional strategies and can inform their curriculum planning. When combined with content analysis of state standards and assessments, data from the surveys provide an efficient and quantitative means for calculating alignment measures that can be used to examine issues of alignment of instruction to assessments and standards. In 2002, the partners collaborated with Learning Point Associates to develop an English language arts version of the surveys. Then, CCSSO and the Wisconsin Center for Education Research collaborated with Learning Point Associates and TERC Regional Alliance to disseminate these tools and services to states, districts and schools. In July 2010, CCSSO convened 35 English language arts and mathematics specialists to conduct a content analysis of the Common Core State Standards using the content frameworks and methodology of the Surveys of Enacted Curriculum. Specialist teams reviewed the Common Core State Standards and coded each standard's statement to the framework categories of the Surveys of Enacted Curriculum. Each document is characterised by a set of common descriptors, which are coded for degrees of

emphasis by a specific set of standards. This model provides a comparable method for viewing the differences in subject content that are specified across different standards documents. The findings of the analysis of the Common Core State Standards for mathematics showed that the level of rigour is similar to many state standards, but that there is significant difference in sub-topics emphasised in the Common Core State Standards compared to many state standards. The Common Core State Standards emphasise number, operations, and measurement in early elementary grades, and basic algebra and geometric concepts are introduced in higher elementary and middle grades, but sub-topics of emphasis differ from many state standards. The high school standards emphasise functions and special topics, algebra, geometry, probability and data, but the sub-topics of emphasis differ from those found in many state standards. The findings of the analysis of the Common Core State Standards for English language arts showed that most topics are found in both the Common Core State Standards and many state standards, but the sub-topics and degree of emphasis vary between the Common Core State Standards and many state standards. Vocabulary, comprehension, critical reasoning, author's craft, writing, elements of presentation are emphasised in the elementary Common Core State Standards. Critical reasoning, language study and writing applications are topics emphasised in the secondary Common Core State Standards. The anchor standards provide reference points for desired student knowledge for reading, writing and language, and extend vertical learning progressions. There is a greater level of detail and use of examples and references to evidence in the Common Core State Standards than current state standards. In October 2010, the representatives of 12 states met at Savannah, Georgia, to interpret the results of the content analysis of the Common Core State Standards, and compare their states' standards and assessments to the Common Core State Standards. The participants identified topic areas and expectations for learning, which will need to be a priority in implementing the Common Core State Standards. State representatives will collaborate in planning professional development strategies, which benefit from a focus on evidence and data to identify gaps, overlap and disparity in current curriculum and instruction in schools. State representatives also planned their use of the Surveys of Enacted Curriculum to evaluate the effects of the Common Core State Standards on change in classroom instruction and content over time.

Achieve developed a range of resources, including a power-point presentation called *Understanding the Common Core State Standards*, fact sheets on the Common Core State Standards for English language arts, mathematics and algebra, a comparison on the alignment between the Common Core State Standards and the American Diploma Project benchmarks, statements of opinion about the Common Core State Standards, the Achieve Common Core Comparison Tool, model course pathways in mathematics, a set of briefs comparing the Common Core State Standards to international benchmarks, high performing states and NAEP, and a guide for states and school districts to use in implementing the Common Core State Standards. Funded by JP Morgan Chase, Achieve designed the Common Core Comparison Tool to assist state education agencies to compare existing state standards to the Common Core State Standards. The Common Core Comparison Tool provides a tool box presenting notes on encoding state standards, a match and rate guide, a user guide and a common core standards overview. The match and rate guide presents guidelines for comparing standards. The user guide assists users to navigate the process of matching, rating and reporting results. The first step involves matching and rating the state's standards to the Common Core State Standards by grade bands.

Once the full set of matches has been completed, the results can be viewed in several ways. An executive summary report can be created by downloading a full side-by-side comparison and summary datasheets. The final step involves the user analysing the results. Achieve provides orientation webinars for state education agencies. In partnership with the work group for mathematics, Achieve convened a group of experts to develop four model course pathways in mathematics for high school based on the Common Core State Standards. Beginning in grade 9, a traditional pathway, applying an approach typically used in the USA, consists of two algebra courses and a geometry course with some data, probability and statistics included in each course. Beginning in grade 9, an integrated pathway, applying an approach typically used in international settings, consists of a sequence of three courses, each of which includes number, algebra, geometry, probability and statistics. The remaining pathways consist of compacted versions of the traditional and integrated pathways compressing grade 7, grade 8 and the first year of high school mathematics into two years, allowing students to take their second year of high school mathematics in grade 9, and making a clear progression to studying calculus and other college-level courses in high school. Following their completion, the four pathways were included as an appendix in the document on the Common Core State Standards for mathematics. In the implementation guide, Achieve (2010) identified key areas that state policy makers will need to consider to implement the Common Core State Standards. The guide consists of four sections. The first section examines the Common Core State Standards as part of the college- and career-ready agenda. A set of questions is presented for state policy makers to ask in integrating the Common Core State Standards into these agenda. As implementation of the Common Core State Standards means that states should re-evaluate their course requirements, guidelines for organising courses are suggested. The advent of common assessments, designed by multi-state consortia, means that state policy makers will need to design implementation plans. Guidelines are suggested for improving existing state assessments and transitioning to common assessments. As accountability systems need to be modified to take account of college- and career-ready expectations, guidelines are suggested for expanding indicators, setting state-wide goals, setting school goals, awarding credit for progress, adopting a broader vision of accountability, providing resources to low-performing schools, and supporting capacity building efforts. The second section examines the process and planning considerations around implementing the Common Core State Standards. Guidelines are suggested for policy makers to form a strategic implementation team, take account of stakeholders, and design a plan, a timeline and a budget. A set of questions is presented to guide policy makers in determining funding streams for state support of implementation, professional development, and instructional materials and resources development. The third section examines policy considerations around implementation of the Common Core State Standards. A set of questions is presented for state officials to consider in conducting a gap analysis comparing existing state standards to the Common Core State Standards. The process is outlined for state officials to consider in determining the need to augment the Common Core State Standards with an additional 15 percent of content. Guidelines are suggested for state officials to review current expectations regarding literacy in history-social studies, science and technical subjects, and assemble teams of subject teachers and content experts to consider implications for implementation. Guidelines are suggested for state and local officials to set the goal, define selection criteria, conduct comparative analyses, incorporate open educational resources, consider cross-state collaboration, consider timing, and purchase materials for aligning

instructional materials with the Common Core State Standards. The fourth section examines broadening awareness and deepening support for the Common Core State Standards. Guidelines are suggested for state policy makers to assemble a cross-sectoral communications team to provide internal communications, develop consistent messages, reach out to stakeholders before and after state adoption of the Common Core State Standards, and inform the wider community. In May 2010, Achieve and the American Council on Education sponsored a webinar, called the *Common Core State Standards: What are they and what could they mean for you?*, for the higher education community. Three speakers provided an overview of the Common Core State Standards and their implications for higher education.

Gewertz (2010e) reported that the Alliance for Excellent Education published policy briefs on common standards and assessments, and developed a set of state cards profiling the procedure each state is using to adopt the Common Core State Standards and the role each state is playing in developing common assessments. Each state card includes data on teachers' attitudes about the Common Core State Standards, college graduation rates, student proficiency in reading and mathematics on the state's tests and NAEP, the education levels of unemployed persons, the numbers of students transferring across state borders, and the financial savings to be made if all students were ready for college at high school graduation.

Gewertz (2010f) reported that the Bill and Melinda Gates Foundation announced 15 grants to support development and field testing of prototype curricula and assessments in February 2010. The National Center for Research on Evaluation, Standards and Student Testing in the University of California Los Angeles received a three-year grant to create new architecture for aligning college and career standards with teaching and assessment, develop and evaluate formative assessments of literacy and mathematics standards for secondary students, design and pilot computer-based scoring of student responses, and conduct international benchmarking studies. The Charles A. Dana Center in the University of Texas at Austin received a two-year grant to develop a curriculum, consisting of materials disseminated through an on-line database, to assist teachers engage students in learning complex mathematical skills. The Graduate School of Education in the University of California at Berkeley received a two-year grant to develop mathematics courses and assessments aligned to rigorous standards. The Lawrence Hall of Science in the University of California at Berkeley received a three-year grant to extend to grades 6 to 8, a science and reading curriculum for grades 2 to 5 titled *Seeds of Science-Roots of Reading*. Math Solutions received a two-year grant to develop a web-based diagnostic tool to help middle school teachers assess students' computational and problem-solving skills. The Education Trust received a two-year grant to develop a set of open-access literacy courses for grades 6 to 8 designed to teach students the reading and writing skills needed for college preparation. The National Center for Research on Evaluation, Standards and Student Testing in the University of California Los Angeles received a one-year grant to develop a conceptual platform for college readiness, a process for validating a common core of standards and test assessments against international benchmarks. The Education Policy Improvement Center in the University of Oregon received a one-year grant to investigate whether the college and career readiness standards match the content and organisation commonly found in entry-level post-secondary courses. The Charlotte-Mecklenburg school district in North Carolina, the Cristo Rey Network of 24 Catholic high schools, the

Denver School of Science and Technology, the Fund for Public Schools, an organisation founded to attract private investment in New York City's schools, the National Council of La Raza, a Latina civil rights organisation, and the Prichard Committee for Academic Excellence, an advocacy group promoting reform of Kentucky's public schools, received one-year grants to pilot mathematics curriculum and assessment developed by the mathematics design collaborative.

Gewertz (2010g) reported that in February 2010 Core Knowledge Foundation announced its kindergarten to grade 8 Core Knowledge Sequence would be aligned to the Common Core State Standards, and made available on-line at no charge. Providing a curriculum in American and world history, geography, language arts, mathematics, music, science and visual arts, the kindergarten to grade 8 Core Knowledge Sequence is used in about 750 schools, whilst a preschool sequence is used in 380 schools.

Gewertz (2010h) reported that the NGA Center for Best Practices and CCSSO sponsored a meeting in April 2010, at which chief state school officers, governors' education advisors, higher education faculty, state directors of curriculum, and representatives of education organisations discussed how states could foster the development of materials aligned to the Common Core State Standards, which are clear and useful for teachers and students. The meeting was prompted by concerns of the key partners about claims of publishing companies that their products are aligned to the Common Core State Standards can be verified independently. In focusing discussion on how materials can be developed to provide guidance rather prescription, the participants thought curriculum maps could offer such a balance. In discussing the level to which materials should specify content, the participants agreed that materials should embody general concepts. However, the participants concluded that the curriculum development process is open to compromise by vested interests involved in the development and selection of instructional materials.

Gewertz (2010i) reported that Common Core, a Washington-based advocacy group promoting liberal arts education, released a set of curriculum maps for English language arts in August 2010. Aligned to the Common Core State Standards, the curriculum maps were subsequently revised with a second edition published in 2011.

In February 2011, the American Federation of Teachers' Committee on Implementation of Common Standards met to explore what could be done to ensure that the Common Core State Standards are translated in classroom teaching. Gewertz (2011a) reported that the Committee heard presentations from lead writers of the Common Core State Standards and representatives of the two consortia designing common assessments before committee members discussed the need for a common core curriculum, a concept discussed in a series of articles published by the American Federation of Teachers (2010-2011). In March 2011, the Albert Shanker Institute, an organisation founded in 1998 to commemorate the late president of the American Federation of Teachers by fostering discussions on policy proposals in education and unionism, called on policy makers to develop a common core curriculum consisting of voluntary guidelines in the core academic disciplines, specifying the content knowledge and skills all students are expected to learn. Seventy-five leaders in education, business and government, signatories to the call, stated that a common core curriculum should be based on seven recommendations. First, one or more sets of curriculum guides, mapping out the

core content students need to master the Common Core State Standards, should be developed. Second, teachers, content experts and cognitive scientists, as well as curriculum specialists, should be involved in developing the curriculum guides. Third, the curriculum guides, when taught at a reasonable pace with reasonable depth, should account for 50 to 60 percent of a school's available academic time. Fourth, the curriculum guides should include sample lessons and assessments that assist teachers to focus instruction and measure student outcomes. Fifth, a non-governmental quality control body should judge the strengths and weaknesses of curricula and instructional materials. Sixth, state teaching quality oversight bodies should be created to work on linking academic standards and curriculum guidance to teacher preparation and development. Seventh, federal investments should be increased in implementation support, comparative international studies related to curriculum and instruction, and evaluations aimed at identifying the most effective curriculum sequences, materials, and instructional strategies. Subsequently, the Albert Shanker Institute (2011) published the call for common content.

In May 2011, a group of activists, known for their opposition to the Common Core State Standards, released a manifesto, *Closing the Door on Innovation*, signed by more than 100 leaders in education, business and politics, opposing the Albert Shanker Institute's call for common content, and the proposals by the SMARTER Balanced Assessment Consortium and the Partnership for the Assessment of Readiness for College and Careers to develop national curriculum guidelines, models and materials. The signatories cited five grounds in support of their stance. First, there is no constitutional or statutory basis for national standards, assessments and curricula. Second, there is no consistent evidence that a national curriculum leads to high academic achievement. Third, the Common Core State Standards are an inadequate base for a national curriculum. Fourth, there is no body of evidence for a best design for curriculum sequences in any subject. Fifth, there is no evidence to justify a single high school curriculum for all students. Gewertz (2011b) stated that supporters of the call for common content viewed the group's manifesto as a misrepresentation of their position of ensuring teachers have access to voluntary curriculum guides.

In April 2011, the Bill and Melinda Gates Foundation announced eight grants to the Pearson Foundation, Educurious Partners, Florida Virtual School, Institute of Play, Reasoning Mind, Quest Atlantis, Digital Youth Network and EDUCAUSE to develop and promote new applications for learning and assessment aligned to the Common Core State Standards. The Pearson Foundation will develop 24 courses, 11 for mathematics from kindergarten to grade 10 and 13 for English language arts from kindergarten to grade 12. Lead writers of the Common Core State Standards will oversee the course design and development teams, which will draw on international expertise. The courses, which will be delivered through video, interactive software, games, social media and print, will be benchmarked to the college and career readiness standards. Funding from the Bill and Melinda Gates Foundation will allow four courses to be offered as free, open educational resources, while Pearson will market the other courses beginning in 2013. Educurious Partners will develop high school courses in biology, literature and algebra through a project-based learning design incorporating a social network Internet application allowing teachers and students to collaborate with a variety of experts working in relevant professional fields. Florida Virtual School will develop four digital courses, two of which will be literacy based and the other two will be mathematics based. Institute of Play will build a set of game-based pedagogical

tools and game-designed curricula for use in formal and informal settings. Reasoning Mind will pilot a program that makes a single mathematics teacher available across multiple classrooms through a hybrid of on-line and face-to-face instruction. Quest Atlantis will create video games that build proficiency in mathematics, literacy and science. Digital Youth Network will develop 20 literacy-based trajectories, which allow students to move from novice to expert. EDUCAUSE will lead Next Generation Learning Challenges, a program of competitive grants awarded to promising technologies built and embedded assessments that can help students master content aligned to the Common Core State Standards.

Susan Pimental and David Coleman, two lead writers of the Common Core State Standards for English language arts, designed two sets of criteria to guide publishers and curriculum developers align instructional materials to the Common Core State Standards for English language arts. Circulated for several months to publishers, state education agencies and teacher unions, the drafts were released in June 2011. One set for kindergarten to grade 2 consists of key criteria for reading foundations, text selection, and questions and tasks. The other set for grades 3 to 12 consists of two parts: the first part setting out criteria for aligning English language arts materials; and the second part setting out criteria for aligning history-social studies, science and technical materials. Each part consists of key criteria for text selection, questions and tasks, academic vocabulary, and writing to sources and research. The part for English language arts materials contains additional key criteria for student reading, writing, listening and speaking.

### ***Recycling the Initiative***

The need for making decisions about the extent, to which the desired ends of the Common Core State Standards Initiative have been attained, was recognised by staff of the Thomas B. Fordham Institute. They assumed the role of evaluators by determining the extent to which the coordinating organisations were attaining the objectives, and how a different governance structure might be integrated into the Common Core State Standards Initiative.

Early in 2010, the Thomas B. Fordham Institute initiated a project to inform policy makers about determining a new governance structure for the Common Core State Standards Initiative. Five authoritative observers and analysts on governance were commissioned to write background papers that address various aspects of governance relating to the Common Core State Standards Initiative.

DeVito (2010) discussed three examples of how state assessment programs operate in order to examine aspects of governance, decision making, and operation. Organisational issues faced by the New England Common Assessment Program, the only existing example of an assessment consortium, are analysed to identify new challenges. The consortium operates as an association of state departments of education with a management team of state assessment directors making key decisions assisted by the National Center for the Improvement of Educational Assessment. A testing company, Measured Progress, is contracted to operate the assessment program. Frequent changes in state personnel, the addition of Maine to the consortium in 2009, Race to the Top initiatives, and changes from reauthorisation of the Elementary and Secondary

Education Act are cited as current challenges facing the consortium. Organisational issues faced by the Massachusetts Comprehensive Assessment System, one of the best assessment programs in the USA, are analysed to identify new challenges. Functions of the assessment staff, assessment development committees, a contracted testing company, Measured Progress, the National Center for the Improvement of Educational Assessment, and a Technical Advisory Committee in operating the assessment program are analysed. The advent of multi-state assessment consortia, pressures to change or abandon the assessment program, and obtaining funds and staff to expand the assessment program are cited as current challenges facing the Massachusetts Comprehensive Assessment System. The governance of assessment programs in Kentucky, Michigan and North Carolina are outlined to identify other significant factors. DeVito concluded that large-scale consortia of 15 or more states will face significant governance challenges.

Manna (2010) examined the theory of networked governance, identifying that networks are based in nodes and links, but the degrees of centrality and formality in networks vary. Informational, developmental, outreach and action networks are four types defined. Advocates of networked governance argue that networks can solve multi-dimensional problems more effectively than bureaucratic organisations by leveraging diverse expertise and more abundant resources, as well as react rapidly to change and unexpected circumstances. However, multiple participants in networks may not agree on core goals, cannot be held accountable, and cannot be assigned rewards or punishments for results. Manna cited Amber Alert, informational networks designed to rescue missing children, homeland security fusion centres functioning across all four types to share information on terrorist attacks, and the Council of the Great Lakes Governors, an outreach and action-oriented network to design water policies for the Great Lakes as examples of existing networks. The diverse ways that these three networks operate are discussed in identifying how networks formalise links, define the networks' membership, and resource the networks' efforts. Manna asserted that different categories of action that members of the Common Core State Standards Initiative hope to pursue collectively should be identified to determine when to establish tight or loose commitments. The voluntary nature of the Common Core State Standards Initiative means that it will be difficult to determine a governance structure, which defines and sustains membership. Even if states see potential benefits in participating in the Common Core State Standards Initiative, variation in state capabilities might influence the extent to which resources are dedicated to the common good. This impediment could be overcome by giving leading states a larger role during the initial years of the governance structure. Member states should anticipate that the federal government will seek to influence the Common Core State Standards Initiative to promote federal objectives. Member states are likely to be in a stronger bargaining position, if the effort produces identifiable results.

McGuinn (2010) examined examples of multi-state efforts to create common standards outside education by identifying models for setting standards and analysing the challenges such efforts pose for governance. A typology, consisting of six models based on setting standards on a voluntary or mandatory basis by the private sector, multi-state compact or the federal government, is presented. Examples of five of the six types are discussed. The development of voluntary standards by private organisations represents the most decentralised and least coercive model. The Leadership in Energy and Environmental Design Green

Building Rating System, developed by the U.S. Green Building Council, cited as an example of this type, has not been adopted widely. The development of standards by experts in the private sector, which are ratified by governmental bodies, is another model. The Uniform Law Commission, set up to establish uniform state legal codes, and the Financial Accounting Standards Board, formed to establish standards of accounting as a basis for preparing financial statements, cited as examples of this type, have been more successful. Recommendations for best practices set by multi-state organisations are usually not adopted by states in a widespread or uniform manner, although some promising examples have arisen recently. The historical development of interstate compacts as mechanisms for collective action on common challenges across borders is discussed to illustrate how some 200 interstate compacts, existing today, have been successful in safeguarding state authority in periods of federal government activism and the means for states to take action during periods of federal government inaction. The Interstate Insurance Compact, formed to develop uniform product standards, and the Regional Greenhouse Gas Initiative, created by north-eastern and mid Atlantic states to promote a market-based effort to reduce greenhouse gas emissions, are described as examples of interstate compacts established to set voluntary standards. Three models of federally initiated standards, which are adopted voluntarily by states, are described. The National Public Health Performance Standards Program, which sets national standards and assessments for the optimal level of performance for state and local public health systems, is an example of a partnership model. The Energy Star Rating System, created by the U.S. Department of Energy and the Environmental Protection Agency, is an example of the stamp-of-approval model. Various policies, such as Medicaid, are cited as examples of the grant-in-aid model. In various policy areas, where the federal government claims a constitutional mandate, federal agencies set national standards mandating state adoption through a regulatory model. McGuinn argued that the interstate compact model is a promising paradigm for the Common Core State Standards Initiative, because it offers a way to formalise state collective action with or without the participation of the federal government. However, the interstate compact model carries unresolved political and institutional issues regarding the federal government's role. The federal government's role should be directed towards lowering the political and financial costs for states to join the Common Core State Standards Initiative. Since interstate compacts rarely assess states' progress towards meeting standards and it is almost unheard of for members to be held account for failure, it remains to be seen whether states have the political will or institutional capability to act collectively to advance shared goals to this degree.

Musick (2010) examined the historical development of the governance structure for NAEP in order to identify appropriate features of a governance structure for the Common Core State Standards Initiative. Creating an organisation independent of the federal government led to the formation of the National Assessment Governing Board, the National Center for Education Statistics as part of the U.S. Department of Education, and the testing contractor that operates NAEP under contract to the National Center for Education Statistics. This model is not particularly suitable for the Common Core State Standards Initiative, since the National Assessment Governing Board plays no part in overseeing the work of the National Center for Education Statistics and the testing contractor. However, the membership of the National Assessment Governing Board and how it is appointed may be relevant to the Common Core State Standards Initiative. After soliciting suggestions from stakeholders, the National Assessment Governing Board recommends candidates

for appointment to the Secretary of Education, who makes appointments to the Board based on these recommendations. Although the membership is representative, the members do not see their role as representing specific groups and instead act in the public interest. The extent to which the federal government funds the Common Core State Standards Initiative is likely to determine whether the Secretary of Education appoints members to the board. Selection of members for the board of the Common Core State Standards Initiative may need to be based on states recommending individuals recognised for their work beyond their state's borders. The National Assessment Governing Board has 26 members, which allows for a structure of working committees responsible for much of the Board's work. A representative from each member state may need to be appointed to a board of the Common Core State Standards Initiative, which raises the possibility that members would principally represent their states. The amount of funds required to administer NAEP has increased substantially due largely to the advent of a state-level NAEP arising from the No Child Left Behind Act. The amount of funds required for the Common Core State Standards Initiative will range from small to large depending on whether only the Common Core State Standards are funded, implementation efforts are funded as well, and aligned assessments are also funded. Whilst private funding may be sufficient initially, the history of NAEP suggests that public funding will be needed to sustain the Common Core State Standards Initiative over the long term. The organisational arrangements for NAEP preceding the advent of the National Assessment Governing Board, at first a small non-profit organisation, then housed within the Education Commission of the States from 1969 to 1983, and finally operated by the Educational Testing Service from 1983 to 1988, suggest that the Common Core State Standards Initiative will eventually need a separate home. Formation of the National Assessment Governing Board in 1988 has led to the recruitment of highly competent staff. A similar situation is likely to arise once a governance structure for the Common Core State Standards Initiative has been instituted. However, the state-led nature of the Common Core State Standards Initiative means that it will require a stronger board than that of the National Assessment Governing Board, a board that is directly in charge of developing and overseeing the administration of assessments.

Toch and Tyre (2010) contended that the advent of assessment consortia is likely to disrupt the testing industry, since fewer tests will be created under the consortium model. Policy makers and reformers are urging testing companies to become more innovative in the types of tests they design. However, it is unclear whether the testing companies will respond to policy makers' and reformers' demands, unless the accountability requirements of the No Child Left Behind Act are changed. Before the Charlottesville Education Summit in 1989, the testing industry was highly profitable, since companies sold achievement tests directly to districts and schools. Following the Summit, increasing numbers of states began requiring students to meet state standards and contracted testing companies to develop state tests aligned to the state standards. Enactment of the No Child Left Behind Act in 2001, requiring states to use standardised test scores to measure school performance, increased demands on testing companies, intensified competition with new companies entering the marketplace, and reduced testing to the production of multiple-choice tests. The federal government's Race to the Top initiative will place higher expectations on assessment consortia to develop new assessments to measure school performance for accountability, increase the use of technology in test administration and scoring, link assessment more closely to teaching and learning, and compare scores across states. The creation of

consortia will eliminate the need for each state to create unique tests, thereby improve the quality of assessments needed to measure higher order skills. However, the new marketplace is unlikely to be large enough for the existing number of testing companies to survive. Some testing companies may survive, because states will continue to have some discretion to customise tests, they will sub-contract work, or they will develop additional diagnostic assessments for states. The assessment consortia face several challenges. Finding agreement among a large number of states in each consortium may be difficult. The federal government's requirement to provide detailed information about test items in their proposals will be difficult to meet. Incorporation of more constructed response items into standardised tests will be difficult to accomplish. The design of on-line assessments is likely to be hindered by technical difficulties. Compliance with the federal government's challenging, and sometimes conflicting, goals for assessment, will add costs and time to the enterprise. Toch and Tyre concluded that the nature of changes to be incorporated into reauthorisation of the Elementary and Secondary Education Act will determine their degree of impact on the testing industry.

Following presentation of the background papers, Thomas B. Fordham Institute staff surveyed 24 experts on education reform about their attitudes to a set of questions concerning governance for the Common Core State Standards and assessments. However, the experts failed to agree on many key issues relating to governance. Some believed that the question of oversight should be settled immediately whilst others thought it could be delayed indefinitely. Some wanted to entrust oversight to the coordinating organisations, whilst others wanted to found a new organisation. Finn and Petrilli (2010) concluded that the variance in responses arose from the respondents' lack of a clear conception about how the American education system will operate over the next few decades. As a first step to improve understanding about how the Common Core State Standards should be implemented, they identified ten major activities that should be accomplished. First, assessments aligned to the Common Core State Standards should be developed, diffused and protected from compromise. Second, common assessment data should be shared across state borders. Third, appropriate accountability measures should be determined. Fourth, a voluntary curriculum supported by aligned materials and interim assessments should be designed to assist teachers implement the Common Core State Standards. Fifth, on-line options for students should be designed to engage students with the Common Core State Standards. Sixth, teachers' knowledge and skills about content should be raised and teacher performance should be evaluated. Seventh, employers and post-secondary educators should be engaged to a greater extent. Eighth, lay people's understanding of the Common Core State Standards should be increased. Ninth, longitudinal studies of student performances should be conducted. Tenth, the Common Core State Standards should be revised periodically and new subjects added.

Finn and Petrilli identified three prospective models of governance for the Common Core State Standards Initiative. In 'Let's Become More Like France', a governing board would oversee the standards, assessments, and many aspects of implementation, validation, and more. The governing board, consisting of a representative from each member state, would resemble an interstate compact. The governing board would be supported by advisory bodies and financed by a membership fee. Whilst this model would place the states in the forefront in an integrated and comprehensive way, it could lead to controversial structural

changes, interest group conflicts, and bureaucratic inertia. In 'Don't Rock the Boat', the coordinating organisations would update the standards periodically, but curricula, instructional materials and teacher training would vary widely. Another entity would need to take responsibility for research and development, and validation activities to determine what aspects of the Common Core State Standards need to be revised. The assessment consortia would administer the assessments they have developed. Whilst this model would be inexpensive, least disruptive and politically palatable, implementation of the Common Core State Standards is less likely to be effective, assessments may become untethered from the standards, and gains in student achievement may be minimal. In 'One Foot Before the Other', an interim coordinating council would be created, and permitted to evolve into a more permanent organisation over time. The council may resemble the defunct National Education Goals Panel, but should be funded by private grants and a membership fee. Member states would nominate the membership of the council, which would be supported by a small secretariat, an active web site, other clearinghouse functions, and an annual summit. Initially, the council would encourage states to share information about implementation issues, and inform the states and the public about progress in implementing the Common Core State Standards. The council would also be responsible for launching a validation, evaluation and research program. Additional funding from a federal source would probably be needed to fund this program, but states should pay an additional fee for technical assistance. Although this model encourages diversity and pluralism, permits learning from experience and allows time for states to develop implementation strategies and partnerships, the council could veer away from its mission, states could receive different types of implementation, gaps could occur between standards and assessments, and it is unclear whether the council would be competent to run a validation, evaluation and research program.

Finn and Petrilli concluded that forming an interim coordinating council would be the most appropriate model in the present circumstances. Its membership could consist of two governors designated by NGA, a state superintendent and a testing director designated by CCSSO, one or two designates from each assessment consortium, two designates from the National Conference of State Legislators, one designate from the Institute of Education Sciences, and one designate of Secretary of Education. Funded initially by private foundations, the council would develop a fee structure for member states, and federal funds could be used for a validation, evaluation and research program. The council would conduct and report on state implementation efforts, foster interstate cooperation and collaboration, prepare for the revision of the standards and addition of new subjects, promote involvement by the post-secondary community, employers and the public, and recommend a long-term governance structure based on the interstate compact model. A secretariat of ten people and a budget of \$5 million annually would be sufficient to fund these activities.

In October 2010, the NGA Center for Best Practices and CCSSO responded to the recommendations presented by Finn and Petrilli (2010). Although representatives of the coordinating organisations supported the need for a new governance structure for the Common Core State Standards Initiative, they disagreed with two recommendations. First, they believed that the federal government should not be involved in the Common Core State Standards Initiative. Second, they believed that the scope of work of the new governance structure should be narrower. They stated that a new governance entity for the Common Core State Standards was being planned.

## ***State-Level Adoption of the Common Core State Standards***

### *Procedures and Progress of State-Level Adoption*

States are responsible for adopting the Common Core State Standards in accordance with state procedures for adopting standards. Adopting states are required to adopt the Common Core State Standards in their entirety and states need to ensure that at least 85 percent of their standards represent the Common Core State Standards.

In July 2010, Gewertz (2010j) concluded that a large number of states had adopted the Common Core State Standards within two months of their release, spurred on by the Race to the Top competition, which gave states more points for adopting them before the competition closed. Although the Race to the Top competition provided an obvious motive, a study investigating states' plans for implementing the Common Core State Standards, conducted by the Center on Education Policy, an independent Washington-based organisation promoting public education, identified that a range of factors was important. In October and November of 2010, Policy Studies Associates, contracted by the Center on Education Policy to conduct this study, administered a questionnaire by e-mail to deputy chief state school officers. The questionnaire consisted of three sections: adoption and implementation of the Common Core State Standards; state use of American Recovery and Reinvestment Act education funds; and state education agency capacity. At the conclusion of the survey, respondents from 43 states had returned completed questionnaires. Policy Studies Associates staff used statistical analysis software to analyse data collected from the survey.

In the report on that part of the study concerned with the adoption and implementation of the Common Core State Standards, the Center on Education Policy (2011) found that 32 of the 43 responding states had adopted the Common Core State Standards. An additional four states had adopted the Common Core State Standards provisionally, one state had decided not to adopt the Common Core State Standards, and six states were undecided. Only three states, of those that had made a decision, indicated that there was a possibility of changing that decision due to changes in the states' political leadership or the state board's membership. Of the responding states, 27 indicated that federal encouragement through the Race to the Top competition had influenced their decision to adopt the Common Core State Standards, eight states reported that the competition had had no effect, and two states indicated that the competition discouraged adoption of the Common Core State Standards. Six factors were identified as very important or important in states' decisions to adopt the Common Core State Standards. The rigour of the Common Core State Standards was cited by 36 states. The basis of the Common Core State Standards serving as a foundation for state-wide educational improvement was cited by 36 states. Adoption of the Common Core State Standards would ensure that the state's standards were as good as any in the USA was cited by 31 states. The possible effect on success of the state's Race to the Top application was cited by 36 states. The financial cost to the state of adopting the Common Core State Standards was cited by 25 states. Intrusiveness of the Common Core State Standards on the state's autonomy in education was cited by 22 states. On the question of states including additional state-specific content standards with the Common Core State Standards, 11

states intended to incorporate such content, 11 states were uncertain, and 12 states did not plan to incorporate such content. Most of the states planned to change elements of their standards-based systems. Thirty-six states planned to change state assessments, 33 states planned to change curriculum guides or materials, 33 states planned to change professional development programs, 31 states required districts to implement the Common Core State Standards, 30 states planned to create or revise accountability measures, 25 states planned to adopt special initiatives to ensure the Common Core State Standards are implemented in the lowest-performing schools, and 18 states planned to align teacher certification policies to the Common Core State Standards. However, few states planned to implement any of these changes before 2013, except for changing professional development programs. States require or expect districts to undertake certain activities to facilitate implementation of the Common Core State Standards. Thirteen states require districts to provide professional development, while 22 states expect districts to provide professional development. Eleven states require districts to design and implement teacher evaluation systems, while 17 states expect districts to design and implement them. Ten states require districts to develop new curriculum materials or instructional practices, while 24 states expect districts to develop them. Six states require districts to design programs to foster new teachers' understanding of the Common Core State Standards, while 22 states expect districts to design them. Four states require districts to pilot test new curriculum materials or instructional practices, while 21 states expect districts to pilot test them. One state requires districts to offer suggestions on new curriculum materials aligned to the Common Core State Standards, while 29 states expect districts to offer them. States plan to make certain changes to higher education policies and practices as part of their implementation of the Common Core State Standards. Seventeen states plan to align the academic content of teacher preparation programs to the Common Core State Standards. Fifteen states plan to modify the pedagogical content of teacher preparation programs. Eight states plan to align undergraduate admissions requirements with the Common Core State Standards. Seven states plan to align first-year undergraduate core curriculum with the Common Core State Standards. States, which had fully or provisionally adopted the Common Core State Standards, identified a range of challenges to implementing the Common Core State Standards. Developing teacher evaluation systems that hold teachers accountable for students' mastery of the Common Core State Standards represent a major challenge for 21 states, a minor challenge for four states, no challenge for two states, while determining whether it represents a challenge was premature for nine states. Finding funds to support implementation of the Common Core State Standards represents a major challenge for 19 states, a minor challenge for 11 states, no challenge for three states, while determining whether it represents a challenge was premature for three states. Aligning the content of teacher preparation programs with the Common Core State Standards represents a major challenge for 16 states, a minor challenge for five states, no challenge for one state, while determining whether it represents a challenge was premature for 13 states. Developing or implementing new assessments aligned to the Common Core State Standards represents a major challenge for 16 states, a minor challenge for 14 states, no challenge for two states, while determining whether it represents a challenge was premature for four states. Identifying or developing curriculum materials to support the Common Core State Standards represents a major challenge for 12 states, a minor challenge for 18 states, no challenge for one state, while determining whether it represents a challenge was premature for five states. Aligning teacher certification requirements to the Common Core State

Standards represents a major challenge for seven states, a minor challenge for 11 states, no challenge for four states, while determining whether it represents a challenge was premature for 14 states. Determining adequate yearly progress, as described in the No Child Left Behind Act, represents a major challenge for six states, a minor challenge for seven states, no challenge for 11 states, while determining whether it represents a challenge was premature for ten states. Overcoming resistance to the Common Core State Standards from within the education system represents a major challenge for one state, a minor challenge for 20 states, no challenge for 13 states, while determining whether it represents a challenge was premature for two states. Overcoming resistance to the Common Core State Standards from outside the education system represents a major challenge for one state, a minor challenge for 18 states, no challenge for 11 states, while determining whether it represents a challenge was premature for five states. The study team concluded that the results of the study showed states' progress in implementing the Common Core State Standards would be slow with many changes taking until 2013 or later, and finding sufficient funds will be a key challenge.

The procedure for formal adoption and subsequent implementation of the Common Core State Standards, described below for each state, takes into account the policy context prevailing in the particular state. Each state profile encompasses activities involved in incorporating the Common Core State Standards into the state's academic standards, implementing professional development and teacher preparation, aligning curriculum, selecting instructional resources, aligning assessments, and designing accountability measures. However, the state profiles do not cover respective states' activities as members of the two consortia – the Partnership for the Assessment of Readiness for College and Careers and the SMARTER Balanced Assessment Consortium – awarded grants by the U.S. Department of Education to develop new assessments.

### *Adoption by the States*

In March 2009, the Kentucky General Assembly enacted Senate Bill 1 requiring major changes in Kentucky's academic standards, curriculum, assessments, accountability, teacher preparation and professional development. Senate Bill 1 called upon the Kentucky Department of Education and the Kentucky Council on Postsecondary Education to plan and implement a comprehensive process for revising academic expectations to focus on critical knowledge, skills and capacities, fewer and deeper standards, evidence-based research, international benchmarks, and alignment across all levels. In April 2009, the Content Standards Work Group, appointed by the Department of Education and the Council on Postsecondary Education, drafted a work plan to revise the standards. In June 2009, the Department of Education and the Council on Postsecondary Education appointed the Senate Bill 1 Steering Committee, consisting of legislators and representatives of the Department of Education, the Council on Postsecondary Education and the Education Professional Standards Board, to oversee the revision of the standards and professional development process. In turn, the Senate Bill 1 Steering Committee appointed work groups, consisting of teachers, post-secondary faculty and content experts, to review the standards for English language arts and mathematics in kindergarten to grade 12 and introductory post-secondary courses as well as college-readiness. The kindergarten to grade 12 work groups reviewed successive drafts of the Common

Core State Standards, finding that they met the requirements of Senate Bill 1. The work groups on introductory post-secondary courses reviewed and aligned exit standards for high school and entrance standards for college-level courses. The College Readiness Work Group examined evidence-based practices for promoting college- and workplace-readiness in order to develop a strategy to increase the number of high school graduates. Gewertz (2010k) reported that the chairs of the Kentucky Board of Education, the Council on Postsecondary Education and the Education Professional Standards Board signed a resolution at a joint meeting on 10 February 2010, directing their respective agencies to implement the Kentucky Core Academic Standards for English language arts and mathematics. In addition, Kentucky's standards for kindergarten to grade 12 and introductory post-secondary courses for the arts and humanities, practical living, science, social studies, technology and vocational studies are being revised to form Kentucky Core Academic Standards aligned to the Common Core State Standards. The three partner organisations are undertaking several activities to disseminate the Kentucky Core Academic Standards. In August 2010, the Department of Education published documents comparing the alignment between Kentucky's former standards and the Common Core State Standards. The three partner organisations are working with the Prichard Committee for Academic Excellence to raise awareness by forming a project team to create cadres of teachers and parents responsible for communicating messages about the Kentucky Core Academic Standards to their constituents. The three partner organisations are working with additional partners to hold informational webinars and school meetings to share information on the Kentucky Core Academic Standards with stakeholders. The news media and print publications will be used to present segments and articles about the impact of the Kentucky Core Academic Standards. The three partner organisations are working with the Partnership for NewCities and P-16 councils to increase understanding about how the Kentucky Core Academic Standards will promote prosperity in local communities. Alignment of school and post-secondary education around the Kentucky Core Academic Standards is being conducted by the three partner organisations. A plan for implementing the Kentucky Core Academic Standards was presented at the Unbridled Learning Summit held in April 2010. Following the summit, workshops were held to enhance understanding of the Kentucky Core Academic Standards, the Instructional Support Network was reorganised to include P-16 leaders, higher education networks were formed, and a course was introduced to support pre-service training of teachers in standards and assessment. Implementation of the Kentucky Core Academic Standards is being facilitated by nine regional content leadership networks. Formed in May 2010, the Core Advisory Team, consisting of representatives from key stakeholders, is overseeing the implementation process. The regional networks consist of a professional learning team and content area experts supported by the eight regional educational cooperatives with an additional one served by the Gheens Professional Development Academy at Louisville. The professional learning teams and content area experts work with a representative from each school to facilitate implementation of the Kentucky Core Academic Standards. In July 2010, the content area experts from each regional network began identifying or developing printed materials and on-line resources to facilitate learning by various audiences through the Continuous Instructional Improvement Technology System. Resources for assessment, instruction, effectiveness and evaluation, professional development, and school and district improvement will be made available through the Continuous Instructional Improvement Technology System. More than 850 trained facilitators are establishing teams to guide professional learning at the school level. The Department of Education formed a

Curriculum Framework Advisory Group, representing various stakeholders, to draft the Kentucky Model Curriculum Framework. Meeting monthly from September 2010, the Advisory Group identified the contextual setting for the framework, developed common language to guide design of the framework, determined the components of the framework, considered the design of a web-based framework by examining curriculum frameworks from Connecticut, New Jersey, Queensland, Australia, and New Zealand, and developed and revised components of the draft framework. In April 2011, the draft framework was released on-line for public review. Following revision, the Kentucky Model Curriculum Framework was published in June 2011. It presents a rationale for revisiting curriculum planning, and outlines guidelines for planning a 21<sup>st</sup> century curriculum, implementing a 21<sup>st</sup> century curriculum, defining 21<sup>st</sup> century assessment, and designing professional learning in the 21<sup>st</sup> century. The Kentucky Model Curriculum Framework will be revised annually based on feedback from educators. More consistent and rigorous courses for high school graduation will be offered through AdvanceKentucky, a science, technology, engineering and mathematics initiative of the Kentucky Science and Technology Corporation, Project Lead the Way, a program intended to increase students' interest in pursuing careers in engineering, advanced manufacturing, biomedical sciences and energy, integrating and expanding services provided by the Kentucky Virtual School, and introducing an individual learning plan for students, parents and teachers to devise customised learning pathways.

In February 2006, the West Virginia Department of Education convened committees, consisting of higher education faculty, teachers, parents and community members, in each content area to revise the West Virginia Content Standards and Objectives. The purpose of the revision was to align the content standards to national standards and integrate twenty-first century knowledge and skills into the content standards. Late in 2006, the drafts were presented to the West Virginia Board of Education for review and adoption. In 2007, the State Board revised Policy 2520, providing for the 21<sup>st</sup> Century Content Standards and Objectives for West Virginia's Schools in the content areas for all programs of study effective from July 2008. On 12 May 2010, the State Board adopted the Common Core State Standards. Beginning in October 2010, teams of West Virginia Department of Education staff, higher education faculty and teachers identified gaps and inconsistencies between the 21<sup>st</sup> Century Content Standards and Objectives for West Virginia's Schools for English language arts and mathematics and the Common Core State Standards. Following adoption in May 2011, Department of Education staff will implement the revised 21<sup>st</sup> Century Content Standards and Objectives for English language arts and mathematics for kindergarten in August 2011, grade 1 in July 2012, grade 2 in July 2013, and grades 3 to 12 in July 2014 based on a plan recommended by a committee of stakeholders. A professional development strategy to implement the new standards, to be initiated at the Teacher Leadership Institute in mid 2011, will focus on two aspects. First, school-based teams will begin year-long professional development to gain understanding of the Common Core State Standards. Second, 200 kindergarten teacher leaders will receive training to facilitate the learning of other kindergarten teachers about the Common Core State Standards. Professional learning communities will be formed in schools to introduce the new standards into classrooms. Beginning in September 2012, committees, consisting of Department of Education staff, higher education faculty and teachers, will be convened to oversee development and alignment of resources on Teach 21, an on-line portal launched in November 2007 to assist teachers to plan and deliver

twenty-first century curriculum. From September to December of 2011, teams of teachers will be engaged to review the Common Core State Standards and state-adopted instructional materials to identify gaps in materials. From January to August of 2012, teams of teachers will develop electronic resource packages to fill in gaps identified in the review. From September 2012 to June 2013, teams of teachers will review and align more than 400 resources on Teach 21 to the Common Core State Standards. The electronic resource packages and revised resources will be posted on Teach 21 in August 2013.

In May 2007, the North Carolina State Board of Education appointed the Blue Ribbon Commission on Testing and Accountability to review and offer recommendations on revising the state's testing program and accountability system. In its report, the Blue Ribbon Commission on Testing and Accountability (2008) recommended improvements in the current system of testing and accountability, and steps that should be taken to develop the next generation of essential standards, a balanced assessment system based on the essential standards, and a new high school accountability model. In June 2008, the State Board adopted a Framework for Change to develop essential standards, assessments, and an accountability model. In October 2008, the North Carolina Department of Public Instruction responded to the Framework for Change with a plan based on a collaborative process to be undertaken over a five-year time frame. The plan was put into practice with the Accountability and Curriculum Reform Effort, which involved writing committees developing essential standards over two phases, and specialist assessment and accountability working groups designing formative, benchmark and summative assessments, revising the kindergarten to grade 8 accountability system, and designing a new high school accountability system. The essential standards were developed by committees, consisting of curriculum specialists, teachers, higher education faculty and business representatives, using the Revised Bloom's Taxonomy under the guidance of one of its authors, Lorin Anderson. Early in 2009, essential standards for information and technology skills, science, and the occupational course of study for students with learning disabilities were drafted in the first phase. Following review by teachers through district feedback reports and by stakeholders through an on-line survey, the drafts were revised by the committees before presentation to the State Board. The State Board adopted the essential standards for information and technology skills in September 2009, and the essential standards for science in February 2010. On 2 June 2010, the State Board adopted the Common Core State Standards and incorporated them into the North Carolina Standard Course of Study. Beginning in July 2009, essential standards for arts education, guidance, healthful living, social studies and world languages were drafted in the second phase. Following review by teachers through district feedback reports and by stakeholders through an on-line survey, the drafts were revised by the committees before presentation to the State Board. The State Board adopted the essential standards for arts education and world languages in September 2010, the essential standards for social studies in December 2010, and the essential standards for healthful living in March 2011. Following adoption of the essential standards and the Common Core State Standards, the Department of Public Instruction produced documents comparing them to the goals and objectives in the current North Carolina Standard Course of Study. In July 2010, the Department of Public Instruction released a timeline indicating that the essential standards and the Common Core State Standards will be field-tested in 2011-2012, and fully implemented in 2012-2013. The occupational course of study is being implemented in 2010-2011 to meet requirements of the No Child Left Behind Act.

A professional development initiative consisting of face-to-face training and on-line learning will be launched in July 2011 at two-day summer institutes to be held in six of the state's eight regions. Each district will send a representative team of teachers in each curriculum area to receive an overview of the essential standards and the Common Core State Standards, instructional tools for implementing the essential standards and the Common Core State Standards, and content-specific material to train and support teachers in schools in their district. Each team will be expected to determine expectations for district-level training, demonstrate to teachers that the training fits the district's scope of work, demonstrate to teachers how to access on-line modules, and work with district and school leaders to design a plan for training teachers before implementation of the essential standards and the Common Core State Standards in 2012-2013.

On 2 June 2010, Wisconsin state superintendent Tony Evers adopted the Common Core State Standards. In August 2010, the staffs of the Wisconsin Department of Public Instruction and the state's 12 cooperative educational service agencies released a foundations kit to provide information on the Common Core State Standards for district superintendents, educators and other stakeholders. After holding a summit on Response to Intervention in 2009, the Department of Public Instruction introduced this process for achieving higher levels of academic and behavioural success for all students through high quality instruction, balanced assessment and collaboration between teachers, families and communities across Wisconsin by releasing a guide in November 2010. Response to Intervention provides a multi-level system of support through interventions for low-achieving students and additional challenges for high-achieving students, universal screening and progress monitoring of students' performances. Schools involve teachers, families and community members in making decisions to ensure the effectiveness of local Response to Intervention systems. The Department of Public Instruction collaborated with the cooperative educational service agencies to establish the Wisconsin Rtl Center for coordinating a state-wide effort and supporting schools to implement Response to Intervention. Based at Chippewa Falls, the Wisconsin Rtl Center offers professional development to teachers through purpose-building training, infrastructure and implementation training, and sustainability training and technical assistance through the Wisconsin Positive Behavioural Interventions and Support Network. Integrated into the Response to Intervention process, the Common Core State Standards are being implemented through a plan designed by the Department of Public Instruction in collaboration with institutions of higher education, professional associations, cooperative educational service agencies and districts. Released in November 2010, the plan involves implementing the Common Core State Standards over three phases. In 2010-2011, the partners will disseminate information to increase understanding of the Common Core State Standards and the implications for the curriculum, design a framework for local curriculum development, and investigate and interpret the knowledge, skills and understandings in the Common Core State Standards for instruction. In 2011-2012, the partners will form regional networks to sustain professional development, facilitate local curriculum to provide an instructional focus, and select and align resources to implement changes in instruction. From 2012 to 2015, the partners will support implementation with professional development on curriculum, instruction and assessment, base local curriculum development on an instructional focus, facilitate lesson study on implementation of changes, provide tools to analyse student data to improve performance, and design an on-line portal as a resource containing the Common Core State

Standards, model curricula, model units, examples of student work and formative assessment techniques.

In 2006, the Ohio Department of Education convened the International Education Advisory Committee, consisting of educators, business leaders, foundation representatives, policy makers and community leaders, to take action in preparing students for the twenty-first century. The Committee held a summit in 2007 to gather input from stakeholders to develop a strategic plan for international education in Ohio. A second summit held in October 2009 focused on incorporating international and global perspectives into the Ohio Academic Content Standards and the curriculum. In 2007, the Ohio State Board of Education formed the Subcommittee for Education in the Global Economy, which conducted a study to identify the skills, knowledge and attitudes that students need to acquire and to participate in a global economy. In 2008, the Department of Education analysed and compared the Ohio Academic Content Standards for English language arts, mathematics and science to academic standards used in Australia, England, Finland, Hong Kong, Ireland, Japan, the Netherlands, New Zealand, Ontario, and Singapore. In the report on the study, the Ohio Department of Education (2009) found that Ohio's standards compared favourably in terms of content and organisation with the standards from the selected countries. In July 2009, the Ohio General Assembly enacted House Bill 1 requiring the State Board and the Department of Education to revise the Ohio Academic Content Standards to incorporate twenty-first century skills by June 2010 and to develop new model curricula by March 2011. Department of Education staff commenced revisions of the Ohio Academic Content Standards for English language arts, mathematics, science and social studies by meeting with stakeholders in June 2009. From July to September of 2009, working groups drafted the new standards with input from advisory groups. Whilst the drafts for the science and social studies standards were presented for public review in November 2009, the drafts for the English language arts and mathematics standards were withheld pending release of the Common Core State Standards. Feedback collected by means of an on-line questionnaire together with expert reviews were used to produce second drafts released for public review in April 2010. Following final revision, the State Board adopted the Common Core State Standards and the science and social studies standards on 7 June 2010. Following adoption, committees of teachers, teacher educators, consultants from the 57 education service centres and subject specialists produced comparisons of the Ohio Academic Content Standards and the Common Core State Standards. In July and August of 2010, the Department of Education held meetings in 16 regions across Ohio for teachers to suggest teaching strategies and curricular resources for model curricula in English language arts, mathematics, science and social studies. Following the regional meetings, Department of Education staff analysed the feedback to produce the first drafts for the model curricula in September 2010. From September to November of 2010, the Advisory Committee and working groups reviewed the drafts before releasing them for public review in November 2010. The feedback from the public review was used to revise the model curricula before they were presented for consideration by the State Board. Following adoption in March 2011, the model curricula were incorporated into an interactive web-based tool. The model curricula present standard statements, content elaborations, expectations for learning, and instructional strategies and resources organised by themes, strands and topics. In December 2010, an advisory committee, consisting of curriculum leaders from the education service centres and districts, met to develop an implementation plan, produce comparison documents, and prepare the

transition committee, which will work with districts and schools. Following development of the implementation plan, the transition committee, consisting of representatives from each education service centre, met in April 2011 to discuss collaborative planning for district curriculum leaders. After a subsequent meeting, district curriculum leaders met with teachers in their districts to initiate the implementation plan.

On 15 June 2010, the Michigan State Board of Education adopted the Common Core State Standards. At the same time, the Michigan Department of Education published comparative analyses, indicating that Michigan's kindergarten to grade 12 and high school expectations for English language arts and mathematics are closely aligned to the Common Core State Standards. Department of Education staff identified that the Common Core State Standards are consistent with the Michigan Merit Curriculum, which outlines the credit requirements for high school graduation. Course and content descriptions in the Michigan Merit Curriculum will be modified, as necessary, to align with the Common Core State Standards, and redundancies will be eliminated. In October and November of 2010, the Department of Education hold four regional sessions at Grand Rapids, Boyne Falls, Saginaw and Detroit to inform teachers about the Common Core State Standards and discuss the implications of adoption for instruction and assessment. Following these sessions, the Department of Education will collaborate with the 57 intermediate school districts, eight regional literacy training centres, 33 mathematics and science centres, professional associations and universities to provide on-going professional development to support implementation of the Common Core State Standards. The Teaching for Learning web site, launched by the Department of Education in April 2011, will be used to disseminate curriculum resources and teaching strategies. Curriculum resources and teaching strategies are developed by work groups, consisting of teachers with subject expertise, intermediate school district curriculum specialists, and representatives from subject associations and partner organisations. The Teaching for Learning web site also serves as a clearinghouse for national, state and locally-generated materials, offers scope for teacher collaboration, and provides opportunities for guest educators to contribute content. Model units, consisting of long-term plans and daily lesson plans, are developed through collaboration between the Michigan Association of Intermediate School Administrators and the Department of Education. The plan for implementation provides for one year of planning and adjustment of curriculum, instruction and local assessment in transitioning to the Common Core State Standards. Districts that have not yet developed curricula and assessments that provide full progression to meeting Michigan Merit Curriculum requirements may find that more substantial adjustments will need to be made to meet the Common Core State Standards. These districts will be expected to align curricula and local assessments during 2010-2011, transition to the Common Core State Standards in 2011-2012 with full implementation in 2012-2013.

On 15 June 2010, the Missouri State Board of Education adopted the Common Core State Standards. In August 2010, the Missouri Department of Elementary and Secondary Education released a plan for implementing the Common Core State Standards. Late in 2010, Department of Elementary and Secondary Education staff and consultants compared Missouri's grade-level and course-level expectations, early learning standards, work ready standards to the Common Core State Standards. From October 2010 to January 2011, personnel in the state's ten regional professional development centres were trained to support districts

implement the Common Core State Standards. In January and February of 2011, the Department of Elementary and Secondary Education offered workshops at eight sites across Missouri to update information on the Common Core State Standards and present the findings on the comparison. From December 2010, assessment needs will be identified, learning progression will be developed to report against the Common Core State Standards, and reports will be designed and piloted on students as career- and college-ready. From October 2009 to December 2011, Department of Elementary and Secondary Education staff will draft a model curriculum framework for mathematics, reading, writing, listening and speaking from pre-school to grade 12 in collaboration with higher education faculty, school district staff and teachers. Consisting of course descriptions, unit outlines, measurable objectives, benchmark assessments and scoring guides, evidence-based teaching strategies, timelines, and an on-line portal aligned to the Common Core State Standards, the model curriculum framework will be implemented in 2011-2012. A model curriculum framework for other content areas will also be developed in collaboration with higher education faculty and teachers. A professional development program to support implementation of the model curriculum framework will be developed in tandem, and delivered through the regional professional development centres, on the Missouri Comprehensive Data Portal, and by professional development leaders across Missouri. An item bank of formative benchmark assessments will be constructed in collaboration with teachers to monitor student progress against the model curriculum framework.

In 2007, the New Jersey Department of Education commissioned Grant Wiggins, a New Jersey-based education reformer and president of Authentic Education, to lead the New Jersey Standards Clarification Project. Intended to provide materials in each of the nine content areas that convey an understanding of the priorities in the New Jersey Core Curriculum Content Standards for designing local curriculum, the project was conducted in two phases. In the first phase, areas of focus materials were developed for language arts literacy, mathematics and science, and priorities were set within all content areas. The second phase was directed to developing sample units, lesson plans, and performance assessments. In February 2008, the Department of Education formed task forces of teachers and content experts to revise the New Jersey Core Curriculum Content Standards to reflect the findings of the Standards Clarification Project, twenty-first century knowledge, skills and themes, as well as incorporate content-specific revisions. Following review by state and national organisations, the drafts were revised and presented for review by educators at four review sessions held in February 2009 and by the public through an on-line survey. Following revision based on responses to the review, the New Jersey State Board of Education adopted the revised standards for comprehensive health and physical education, science, technology, twenty-first century life and careers, visual and performing arts and world languages in June 2009, and social studies in August 2009. In 2007, the Department of Education initiated a project to align pre-school standards to the New Jersey Core Curriculum Content Standards. After extensive review by education experts, stakeholders and the public, the State Board adopted the pre-school teaching and learning standards in June 2009. In partnership with the New Jersey Association for Supervision and Curriculum Development and the New Jersey Principals and Supervisors Association, the Department of Education conducted the New Jersey Curriculum Project in mid 2009. Content area supervisors, curriculum coordinators and teachers designed exemplar unit plans and accompanying lesson plans aligned to the revised New Jersey Core Curriculum Content Standards. The seven units developed by this project for

comprehensive health and physical education, science, social studies, technology, visual and performing arts and world languages serve as exemplar unit plans to provide teachers with models for teaching and learning. Schools are required to implement revised curricula for language arts literacy, mathematics and science by September 2011 and for comprehensive health and physical education, science, technology, twenty-first century life and careers, visual and performing arts and world languages by September 2012. Review and revision of the language arts literacy and mathematics standards was suspended, when New Jersey joined the Common Core State Standards Initiative. The Department of Education commenced building awareness of and support for the Common Core State Standards at a series of professional development sessions held in March 2010, and at meetings with college and university faculty regarding college-readiness. On 16 June 2010, the State Board adopted the Common Core State Standards. In April 2011, the Department of Education released documents comparing the Common Core State Standards to the New Jersey Core Curriculum Content Standards for mathematics. Following adoption of the revised New Jersey Core Curriculum Content Standards, the Department of Education collaborated with the Center for Innovative Education at Kean University, the Foundation for Educational Administration, and the New Jersey Association for Supervision and Curriculum Development to design a professional development program consisting of on-line learning, face-to-face professional learning and on-site training activities to implement the standards. In 2009, the partners created awareness of the revised standards by convening two rounds of workshops across New Jersey in July and August, and from September to November, at which teachers were informed about creating teaching and learning environments that engage students, and foster skills needed to compete, connect and collaborate in a global society. In 2010, teachers completed a set of modules on designing models of learning, transferring to twenty-first century learning environments, assessing learning, building school leadership and forming professional learning communities at regional sites across New Jersey. In February 2010, the Department of Education launched an interactive web site to assist teachers with implementation of the standards, curriculum planning, professional development and digital learning. In 2011, teachers participated in professional development activities to foster deeper learning on components of professional development undertaken in 2010.

In accordance with the state statute requiring revision of the Wyoming Content and Performance Standards every five years, the Wyoming State Board of Education issued a policy statement in May 2008 outlining a vision and presenting guidelines for revising the standards. In 2009, the Department of Education developed a rationale, process and procedures for reviewing the standards, and appointed the Standards Review Steering Committee, consisting of representatives from the Department of Education, universities and community colleges. The Standards Review Steering Committee oversaw the selection of representative content committees, and then the conduct of the review. In April 2010, the Wyoming Department of Education initiated the review in nine content areas over two phases: the first phase for fine and performing arts, foreign language, health education, language arts and mathematics; and the second phase for career-vocational education, physical education, science and social studies. Content committees, consisting of district staff, parents, business and civic leaders, and higher education faculty, developed drafts. Following review by experts and the public, the drafts will be revised by the content committees prior to presentation to the State Board for adoption. The Department of Education commissioned consultants from Mid-continent Research for Education and Learning to compare

the Common Core State Standards to the Wyoming Content and Performance Standards for language arts and mathematics. The results of the analysis were published in May 2010. In reaching a decision to adopt the Common Core State Standards on 16 June 2010, the State Board considered responses received from a public on-line survey and feedback from the mathematics and English language arts review committees. In December 2010, the Department of Education published comparisons between the Common Core State Standards and the Wyoming Content and Performance Standards for language arts and mathematics and the Proficiency Assessments for Wyoming Students. After the English language arts and mathematics content committees had determined that no additions should be included, the Common Core State Standards were incorporated into the revised Wyoming Content and Performance Standards for English language arts and mathematics. The drafts in the first phase were presented for public reviews on two occasions in 2011. The State Board is expected to adopt the revised Wyoming Content and Performance Standards in the first phase in December 2011 and the second phase in October 2013. In June 2010, a communications strategy for publicising the revised Wyoming Content and Performance Standards was approved by the Standards Review Steering Committee. In June 2011, a plan for implementing the revised Wyoming Content and Performance Standards was presented to the State Board for consideration. In 2010-2011, awareness and planning for implementation will commence. In 2011-2012, transition to the revised Wyoming Content and Performance Standards will begin. In 2012-2013, implementation of the revised Wyoming Content and Performance Standards will begin. In 2013-2014, implementation of the revised Wyoming Content and Performance Standards will be completed.

On 20 May 2010, the Hawaii State Board of Education gave initial approval to the Common Core State Standards following the recommendation of its Committee on Curriculum, Instruction and Student Support. The State Board of Education adopted the Common Core State Standards on 17 June 2010. Following adoption, teams of teachers in English language arts and mathematics compared the Common Core State Standards to the Hawaii Content and Performance Standards III, and produced documents presenting comparisons. In November 2010, the Hawaii Department of Education released an education reform plan based on five goals: tying high quality college- and career-ready standards and assessments to a state-wide curriculum; improving longitudinal data collection and use; cultivating, rewarding and leveraging effective teaching and leadership; providing targeted support to struggling schools and students; and aligning organisational functions to support reform outcomes. The Common Core State Standards will be implemented as part of the reform plan through a professional development strategy consisting of five phases: familiarity; understanding; internalisation; incorporation; and sustainability. From October to December of 2010, educators' awareness of the Common Core State Standards was increased by disseminating information by webinars and videos, and sharing the results of the comparison between the Common Core State Standards and the Hawaii Content and Performance Standards III. From January to March of 2011, professional development sessions were offered to teams of teachers and support staff from each school on Big Island, Oahu, Maui and Kauai to increase understanding of the implications of the Common Core State Standards for classroom instruction. From April to July of 2011, schools analysed their capacity to implement the Common Core State Standards using existing curriculum resources, and worked with publishers to disseminate textbook alignment guides and to provide

professional development. In October 2010, schools participated in a state-wide, on-line survey to identify curriculum leaders and list textbooks used in English language arts and mathematics to inform professional development for the third phase. From August 2011 to May 2013, teachers will use instructional resources and videos of classroom learning episodes to implement the Common Core State Standards, and professional learning communities focused on using the STAR Learning Framework to improve effectiveness of instruction. From June 2013 to May 2015, teachers will be supported in implementing the Common Core State Standards by face-to-face training sessions and on-line professional development opportunities, and an adoption process and criteria for selecting instructional materials will be implemented.

In March 2010, the Nevada Department of Education held a meeting for educators from districts, regional professional development programs, the Nevada State Education Association, and institutions of higher education to assess the relative match between the Common Core State Standards and the Nevada Academic Standards for English language arts and mathematics. After the Nevada Council to Establish Academic Standards for Public Schools approved the Common Core State Standards on 4 May 2010, the Nevada State Board of Education held a workshop to discuss adoption of the Common Core State Standards. After adopting the Common Core State Standards on 18 June 2010, the State Board issued a transition plan and implementation procedures to districts and charter schools based on a meeting of educators from the Nevada Department of Education, districts and regional professional development programs. Formed at this meeting, the Nevada Common Core Roll-out Coalition, consisting of representatives from the Department of Education, districts, the Charter School Association of Nevada, regional professional development programs, institutions of higher education and the Governor's Blue Ribbon Task Force, formed a Steering Committee to ensure a common message is delivered, develop an implementation plan, and oversee development of a gap analysis and bridge document. A Communication Work Team was appointed to develop a communication strategy representing a common message about the Common Core State Standards. A Professional Development Work Team was established to design a plan for state-wide delivery of the Common Core State Standards. A Gap Analysis Work Team was formed to determine where skills are assessed and mastered in the Nevada Academic Standards and the Common Core State Standards. A Translation Work Team was formed to create a user-friendly guide to the gap analysis. In August 2010, the Steering Committee released a timeline for fully implementing the Common Core State Standards for English language arts in 2012-2013 and mathematics in 2014-2015. In November 2010, a gap analysis and bridge document was distributed to schools showing similarities and differences between the Nevada Academic Standards and the Common Core State Standards. In April 2011, the Department of Education launched a web site to facilitate awareness of the Common Core State Standards, and allow educators and stakeholders opportunities to view similarities and differences between the Nevada Academic Standards and the Common Core State Standards. In April and May of 2011, teachers received initial professional development to begin instruction and monitor student achievement on the Common Core State Standards. In 2011-2012, a state-wide professional development plan will include the design of individualised development plans, creation of an Aspiring Leaders Academy, and the conduct of summer institutes for teachers. The regional professional development programs will create and implement training opportunities for teachers and administrators on recommended instructional approaches and curricular resources to support the

Common Core State Standards. The Teachers and Leaders Council will develop a course of study for pre-service teachers on the Common Core State Standards and assessments. In 2012, the Department of Education will develop Nevada curricular frameworks for English language arts and mathematics aligned to the Common Core State Standards. Following revision of the Nevada Academic Standards for science, Nevada curricular frameworks for science and social studies will be developed. In 2011-2012, the Department of Education will design the Electronic Media Access to Leverage Learning, a web-based portal containing curriculum frameworks, lesson plans and curriculum resources.

After having endorsed the draft Common Core State Standards in May 2010, the Maryland State Board of Education adopted the Common Core State Standards on 22 June 2010. In August and September of 2010, Maryland State Department of Education and district staffs used Achieve's Common Core Comparison Tool to analyse the alignment, gaps and inconsistencies between the Maryland Content Standards and the Common Core State Standards. The results showed that 89 percent of the English language arts standards and 88 percent of the mathematics standards matched the Common Core State Standards. The findings of this analysis allowed teams of teachers, content specialists, higher education faculty and State Department of Education staff to commence a review in October 2010 to refine and align the Maryland State Curriculum to the Common Core State Standards. The teams determined essential skills and knowledge associated with the Common Core State Standards. They also developed pre-kindergarten standards by referring to the Common Core State Standards for kindergarten, and then deciding what was needed in pre-kindergarten to ensure that students arrive in kindergarten ready to learn the content at that level. The draft frameworks in English language arts and mathematics for the new Maryland State Common Core Curriculum were released in June 2011. In May 2011, the State Department of Education conducted four regional presentations to explain the process for development and implementation of the frameworks. Following release of the draft frameworks, the State Department of Education initiated professional development on implementing the frameworks for teams from every school across Maryland at educator effectiveness academies held from June to August of 2011. Since the frameworks are drafts, participants in the educator effectiveness academies will suggest modifications and additions. In redesigning the content areas for the Maryland State Common Core Curriculum to be implemented in 2013-2014, State Department of Education and district staffs will develop an interdisciplinary curriculum based on science, technology, engineering and mathematics. The State Department of Education will engage representatives from business and industry, higher education, non-profit organisations and professional associations in the Southern Regional Education Board's multistate consortium to develop curricula, assessments, resources and professional development to provide more students with career, science, technology, engineering and mathematics programs of study. The Maryland STEM Innovation Network will be developed to support communications, convey knowledge and share resources among stakeholders. At the same time, the Online Instructional Toolkit, a web site containing resources on assessment, curriculum and school improvement, will be expanded. The Maryland Common Core State Curriculum will be linked to lesson plans, multimedia resources and summative assessment items in the Online Instructional Toolkit. A formative assessment item bank will be added. On-line opportunities for professional development, which have been reviewed for quality, will be added. In addition, digital resources, course modules and on-line courses aligned to the Common Core State Standards will be identified and developed through the

Maryland Virtual Learning Opportunities Program. The State Department of Education will develop a world languages program in Arabic, Chinese and Hindi to increase proficiency of students in these languages. Language specialists will identify the best schools to run these programs, convene teacher committees to write and translate curriculum modules, and guide development of on-line courses for teachers of world languages. Then, 12 districts will be selected to initiate the program in kindergarten to grade 5. High school graduation requirements will be aligned to the college- and career-readiness standards, and college-readiness assessments will be developed by June 2012. College- and career-readiness science, technology, engineering and mathematics endorsements will be included in the high school diploma, and a growth model for college and career-readiness will be established by June 2012. The State Department of Education will implement a state-wide system of professional development aimed at having three teacher leaders in each of Maryland's 1,400 schools trained in the Maryland Common Core State Curriculum, the new assessment system and the Online Instructional Toolkit by 2013.

On 24 June 2010, the Illinois State Board of Education adopted the Common Core State Standards, and called them the New Illinois Learning Standards incorporating the Common Core. Following adoption, the State Board hosted six regional informational meetings to launch the New Illinois Learning Standards incorporating the Common Core. State Board staff and teachers used Achieve's Common Core Comparison Tool to undertake a gap analysis between the Illinois Learning Standards for English language arts and mathematics adopted in 1997 and the New Illinois Learning Standards incorporating the Common Core. The correlation documents showed that the New Illinois Learning Standards incorporating the Common Core are more specific, some unmatched New Illinois Learning Standards incorporating the Common Core may require schools to shift the grade level at which instruction takes place, and the mathematics standards include a number of additional standards that are needed for entry into advanced classes. The State Board formed a Standards Implementation Team to provide guidance and leadership for the transition to the New Illinois Learning Standards incorporating the Common Core. Representatives from the divisions of Assessment, Curriculum and Instruction, Career and Technical Education, English Language Learners, Early Childhood, Improvement and Innovation, Special Education, and Education Preparation and Development were included on the Standards Implementation Team to provide input regarding the various functions affected by adoption of the New Illinois Learning Standards incorporating the Common Core. In September 2010, the State Board included the New Illinois Learning Standards incorporating the Common Core into its strategic plan to be implemented over three phases. In 2010-2011, the State Board and the 48 regional offices of education provided professional development to increase teachers' understanding of the New Illinois Learning Standards incorporating the Common Core, and to assist in designing local plans for implementation in schools. From June to August of 2011, the State Board held common core summer institutes in each of the six areas for teams from the regional offices of education and one common core summer institute for teams from the intermediate service centres. The State Board released checklists, forms and activities to support teachers in designing local plans to implement the New Illinois Learning Standards incorporating the Common Core. An ongoing process will be undertaken during both the second phase in 2011-2012 involving communication, resource design and design of the implementation system, and the third phase from 2012 to 2014 involving transition, implementation and technical assistance.

On 24 June 2010, the Oklahoma State Board of Education adopted the Common Core State Standards. Following adoption, the Oklahoma State Department of Education organised an alignment institute during which 200 educators from the P-20 community, as well as representatives from business and the public, matched the Oklahoma Priority Academic Student Skills to the Common Core State Standards. The results, which were analysed by an independent organisation, were published and communicated to school districts, institutions of higher education, and the Oklahoma Career-Tech systems. In October 2010, the State Department of Education published guidelines to assist districts to design district transition plans to implement the Common Core State Standards. The guidelines require districts to address curriculum and instruction, assessments, professional development and stakeholder engagement in their district transition plans. Implementation of the district transition plans should involve committees, consisting of key stakeholders responsible for curriculum design and implementation, planning for full implementation by collating grade levels, comparing expectations to the Common Core State Standards, and acquiring curricular and professional development resources. The State Department of Education will use its web site, print-based and web-accessible materials, state-wide videoconference network, conferences and workshops to disseminate information about the Common Core State Standards and new assessments. The State Department of Education will collaborate with stakeholders to align curriculum and assessment standards from pre-kindergarten to college entry. The State Department of Education will extend its web site to provide an access point to the Common Core State Standards, banks of assessment items, software for P-20 curriculum alignment, and links to curriculum resources. The State Department of Education will work with stakeholders to enhance professional development to assist districts implement the Common Core State Standards. The State Department of Education's regional annual conferences will be refocused onto increasing understanding about and delivery of the Common Core State Standards. The State Department of Education will use master teachers from its Master Teachers Project, and its data collection and reflective practice training called Windows on Curriculum to support teachers in the lowest performing schools. The State Department of Education will establish academies to train teachers in the effective use of new standards and assessments through modular units of professional development in seminars, institutes, workshops, conferences, and on-line learning opportunities.

In March 2010, Mississippi Department of Education staff conducted an alignment study to provide information on the impact of transitioning to the Common Core State Standards. On 25 June 2010, the Mississippi State Board of Education adopted the Common Core State Standards. The Department of Education commissioned consultants from the Southeast Comprehensive Center at the Southwest Educational Development Laboratory, who conducted a study between June and October of 2010 to compare the Common Core State Standards to the Mississippi curriculum frameworks for language arts and mathematics. Correlation documents, showing that alignment was strong in English language arts but weak in mathematics, were published in May 2011. In November 2010, the Department of Education held a webinar, in which three scenarios for implementing the Common Core State Standards were proposed, and comments were sought from educators about the best option. Using feedback from educators and the findings of a policy review, Department of Education staff and stakeholders designed a program to provide teachers with professional development on the Common Core

State Standards over two years. In May and June of 2011, a consultant from the International Center for Leadership in Education presented a session on the Common Core State Standards to leadership teams at each of the seven regional educational service agencies. In the first year of the program in 2011-2012, teachers of kindergarten to grade 2, grades 3 to 5, grades 6 to 8 and grades 9 to 12 will receive initial training in sessions offered at three-month intervals supplemented by additional follow-up sessions in the second year. An implementation guide will be developed, the Common Core State Standards will be formatted to reflect the structure of the Mississippi curriculum frameworks, and teaching strategies, resources and assessment strategies will be developed or revised. Department of Education staff will work with stakeholder groups to determine courses in grades 9 to 12, and develop consistent standards to the Common Core State Standards for birth to five year-old pupils. Department of Education staff will work with representatives of publishing companies to facilitate the adoption of textbooks aligned to the Common Core State Standards and consult regional laboratories to provide technical assistance.

On 28 June 2010, the Arizona State Board of Education adopted the Common Core State Standards. In July 2010, the Arizona Department of Education hosted four webinars and conducted an on-line survey to collect feedback from the public on possible state-specific additions. Following the webinars and completion of the survey, the Department of Education formed committees consisting of teachers and higher education faculty for English language arts and mathematics, which reviewed the feedback, developed recommendations for state-specific additions and assisted in creating comparisons between the Arizona Academic Standards and the Common Core State Standards. In August 2010, the State Board approved the additions for inclusion in the 2010 Arizona English Language Arts and Mathematics Standards. In January and February of 2011, documents comparing the Arizona Academic Standards for English language arts and mathematics to the adopted 2010 English Language Arts and Mathematics Standards were released and made available to teachers along with grade-level documents. The grade-level documents contain both explanations and examples to support teachers in implementing the new standards. The Common Core Committee, consisting of representatives from higher education, schools, district leadership, community colleges and the 15 county educational service agencies, refined a plan for implementing the 2010 Arizona English Language Arts and Mathematics Standards consisting of components for providing professional development and technical assistance. Full implementation of the 2010 Arizona English Language Arts and Mathematics Standards is required for kindergarten in 2011-2012, grade 1 in 2012-2013, and all later grades in 2013-2014. From late in 2010 until mid 2011, Department of Education staff collaborated with representatives of the standards committees to present professional development and technical assistance sessions focusing on building awareness and knowledge of the newly adopted standards. Additional support materials were made available to educators during these sessions. The Department of Education plans to host webinars, on-line professional development, and post implementation materials to further assist educators during the transition to the 2010 Arizona English Language Arts and Mathematics Standards. Resources will be added to IDEAL (Integrated Data to Enhance Arizona's Learning), a web-based portal designed by the Department of Education and Arizona State University and launched in January 2008.

After approving a resolution in May 2010, the Louisiana Board of Elementary and Secondary Education adopted the Common Core State Standards on 1 July 2010 based on the recommendation of the Louisiana Department of Education. In May 2010, the Department of Education convened a committee composed of district leaders and teachers, who determined that augmentation of the Common Core State Standards was not needed. However, the Department of Education revised its pre-kindergarten and social studies standards, so that they are aligned to the Common Core State Standards. Contracted to assist in this work, WestEd staff collaborated with Department of Education staff and state content committees, composed of district representatives and teachers, to revise these standards. A committee revised the pre-kindergarten standards for English language arts and mathematics, adopted in 2003, by referring to the Common Core State Standards for kindergarten, and then deciding what was needed in pre-kindergarten to ensure that students arrive in kindergarten ready to learn the content at that level. Committees revised the social studies standards and grade-level expectations, adopted in 2005, by incorporating the standards for literacy for history-social studies in the Common Core State Standards. Following a public review of the draft pre-kindergarten and social studies standards in January 2011, the standards were revised and adopted by the Board of Elementary and Secondary Education in June 2011. Beginning in June 2010, the Department of Education developed and refined a timeline and outlined procedures for implementing the Common Core State Standards, social studies standards, and pre-kindergarten standards. The pre-kindergarten standards and the Common Core State Standards for kindergarten to grade 1 will be implemented in 2012-2013, and the Common Core State Standards for grade 2 will be implemented in 2013-2014. The social studies standards and the Common Core State Standards for grade 3 and higher will be implemented in 2014-2015. The Department of Education will review the Next Generation Science Standards on their release in 2012, before revising the science standards with the expectation that revised science standards will be implemented in 2014-2015. The Department of Education commissioned WestEd to compare Louisiana's grade-level expectations to the Common Core State Standards. Comparison documents, showing which grade-level expectations are aligned to the Common Core State Standards and which Common Core State Standards are aligned to the grade-level expectations, will be published in August 2011. Following completion of the comparisons, a gap analysis will be undertaken to produce transition plans to guide development of a transitional curriculum and for use in professional development with teachers. Following a review of district curricula conducted by the Appalachian Educational Laboratory, the Department of Education used the grade-level expectations to develop the Louisiana Comprehensive Curriculum in 2005. Although revised in 2008, the Department of Education is redesigning the Louisiana Comprehensive Curriculum to ensure that model courses, instructional materials and resources are aligned with the Common Core State Standards. The new Louisiana Comprehensive Curriculum for kindergarten and grade 1, and a transitional curriculum for grades 2 and higher will be implemented in 2012-2013. The new Louisiana Comprehensive Curriculum for pre-kindergarten and grade 2 will be implemented in 2013-2014, and for grades 3 and higher in 2014-2015. In May 2011, the Department of Education presented a general awareness webinar outlining the implementation plan and timeline. In August 2011, the Department of Education will present a second webinar to schools on the comparison reports with regional face-to-face workshops to follow. Beginning in mid 2012, the Department of Education will develop a professional development program to assist districts implement the transitional curriculum and the new Louisiana Comprehensive Curriculum using a train-the-trainer model.

Prior to adopting the Common Core State Standards, the Pennsylvania State Board of Education commissioned the University of Pittsburgh to conduct a study to compare the Common Core State Standards to the Pennsylvania Academic Standards for reading and mathematics. In the report on the study, Lane (2010) stated that two panels of educators with expertise in the state's reading and mathematics standards used an alignment rubric and four depth-of-knowledge levels to assess cognitive rigour for the comparison. The results indicated that the Pennsylvania Academic Standards were more aligned to the Common Core State Standards in English language arts than in mathematics, but that the cognitive rigour exemplified by clustering in the depth-of-knowledge levels was similar across the Pennsylvania Academic Standards and the Common Core State Standards. Following release of the report in May 2010, the State Board invited written submissions and held four roundtables, at which stakeholders representing teachers, intermediate units, post-secondary educators, teacher unions and civil rights organisations, made suggestions about implementing the Common Core State Standards. On 1 July 2010, the State Board adopted the Common Core State Standards. Following adoption, the Department of Education convened teams of educators to produce documents comparing the Pennsylvania Academic Standards to the Common Core State Standards. Following their presentation at the Standards Aligned System Institute held in December 2010, the documents were published early in 2011. Under the State Board's regulation, transition to the Common Core State Standards began late in 2010 with full implementation by July 2013. To inform this process, the Pennsylvania Department of Education convened teams of content experts in 2010-2011 to develop a Common Core State Standards Aligned System by verifying the alignment between the Pennsylvania Academic Standards and the Common Core State Standards, evaluating the correlation of the Standards Aligned System to the Common Core State Standards, aligning assessment anchors and eligible content to the Common Core State Standards, and reviewing Keystone exam blueprints to determine linkages to the Common Core State Standards. At the Standards Aligned System Institute, a panel discussion focused on using the Standards Aligned System as a resource to facilitate and guide implementation of the Common Core State Standards. Following the Standards Aligned System Institute, the Department of Education will provide professional development sessions to assist school districts to create transition plans for implementing the Common Core State Standards Aligned System. A train-the-trainer model will be used to train intermediate unit staff, who then deliver training, on-going technical assistance and monitor the effectiveness of implementation in districts and schools. A working document, which cross-references standards by grade level and eligible content for English language arts and mathematics, will be produced for comparative purposes to present to the State Board and the trainers working on professional development activities for Pennsylvania educators. The State Board convened a special panel of higher education faculty to review the Common Core State Standards and to provide specific recommendations around implementation efforts. As a consequence, post-secondary institutions and professional development providers will revise their programs to incorporate the Common Core State Standards, and the Department of Education will review how these providers integrate the standards.

In June 2010, Rhode Island Department of Elementary and Secondary Education staff determined whether the Common Core State Standards were equal to or more rigorous than the state's standards. On the basis of this review, the Rhode Island Board of Regents adopted the Common Core State Standards on 1 July 2010. In

August 2010, the Department of Elementary and Secondary Education conducted regional overview sessions, at which district and teacher training personnel were made aware of the Common Core State Standards. In November 2010, the Department of Elementary and Secondary Education convened a meeting to inform principals about the Common Core State Standards, compare the Common Core State Standards to the current grade-level and grade-span expectations, and disseminate a plan for transitioning to the Common Core State Standards with full implementation in 2012-2013. In partnership with the Charles A. Dana Center at the University of Texas, the Department of Elementary and Secondary Education trained and certified intermediary service providers to lead out-reach workshops to ensure teachers understand the Common Core State Standards, and support curriculum alignment and the development of resources. A network of intermediary service providers, trained and certified in English language arts, mathematics, science and leadership development, was formed to facilitate Study of Standards training workshops. Principals, teacher leaders and teachers will participate in Study of Standards training workshops to ensure their districts integrate the Common Core State Standards into classrooms. After receiving this training, the participants will assist their colleagues in integrating the Common Core State Standards across their respective districts. Teams of teachers will engage in developing model curricula and scope and sequence aligned to the Common Core State Standards with the intent of developing curriculum resources in the four core content areas to be provided to districts across Rhode Island. The Department of Elementary and Secondary Education will also support districts with training to develop curriculum resources aligned to Rhode Island's engineering and technology standards. In addition, project-based learning will be offered in two or three districts to create units of study in engineering and technology.

Connecticut State Department of Education staff engaged in several activities to facilitate adoption of the Common Core State Standards. In March 2010, Commissioner Mark McQuillan hosted input sessions to assist school districts to plan implementation of the Common Core State Standards. In April 2010, State Department of Education staff met with representatives of the six regional education service centres to plan a stakeholder engagement conference. In May 2010, State Department of Education staff and over 50 content specialists used Achieve's Common Core Comparison Tool to match standards in the Connecticut Framework to the Common Core State Standards. The review showed that 80 percent of the Common Core State Standards match the Connecticut standards for English language arts and 92 percent of the Common Core State Standards match the Connecticut standards for mathematics, but 200 Common Core State Standards for English language arts and 40 Common Core State Standards for mathematics are not included among Connecticut's standards. Held in June 2010, the stakeholder engagement conference was designed to share the findings of the comparison and collect feedback from the participants by an on-line questionnaire. Data were collected from more than 120 participants on their attitudes to the Common Core State Standards. In the report on the survey, Newsom-Stewart (2010) found that the vast majority of the respondents were positive about the Common Core State Standards, particularly in relation to preparing students for success in college, ease of use, and higher order thinking skills. Group leaders at the conference roundtables were positive about the Common Core State Standards, and offered suggestions about professional development, curriculum alignment, and planning, communication, and education tools to support implementation of the Common Core State Standards. The Connecticut State Board of Education reviewed the reports on the comparison and the survey in June

2010 before reaching a decision to adopt the Common Core State Standards on 7 July 2010. The State Department of Education published the comparison documents in September 2010. The State Department of Education released a plan for districts to fully implement the Common Core State Standards in 2013-2014. Initially, the State Department of Education conducted professional development sessions to inform district-level curriculum specialists about using the comparison to review and revise district curriculum documents. The State Department of Education also collaborated with the regional education service centres to provide regional technical assistance sessions to support districts in revising curriculum documents. Beginning in February 2011, the State Department of Education collaborated with the Leadership and Learning Center, based at Englewood, Colorado, to use the curriculum development model designed by Ainsworth (2011) to complete the foundational steps for developing curriculum documents for English language arts and mathematics based on the Common Core State Standards. Curriculum design teams, comprising content specialists from the regional education service centres, districts and schools, completed development of the curriculum documents consisting of prioritised Common Core State Standards, pacing calendars and unit organisers in July 2011. The State Department of Education will develop early learning standards from birth to five years by 2013. Comparison documents, showing the correlation between the Common Core State Standards for kindergarten, Connecticut pre-kindergarten standards, and Connecticut pre-school curriculum and assessment frameworks were produced in 2010 to guide development of the early learning standards.

With assistance from Achieve, the Georgia Department of Education's content advisory boards applied Achieve's Common Core Comparison Tool to match the Georgia Performance Standards for English language arts and mathematics to the Common Core State Standards. The results showed that 81 percent of the English language arts standards and 90 percent of the mathematics standards matched the Common Core State Standards. The results reported for the English language arts standards were not consistent with the strong alignment indicated in comparison documents developed by the Department of Education. Following a two-month period of public review and comment, the Georgia State Board of Education adopted the Common Core State Standards on 8 July 2010. In September 2010, the Department of Education initiated a process to determine additions to the Common Core State Standards. Mathematics consultants posted Georgia Performance Standards and Common Core State Standards alignment documents for educators to review. Webinars were held to collect feedback from more than 400 mathematics educators on specific alignment issues, and which elements of the Georgia Performance Standards should be added to the Common Core State Standards to produce Common Core Georgia Performance Standards. English language arts consultants held webinars in November 2010 to collect feedback from English language arts educators on specific alignment issues, and which elements of the Georgia Performance Standards should be added to the Common Core State Standards to produce Common Core Georgia Performance Standards. In January and February of 2011, precision review committees, consisting of teachers, school and district administrators, were convened to analyse the feedback and make recommendations about additions. The recommendations were checked by the academic standards committees before being included in the Common Core Georgia Performance Standards for English language arts and mathematics published in March 2010. Concurrently, the Department of Education's academic standards committees, comprising of Department staff, regional educational service agencies, post-secondary

institutions, the Professional Standards Commission, and representatives from professional associations, parent organisations and business partners, designed a timeline for implementing a communications strategy, developing resources, and planning professional learning opportunities. In March 2011, the Department of Education convened a session to inform teacher and administrator teams, based in each of the 16 regional educational service agencies, about the Common Core Georgia Performance Standards. Following the information session, the team in each regional educational service agency will facilitate information sessions for district and school administrators. At the same time, the Department of Education will review, reorganise and improve existing resources located on GeorgiaStandards.Org, a web-based portal launched in 2006, as well as other web-based platforms. Web-based resources will include updated standards, instructional frameworks, curriculum maps, and benchmark assessments. From late in 2011 and continuing into 2012, the Department of Education will collaborate with the regional educational service agencies to provide teachers with professional learning aligned to the Common Core Georgia Performance Standards. From 2012 to 2014, teachers will transition to the Common Core Georgia Performance Standards. In 2014-2015, full implementation of the Common Core Georgia Performance Standards will be completed.

In February and March of 2010, the New Hampshire Department of Education collected feedback from over 200 educators and curriculum leaders on their attitudes about the Common Core State Standards at 14 sessions held across New Hampshire. In June 2010, the Department of Education held a webinar to share information about the Common Core State Standards and answer questions educators had about the implications of adopting the Common Core State Standards in New Hampshire. At the same time, the New Hampshire State Board of Education held two public hearings in June and July to receive feedback prior to adopting the Common Core State Standards on 8 July 2010. In July 2010, the Department of Education began conducting a gap analysis to determine the extent, to which the standards in the New Hampshire Curriculum Frameworks align with the Common Core State Standards. Following completion of the gap analysis, the Department of Education will create a toolkit to assist school districts become familiar with the Common Core State Standards. In November and December of 2010, the Department of Education held a series of informational sessions in English language arts, at which representatives from schools were informed about the transition plan. In January and February of 2011, the Department of Education held a series of informational sessions in mathematics, at which representatives from schools were informed about the transition plan. The Department of Education is working with school districts to develop competency-based rubrics that embody the Common Core State Standards with the intention of creating a state-level moderation process for performance assessments. The State Board of Education, the Professional Standards Board and the New Hampshire Council for Teacher Education are reviewing teacher preparation programs to ascertain whether the programs are keeping pace with advancements in the field. It is anticipated that the outcome of this review will form the basis for the professional development of teachers through the High School Transformation Network.

In 1998, the Arkansas Department of Education launched the Smart Arkansas Initiative, a comprehensive plan to improve student achievement and strengthen accountability by focusing on high academic standards in English language arts and mathematics. Professional development practices were redesigned to link to the Smart Arkansas Initiative by recruiting experts in standards, curriculum and

assessment, and facilitators to deliver sequenced professional development across Arkansas. In January 2007, the Northwest Education Service Cooperative at Farmington initiated development of a curriculum pacing guide grounded in the theory and practice of the Smart Arkansas Initiative. Lisa Carter, an education consultant, who assists state education agencies, school districts and schools in facilitating the process of total instructional alignment, was commissioned by the cooperative and its member districts to align the education system by connecting standards, curriculum, assessment and instructional practices using the Arkansas curriculum frameworks for English language arts and mathematics. Following the alignment process, specialists in English language arts and mathematics produced curriculum pacing guides, which were used throughout north-western Arkansas before being adopted by each of the state's 15 education service cooperatives. Subsequently, the Department of Education applied the total instructional alignment process to align curriculum in social studies, science, and career and technical education. Beginning in November 2007, the Department of Education collaborated with the National Center for Research in Evaluation, Standards and Student Testing to design a professional development program, in which teachers use formative and summative assessment data to inform the progress of individual student's learning. On 12 July 2010, the Arkansas State Board of Education adopted the Common Core State Standards. Following adoption, the Department of Education convened committees of content specialists, teachers and higher education faculty to use Achieve's Common Core Comparison Tool to produce documents comparing the student learning expectations in the Arkansas curriculum frameworks for English language arts and mathematics to the Common Core State Standards, discuss implications for curriculum and instruction, and provide suggestions for professional development to implement the Common Core State Standards. The results showed that 98 percent of the English language arts standards and 82 percent of the mathematics standards matched the Common Core State Standards. Comparison documents were also published and sent to each district and education service cooperative. At the same time, the Department of Education appointed a team of stakeholders, which released a timeline in April 2011 for phasing implementation of the Common Core State Standards over three years with full implementation in 2014-2015. The Department of Education provided guidelines for districts to develop implementation plans, which will be supported by the total instructional alignment process and a professional development program to implement the Common Core State Standards. The Department of Education will develop curriculum guides aligned to the Common Core State Standards, and integrate the curriculum guides, model lesson plans, assessments and student learning data into a new electronic instructional improvement system. In partnership with the National Center for Research in Evaluation, Standards and Student Testing, the Department of Education will launch the professional development program in assessment on-line for the 15 education service cooperatives and school-based teams of teachers. Professional learning modules will be developed to support the total instructional alignment process and the professional development program in assessment. The training modules will address the Common Core State Standards, the Arkansas curriculum frameworks, curriculum guides, and assessment concepts and skills. The modules will be deployed to each education service cooperative to provide training to school stakeholder groups. Over a four-year period, all teachers of English language arts and mathematics will receive professional development.

The Education Accountability Act, passed by the South Carolina General Assembly in 1998, requires the South Carolina Academic Standards in the core subjects to be reviewed every four years. The procedure involves the South Carolina Department of Education appointing a state panel, and the Education Oversight Committee appointing three panels consisting of education experts, community members, and special education teachers. The panels prepare a report on the existing standards with recommendations for changes. The Department of Education commissions an external organisation to develop a draft based on the report's recommendations, and coordinates a review of the draft by educators. Following revision, the draft is presented to the Education Oversight Committee and the South Carolina State Board of Education for approval. In February 2010, the State Board adopted a goal to ensure that the Common Core State Standards maintain South Carolina's rigorous expectations for student learning and, if so, adopt a development and implementation plan for the Common Core State Standards, aligned curricular resources, assessments and professional development. To meet this goal, Department of Education staff and the Education Oversight Committee modified the procedures for adopting academic standards to accommodate the timeline for adopting the Common Core State Standards and agreed on a process and timeline for the State Board and the Education Oversight Committee to receive recommendations on the adoption of the Common Core State Standards. In January 2010, the Department of Education formed a leadership team, which convened two broad-based common core comparative review panels, one for English language arts and one for mathematics. The panels compared the Common Core State Standards to the South Carolina Academic Standards for English language arts and mathematics by identifying the percentage of South Carolina indicators found in the Common Core State Standards, and conducting a standard-by-standard analysis to identify the percentage of Common Core State Standards in the South Carolina Academic Standards. The South Carolina Department of Education (2010) found that 97 percent of the standards for both English language arts and mathematics are aligned in the South Carolina Academic Standards and the Common Core State Standards. Following review of this report, the State Board approved the Common Core State Standards at a first reading on 12 May 2010, the Education Oversight Committee approved the Common Core State Standards on 14 June 2010, and the State Board adopted the Common Core State Standards on 14 July 2010. In December 2010, the Department of Education appointed the Strategic Implementation Panel, consisting of representatives from higher education and the Governor's office, State Board and Education Oversight Committee staff and members, the South Carolina General Assembly, and Department of Education, district and school staff, to review and provide feedback regarding plans and a timeline for implementing the Common Core State Standards. Content area work groups for English language arts and mathematics, which were appointed at the same time, began in February 2011 to complete the implementation and communications plan, prepare awareness sessions, align the Common Core State Standards to current curriculum and instructional resources, and develop a standards implementation toolkit. The timeline involves initiating implementation with transition and training in 2011-2012, phased implementation from 2012 to 2014, and full implementation in 2014-2015. In March and April of 2011, the work groups held awareness sessions on the Common Core State Standards at Greenville, Charleston, Columbia and Florence. Beginning in July 2011, the Department of Education will offer professional development to district implementation teams. The Standards Support System, launched in 2008 to provide teachers with support documents, model lessons and curriculum resources, and professional learning opportunities,

will be used to bridge differences between the Common Core State Standards and the South Carolina Curriculum Standards for English language arts and mathematics.

In December 2009, the New York State Board of Regents approved a process for engaging stakeholders in a review and alignment of the New York State Learning Standards to the Common Core State Standards. In April 2010, the Regents' Standards Working Group approved adjustments to the review and a timeline based on delays in the release of the draft Common Core State Standards. The Board of Regents adopted the revised New York State Mathematics Standard in 2005. As a consequence of Chapter 57 of the Laws of 2007, requiring the Board of Regents to review the Learning Standards periodically, the Standards Review Initiative English Language Arts Panel submitted revised English language arts standards to the Board of Regents in December 2009. On 19 July 2010, the Board of Regents adopted the Common Core State Standards. In July 2010, workgroups in English language arts and mathematics were convened to review the Common Core State Standards against the Mathematics Standard and Core Curriculum published in 2005, the English Language Arts Learning Standards and Core Curriculum published in 2005, and the revised English language arts standards to produce recommendations for additional standards. In October 2010, the proposed additions were presented to the Board of Regents, which submitted them for public review. The responses of over 800 teachers and other stakeholders to surveys were used by the workgroups to revise the additions in December 2010. The State Education Department collaborated with member organisations affiliated with the Early Childhood Advisory Council to develop pre-kindergarten learning standards in five domains: approaches to learning; physical development and health; social and emotional development; communication, language, and literacy; and cognition and knowledge of the world. In October 2010, the draft pre-kindergarten learning standards were presented to the Board of Regents, which submitted them for public review. The responses of over 500 teachers and other stakeholders to a survey were used by the workgroup to revise the draft in December 2010. The additions and the pre-kindergarten learning standards were approved by the Board of Regents in January 2011. In April 2011, the State Education Department held a webinar involving a presentation by a lead writer of the Common Core State Standards. At the same time, the State Education Department released a call for teachers to submit units, lessons and materials aligned to the Common Core State Standards to establish an exchange for such items. The plan for implementing the New York State pre-kindergarten to grade 12 Common Core Learning Standards will commence in 2011-2012 with the provision of professional development opportunities and the development of state-wide curriculum models. On receiving a Race to the Top grant in August 2010, the State Education Department required the 37 boards of cooperative educational services and the state's five largest districts to establish network teams to work with teachers on implementing the Race to the Top plan. Following their formation in July 2011, the network teams will hold state-wide training sessions led by common core experts followed by quarterly training based on feedback from participants and on-site observations in districts. In December 2010, the State Education Department requested stakeholders to submit suggestions for developing curriculum models based on best practice. Following the close of the request at the end of January 2011, State Education Department staff analysed the responses to help inform the development of curriculum models for English language arts and mathematics.

Sawchuk (2010b) reported that Massachusetts' adoption of the Common Core State Standards proved contentious. Massachusetts had begun revising the existing standards for mathematics and English language arts, published in 2000 and 2001 respectively, in 2007. Drafts of the new standards had been completed when the Common Core State Standards Initiative began, which led Massachusetts Department of Elementary and Secondary Education staff to work closely with the Common Core lead writers to incorporate some of the Massachusetts' draft work into the Common Core State Standards. This strategy was controversial, because some educators and members of the public believed that Massachusetts could develop a more challenging set of standards independently, instead of adopting those standards that would emerge from the Common Core State Standards Initiative. State education officials and the Massachusetts Business Alliance for Education ultimately supported adoption of the Common Core State Standards based on comparative reviews of Massachusetts' standards and the Common Core State Standards, while the conservative Pioneer Institute, located in Boston, opposed adoption based on a conviction that the proposed revisions of the Massachusetts standards were more rigorous than the Common Core State Standards. Early in 2010, the Pioneer Institute initiated a campaign critical of the Common Core State Standards Initiative, its encouragement by the U.S. Department of Education, and the funding commitment provided by the Bill and Melinda Gates Foundation. In February 2010, the Pioneer Institute issued a paper identifying deficiencies in the September 2009 draft of the Common Core State Standards (Wurman and Stotsky, 2010). In April 2010, the Pioneer Institute released a second paper focusing on how much improvement was reflected in the March 2010 public comment draft (Milgram and Stotsky, 2010). In May 2010, the Pioneer Institute issued a third paper highlighting the low academic level of the college- and career-readiness standards in the Common Core State Standards (Stotsky and Wurman, 2010). Coinciding with the Massachusetts Board of Elementary and Secondary Education's consideration of the Common Core State Standards, the Pioneer Institute released a fourth paper seeking to determine whether the Common Core State Standards provide more rigorous standards than California's and Massachusetts' current standards (Madigan, Stotsky and Wurman, 2010). The Massachusetts Business Alliance for Education commissioned WestEd to compare the alignment of the standards in the working drafts of the Massachusetts English language arts and mathematics frameworks, then under revision, to the Common Core State Standards. Four criteria referring to content skill and knowledge alignment, depth of knowledge, clarity, and measurability were applied to the analysis, and vertical alignment across grade levels was also undertaken. WestEd (2010) found that the Massachusetts standards and the Common Core State Standards overlap in content coverage, and are comparable in terms of clarity and measurability. In English language arts, the Massachusetts standards focus on specific genres of literature, and present clear, concise and vertically aligned research and writing standards. The Common Core State Standards include detailed and vertically aligned language standards, and the standards for literacy in history-social studies, science and technical subjects. In mathematics, the Common Core State Standards include a slightly higher percentage of standards that reflect higher levels of cognitive demand. Late in June 2010, the Massachusetts Business Alliance for Education and the Rennie Center for Education Research and Policy hosted a forum in Boston, at which education officials and lead writers discussed the merits of the Common Core State Standards. The Board of Elementary and Secondary Education discussed the Common Core State Standards at four meetings in 2009 and 2010, sought public comment, and engaged educators in a

process of analysis and feedback. In June 2010, Commissioner Chester Mitchell appointed two panels of educators to review and compare the working drafts of the Massachusetts English language arts and mathematics frameworks to the Common Core State Standards. With the exception of one member, the eight-member English Language Arts Review Panel found that the Common Core State Standards were more rigorous and clear, and considered that the standards for literacy in history-social studies, science and technical subjects formed a valuable addition. The seven-member Mathematics Review Panel concluded that the Massachusetts standards and the Common Core State Standards provided excellent options, but that the relative strengths of arithmetic operations, place value and proportional reasoning in the Common Core State Standards would benefit students. Department of Elementary and Secondary Education staff applied Achieve's Common Core Comparison Tool to match standards in the draft 2011 Massachusetts English language arts and mathematics frameworks to the Common Core State Standards in May and June of 2010. In both English language arts and mathematics, 90 percent of the Common Core State Standards matched the Massachusetts standards. In June 2010, the Department of Elementary and Secondary Education launched an on-line survey to gather public comment on the similarities and differences of the Common Core State Standards and the current Massachusetts English language arts and mathematics frameworks. Of the 178 respondents, 70 percent favoured the Common Core State Standards, 11 percent favoured the Massachusetts English language arts and mathematics frameworks and 19 percent were undecided. The Board of Elementary and Secondary Education adopted the Common Core State Standards on 21 July 2010. Adoption led the committees to work closely with the Common Core lead writers to incorporate the Common Core State Standards into revised curriculum frameworks. In partnership with the Department of Early Education and Care, early childhood educators and specialists developed pre-kindergarten standards, which were included in both curriculum frameworks. In December 2010, the Board of Elementary and Secondary Education and the Board of Early Education and Care adopted the 2011 Massachusetts Curriculum Framework for English Language Arts and the 2011 Massachusetts Curriculum Framework for Mathematics. In May 2011, the Department of Elementary and Secondary Education released a plan to implement the 2011 curriculum frameworks in 2012-2013. Subsequently, the Department of Elementary and Secondary Education published documents comparing the standards in the old and new curriculum frameworks. The Department of Elementary and Secondary Education is designing an on-line Teaching and Learning System to support implementation of the Common Core State Standards. Between 2011 and 2014, pre-kindergarten to college educators will develop 100 model curriculum units and curriculum-embedded performance tasks that incorporate the Common Core State Standards along with the Massachusetts standards for history and social science, and science and technology-engineering. In a partnership with WBGH Educational Foundation, the Department of Elementary and Secondary Education will develop a digital library of educational resources. A state-wide professional development initiative, facilitated through Massachusetts' six readiness centres and six district and school assistance centres, will be offered by a train-the-trainer model to enable district leaders to disseminate resources. In addition, state-wide summits, regional forums, regional networks, professional learning communities and on-line coursework will be expanded to support the Teaching and Learning System.

In March 2010, the Office of the State Superintendent of Education in the District of Columbia convened a panel of teachers and content experts to compare the draft

Common Core State Standards and the District of Columbia's standards for English language arts and mathematics. Using Achieve's Common Core Comparison Tool, the panel determined that the Common Core State Standards would maintain high expectations. In May 2010, the Office of the State Superintendent of Education convened eight panels of teachers and content experts to review the Common Core State Standards, compare the Common Core State Standards to the District of Columbia's standards using the findings of the comparison, and share their views on implementing the Common Core State Standards. Prior to adopting the Common Core State Standards on 21 July 2010, the District of Columbia State Board of Education held three public hearings at which 30 presenters expressed their views about the Common Core State Standards. Following adoption, the Office of the State Superintendent of Education released a plan for phasing implementation of the Common Core State Standards in by 2014-2015. In 2010, stakeholder understanding was informed by launching a communications campaign, working groups on early childhood learning, post-secondary education and special education were formed, and the Office of the State Superintendent of Education held a meeting at which staff analysed the Common Core State Standards using the method and framework developed by the Surveys of Enacted Curriculum State Collaborative. Documents comparing the District of Columbia's standards and the Common Core State Standards were released in May 2011. In 2011, a city-wide forum will be held, an interactive Common Core Standards web site will be designed, and a professional development program using a train-the-trainer model will be initiated. Later stages of the implementation will focus on prosecuting the professional development of teachers, using the comparison to introduce the Common Core State Standards into classrooms, and administering assessments developed by the assessment consortium.

In September 2006, the Florida Department of Education convened a group of mathematics specialists to frame guidelines, identify resources, and select reviewers for a writers' committee to draft the Next Generation Sunshine State Standards for mathematics. Following completion of the writers' committee's draft, the Florida State Board of Education adopted the mathematics standards in September 2007. Enacted by the Florida Legislature in July 2008, Senate Bill 1908 requires the State Board to review the Sunshine State Standards and replace them with the Next Generation Sunshine State Standards. In November 2008, the Department of Education convened a group of reading and language arts specialists to frame guidelines, identify resources, and select reviewers for a writers' committee to draft the Next Generation Sunshine State Standards for English language arts. However, the writers' committee's work was suspended in July 2009, when Florida joined the Common Core State Standards Initiative. Following release of the final draft of the Common Core State Standards in March 2010, the Department of Education convened a committee to compare the Common Core State Standards to the final draft of the Next Generation Sunshine State Standards for English language arts. In May 2010, Department of Education staff used Achieve's Common Core Comparison Tool to match standards in the draft Next Generation Sunshine State Standards for English language arts and mathematics to the Common Core State Standards. After reviewing the findings of the comparison, the State Board adopted the Common Core State Standards on 27 July 2010. In August 2010, the Common Core State Standards were presented to the writers' committees for English language arts and mathematics, which recommended that additions should be incorporated into the Common Core State Standards. After reviewing the feedback from a public review of the draft additions

held in November 2010, a decision was made not to incorporate additions into the Common Core State Standards. Following adoption, the Department of Education released a plan and timeline for implementing the Common Core State Standards for kindergarten in 2011-2012, grade 1 in 2012-2013, grade 2 in 2013-2014, and grades 3 to 12 in 2014-2015. Learning progressions, performance descriptors and exemplars will be developed for the Common Core State Standards. Early in January 2011, committees were appointed to make recommendations about how the Common Core State Standards could be used to develop course descriptions for kindergarten to grade 3. The course descriptions were completed in March 2011 and presented to the State Board in May 2011. Student tutorial content in mathematics and reading will be revised to reflect the Common Core State Standards. Completed over three years, the student tutorials for high school will become available in 2011-2012, those for middle schools will become available in 2012-2013, and those for elementary schools will become available in 2013-2014. The Common Core State Standards, course descriptors reflecting the Common Core State Standards for approved courses, peer-reviewed lesson plans and formative assessments will be incorporated into the Florida Virtual Curriculum Marketplace, a repository of free and fee-based resources aligned to the Next Generation Sunshine State Standards, developed in partnership with Learning.com and launched in June 2011. On winning a Race to the Top grant in August 2010, the Department of Education issued a call for volunteers to serve on eight implementation committees to organise work outlined in the grant application. Members for the committees, who were selected from 1,100 applicants, were appointed in November and December of 2010. Commencing its work in January 2010, the Standards Instructional Teacher Tool Committee will provide input, feedback and recommendations to the Department of Education on designing the Standards Instructional Teacher Tool containing teacher resources, formative and interim assessments and training materials for pre-service and in-service professional development. The Standards Instructional Teacher Tool will become available in 2013-2014. The Text Demand Study, which will analyse the quality, density and complexity of high school and post-secondary texts to determine their alignment for college-readiness, will be completed in 2012. Instructional materials for English language arts and mathematics, aligned to the Common Core State Standards, will be adopted for kindergarten to grade 5 in 2012-2013, and for grade 6 to 12 in 2013-2014. In 2012-2013, a professional development program for pre-service and practising teachers will be implemented, in which districts will begin to use lesson study, an approach for improving the lesson planning process, refining instructional techniques and evaluating learning outcomes. In 2013-2014, district professional development programs will apply lesson study to implement the Common Core State Standards. In 2014-2015, 3,000 model lessons and lesson study toolkits will become available.

In May 2008, the Iowa Legislature enacted the Iowa Core through Senate File 2216, requiring its implementation in all high schools by 2012 and in all elementary and middle schools by 2014-2015. In May 2010, staff of the Iowa Department of Education, ten area education agencies, professional associations and districts applied Achieve's Common Core Comparison Tool to match standards for literacy and mathematics in the Iowa Core to the Common Core State Standards. The results showed that 84 percent of the literacy standards and 88 percent of the mathematics standards in the Iowa Core are reflected in the Common Core State Standards. Based on information provided at its retreat in June 2010 and the findings of the comparison, the Iowa State Board of Education adopted the Common Core State Standards on 29 July 2010. Following inclusion of the

Common Core State Standards into the Iowa Core, Department of Education staff engaged content experts across the state in defining the critical content of the Iowa Core, which was not addressed by the Common Core State Standards. Reviewed by the Iowa Core Project Team and work teams, as well as newly formed leadership teams in literacy and mathematics, the additions were approved by the State Board in November 2010. Districts will implement the Common Core State Standards as a component of the Iowa Core. The Iowa Core Network, consisting of consultants from the area education agencies, provides training to district leadership teams on aligning districts' standards to the Iowa Core, supporting district leadership teams in designing professional development for teachers, and developing and revising implementation plans. Representatives from the area education agencies, form the Core Curriculum Steering Committee, charged with advising the Department of Education on a timeline of steps for implementation, approving area education agency supported professional development and monitoring Network progress. Each district is required to develop a written plan describing its implementation of the Iowa Core. Each district leadership team uses a guide, published by the Iowa Department of Education (2010), to engage in a process of self-study to identify priorities, set targets and determine actions relating to six outcomes to be addressed in its implementation plan. The self-study and implementation plan are recorded on-line, so that the leadership team can adjust and include additional information in the plan periodically. High schools were required to have implementation plans in place by July 2010 and all elementary and middle schools are required to have implementation plans in place by July 2012. The Department of Education requires implementation plans to be submitted, and conducts school improvement visits to monitor implementation of the Iowa Core.

In accordance with the Tennessee State Board of Education's rules requiring revision of the Tennessee curriculum standards every six years, the Tennessee Department of Education revised the English language arts, mathematics and science standards in 2007 to increase rigour and establish alignment to college- and career-readiness. Committees of higher education faculty and teachers in each content area developed drafts based on reviews of national standards. Following revision of the drafts based on feedback from teachers, the State Board adopted the revised English language arts, mathematics and science standards in January 2008. During 2008-2009, professional development was offered by on-line sessions, workshops and conferences to assist teachers implement the new standards. In January 2010, Department of Education staff applied Achieve's Common Core Comparison Tool to match the standards for English language arts and mathematics to the Common Core State Standards. In April 2010, the Department of Education recommended revisions to the standards for English language arts and mathematics. Following recommendation by the Department of Education, the State Board adopted the Common Core State Standards on 30 July 2010. In August 2010, Department of Education staff commenced developing pacing guides and curriculum maps to assist districts align the Common Core State Standards to the standards in the Tennessee curriculum frameworks. In November 2010, a cross-agency team began meeting to design a plan for implementing the Common Core State Standards after holding a meeting with staff of the Kentucky Department of Education to discuss using instructional support networks. In February 2011, an advisory group met to establish an instructional learning network to deliver training on the Common Core State Standards. In March 2011, the Department of Education released a plan for implementing the Common Core State Standards. Initially, kindergarten to grade 2 coaches and district representatives will receive training in 2011 to assist teachers implement

the Common Core State Standards in 2012. Then, teachers of grades 3 to 12 will attend orientation sessions in mathematics standards through the instructional learning network. Over the course of four years, teachers will proceed through summer institutes with orientation sessions in the first summer, implementation strategies in the second summer, effective practice in the third summer, and the development of research-based strategies that work in the final summer. Special work sessions will be conducted for new teachers and administrators. School-based teams will deliver feedback on implementation strategies provided in professional development sessions. The Electronic Learning Center, an on-line portal launched by the Department of Education in January 2009, will be expanded as a tool for needs assessment and delivery of focused professional development. By the end of the fourth year of training, a network of effective practice, based on implementation of the Common Core State Standards and assessments, will be delineated by content area for rural, urban and suburban settings. Technical assistance will be targeted at high priority schools by teams of specialists using a train-the-trainer model.

In a report, EdSource (2010) examined the key issues of rigour, organisation and a common set of requirements for all students underpinning the Common Core State Standards, as well as factors affecting implementation, shaping the debate over the adoption of the Common Core State Standards in California. In January 2010, Governor Arnold Schwarzenegger signed Senate Bill X5 1 calling for the appointment of the California State Content Standards Commission to examine the alignment between the Content Standards for California Public Schools for English language arts and mathematics and the Common Core State Standards. Nominated in June 2010 by Governor Schwarzenegger, the Senate Committee on Rules, and Speaker John Perez of the California State Legislature, the majority of the 21-member Commission consisted of classroom teachers. The Commission began its work by undertaking a standard-by-standard comparison of the Content Standards for California Public Schools and the Common Core State Standards. The commissioners found that the Common Core State Standards for English language arts were rigorous, but differences between requirements in California for teaching algebra led to a contentious debate between factions on the Commission. In mid July 2010, the Commission completed its work with all members approving the Common Core State Standards for English language arts, and a majority approving the Common Core State Standards for mathematics with modifications for students taking algebra in grade 8. The Commission recommended that the California State Board of Education should adopt the Common Core State Standards for English language arts with some minor modifications and mathematics with standards for algebra 1 in grade 8, additions from the Content Standards for California Public Schools for calculus, advanced placement probability and statistics. On 2 August 2010, the State Board adopted the Common Core State Standards. Implementation of the Common Core State Standards will be accomplished through several strategies. The California Department of Education will initiate revision of the mathematics and English language arts curriculum frameworks through the Curriculum Development and Supplemental Materials Commission. Four regional focus groups of educators will inform the developmental process, and the drafts will be reviewed by educators and through an on-line survey. Following adoption of the revised curriculum frameworks, the Curriculum Development and Supplemental Materials Commission will oversee the selection of instructional materials for kindergarten to grade 8 with the State Board making the final adoption. At a joint meeting of the State Board and the Commission on Teacher Credentialing in November 2010, the

Department of Education presented a plan for implementing the Common Core State Standards based on two timelines. Action on either timeline depends on whether the California State Legislature repeals Education Code Section 60200.7 established by Assembly Bill X4 2 passed in July 2009, suspending the State Board from taking action relating to the development of curriculum frameworks and the adoption of instructional materials until July 2013. If the suspension is lifted, the State Board could adopt a new mathematics curriculum framework in May 2013 and instructional materials in November 2014, and a new reading language arts curriculum framework in May 2014 and instructional materials in November 2016. If the suspension is not lifted, the State Board could adopt a new mathematics curriculum framework in May 2015 and instructional materials in November 2017, and a new reading language arts curriculum framework in May 2017 and instructional materials in November 2019. In addition, educators will need professional development focusing on the Common Core State Standards and pre-service education programs will need to shift to the Common Core State Standards. Education Code Section 60605.8 (h) requires State Superintendent Tom Torlakson and the State Board to present a schedule and an implementation plan to Governor Jerry Brown and the appropriate policy and fiscal committees of the California State Legislature for integrating the Common Core State Standards by allowing for development of curriculum frameworks, implementation of professional development programs and reauthorization of state assessments. Introduced into the California State Legislature in January 2011, Senate Bill 140 requires the Department of Education to develop a list of supplemental instructional materials aligned to the Common Core State Standards by July 2012. In June 2011, State Superintendent Tom Torlakson invited publishers to submit supplemental instructional materials in English language arts and mathematics by March 2012. From November 2011 to February 2012, the Department of Education will recruit teachers and content experts to review the submitted materials. Following training in April 2012, they will assess the alignment of the materials to the Common Core State Standards. If Senate Bill 140 is enacted, the State Board will approve recommended materials for posting on the Department of Education's web site in October 2012. The California Learning Resource Network, designed by the Stanislaus County Office of Education and launched in May 2001, reviews the alignment of digital resources with the Common Core State Standards. In November 2010, California Learning Resource Network staff requested publishers to submit resources, which they had correlated to the Common Core State Standards. Following submission, three-member review teams assess each resource against criteria for legal compliance, alignment to the Common Core State Standards, and minimum requirements.

In 2007, the Colorado State Board of Education recommended revision of the Colorado Model Content Standards. In January 2008, the Colorado Department of Education commissioned WestEd to examine how states articulate their content standards, review and analyse major definitions related to twenty-first century skills and college- and career-readiness, review and analyse gaps in the Colorado Model Content Standards, and evaluate external reports on the Colorado Model Content Standards. At the same time, the Standards Advisory Stakeholders Committee was formed to assist define terms, frame issues, articulate the standards, and select content subcommittees from a pool of applicants. Eleven subcommittees were formed in November 2008, and conducted their work of revising the standards over three rounds by reviewing the findings of WestEd's studies and examining standards documents from other states and countries. Drafts of the Colorado Academic Standards were presented for public review at meetings held

across Colorado between June and August of 2009. After revision based on feedback from the public review, the final drafts were reviewed by the State Board at public hearings held in November 2009 prior to adoption in December 2009. Following release of the Common Core State Standards in June 2010, the Department of Education commissioned WestEd to undertake gap analyses, which identified minimal differences between the Colorado Academic Standards for mathematics, and reading, writing and communicating and the Common Core State Standards. In July 2010, the subcommittees for mathematics, and reading, writing and communicating met to draft amendments to the Colorado Academic Standards, and the State Board considered the findings of WestEd's studies. On 2 August 2010, a majority on the State Board approved adoption of the Common Core State Standards after a public meeting, at which 30 of 34 speakers opposed adoption. Following adoption of the Common Core State Standards, Department of Education staff created new standards documents for mathematics, and reading, writing and communicating, which were released in December 2010. The Department of Education formed a Standards Implementation Team to assist districts to implement the Colorado Academic Standards through a plan consisting of four phases: creating awareness; making curriculum changes based on the standards; adjusting instructional practices to the standards; and innovating changes in teaching and learning based on the standards. In 2010, the Standards Implementation Team created awareness of the Colorado Academic Standards by releasing documents comparing the Colorado Model Content Standards and the Colorado Academic Standards, and presenting webinars on standards implementation. In 2011, the Standards Implementation Team initiated transition in the curriculum by presenting webinars on reframing, reviewing and revising the curriculum. Districts will complete the transition phase in 2011-2012 by reviewing and revising their standards by December 2011 to ensure that they meet or exceed the Colorado Academic Standards, and their standards are aligned to ensure students will be able to demonstrate post-secondary and workforce readiness. Then, districts will develop curricula to ensure that each student receives a program of study that will enable attainment of the standards. From 2012 to 2014, the Standards Implementation Team will provide resources to assist districts to adjust instructional practices to the Colorado Academic Standards. In 2014-2015, the Standards Implementation Team will support districts to transform teaching and learning based on the Colorado Academic Standards.

After considering the implications of adopting the Common Core State Standards at its meeting in March 2010, Indiana's Education Roundtable, consisting of business, community and education leaders and representatives of the Indiana Legislature brought together in 1998 to oversee the development of the Indiana Academic Standards, approved the Common Core State Standards on 3 August 2010 following presentations on standards-based reform by two national experts. Following recommendation by Indiana's Education Roundtable, the Indiana State Board of Education adopted the Common Core State Standards on 3 August 2010. In July 2010, Department of Education staff convened a Curriculum Council of 80 expert teachers and content specialists from districts and universities to develop curriculum maps based on the Indiana Academic Standards for English language arts and mathematics. They deconstructed every standard's indicators before developing learning progressions to create units of instruction. Then, they entered the units into curriculum planning software and identified big ideas and essential questions. In December 2010, the State Board approved guidelines requiring each school corporation to develop and implement a curriculum from kindergarten to grade 12 using the curriculum maps as a starting point. The

Department of Education will develop a curriculum guide and deliver professional development focused on assisting schools in developing the curriculum. A second set of curriculum maps based on the Indiana Academic Standards and the Common Core State Standards will be developed to assist teachers to transition from one set to the other set, while ensuring content gaps between the standards are addressed. Prior to adoption, Department of Education staff conducted two alignment studies. In the first study, Achieve's Common Core Comparison Tool was used to match the Indiana Academic Standards for English language arts and mathematics to the Common Core State Standards. In the second study, the Surveys of Enacted Curriculum were used to delineate which of the Indiana Academic Standards should be taught as the Common Core State Standards are implemented. The results of these studies were used to produce comparison documents, the first set being released for grades 1 to 7 in May 2011. In April 2011, the Department of Education released a plan for phasing implementation of the Common Core State Standards into schools while the Indiana Academic Standards for mathematics, adopted in 2000, and English language arts, adopted in 2006, continue to be taught. In 2011-2012, the Common Core State Standards will be fully implemented in kindergarten. In 2012-2013, the Common Core State Standards will be fully implemented in grade 1. In 2013-2014, the Common Core State Standards will be fully implemented in grade 2. In 2014-2015, the Common Core State Standards will be fully implemented in all grades. The Department of Education released separate guidance for implementing the Common Core State Standards in English language arts and mathematics. Teachers use instructional transition guidance documents for English language arts, released by the Department of Education in March 2011, to compare the Common Core State Standards and the Indiana Academic Standards in refining curriculum. In mathematics, the Common Core State Standards will be implemented in two phases. Initially, the standards for mathematics practice will be implemented in 2011-2012. After school corporations have completed the first phase, the standards for mathematical practice will be implemented. In early 2011, the Department of Education will assemble a professional cabinet of outstanding teachers to identify additional guides and resources to support implementation of the Common Core State Standards and complete the transition curriculum maps. In March and April of 2011, Department of Education staff held a meeting at each of the nine education service centres to explain to educators the plan for implementing the Common Core State Standards and assessments, and refining the curriculum maps. The Learning Connection, an on-line portal developed by the Department of Education in 2009, will play a crucial role in delivering professional development to teachers across Indiana.

On 4 June 2010, the Utah State Board of Education approved Utah proceeding to use the Common Core State Standards as a basis for the Utah Core. On 6 August 2010, the State Board adopted the Common Core State Standards. In September 2010, the State Board determined that an international model of integrated mathematics instruction should be used in secondary coursework. Following this decision, committees developed courses with accompanying frameworks for course implementation. The Utah Core was modified to reflect these changes. A mathematics curriculum is being developed to align with the Common Core State Standards. Literacy committees developed frameworks for implementation and lesson plans reflecting the strands of the Common Core State Standards. The Reading Apprenticeship model is used in at-risk high schools to assist readers to build capacity for effective use of the Common Core State Standards. In October 2010, the Utah State Office of Education selected

representatives from districts to form committees to compare the standards in the Utah Core to the Common Core State Standards. Meeting in grade-level teams, the committees produced comparison documents. In November 2011, the State Office of Education released a plan, which outlined activities to be undertaken by the State Office of Education and districts. In 2010-2011, planning and development of resources were followed by professional development of facilitators to lead the common core academies in 2011-2012, and professional development and implementation in 2012-2013, 2013-2014, and 2014-2015. Professional development for implementing the Common Core State Standards is based on a tiered model of building capacity at three levels. Over 80 lead teachers, serving as state-wide facilitators, are working in cohorts for six months to ensure that they can implement the Common Core State Standards with fidelity and with adult learners throughout the state to help them with implementation. Five thousand teachers, who form the second tier, were selected by their district or charter school as key teachers to be trained in the Common Core State Standards. They will implement the Common Core State Standards in their classrooms and work with colleagues to share ideas and information. The third tier will be ongoing professional development throughout the state supporting districts as they provide resources and professional development for their staffs. The content for targeted professional development in the common core academies is based on the State Office of Education's plan. Using Utah's Kindergarten to Grade 3 Literacy Initiative and Three-Tiered Model of Reading Instruction, reading instruction will be improved by developing web-based lesson plans, embedding a reading strand in the science, social studies, healthy lifestyles, and fine arts standards of the Utah Core, expanding the literacy initiative through to grade 8, and continuing to support the work of family literacy centres. Using lessons learned from Utah's Grades 4 to 6 Mathematics Initiative, mathematics literacy will be improved by developing web-based lesson plans, creating alternative mathematics courses, and developing electronic text resources. The State Office of Education is designing a web site, which will present lesson plans, videos of instruction, and student exemplars aligned to the Common Core State Standards. The State Office of Education will assist students prepare for college and careers by disseminating information to students and parents on pathways, revising and adding academic pathways to career pathway materials, working with districts to reform secondary education, coordinating with higher education for dual and concurrent enrolment courses, collaborating with higher education to align courses required for graduation to student needs, establishing initiatives to increase student participation in science, technology, engineering and mathematics, and collaborating with partners to define workforce needs. The State Office of Education will improve early learning outcomes by reviewing data from Utah's Kindergarten to Grade 3 Literacy Initiative, expanding full-day kindergarten when funding becomes available, supporting early intervention programs, and developing pre-kindergarten standards.

On 17 August 2010, the Vermont State Board of Education adopted the Common Core State Standards as part of the state-wide strategic plan for 2010 to 2014. Following adoption, Vermont Department of Education staff worked with partners in the SMARTER Balanced Assessment Consortium to examine potential shifts between the content of the Vermont Framework of Standards and Learning Opportunities and grade expectations in mathematics and literacy with the Common Core State Standards. In September 2010, the Department of Education convened two advisory groups to plan implementation of the Common Core State Standards from both policy and implementation perspectives. The Common Core Policy Group, consisting of representatives of superintendent, principal and

teacher organisations, considered and recommended policy relating to access, equity, quality, communication and accountability. The Common Core Implementation Team, consisting of curriculum leaders and professional development providers, recommended implementation strategies. The plan for implementing the Common Core State Standards consists of four phases. In 2010-2011, the first phase focused on communicating information about the Common Core State Standards, and planning implementation strategies. Initially, Department of Education staff collaborated with teacher leaders of the Vermont Professional Development Network to develop resource materials to support district leaders. In November 2010, district leadership teams participated in common core awareness sessions, facilitated by Department of Education staff and Vermont Professional Development Network leaders, in each of the five regions across Vermont. Early in 2011, Department of Education staff continued to work with teacher leadership teams to develop deeper understanding of the Common Core State Standards and design tools and resources for use by school districts. Each district leadership team is responsible for disseminating information and resources on the Common Core State Standards to their respective schools. The Department of Education will collect data on district dissemination of resources and assess needs for further resources. From 2011 to 2013, the second phase will involve developing resources to support transition to the Common Core State Standards. In 2013-2014, the third phase will focus on schools aligning curriculum to the Common Core State Standards. In 2014-2015, the fourth phase will involve schools aligning curriculum, instruction and assessment to the Common Core State Standards.

In 2008, the Delaware Department of Education began prioritising standards in the content areas of the Delaware Recommended Curriculum by classifying standards according to their importance. In January 2010, content area committees compared the prioritised standards for English languages arts and mathematics to the Common Core State Standards to produce drafts of revised standards and documents comparing the respective standards. Following reviews by leaders of districts and charter schools at a meeting held in March 2010, the revised standards were presented in April 2010 to the Secretary for Education, Lillian Lowery and the Delaware State Board of Education for discussion and public comment. In May 2010, the State Board approved the revised standards for the Delaware Prioritised Curriculum. On 19 August 2010, the State Board approved the Common Core State Standards. The transition plan for implementing the Delaware Prioritised Curriculum and the Common Core State Standards by June 2014 consists of four phases. From July 2010 to January 2011, the Department of Education offered a professional development program consisting of two components. The first component required core content teachers to complete four on-line modules. The second component required these teachers to participate in a district training session to gain a deeper understanding of the Delaware Prioritised Curriculum and the Common Core State Standards. District training programs were offered by district-nominated teachers and specialists, who had received training through train-the-trainer sessions held in July and August of 2010. In collaboration with districts, Department of Education staff initiated professional development for curriculum alignment work on developing model instructional units and lessons. In 2011-2012, the second phase will involve initial implementation in elementary and high schools by selecting and aligning instructional resources, piloting and implementing units of study and lesson plans, researching and aligning scientifically-based strategies, reviewing and aligning formative and benchmark assessments, and continuing professional development

for curriculum alignment work on developing model instructional units and lessons. In 2012-2013, the third phase will involve completing implementation in elementary and high schools by selecting and aligning instructional resources, implementing units of study and lesson plans, selecting and using instructional strategies in classrooms, using research-based teaching practices to support student learning, and refining model instructional units and lessons. In 2013-2014, the fourth phase will involve completing implementation in middle schools by selecting and aligning instructional resources, implementing units of study and lesson plans, selecting and using instructional strategies in classrooms, using research-based teaching practices to support student learning, and refining model instructional units and lessons.

State policy makers and education officials in Minnesota adopted the Common Core State Standards in English language arts. On the release of the draft kindergarten to grade 12 standards in March 2010, Governor Tim Pawlenty issued a statement that the mathematics standards were less rigorous than the Minnesota Academic Standards for mathematics. In April 2010, the Education Policy and Oversight Committee of the House of Representatives in the Minnesota State Legislature conducted a hearing on the Common Core State Standards, at which witnesses criticised the mathematics standards. In June 2010, Governor Pawlenty indicated that a comparative analysis of the Common Core State Standards and the Minnesota Academic Standards for mathematics would be conducted. The results of this study will be considered by the Minnesota State Legislature in January 2010. At the same time, Commissioner Alice Seagren appointed an English Language Arts Standards Committee, consisting of teachers, post-secondary faculty, parents and community representatives, to identify additional content after a decision was made to approve the Common Core State Standards for English language arts. The Standards Committee identified additional knowledge and skills addressing particular legislative requirements and reflecting research and evidence-based practices. On 27 September 2010, Commissioner Seagren approved the Minnesota Academic Standards for English language arts developed by the Standards Committee. Following procedure through formal administrative rule-making, the Minnesota Academic Standards for English language arts will be implemented in 2012-2013. Following release of the Minnesota Academic Standards for English language arts, the Department of Education issued a set of forms for schools to use in aligning local curriculum and assessment to the revised standards. The Department of Education will use its Educator Portal to deliver digital and web-based tools to support teachers implement the standards. Minnesota's English language proficiency standards will be aligned to the Minnesota Academic Standards for English language arts. The Minnesota Early Childhood Indicators of Progress are currently aligned with Minnesota's academic standards for kindergarten and are continuously reviewed and aligned as the state's academic standards are revised. The Department of Education will issue grants to targeted school districts with large numbers of students from low income and ethnic minority backgrounds to increase enrolments in core academic programs.

In October 2009, the Kansas State Board of Education, P20 Education Council and the Kansas Board of Regents formed a Committee to engage school, post-secondary and employer communities in a process to understand and support the alignment of high school with the demands of college and careers. The Committee surveyed personnel from universities, community colleges and independent colleges on their perceptions about the Common Core State Standards. The

Committee also worked with Achieve staff to conduct a gap analysis between the Kansas Curricular Standards for mathematics and reading and the Common Core State Standards, which was released in January 2010. In January 2010, committees of teachers in English language arts and mathematics were formed to review the Common Core State Standards to identify additional content. In March 2010, the committees released reports listing the additional content. In May 2010, the Kansas State Board of Education authorised the formation of the Kansas Education Commission to examine Kansas' strategic approach to reauthorisation of the Elementary and Secondary Education Act outlined in the report published by the United States Department of Education (2010). By examining the key priorities found in this report, the Commission recommended revisions to state statutes and policies to ensure that Kansas students are prepared for college- and career-readiness, provide coherence to work underway in Kansas education regarding reauthorisation of the Elementary and Secondary Education Act, and allow for a smooth transition from the accountability system of No Child Left Behind to a new system. Comprising representation from key stakeholders in Kansas education, the Commission formed five subcommittees on college- and career-ready students, great teachers and leaders in every school, equity and opportunities for all students, raise the bar and reward excellence, and promote innovation and continuous improvement to undertake its work. At its initial meetings, the College- and Career-Ready Students Subcommittee recommended that the State Board should adopt the Common Core State Standards with additional content based on career and technical education pathways and twenty-first century skills, a conclusion reflected in the final report of the Kansas Education Commission (2010). On 12 October 2010, the State Board adopted the Common Core State Standards and the additional content. Following adoption, State Department of Education staff consulted teachers across Kansas on designing a plan to implement the Common Core State Standards. In February 2011, the State Department of Education released a transition timeline and a transition monthly schedule. Commencing in 2010-2011, the Common Core State Standards will be implemented over four phases. From 2010 to 2012, feedback will be solicited from stakeholders regarding the need for documents to support implementation and professional development, and presentations to develop awareness will be given. In 2012-2013, documents to support implementation will be refined, feedback will be solicited from stakeholders regarding professional development, and presentations focusing on alignment will be given. In 2013-2014, documents to support implementation will be refined, feedback will be solicited from stakeholders regarding professional development, and additional resources will be developed for gaps in alignment. In 2014-2015, feedback will be solicited from stakeholders regarding on-going professional development. The transition monthly schedule outlines activities to be undertaken in each month from December 2010 until April 2012. Following a meeting with content committees in December 2010 regarding professional development, a survey was administered and a presentation given to stakeholders in February 2011. In March 2011, the results of the survey were analysed, meetings were held to review the presentations, and a document outlining the shift from standards to instruction was developed. In April 2011, train-the-trainer presentations were given at the seven service centres, a webinar was presented, and a meeting was held with partners to develop presentations for summer academies. In May 2011, a webinar on the document outlining the shift from standards to instruction was held. In June and July of 2011, six academies on transitioning to the Kansas Core Curriculum were held at Salina, Hays, Kansas City, Iola, Wichita and Garden City. In August 2011, on-line standards training will be announced to stakeholders. In October 2011, a presentation on the Common

Core State Standards will be given at the annual Kansas State Department of Education conference.

New Mexico's administrative code requires that the adoption process is preceded by a 30-day posting period for public comment prior to a public hearing. Late in July 2010, the New Mexico Public Education Department held a public hearing to obtain input on rules for adapting the New Mexico Content Standards, Benchmarks and Performance Standards for language arts and mathematics to incorporate the Common Core State Standards. Early in October 2010, a second public hearing was held to obtain input on rules for adopting the Common Core State Standards. Following this public hearing, Secretary of Education, Susanna Murphy revised the rule before adopting the Common Core State Standards on 19 October 2010 to come into effect in July 2012. Two committees, consisting of teachers, school administrators and parents, were formed to determine which, if any, of New Mexico's standards will be retained. The committees used Achieve's Common Core Comparison Tool to compare New Mexico's standards to the Common Core State Standards for alignment and gaps, and identified standards for English language arts addressing Hispanic and Native education pertinent to the needs of New Mexico's students. The recommendations were adopted at a public hearing held in November 2010. In December 2010, pilot sites were identified to implement the new standards. In 2011, the Public Education Department will collaborate with school districts and charter schools to develop curriculum resources aligned to the new standards, adjust the instructional materials adoption procedure, design a professional development program to assist teachers to understand and implement the new standards, design a system to monitor implementation of the new standards by stakeholders, and provide supports for students to achieve the new standards.

The Oregon Revised Statutes in the Oregon Educational Act for the 21<sup>st</sup> Century, passed by the Oregon Legislature in 1991, requires the Oregon State Board of Education to review and revise the common curriculum goals, performance indicators and diploma requirements. Late in 2006, the Oregon Department of Education contracted WestEd to review Oregon's academic standards and make recommendations concerning the structure, quality and scope of the standards, and their alignment to assessments. The results showed that Oregon's standards in each of the ten content areas were rigorous on most criteria. However, the science standards did not reflect a range of depth of knowledge, and the educational technology, health, physical education and social studies standards lacked clarity. WestEd recommended that Oregon's standards should focus on the most important content for students to master. In response, the State Board required the Oregon Department of Education to develop core standards for the new Oregon High School Diploma. The structure of the core standards was first reflected in the mathematics standards for kindergarten to grade 8 adopted in December 2007 and for high school adopted in June 2009. Given their recent adoption, the Department of Education conducted a match and gap analysis only between Oregon's mathematics standards and the Common Core State Standards. In September 2010, the Department of Education's mathematics consultant and a team of mathematics teachers from Salem-Keizer School District conducted an initial match and gap analysis. In October 2010, a group of mathematics educators from across Oregon worked with staff of the Northwest Regional Comprehensive Center to conduct an in-depth match and gap analysis. The results from both studies, which showed that the majority of unmatched content existed in grades 3 to 5 and in high school, were merged to create

comparison documents. The Department of Education collaborated with the Northwest Regional Comprehensive Center to conduct an observational comparison of Oregon's English language arts standards and the Common Core State Standards. Since Oregon's English language arts standards were written between 2000 and 2002, the results showed that the Common Core State Standards contain a number of new features in their organisation, and incorporated more recent research on reading and writing. The results of the study were used to produce comparison documents. An on-line survey was also conducted to identify stakeholders' attitudes about the quality of the Common Core State Standards, and whether Oregon should adopt them. Of those respondents, who completed items referring to English language arts, 80 percent believed the Common Core State Standards should be adopted, whilst 64 percent of respondents, who completed items referring to mathematics, believed the Common Core State Standards should be adopted. After considering this evidence, the State Board adopted the Common Core State Standards on 28 October 2010. In a move to prepare students for the Common Core State Standards and the Oregon High School Diploma, the State Board also voted to increase mathematics achievement standards. After the State Board considered a draft implementation timeline, the Department of Education appointed the Oregon Common Core State Standards Implementation Stewardship Team consisting of stakeholders selected through a state-wide nomination process. Convened to design an implementation plan, the Oregon Common Core State Standards Implementation Team formed a steering committee to oversee design of the plan and working groups on curriculum and instruction, instructional materials, professional development, and communications. Following release of the implementation plan in June 2011, the Department of Education began working with the 20 education service districts to plan support for districts in aligning curriculum to the Common Core State Standards. Late in 2011, the Department of Education and the education service districts will begin professional development to ensure teachers understand the knowledge and skills contained in the Common Core State Standards. Early in 2012, the Department of Education will conduct surveys to determine the degree of alignment between currently adopted materials and the Common Core State Standards. Late in 2012, the Department of Education and the education service districts will plan regional support for districts in instructional practices to be implemented in 2013.

The Alabama State Department of Education convened task forces, consisting of members of former English language arts and mathematics courses of study committees and State Board of Education appointees, to compare the Common Core State Standards to the Alabama courses of study. The task forces used Achieve's Common Core Comparison Tool to match standards in the Alabama courses of study for English language arts and mathematics to the Common Core State Standards, produced correlations and suggested a limited number of additions to the Common Core State Standards. The results showed that 92 percent of the English language arts standards and 96 percent of the mathematics standards matched the Common Core State Standards. After detailed review, the task forces amalgamated the Common Core State Standards and the additions to produce first drafts for new courses of study. Following internal review and revision, the final drafts were placed on the State Department of Education's web site for public review in September 2010. After revision based on responses to the public review, new Alabama courses of study for English language arts and mathematics were adopted by the Alabama State Board of Education in November 2010. In September and October of 2010, the State Department of Education

conducted regional presentations at Mobile, Birmingham, Montgomery and Decatur to inform educators about the Common Core State Standards, review the adoption process for Alabama, report on the comparison between the Common Core State Standards and the Alabama courses of study, and determine the impact of adoption of the Common Core State Standards on teaching and learning in Alabama. The State Board held three work sessions, reviewed documents of support for the Common Core State Standards from education groups, businesses and industries, and conducted a public hearing, at which 39 individuals submitted comments, in reaching a decision to adopt the Common Core State Standards on 18 November 2010. In 2011, the State Department of Education convened a team to design a transition plan to implement the Common Core State Standards using curriculum guides. A train-the-trainer model will be used to provide professional development for districts and schools at 11 regional in-service centres. Effective teachers will be engaged through the Professional Pathways Program to lead professional development as master teachers or develop curriculum as program designers, initially in 15 schools but in all Alabama schools within four years. An educational leadership network will be established to build the capacity of principals. Information about the Common Core State Standards will be incorporated into teacher preparation programs. The use of coaches in the Alabama Mathematics, Science and Technology Initiative and the Alabama Reading Initiative will be expanded to assist teachers implement the Common Core State Standards. The Alabama Learning Exchange, an on-line portal launched in 2002, will be used to present the Common Core State Standards, lesson plans and curriculum resources. Distance learning will be expanded by hiring high performing teachers and equipping distance learning centres to provide courses of study to all students based on the Common Core State Standards.

The process of developing South Dakota Content Standards was first based on the premise of setting challenging standards in the core content areas when the South Dakota Legislature passed Senate Bill 170 in 1997 and the use of a standards revision and adoption cycle was approved by the South Dakota State Board of Education in 2001. In accordance with these requirements, the South Dakota Department of Education appointed a committee of teachers in mid 2009 to revise the mathematics standards adopted in May 2004, but this work was suspended when South Dakota joined the Common Core State Standards Initiative. Early in 2010, Department of Education staff and a group of teachers used Achieve's Common Core Comparison Tool to compare the South Dakota Content Standards for language arts and mathematics to the Common Core State Standards. The results showed that 80 percent of the language arts standards and 71 percent of the mathematics standards matched the Common Core State Standards. At a presentation given by Department of Education staff in September 2010, the State Board voted to move the Common Core State Standards to a public hearing in November 2010. At the public hearing, the State Board adopted the Common Core State Standards on 29 November 2010. Following adoption, the Department of Education designed a plan for implementing the Common Core State Standards using a communications strategy and providing professional development opportunities. Professional development was initiated by hosting four webinars in December 2010 and January 2011 focusing on documents comparing the South Dakota Content Standards to the Common Core State Standards, and how teachers can use these documents to examine the Common Core State Standards. In June 2010, the Department of Education initiated a program to provide teachers with professional development on the Common Core State Standards over three years. For the first year in 2011-2012,

the program consists of a pilot offered to teacher leaders at Pierre in July and August of 2011, and the main program offered to educators nominated by districts in three workshops to be held concurrently at Aberdeen, Rapid City and Sioux Falls in October and November of 2011 and February 2012.

In June 2010, Idaho State Department of Education staff hosted a series of regional meetings to explain the Common Core State Standards and gather feedback. In July 2010, the State Department of Education's content specialists applied Achieve's Common Core Comparison Tool to match the Idaho Content Standards for language arts and mathematics to the Common Core State Standards. The results showed that 78 percent of the English language arts standards and 76 percent of the mathematics standards matched the Common Core State Standards. Presented to the Idaho State Board of Education in August 2010, the Common Core State Standards were given initial approval and a rule proposed to incorporate them into the Idaho Administrative Code. After gaining initial approval, State Department of Education staff held regional public hearings in September 2010 to explain the Common Core State Standards and gather feedback, followed by regional public hearings in October 2010 to collect comments for the public record. After considering 16 comments received during the public comment period, the State Board of Education approved the proposed rule as a pending rule on 17 November 2010. The pending rule was presented to the Idaho Legislature for review and approval in the regular session held in January 2011. After approval by the Senate Education Committee on 24 January 2011, the pending rule became permanent and codified in the Idaho Administrative Code, and a state-wide plan was released to implement the Common Core State Standards in schools in 2013-2014 preceded by a two-year period of state-wide professional development. In January 2011, the State Department of Education launched Students Come First, a comprehensive plan to improve the education system during a period of economic recession. The plan involves creating the twenty-first century classroom, recruiting great teachers and leaders, and designing transparent accountability. Creating the twenty-first century classroom involves implementing the Common Core State Standards, increasing availability of computer technology in classrooms, expanding virtual learning for high school students, and increasing learning opportunities for successful high school students.

Following a public hearing in August 2010, at which comments about adoption of the Common Core State Standards were received, Acting Commissioner Angela Faherty provisionally adopted the Common Core State Standards on 7 October 2010. Referred to the Maine State Legislature, the Common Core State Standards were approved by the Joint Committee on Education and Cultural Affairs in March 2011, passed by both the House of Representatives and the Senate, and signed into law as LD 12 by Governor Paul LePage on 4 April 2011. Since the Common Core State Standards replace the Maine Learning Results for English language arts and mathematics, the Maine Department of Education commenced an alignment study in 2010. The timeline for implementing the Common Core State Standards consists of three phases. In 2010-2011, teachers became familiar with the Common Core State Standards. In 2011-2012, teachers will incorporate the Common Core State Standards into classroom activities. In 2012-2013, classroom instruction will be based on the Common Core State Standards. The first phase was initiated with a series of professional development activities. In September 2010, the Department of Education's specialists in English language arts developed a professional development program consisting of three modules to

introduce teachers to the Common Core State Standards, alignment between documents, and implementation in schools. The Department of Education's specialist in mathematics developed a professional development program consisting of four modules, including a workshop delivered in collaboration with the Association of Teachers of Mathematics in Maine at localities across Maine in December 2010, and a series of four webinars presented in March 2011.

The North Dakota Department of Public Instruction commissioned Mid-continent Research for Education and Learning to compare the North Dakota Content Standards for English language arts and mathematics to the Common Core State Standards. Released in June 2010, the four reports showed which of North Dakota's standards are aligned to the Common Core State Standards and which of the Common Core State Standards are aligned to North Dakota's standards. Following release of the reports, the Department of Public Instruction selected approximately 70 teachers, nominated by their schools, to validate and recommend new North Dakota Content Standards for English language arts and mathematics based on the Common Core State Standards. Led by facilitators from Mid-continent Research for Education and Learning, the committees reviewed the comparison documents and the current North Dakota Content Standards to validate the Common Core State Standards and add examples, comments and cross-references. Following public reviews of the drafts in October 2010 and February 2011, the committees recommended that the state adopt the new standards. After an independent review of the new standards, State Superintendent Wayne Sanstead adopted the new North Dakota Content Standards for English language arts and mathematics on 20 June 2011. In 2011-2012, committees of educators will draft a curriculum template to assist districts in aligning their curricula to the new North Dakota Content Standards for English language arts and mathematics. The curriculum template will support implementation of the new North Dakota Content Standards for English language arts and mathematics in schools from July 2013.

On 19 July 2010, Washington State Superintendent Randy Dorn provisionally adopted the Common Core State Standards. 2010 Engrossed Second Substitute Bill 6696 of the Washington State Legislature requires the state superintendent to submit to the education committees of the House of Representatives and the Senate a comparison of the Common Core State Standards and the Washington Essential Academic Learning Requirements, and an estimated timeline and cost to implement the Common Core State Standards. Adoption and implementation of the Common Core State Standards will not occur until after completion the 2011 legislative session in April 2011. Two studies were conducted to compare the Common Core State Standards and the Washington Essential Academic Learning Requirements. In June 2010, the Office of the Superintendent of Public Instruction contracted Hanover Research, a membership-based, full-service research company located in Washington DC, to analyse the degree to which the grade-level expectations match the Common Core State Standards. The results showed that 86 percent of the grade-level expectations for reading, writing and communication and 85 percent of the grade-level expectations for mathematics match the Common Core State Standards. In August 2010, the Office of the Superintendent of Public Instruction convened a working group of educators, who applied the methodology used by Hanover Research, to match the grade-level expectations to the Common Core State Standards. The results showed that 72 percent of the reading, 83 percent of the writing, 55 percent of the communication and 95 percent of the mathematics grade-level expectations match the Common Core State Standards.

In September and October of 2010, the Office of the Superintendent of Public Instruction held two webinars to introduce the Common Core State Standards, four public forums at Yakima, Spokane, Vancouver and Westside in October 2010 to collect feedback from stakeholders to shape the implementation plan, and an on-line survey to identify educators' attitudes about whether the Common Core State Standards should be augmented with additions. Feedback collected from the public forums identified that a communication strategy should use materials, such as an implementation calendar and e-mail listservs, workgroups of experts should be convened to guide implementation efforts, a range of documents, such as the Common Core State Standards and comparison documents, should be used, instructional materials should be reviewed for alignment to the Common Core State Standards, and support for implementation should be located at the nine educational service districts. Respondents believed that implementation at the district level should focus on establishing alignment teams, involving leaders in state-level training, and supporting teachers with on-going training. Of 219 respondents to the on-line survey, 53 percent, who responded to the section on English language arts, and 55 percent, who responded to the section on mathematics, believed that the Common Core State Standards were sufficient, whilst 42 percent, who responded to the section on English language arts, and 40 percent, who responded to the section on mathematics, believed that the state should wait before making a decision about state-specific additions. Following completion of the two studies, the findings were compiled in a report presented to the Washington State Legislature in January 2011. In the report, Vavrus (2011) presented the findings of the studies, the public forums and the on-line survey, and estimated implementation timelines, anticipated costs, and a proposed support structure. The report recommended that the Common Core State Standards should be adopted, Washington should continue as a governing state within the SMARTER Balanced Assessment Consortium, educators and stakeholders should be engaged in developing a state-wide communication, outreach and implementation process, and further analysis should be conducted regarding funding needed for district instructional materials' purchases. The proposed implementation process should involve the State Implementation Team, consisting of groups and individuals representing the Office of the Superintendent of Public Instruction, the nine educational service districts, large districts and state-wide partners, identifying and aligning state-wide efforts and resources to support implementation. A Common Core Policy and Communication Team, consisting of state leaders and stakeholders, should coordinate and align consistent communications and identify resources for implementation. State-wide implementation workgroups, consisting of groups and individuals representing the Office of the Superintendent of Public Instruction, the nine educational service districts, curriculum leaders and stakeholders, should coordinate and align system supports for transitioning to the Common Core State Standards. Regional implementation networks, consisting of regional and district leaders and content specialists, should participate in state-wide train-the-trainer sessions, and coordinate and deliver professional development to teachers. School district implementation teams, consisting of district and school leaders, should coordinate consistent support to teachers.

## **Discussion**

The findings of the study show that planning decisions to determine the objectives of the Common Core State Standards Initiative originated in the work of the

American Diploma Project, and the conversations and debates among education leaders about national standards. CCSSO, representing state education officials, was the first policy group to begin planning the Common Core State Standards Initiative at its annual meeting in April 2007 by identifying which groups should be involved in the planning process. Various models of governance, considered at the symposium convened by the Nelson A. Rockefeller Institute of Government, helped policy makers to determine the most appropriate model of governance to choose. However, the study conducted by the National Research Council of the National Academies for the James B. Hunt, Jr., Institute for Educational Leadership and Policy, which investigated the policy context, variability and costs of state standards-based reform, was more important in determining the objectives for the Common Core State Standards Initiative by recommending five elements for a state-led effort to develop Common Core State Standards. The role of the International Benchmarking Advisory Group in placing emphasis on international benchmarking in determining five action steps for states to design a standards-based education system further refined the objectives for the Common Core State Standards Initiative. These objectives were specified as setting internationally benchmarked standards for English language arts and mathematics through a collaborative developmental process involving a multi-state compact. The key objectives for the Common Core State Standards Initiative had been determined by planning decisions made between CCSSO's annual meeting in April 2007 and the meeting of education leaders convened by the NGA Center for Best Practices and CCSSO in January 2009.

The means to achieve these objectives were initiated by the coordinating organisations convening meetings with stakeholders in January 2009, and governors' education advisors and chief state school officers in April 2009. These meetings formed a preliminary step to involve stakeholders and state representatives in shaping the multi-state compact. This step was concluded in June 2009 with a formal signing of a memorandum of agreement by each state and territory, which agreed to participate in the Common Core State Standards Initiative. During this period the coordinating organisations allocated a budget, appointed a staff, and designed a schedule and process for developing the Common Core State Standards. The complexity of the process, involving initial development of college- and career-readiness standards followed by kindergarten to grade 12 standards and finally a validation procedure, meant that a planned change model of decision making needed to be applied to accomplish a change involving many steps and participating organisations over a relatively long span of time. The Thomas B. Fordham Institute played an important role in helping education officials examine alternative means for achieving the objectives at its conference on international benchmarking held in May 2009. Federal and state policy makers were informed about the work to be performed, resources and time to be used, and the projected outcomes to be achieved by the Common Core State Standards Initiative at the hearing conducted by the House of Representatives' Committee on Education and Labor in April 2009 and the Governors Education Symposium in June 2009.

The need to apply a planned change model to implement the Common Core State Standards Initiative meant that research, development, diffusion and adoption activities in the change process were planned in advance. The work of the American Diploma Project identified and defined a common core of benchmarks, and the findings of the study conducted by the National Research Council of the National Academies provided a sound research base to advance knowledge about

developing higher, clearer and fewer standards, aligned to college and work expectations, inclusive of rigorous content, internationally benchmarked, and grounded in research and evidence. The plan for developing the college- and career-readiness standards, kindergarten to grade 12 standards and the validation procedure was thorough, incorporating elements recognised as important for developing rigorous standards. Initially, a group of representatives from Achieve, ACT, the College Board, the National Association of State Boards of Education and the State Higher Education Executive Officers advised the coordinating organisations on developing the standards. The work groups and feedback groups, consisting of specialists with recognised expertise in various fields, interacted through a deliberative process during three drafting phases, in which the standards were reviewed by state personnel and members of the public. The feedback offered by state personnel and members of the public provided important substance for refining the draft standards. Independent evaluations of the college- and career-readiness standards and the kindergarten to grade 12 standards, conducted by small groups of subject specialists on behalf of the Thomas B. Fordham Institute, rated the Common Core State Standards favourably compared to international benchmarks and state standards. The work of the Validation Committee offered a final means to assess whether the Common Core State Standards met a set of criteria by using a panel of academics, principals and teachers with varying types of expertise as judges. However, several of the four judges, who refused to certify the Common Core State Standards, were among a small group of activists opposed to the Common Core State Standards, believing they are inferior to the most rigorous state standards. The plan for diffusing the Common Core State Standards utilised stakeholders to create widespread awareness of the Common Core State Standards and opportunities for practitioners to examine their operating qualities. Activities undertaken by the National Association of State Boards of Education, the National Parent Teacher Association and the Council of State Governments were particularly important in this regard. The plan for adopting the Common Core State Standards led partners to develop resources to support implementation of the Common Core State Standards, but also some stakeholders to advocate for greater uniformity in the curriculum and instructional materials. Achieve developed the Common Core Comparison Tool, widely used by state officials to compare the degree of alignment between their states' standards and the Common Core State Standards. An implementation guide, designed by Achieve, provides a valuable resource for state policy makers to implement the Common Core State Standards. The model course pathways in mathematics, developed by Achieve, form a resource for implementing the Common Core State Standards in high schools. The leading role played by the Bill and Melinda Gates Foundation in funding various organisations to develop resources to support implementation of the Common Core State Standards drew criticism from some quarters that the funding of large corporations could lead them to dominate the marketplace for curriculum resources. Various proposals to develop curriculum resources to support implementation of the Common Core State Standards led to a debate between liberal and conservative policy makers about the need for a uniform curriculum aligned to the Common Core State Standards. It is evident that the involvement of an increasing number of stakeholders in the diffusion and adoption activities has increased the potential for a controversial debate to emerge among policy makers over the need for a national curriculum.

Decisions about whether to modify the Common Core State Standards Initiative to match its attainments more closely to the objectives has been a focus of attention

by policy makers associated with the Thomas B. Fordham Institute. Awareness precipitating decisions by these policy makers is the perception that the governance structure for the Common Core State Standards Initiative needs to be modified, can be identified as far back as its report on four models for developing national standards and assessments (Finn, Julian and Petrilli, 2006a). The issue was discussed further by Schmidt, Houang and Shakrani (2009) in a report sponsored by the Thomas B. Fordham Institute. In 2010, the Thomas B. Fordham Institute initiated a major study to determine a different governance structure for the Common Core State Standards Initiative. Aspects of governance, discussed in papers authored by five prominent analysts, were judged by a group of experts on education reform. In spite of a lack of agreement among the experts about the need for modifying the governance structure, policy makers associated with the Thomas B. Fordham Institute recommended that an interim coordinating council should be created and permitted to evolve into a more permanent organisation over time. In October 2010, the coordinating organisations issued a statement about this recommendation, indicating that policy administrators believed that the federal government should not be involved in the governance structure and the scope of work should be narrower than that proposed in the recommendation.

The state education agencies, which signed the memorandum of agreement to develop the Common Core State Standards, played a significant part in shaping them. However, the factors affecting the participation of individual states have not been analysed in any published report, nor have these factors been given any attention in this study. Some attention has been given to analysing factors affecting the decisions of state education agencies to adopt the Common Core State Standards in the report published by the Center on Education Policy (2011). Of six factors, identified as very important or important in decisions to adopt the Common Core State Standards, three of these factors relate directly to the quality of the Common Core State Standards. The same study identified long-term plans of state education agencies for educational improvement arising from the adoption of the Common Core State Standards, the requirements districts are expected to take in implementing the Common Core State Standards, changes to higher education policies and practices as part of implementing the Common Core State Standards, and challenges facing states in implementing the Common Core State Standards.

The analysis of the information reported in the state profiles published in this report treats separately the participation of state education agencies in developing and adopting the Common Core State Standards, and the activities of these agencies to train local personnel, trial the Common Core State Standards to build familiarity, install the Common Core State Standards in the educational program, and institutionalise the Common Core State Standards as an integral component of the educational program.

The findings relating to the participation of state education agencies in developing and adopting the Common Core State Standards are presented in Table 1. Table 1 presents a matrix showing the states in the rows and activities relating to developing and adopting the Common Core State Standards in the columns. With the exception of Alaska and Texas, all of the

**TABLE 1**

**PARTICIPATION OF STATE EDUCATION AGENCIES IN DEVELOPING  
AND ADOPTING THE COMMON CORE STATE STANDARDS**

State	Activity							
	1	2	3	4	5	6	7	8
Alabama	yes	no	no	no	yes	yes	no	yes
Alaska	no	no	no	no	no	no	no	no
Arizona	yes	no	no	no	yes	yes	no	yes
Arkansas	yes	no	no	no	yes	yes	no	no
California	yes	no	no	no	yes	yes	no	yes
Colorado	yes	no	no	yes	yes	yes	no	yes
Connecticut	yes	no	no	yes	yes	yes	no	no
Delaware	yes	no	no	no	yes	yes	no	no
District of Columbia	yes	no	no	yes	yes	yes	no	no
Florida	yes	no	no	no	yes	yes	no	no
Georgia	yes	no	no	yes	yes	yes	no	yes
Hawaii	yes	no	no	no	yes	yes	no	no
Idaho	yes	yes	no	yes	yes	yes	no	no
Illinois	yes	no	no	no	yes	yes	no	no
Indiana	yes	no	no	no	yes	yes	yes	no
Iowa	yes	no	no	no	yes	yes	no	yes
Kansas	yes	no	no	no	yes	yes	no	yes
Kentucky	yes	no	no	no	yes	yes	yes	no
Louisiana	yes	no	no	no	yes	yes	no	no
Maine	yes	yes	yes	yes	yes	no	yes	no
Maryland	yes	no	no	no	yes	yes	no	no
Massachusetts	yes	no	no	yes	yes	yes	no	yes
Michigan	yes	no	no	no	yes	yes	no	no
Minnesota	yes	yes	no	no	yes*	no	yes	yes
Mississippi	yes	no	no	no	yes	yes	no	no
Missouri	yes	no	no	no	yes	yes	no	no
Montana	yes	no	no	no	no	no	no	no
Nebraska	yes	no	no	no	no	no	no	no
Nevada	yes	no	no	no	yes	yes	yes	no
New Hampshire	yes	no	no	yes	yes	yes	no	no
New Jersey	yes	no	no	no	yes	yes	no	no
New Mexico	yes	no	no	yes	yes	yes	no	yes
New York	yes	no	no	no	yes	yes	no	yes
North Carolina	yes	no	no	no	yes	yes	no	no
North Dakota	yes	no	no	no	yes	no	yes	no
Ohio	yes	no	no	no	yes	yes	no	no
Oklahoma	yes	no	no	no	yes	yes	no	no
Oregon	yes	no	no	yes	yes	yes	no	no
Pennsylvania	yes	no	no	yes	yes	yes	no	no
Rhode Island	yes	no	no	no	yes	yes	no	no
South Carolina	yes	no	no	no	yes	yes	yes	no
South Dakota	yes	no	no	yes	yes	yes	no	no
Tennessee	yes	no	no	no	yes	yes	no	no

**TABLE 1  
(cont.)**

**PARTICIPATION OF STATE EDUCATION AGENCIES IN DEVELOPING  
AND ADOPTING THE COMMON CORE STATE STANDARDS**

State	Activity							
	1	2	3	4	5	6	7	8
Texas	no	no	no	no	no	no	no	no
Utah	yes	no	no	no	yes	yes	no	no
Vermont	yes	no	no	no	yes	yes	no	no
Virginia	yes	no						
Washington	yes	yes	yes	no	yes	no	yes	no
West Virginia	yes	no	no	no	yes	yes	no	yes
Wisconsin	yes	no	no	no	yes	no	yes	no
Wyoming	yes	no	no	yes	yes	yes	no	no

Key to Activities: Column 1 = Did the state sign the memorandum of agreement to participate in developing the Common Core State Standards?; Column 2 = Did the state legislature review the Common Core State Standards before adoption?; Column 3 = Did any authority adopt the Common Core State Standards provisionally?; Column 4 = Did the agency conduct a survey or a public hearing to determine practitioners' attitudes before adopting the Common Core State Standards?; Column 5 = Did the state adopt the Common Core State Standards?; Column 6 = Did the state board of education adopt the Common Core State Standards?; Column 7 = Did another authority adopt the Common Core State Standards?; Column 8 = Did adoption of the Common Core State Standards include state-specific additions?

Key to asterisk: Column 4 = \* Minnesota adopted only the Common Core State Standards for English language arts.

states and the District of Columbia signed the memorandum of agreement to participate in developing the Common Core State Standards. Although the governors signed the memorandum of agreement, legislators played a major role in reviewing the Common Core State Standards in only four states. Two chief state school officers adopted the Common Core State Standards provisionally during review processes undertaken by state legislatures. Of 13 state education agencies, which sought practitioners' views about adopting the Common Core State Standards, one state education agency surveyed practitioners and held public hearings at the time of adoption, eight state education agencies held public hearings at the time of adoption, and four state education agencies surveyed practitioners. All of the states, except for Alaska, Montana, Nebraska, Texas and Virginia, had adopted the Common Core State Standards by July 2011, although Minnesota adopted only the Common Core State Standards for English language arts. The state board of education was the principal authority responsible for adopting the Common Core State Standards in all of the states, except for Maine, Minnesota, North Dakota, Washington and Wisconsin. In Maine and Washington, state legislatures were the principal authority for adopting the Common Core State Standards. Chief state school officers were the principal authority for adopting the Common Core

State Standards in Minnesota, North Dakota and Wisconsin. In addition to these states, other authorities as well as the state board of education were also involved in adopting the Common Core State Standards in four states. Bodies responsible for overseeing education reform were also involved in adopting the Common Core State Standards in Indiana, Nevada and South Carolina. Two additional bodies, the Council on Postsecondary Education and the Education Professional Standards Board, were involved in adopting the Common Core State Standards in Kentucky. Several procedures were used by 12 state education agencies, which incorporated state-specific additions into the adopted Common Core State Standards. Committees determined additions in Alabama, California, Colorado, Kansas, Massachusetts, Minnesota, New Mexico and West Virginia. In Iowa, content specialists identified additions, which were vetted by several committees. In Arizona and Georgia, teachers were surveyed to provide input for committees to determine additions. In New York, committees identified additions, which were reviewed by teachers prior to final determination by the committees.

The findings relating to the participation of state education agencies in implementing the Common Core State Standards are presented in Table 2. Table 2 presents a matrix showing the states in the rows and activities relating to implementing the Common Core State Standards in the columns. Most states implemented the Common Core State Standards independently of reviews and revisions of state standards across all content areas. Such revisions, however, were underway, or initiated by adoption of the Common Core State Standards, in Colorado, Delaware, Florida, Kentucky, Maryland, New Jersey, North Carolina and Wyoming. Twenty-eight states reported having conducted or commissioned studies to establish alignments between state standards and the Common Core State Standards. Two states reported that studies are being conducted to establish alignments between state standards and the Common Core State Standards. Of these 30 states, 14 reported using Achieve's Common Core Comparison Tool to undertake these studies. Thirty states published documents comparing state standards and the Common Core State Standards. Eighteen states reported having already developed, or having planned to develop, state or model curricula aligned to the Common Core State Standards. Of these states, Alabama, Delaware, Massachusetts and Ohio had already published state or model curricula by July 2011. Arkansas, California, Connecticut, Indiana, Kentucky, Louisiana, Maryland, Missouri, Nevada, New York, Pennsylvania, Rhode Island, Utah and Wisconsin have state or model curricula under development or planned for development. Thirty-eight states had released plans for implementing the Common Core State Standards by July 2011, and another five states had plans under development. Of those states that had adopted the Common Core State Standards, only Maryland and New Mexico had not expressed intentions to release such plans. The plans released by 33 states presented timelines for implementation to which all districts and schools were expected to comply. However, Arkansas, Colorado, Iowa, Oklahoma and Pennsylvania released plans in the form of guidelines for districts to design implementation plans. Thirty-five states will have implemented professional development programs on the Common Core State Standards for educators

**TABLE 2**

**PARTICIPATION OF STATE EDUCATION AGENCIES IN IMPLEMENTING  
THE COMMON CORE STATE STANDARDS**

State	Activity							
	1	2	3	4	5	6	7	8
Alabama	no	yes**	yes	yes	yes*	yes*	yes	no
Alaska	no	no	no	no	no	no	no	no
Arizona	no	yes	yes	no	yes	yes	yes	no
Arkansas	no	yes**	yes	yes*	yes**	yes	no	no
California	no	yes	no	yes*	yes*	yes*	yes	no
Colorado	yes	yes	yes	no	yes**	yes	no	no
Connecticut	no	yes**	yes	yes*	yes	yes	no	no
Delaware	yes	no	yes	yes	yes	yes	no	no
District of Columbia	no	yes**	yes	no	yes	yes	yes*	no
Florida	yes	yes**	no	no	yes	yes*	yes	yes
Georgia	no	yes**	yes	no	yes	yes	yes	no
Hawaii	no	no	yes	no	yes	yes	no	yes
Idaho	no	yes**	no	no	yes	yes	no	no
Illinois	no	yes**	yes	no	yes	yes	no	no
Indiana	no	yes**	yes	yes*	yes	yes	yes	no
Iowa	no	yes**	no	no	yes**	yes	no	no
Kansas	no	no	yes	no	yes	yes	no	no
Kentucky	yes	no	yes	yes*	yes	yes	no	no
Louisiana	no	yes*	yes	yes*	yes	yes*	no	no
Maine	no	yes*	no	no	yes	yes	no	no
Maryland	yes	yes**	no	yes*	no	yes	yes	no
Massachusetts	no	yes**	yes	yes	yes	yes*	yes*	no
Michigan	no	no	yes	no	yes	yes	yes	no
Minnesota	no	no	no	no	yes*	no	yes	no
Mississippi	no	yes	yes	no	yes	yes	no	no
Missouri	no	no	yes	yes*	yes	yes	yes	no
Montana	no	no	no	no	no	no	no	no
Nebraska	no	no	no	no	no	no	no	no
Nevada	no	yes	yes	yes*	yes	yes	yes*	no
New Hampshire	no	no	no	no	yes	yes	no	no
New Jersey	yes	no	yes	no	yes	yes	yes	no
New Mexico	no	yes	no	no	no	yes*	no	no
New York	no	no	no	yes*	yes	yes	no	no
North Carolina	yes	no	yes	no	yes	yes	no	no
North Dakota	no	yes	yes	no	no	no	no	no
Ohio	yes	no	yes	yes	yes*	yes*	no	no
Oklahoma	no	yes	yes	no	yes**	yes	no	no
Oregon	no	yes	yes	no	yes	yes	no	yes*
Pennsylvania	no	yes	yes	yes*	yes**	yes	yes	no
Rhode Island	no	no	no	yes*	yes	yes	no	no
South Carolina	no	yes	no	no	yes	yes	no	no
South Dakota	no	yes**	yes	no	yes	yes	no	no
Tennessee	no	yes**	no	no	yes	yes	yes	no

**TABLE 2  
(cont.)**

**PARTICIPATION OF STATE EDUCATION AGENCIES IN IMPLEMENTING  
THE COMMON CORE STATE STANDARDS**

State	Activity							
	1	2	3	4	5	6	7	8
Texas	no	no	no	no	no	no	no	no
Utah	no	yes	yes	yes*	yes	yes	yes*	no
Vermont	no	no	no	no	yes	yes	no	no
Virginia	no	no	no	no	no	no	no	no
Washington	no	yes	yes	no	yes*	yes*	no	yes*
West Virginia	no	no	no	no	yes	yes	yes	yes
Wisconsin	no	no	no	yes*	yes	yes*	yes*	no
Wyoming	yes	yes	yes	no	yes	no	no	no

Key to Activities: Column 1 = Did the agency implement the Common Core State Standards as part of a current standards-based reform effort across all content areas?; Column 2 = Did the agency undertake or commission a study to determine alignment between the state's standards and the Common Core State Standards?; Column 3 = Did the agency publish documents comparing the state's standards to the Common Core State Standards?; Column 4 = Did the agency develop a state curriculum or model curriculum aligned to the Common Core State Standards?; Column 5 = Did the agency publish a state-wide plan and timelines to implement the Common Core State Standards?; Column 6 = Did the agency provide a professional development program to assist teachers implement the Common Core State Standards?; Column 7 = Did the agency design a web-based portal containing a collection of resources to support implementation of the Common Core State Standards?; Column 8 = Did the agency conduct a study to align instructional materials to the Common Core State Standards?

Key to asterisks: Column 2 = \* An alignment study is underway; Column 2 = \*\* Achieve's Common Core Comparison Tool was used in the alignment study; Column 4 = \* State or model curricula, aligned to the Common Core State Standards, are under development or a planned activity; Column 5 = \* The implementation plan is under development; Column 5 = \*\* The plan consists of guidelines for districts to design implementation plans; Column 6 = \* A professional development program is planned for implementation in 2012 or later; Column 7 = \* The web-based portal is planned for completion in 2012 or later; Column 8 = \* The study is planned for conduct in 2012 or later.

in 2011, and another nine states are expected to implement such professional development programs in 2012. Of those states that had adopted the Common Core State Standards, only Wyoming had not expressed an intention to implement a professional development program. Nineteen states had, or were developing, web-based portals to provide educators with collections of resources, such as standards, curriculum frameworks, instructional materials and lesson plans, aligned to the Common Core State Standards. Alabama, Arizona, California, Florida, Georgia, Indiana, Maryland, Michigan, Minnesota,

Missouri, New Jersey, Pennsylvania, Tennessee and West Virginia had already launched new portals by 2011, or were modifying existing portals. The District of Columbia, Massachusetts, Nevada, Utah and Wisconsin were developing, or had planned to develop, web-based portals expected to be completed in 2012 or later. Only five states were conducting, or planned to conduct, studies to align instructional materials to the Common Core State Standards.

## **Conclusion**

The study showed that the Common Core State Standards Initiative represents an important component of the national education reform agenda pursued by the Obama Administration following the severe economic recession in 2008. As the American Recovery and Reinvestment Act of 2009 was used to stimulate the economy, the Obama Administration employed the Race to the Top fund to encourage states to apply for grants to pursue reforms by adopting standards and assessments that prepare students to succeed in college and the workplace and compete in the global economy, build data systems that measure student growth and success, recruit, develop, reward and retrain effective teachers and principals, and turn around the lowest-achieving schools. The Common Core State Standards formed the principal set of new academic standards that almost all of the states adopted in 2010 and 2011, irrespective of whether they were successful in the Race to the Top competition.

The Common Core State Standards Initiative also promoted further reforms at the national level. The development of the Common Core State Standards led to the need for assessments to measure student achievement. In 2009, the U.S. Department of Education launched a Race to the Top assessment competition, which led to grants being awarded to the SMARTER Balanced Assessment Consortium of 30 states and the Partnership for Assessment of Readiness for College and Careers of 24 states to design new assessments for measuring student performance on the Common Core State Standards. The development of the Common Core State Standards prompted a similar initiative to develop new science standards in the first project to create new academic standards in other subject areas. In January 2010, the National Research Council of the National Academy of Sciences initiated work to develop a conceptual framework to guide development of new science standards to replace the *National Science Education Standards* published by the National Research Council (1996). Following release of the framework in July 2011, Achieve will develop a set of internationally benchmarked standards based on the framework. The publication of the Common Core State Standards has also initiated a debate between liberals and conservatives about the need for a common core curriculum to be aligned to the Common Core State Standards.

The Common Core State Standards Initiative also reinvigorated standards-based reform at the state level. The findings of this study concur with the results of an earlier study conducted by the Center on Education Policy (2011). Both studies show that most states have initiated professional development programs as the first step towards implementing the Common Core State Standards. Almost as many states have conducted studies to compare state standards to the Common Core State Standards as a means to support transition to the Common Core State Standards. Almost half of the states have initiated work to develop curriculum aligned to the Common Core State

Standards. A similar number of states have initiated work to design web-based portals containing collections of curriculum resources. However, the availability of assessments from the assessment consortia and new accountability systems will not eventuate for some years.

## References

- Achieve. (2008). *Out of Many, One: Towards Rigorous Common Core Standards from the Ground Up*. Washington, DC: Achieve.
- Achieve. (2010). *On the Road to Implementation: Achieving the Promise of the Common Core State Standards*. Washington, DC: Achieve.
- ACT. (2006a). *ACT National Curriculum Survey, 2005-2006*. Iowa City, IA: ACT.
- ACT. (2006b). *Ready for College and Ready for Work: Same or Different?* Iowa City, IA: ACT.
- ACT. (2008). *College Readiness Standards*. Iowa City, IA: ACT.
- Ainsworth, L. (2011). *Rigorous Curriculum Design: How to Create Curricular Units of Study that align Standards, Instruction, and Assessment*. Englewood, CO: Lead and Learn Press.
- Albert Shanker Institute. (2011). A call for common content. *American Educator*, 35 (1), 41-45.
- American Diploma Project. (2004). *Ready or Not: Creating a High School Diploma that Counts*. Washington, DC: Achieve.
- American Federation of Teachers (2010-2011). Either it all works together or it hardly works at all: how a Common Core Curriculum could make the education system run like clockwork. *American Educator*, 34 (4), 2-49.
- American Mathematical Association of Two-Year Colleges. (1995). *Crossroads in Mathematics: Standards for Introductory College Mathematics before Calculus*. Memphis, TN: American Mathematical Association of Two-Year Colleges.
- Armour-Garb, A. (2007). *Intergovernmental Approaches to Strengthening K-12 Accountability Systems*. Symposium convened by the Nelson A. Rockefeller Institute of Government in Chicago, IL, 29 October 2007.
- Beatty, A. (2008a). *Assessing the Role of K-12 Academic Standards in States: Workshop Summary*. Washington, DC: National Academy Press.
- Beatty, A. (2008b). *Common Standards for K-12 Education? Considering the Evidence: Summary of a Workshop Series*. Washington, DC: National Academy Press.
- Blue Ribbon Commission on Testing and Accountability. (2008). *Report from the Blue Ribbon Commission on Testing and Accountability to the North Carolina State Board of Education*. Raleigh, NC: Blue Ribbon Commission on Testing and Accountability.
- Bransford, J. D., Brown, A. L. and Cocking, R. R. (1999). *How People Learn: Brain, Mind, Experience and School*. Washington, DC: National Academy Press.
- Carmichael, S. B., Martino, G., Porter-Magee, K. and Wilson, W. S. (2010). *The State of State Standards – and the Common Core – in 2010*. Washington, DC: Thomas B. Fordham Institute.
- Carmichael, S. B., Wilson, W. S., Finn, C. E., Winkler, A. M. and Palmieri, S. (2009). *Stars by which to Navigate? Scanning National and International Standards in 2009*. (An Interim Report on Common Core, NAEP, TIMSS and PISA). Washington, DC: Thomas B. Fordham Institute.
- Carmichael, S. B., Wilson, W. S., Martino, G., Finn, C. E., Porter-Magee, K. and Winkler, A. M. (2010). *Review of the Draft K-12 Common Core Standards*. Washington, DC: Thomas B. Fordham Institute.
- Cavanagh, S. (2009a). Transparency of common-standards process at issue. *Education Week*, 28 (37), 1, 14-15.

- Cavanagh, S. (2009b). 'Common core' standards earn a B from think tank. *Education Week*, 29 (7).
- Cavanagh, S. (2009c). PTA launches campaign backing common standards. *Education Week*, 29 (14), 7.
- Cavanagh, S. and Gewertz, C. (2009). Draft content standards elicit mixed reviews. *Education Week*, 28 (37), 1, 14.
- Center on Education Policy. (2011). *States' Progress and Challenges in Implementing Common Core State Standards*. Washington, DC: Center on Education Policy.
- College Board. (2006). *College Board Standards for College Success*. New York, NY: College Board.
- College Board. (2008). *Advanced Placement English Language and Composition and English Literature and Composition Course Description*. New York, NY: College Board.
- College Board. (2009). *Advanced Placement Calculus*. New York, NY: College Board.
- Conley, D. T. (2003). *Understanding University Success: A Report from Standards for Success, a Project of the Association of American Universities and the Pew Charitable Trusts*. Eugene, OR: Center for Educational Policy Research.
- DeVito, P. J. (2010). The oversight of state standards and assessment programs: perspectives from a former state assessment director. In: Thomas B. Fordham Institute. *Common Education Standards: Tackling the Long-Term Questions*. Washington, DC: Thomas B. Fordham Institute.
- Edexcel. (2009). *GCSE Mathematics*. Mansfield, Nottinghamshire: Edexcel.
- EdSource. (2010). *California and the "Common Core": Will there be a New Debate about K-12 Standards?* Mountain View, CA: EdSource.
- Education Sector. (2006). Five experts square off. *ES Review*, 25-27.
- Finn, C. E., Julian, L. and Petrilli, M. J. (2006a). *To Dream the Impossible Dream: Four Approaches to National Standards and Tests for America's Schools*. Washington, DC: Thomas B. Fordham Foundation.
- Finn, C. E., Julian, L. and Petrilli, M. J. (2006b). *The State of State Standards 2006*. Washington, DC: Thomas B. Fordham Foundation.
- Finn, C. E., and Petrilli, M. J. (2010). *Now What: Imperatives and Options for "Common Core" Implementation and Governance*. Washington, DC: Thomas B. Fordham Foundation.
- Gewertz, C. (2010a). New critiques urge changes in common standards. *Education Week*, 29 (20) 1, 14.
- Gewertz, C. (2010b). Draft common standards elicit kudos and criticism. *Education Week*, 29 (25) 1, 14-15.
- Gewertz, C. (2010c). Final version of the common standards assuages some concern. *Education Week*, 29 (33) 18-19.
- Gewertz, C. (2010d). State school boards raise questions about standards. *Education Week*, 29 (21) 6.
- Gewertz, C. (2010e). Advocates unite to promote standards' adoption. *Education Week*, 29 (33) 1, 18-19.
- Gewertz, C. (2010f). Gates awards 15 grants for common-standards work. *Education Week*, 29 (22) 9.
- Gewertz, C. (2010g). Core Knowledge to link curriculum to core standards. *Education Week*, 29 (20) 11.
- Gewertz, C. (2010h). Aligning standards and curriculum begets questions. *Education Week*, 29 (32) 1, 22.

- Gewertz, C. (2010i). Curriculum producers work to reflect new standards. *Education Week*, 29 (33) 1, 18-19.
- Gewertz, C. (2010j). State adoptions of common standards steam ahead. *Education Week*, 29 (36) 1, 18.
- Gewertz, C. (2010k). In national first, Kentucky adopts common standards. *Education Week*, 29 (22) 1, 13.
- Gewertz, C. (2011a). AFT presses need for curriculum linked to standards. *Education Week*, 30 (22) 8.
- Gewertz, C. (2011b). Critics post 'manifesto' opposing shared curriculum. *Education Week*, 30 (31).
- Greifner, L. (2007). State schools chiefs weigh issue of national standards. *Education Week*, 26 (35), 17, 19.
- Harris, D. N. and Taylor, L. L. (2008). *The Resource Costs of Standards, Assessments, and Accountability*. (Paper prepared for the National Research Council Workshop on Assessing the Role of K-12 Academic Standards in States).
- Hoff, D. J. (2009). National standards gain steam. *Education Week*, 28 (23), 1, 20-21.
- International Baccalaureate Organisation. (2006). *Mathematics Standard Level*. Cardiff, Wales: International Baccalaureate Organisation.
- Iowa Department of Education. (2010). *Iowa Core Self Study and Implementation Plan Handbook*. Des Moines, IA: Iowa Department of Education.
- James B. Hunt, Jr., Institute for Educational Leadership and Policy. (2008). World-class standards: setting the new cornerstone for American education. *The Hunt Institute's Blueprint for Education Leadership*, 2: 1-8.
- Kansas Education Commission (2010). *Kansas Education Commission Final Report: December 2010*. Topeka, KS: Kansas State Department of Education.
- Kilpatrick, J., Martin, W. G. and Schifter, D. (eds.) (2003). *A Research Companion to Principles and Standards for School Mathematics*. Reston, VA: National Council of Teachers of Mathematics.
- Kilpatrick, J., Swafford, J. and Bradford, F. (eds.). (2001). *Adding it up: Helping Children Learn Mathematics*. Washington, DC: National Academy Press.
- Klein, A. (2009). House panel considers federal role in standards. *Education Week*, 28 (31), 18.
- Lane, S. (2010). *Evaluation and the Alignment between PA Academic Standards and the Common Core Standards*. Pittsburgh, PA: University of Pittsburgh.
- McGuinn, P. (2010). E pluribus unum in education? Governance models for national standards and assessments: looking beyond the world of K-12 schooling. In: Thomas B. Fordham Institute. *Common Education Standards: Tackling the Long-Term Questions*. Washington, DC: Thomas B. Fordham Institute.
- McNeil, M. (2007). Legislators oppose national standards. *Education Week*, 26 (45), 22.
- McNeil, M. (2009). NGA, CCSSO launch common standards drive. *Education Week*, 28 (29), 1, 21.
- Madigan, K., Stotsky, S. and Wurman, Z. (2010). *National Standards still don't make the Grade. Why Massachusetts and California must retain Control over their Academic Destinies. Part I: Review of Four Sets of English Language Arts Standards*. (White Paper no. 63). Boston, MA: Pioneer Institute.
- Manna, P. (2010). Networked governance in three policy areas with implications for the Common Core State Standards Initiative. In: Thomas B. Fordham

- Institute. *Common Education Standards: Tackling the Long-Term Questions*. Washington, DC: Thomas B. Fordham Institute.
- Manzo, K. K. (2008). Principals' group calls for national academic standards and tests. *Education Week*, 27 (41), 6.
- Massell, D. (2008). *The Current Status and Role of Standards Based Reform in the States*. (Paper prepared for the National Research Council Workshop on Assessing the Role of K-12 Academic Standards in States).
- Milewski, G. B., Johnsen, D., Glazer, N. and Kubota, M. (2005). *A Survey to Evaluate the Alignment of the New SAT Writing and Critical Reading Sections to Curricula and Instructional Practices*. New York, NY: College Board.
- Milgram, R. J. and Stotsky, S. (2010). *Fair to Middling: A National Standards Progress Report*. (White Paper no. 56). Boston, MA: Pioneer Institute.
- Mullis, I. V. S., Martin, M. O., Ruddock, G. J., O'Sullivan, C. Y., Arora, A. and Erberber, E. (2005). *TIMSS 2007 Frameworks*. Boston, MA: TIMSS and PIRLS International Study Center.
- Musick, M. (2010). What can the Common Core State Standards Initiative learn from the National Assessment Governing Board? In: Thomas B. Fordham Institute. *Common Education Standards: Tackling the Long-Term Questions*. Washington, DC: Thomas B. Fordham Institute.
- National Alliance of Business. (2002). *The American Diploma Project Workplace Study*. Washington, DC: National Alliance of Business.
- National Assessment Governing Board. (2008). *Mathematics Framework for the 2009 National Assessment of Educational Progress*. Washington, DC: National Assessment Governing Board.
- National Commission on Excellence in Education. (1983). *A Nation at Risk: The Imperative for Educational Reform*. Washington, DC: United States Government Printing Office.
- National Council of Teachers of Mathematics. (2000). *Principles and Standards for School Mathematics*. Reston, VA: National Council of Teachers of Mathematics.
- National Council of Teachers of Mathematics. (2006). *Curriculum Focal Points for Prekindergarten through Grade 8 Mathematics*. Reston, VA: National Council of Teachers of Mathematics.
- National Council of Teachers of Mathematics. (2009). *Focus in High School Mathematics: Reasoning and Sense Making*. Reston, VA: National Council of Teachers of Mathematics.
- National Education Goals Panel. (1993). *Promises to Keep: Creating High Standards for American Students*. Washington, D.C.: National Education Goals Panel.
- National Governors Association and Council of Chief State School Officers (2010). *Reaching Higher: The Common Core State Standards Validation Committee, a Report from the National Governors Association Center for Best Practices and Council of Chief State School Officers*. Washington, DC: National Governors Association and Council of Chief State School Officers.
- National Governors Association and Council of Chief State School Officers (n.d.a). *Common Core State Standards Initiative: Summary of Public Feedback on the Draft College- and Career-Readiness Standards for English-Language Arts and Mathematics*. Washington, DC: National Governors Association and Council of Chief State School Officers.
- National Governors Association and Council of Chief State School Officers (n.d.b). *Reactions to the March 2010 Draft Common Core State Standards: Highlights*

- and Themes from the Public Feedback*. Washington, DC: National Governors Association and Council of Chief State School Officers.
- National Governors Association, Council of Chief State School Officers and Achieve. (2008). *Benchmarking for Success: Ensuring U.S. Students Receive a World-Class Education*. Washington, DC: National Governors Association, Council of Chief State School Officers and Achieve.
- National Mathematics Advisory Panel. (2008). *Foundations for Success: The Final Report of the National Mathematics Advisory Panel*. Washington, DC: U.S. Department of Education.
- National Research Council. (1996). *National Science Education Standards*. Washington, DC: National Academy Press.
- Newsom-Stewart, M. (2010). *Common Core State Standards State Adoption Process: Evaluation Report*. Litchfield, CT: Education Connection.
- Ohio Department of Education. (2009). *First Lens of International Benchmarking Report*. Columbus, OH: Ohio Department of Education.
- Peters, T. J. and Waterman, R. H. (1982). *In Search of Excellence: Lessons from America's Best-Run Companies*. New York, NY: Harper and Row.
- Porter, A., Polikoff, M. and Smithson, J. (2008). *Is there a De Facto National Curriculum? Evidence from State Standards*. (Paper prepared for the National Research Council Workshop on Assessing the Role of K-12 Academic Standards in States).
- Porter, A. C., Polikoff, M. S. and Smithson, J. (2009). Is there a de facto national intended curriculum? Evidence from state content standards. *Educational Evaluation and Policy Analysis*, 31 (2), 238-268.
- Programme for International Student Assessment. (2003). *PISA 2003 Assessment Framework*. Paris, France: OECD Publishing.
- Programme for International Student Assessment. (2006). *Assessing Scientific, Reading and Mathematical Literacy: A Framework for PISA 2006*. Paris, France: OECD Publishing.
- Programme for International Student Assessment. (2007). *PISA 2006: Science Competencies for Tomorrow's World*. Paris, France: OECD Publishing.
- Ravitch, D. (2005). Every state left behind. *The New York Times*. 7 November.
- Ravitch, D. (2006). Reconsidering national standards, curricula, and tests. In: Editorial Projects in Education. *Quality Counts at 10: A Decade of Standards-Based Education*. Bethesda, MD: Editorial Projects in Education.
- Sawchuk, S. (2010a). Common standards judged better than most states. *Education Week*, 29 (37).
- Sawchuk, S. (2010b). Mass. adopts common standards amid fiery debate. *Education Week*, 29 (37).
- Schmidt, W. H., Houang, R. and Shakrani, S. (2009). *International Lessons about National Standards*. Washington, DC: Thomas B. Fordham Institute.
- South Carolina Department of Education (2010). *Common Core State Standards Initiative Comparative Review Report*. Columbia, SC: South Carolina Department of Education.
- Steen, L. A. (ed.). (2001). *Mathematics and Democracy: The Case for Quantitative Literacy*. Princeton, NJ: Woodrow Wilson National Fellowship Foundation.
- Stotsky, S. and Wurman, Z. (2010). *The Emperor's New Clothes: National Assessments based on weak "College and Career Readiness Standards"*. (White Paper no. 61). Boston, MA: Pioneer Institute.
- Toch, T. and Tyre, P. (2010). How will the Common Core Initiative impact on the testing consortia? In: Thomas B. Fordham Institute. *Common Education*

- Standards: Tackling the Long-Term Questions*. Washington, DC: Thomas B. Fordham Institute.
- United States Department of Education. (2010). *A Blueprint for Reform: The Reauthorization of the Elementary and Secondary Education Act*. Washington, DC: United States Department of Education.
- Vavrus, J. (2011). *The Common Core State Standards for English Language Arts and Mathematics: Analysis and Recommendations*. (Report to the Legislature). Olympia, WA: Washington Superintendent of Public Instruction.
- WestEd. (2010). *Analysis of the Commonwealth of Massachusetts State Standards and the Common Core State Standards for English Language Arts and Mathematics: Final Report*. Boston, MA: WestEd.
- Wurman, Z. and Stotsky, S. (2010). *Why Race to the Middle?* (White Paper no. 52). Boston, MA: Pioneer Institute.