Setting the Standard for Standards: Perspectives on Standard Setting in the United States*

SARAH WITHAM BEDNARZ

Abstract

Developing clear and rigorous standards for what students should know and be able to do in an academic subject is a common strategy for educational reform. Geography for Life: The National Geography Standards (1994, 2012) illustrates this mechanism in the United States. The purposes, processes, and pitfalls of developing academic standards are discussed. Five recommendations for both content and performance standards conclude the paper.

INTRODUCTION

The purpose of this paper is to explore the processes of developing academic standards in geography. While I write from a particular U.S. perspective and context, I believe that the lessons we have learned here are generalizable to other countries. There are many models of academic standards and I do not wish to imply that what we have produced here are superior to others; this is simply an attempt to share to help others avoid some pitfalls.

First I set the context by explaining the policy rationale for standards, distinguishing between two types, content standards and performance standards. Next, I describe the contrasting processes we used in the United States to develop the 1994 National Geography Standards and the 2012 revision. Teachers' relationships with standards are discussed to support their value and purposes. Finally, I summarize five key lessons as recommendations for anyone attempting to develop standards.

WHY STANDARDS?

American education has cycled through a series of crises since its inception (Goldstein 2014). Comparisons of students' performance on international tests like PISA and TIMSS showing American students lag are driving reform currently (Phillips and Garcia 2015). During the Cold War, particularly in the late 1950s, fears that the Russians were beating us in the space race drew attention to lagging academic standards, especially in science and mathematics (Hartman 2008). The economic malaise of the mid and late 1970s precipitated a massive reexamination of national prospects and a series of reports that alerted the public to the need for education reform. Probably most influential was the report of the National Commission on Excellence in Education entitled A Nation at Risk: The Imperative for Educational Reform (1983). The report characterized the curriculum as an

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Sarah Witham Bednarz, Department of Geography, Texas A&M University, College Station, Texas

"incoherent, outdated patchwork quilt" (118) and recommended "that schools, colleges, and universities adopt more rigorous and measurable standards, and higher expectations, for academic performance and student conduct" (125). Thirty years later, many attribute the standards currently in place to this widely respected report (Graham 2013). A Nation at Risk applauded reform efforts in science and mathematics, stating, "This movement is but a start on what we believe is a larger and more educational encompassing need to improve teaching and learning in fields such as English, history, geography, economics, and foreign languages" (117).

The most significant outcome of A Nation at Risk was the development of the National Education Goals, a non-partisan and broadly popular initiative of the nation's governors, including the rising governor of Arkansas, Bill Clinton, supported by President George Bush in 1989. The document established six goals for educational improvement and identified a "core" of five academic subjects to provide curricular coherence; notably, geography was included. One of the six goals was that 'American students will leave grades four, eight, and twelve having demonstrated competency in challenging subject matter, including English, mathematics, science, history, and geography.' To achieve this goal, 'world class' national content and student performance standards were to be developed in the core subject areas. The theory behind such standards-based reforms is that teaching, and thus learning, will improve from implementing rigorous content standards aligned with meaningful learning goals and assessments (Desimone 2013).

Content standards specify the scope and sequence of the content a student is expected to learn, that is what students should know. Performance standards, in contrast, measure how much students have learned, that is, the progress they have made in achieving the goals specified in the content standards (Phillips and Garcia 2015). They are descriptions of what students can do with what they know, or their levels of proficiency. Performance standards ideally help to shape assessments, a key component of a coherent, rigorous, and focused education system (National Governors Association et al. 2008). While many of the ideas from the National Education Goals became lost in ensuing partisan political battles that pitted federal versus state authority in education (Ravitch 1995; Nash, Crabtree, and Dunn 1997), the presence of geography in the National Goals (passed into Public Law 103-227 as Goals 2000: The Educate America Act) led to the development of national geography standards.

THE NATIONAL GEOGRAPHY STANDARDS, 1994

A group of geographers was assembled to develop national geography standards as part of the Goals 2000 initiative under the auspices of the US Department of Education and the four professional geography associations. The charge was to specify 'what every young American should know and be able to do in geography,' and to identify the 'challenging subject matter' required to meet the National Education Goals. The overall purpose, to repeat, was to improve academic achievement by specifying a scope and sequence of sorts.

It was developed through a broad national (and international) consensus process as a voluntary set of content standards. The project leadership acknowledged the call for "world class" standards by establishing an international review subcommittee and sought input from leading academic geographers through a content advisory board to ensure the subject matter aligned with disciplinary expectations. The final product consisted of eighteen ideas or 'standards,' which were organized under six 'essential elements.' Statements related to each standard clarified what the "geographically informed person" at three benchmark grade levels should know, understand, and be able to do as a result of their knowledge and understanding. The National Geography Standards presented a strong case for the relevance of geography to contemporary society, that geography is for life, throughout the school year, across all subjects, K-12 and beyond.

In 1994, Geography for Life introduced seven significant reforms in geography education. First, Geography for Life brought school geography closer to contemporary academic geography and positioned geography as both a human and physical science. This allowed for a new focus on environment-society links. Repositioning as a science (as well as social science) was perceived as advantageous in order to compete for time in a full curriculum given broad public belief in and support for science in the United States. Second, the Standards aligned geography education with other academic disciplines pedagogically by integrating knowledge with skills in statements specifying student performance expectations—what students should know

and be able to do. This made the connection between knowing and doing geography clear in order to emphasize its value to society. The geography skills featured in the Standards, supported by geospatial technologies such as geographic information systems, highlighted the importance of inquiry and problem solving. Finally, seeking to strengthen geography's role in the curriculum as part of the social studies, the Standards clarified the tenuous relationship between history and geography by providing a framework of three principles to approach their intersection. The principles were that students need to understand (1) the nature of change in places as well as over time, (2) that everything takes place in a geographic context, and (3) that how humans perceive their geographic context plays a role in history.

The process through which the National Geography Standards were developed was intensely political. The social studies, of which geography is part, is a particularly volatile area, vulnerable to controversy, debate, and cultural misunderstanding. Developing consensus required producing a number of drafts, revisions, edits, and changes in a highly contested process. Geography for Life was released in 1994 at the same time as the controversial National History Standards which came under attack by conservatives in an incendiary culture war (Nash, Crabtree, and Dunn 1997). The campaign against the history standards deflected the attention of the politicized education community away from geography's efforts. Unfortunately it may also have dampened initial efforts to disseminate the National Geography Standards. Some educationists criticized Geography for Life as developmentally inappropriate (Seefeldt 1995) and confusing to individuals charged with using them to develop state-level curriculum standards (Munroe and Smith 1998). Despite this, the National Geography Standards influenced the development of state-level social studies standards that include geography content and skills notably in New York, Florida, Arizona, Indiana, and Texas. They were used successfully in multiple contexts such as national curriculum development projects like Path toward World Literacy: a standards-based guide to K-12 geography published in 2001 (Boehm 2001), Mission Geography, NASA's project to support and disseminate the Standards, and the Partnership for 21st Century Skills in which the Standards are aligned to the Partnership's framework for student learning and preparation for work in the 21st century. In hindsight, the real value of the National Geography Standards may have been in their use in such initiatives which were supported by industry and high-level education decision makers. The Standards gave geography an attractive and compelling document to represent the discipline to a range of stakeholders. A following section of this paper examines how teachers reacted to these Standards and standards in general.

THE NATIONAL GEOGRAPHY STANDARDS, 2012

The updated second edition of Geography for Life: National Geography Standards published in 2012 (Heffron and Downs 2012) reflected changes in both education and geography. It maintained continuity with the first edition in two ways. First, the broad goal of developing a "geographically informed person" was retained. Second, the geographic perspectives, content knowledge, and skills outlined in the 1994 edition were not changed in any significant fashion. The successful adoption of Geography for Life by many education stakeholders, states, and school districts resulted in a desire to maintain the basic structure of the six Essential Elements and 18 Standards used in the first edition. Only two of the 18 Standards were changed, primarily to reflect changes in geography and new approaches in the discipline.

The development of geospatial technologies and the recognition that spatial thinking is central to geography have revolutionized geography since 1994; these changes helped to precipitate the revision of the Standards. Geography Standard 1 which focuses on maps and other geographic representations was revised to become "How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information." The word "tools" in the original version was replaced with "geospatial technologies." The idea of spatial thinking was added, and the overall objective of the Standard clarified to that of "understanding and communicating information" reflecting the essential role visuals play in geographic practices. Geography Standard 8 was revised to "The characteristics and spatial distributions of ecosystems and biomes on Earth's surface." The addition of "biomes" reflected the new attention to regional-scale biophysical scales of analysis paid by environmental geographers researching global environmental changes (Heffron and Downs 2012).

Even more than the first edition, the second edition emphasized doing geography, placing added emphasis on using geographic perspectives, content knowledge, and skills to conduct inquiries. A separate section in the document "Doing Geography" conveyed the many practical values of geography for employment in business, government, and nonprofit organizations, as well as for doing scientific research. Three illustrative vignettes were included as age-appropriate models for how a teacher might do geography in the classroom.

The second edition also benefitted from the work in the first edition in two significant ways. First, the first edition had been arranged by grade level, that is, all of the elementary school (grade 4) standards and performance objectives appeared in one section of the document, followed by the middle school (grade 8) and high school (grade 12) objectives in two following sections. The rationale was that school teachers would only be interested in the standards relevant to their teaching responsibilities. As a result of this organization of the standards, this was the way the original document was written. Pairs of developers concentrated on a particular grade sequence, and wrote the materials for all 18 standards. A review across grade levels by standard was conducted but this was not a deep concern to the development team. In the revision, conducted between 2008 and 2011, triads of geography educators worked by Standard and Essential Element, across the grade levels. For example, three geography educators revised Essential Element 1: The World in Spatial Terms which consists of Standards 1, 2, and 3 while another group reviewed the second Essential Element, Places and Regions, consisting of Standards 4, 5, and 6. This scaffolding approach was introduced for three reasons: 1) to ensure that concepts and skills increased in complexity from grade to grade; 2) to check that prior knowledge was aligned across the grade bands; and 3) to confirm that the content knowledge within a grade band for each standard was clearly specified. This reform in development process led to a new three-column format of Geography for Life that allowed educators to view each standard in terms of geography content for all three grade bands on the same page. These changes aligned the Standards with growing interest in research on learning progressions (Hunyh, Bednarz, and Solem 2014).

The second significant change introduced in the revision process was to make the performance objectives consistent through the use of only seven verbs: identify, describe, construct, analyze, explain, compare, and evaluate. These verbs form an order of intellectual challenge but can be carried out at multiple levels.

TEACHERS AND STANDARDS

As educational entities launch into standards development processes, it is imperative to understand how teachers themselves feel about them. Recall that the purpose of standards is to improve the quality of teaching and learning by setting clear educational goals, agreeing on consistent levels for student performance, and aligning curriculum, instruction and assessments to those goals. Since teachers interpret and deliver the standards, they are key to implementation (Cohen 1990).

Research on teacher responses to the implementation of standards has found that educators are generally positive about such approaches to educational reform. Desimone (2013) conducted an examination of standards-based reforms in mathematics in the United States and concluded that teachers made an effort to learn the standards, found them generally worthwhile and accessible, and were able to align their instructional practices to help their students achieve the new standards. In contrast, research on how geography teachers reacted to the National Geography Standards found mixed results (Bednarz 2003). Four external factors (authority, power, prescriptiveness, and consistency) influenced teachers' decisions to implement the Geography Standards. Internal cognitive issues of teachers' misconceptions, perceptions, prior knowledge, and experiences played a role in how they come to interpret and understand the nature (form) and intent (function) of the subject matter standards. Since teachers are the gatekeepers, engaging them in the development and implementation of standards is both politically and intellectually wise.

RECOMMENDATIONS

I have been a participant in the development of these, and other, standards and curriculum projects designed to reform geography education. Based on my experiences as well as research, I have five key lessons which I would like to share. They are in no particular order; I hope that readers will rank them based on their own priorities. Below these recommendations, I also suggest some concrete steps to follow for a successful standard-setting venture.

1. Intellectual Framework. It is vital that the standards represent the best of the discipline, in our case, geography. Creating an intellectual framework that coherently captures the essential knowledge, skills, and practices of the discipline is a challenge. It requires deep reflection and understanding of the discipline and its core perspectives. In the case of the National Geography Standards, we settled on six "essential elements" which captured the breadth of geography (see Table 1) and which worked as a way to "hang" both content and student performance standards. Other nations have devised different conceptualizations of school geography. The actual organization is not as important as the presence of a clear and defensible intellectual structure.

Table 1: Essential Elements of the National Geography Standards

Essential Element	Standards
The World in Spatial Terms	Std. 1: Geographic representations Std 2: Mental maps Std 3: Spatial organization
Places and Regions	Std. 4: Characteristics of places Std 5: Regions Std. 6: Perceptions of places and regions
Physical Systems	Std. 7: Physical processes Std. 8: Biomes and ecosystems
Human Systems	Std 9: Population Std 10: Cultural mosaics Std. 11: Economic interdependence Std 12: Human settlement Std 13: Conflict and cooperation
Environment and Society	Std 14: Human impacts on environment Std 15: Environmental impacts on humans Std 16: Resources
The Uses of Geography	Std 17: Use geography to interpret the past Std 18: Use geography to understand the present and plan for the future

2. Guidelines for Student Performance. What does it mean to do geography? How do you evaluate and measure what students know and can do? How good is good enough to claim that a learner has achieved proficiency? What kinds of evidence indicate that a student is "at" or exceeds a standard? These issues of performance, achievement, and measurement are very difficult to grapple with. It is much easier to set content standards than to make decisions about student performance. Few educators are skilled in assessing learning. Yet, this is the essence of standards, and one of the mechanisms for bringing about educational reform. It is important to have firm and defensible guidelines for student performance. Additionally in the process of developing standards, it is helpful to think about the evidence you might collect to support your claim of achievement, that is, to consider what you are measuring, how you are measuring this, and where you will capture the evidence (Mislevy, Almond, and Lukas 2003).

3. Consensus Building Process. It is extremely important to have an extensive review process with a range of stakeholders in order to build support and community buy-in. Teachers, geographers, parents, educational administrators, government ministers, business organizations, and others all have a stake in creating a geographically competent populace—whether they know it or not. Sometimes the feedback is valuable; sometimes it is not. No matter, it is part of the educational reform initiative to make influential people aware of efforts to improve the quality of geography education.

4. Format Matters. As explained previously, 1994 edition of the National Geography Standards were organized by grade level, that is, all of the grades K-4 standards were in one section of the document, followed by the grades 5-8 standards, and the grades 9-12 standards. We asked teachers what they wanted and that was the preferred arrangement. However, as we learned during

implementation, few teachers actually used the standards on a regular basis. They were, however, influential with curriculum specialists and developers, who wanted to see the progression of the standards over a span of grades. The second edition then followed this new plan. The layout of the standards is both an aesthetic and intellectual decision. Decide which format drives the reforms you wish to see.

5. Keep it Simple. I recently consulted the new science standards (www.nextgenscience.org) and found them daunting. They are arranged across three dimensions: scientific and engineering practices, crosscutting concepts, and disciplinary core ideas. The disciplinary core ideas are further organized in four categories: physical sciences; life sciences; Earth and space sciences; and engineering, technology, and applications of science. Each of these categories is further broken down into subcategories, for example, Earth and space sciences is divided into Earth's place in the universe; Earth's systems; and Earth and human activity. There are three ways to view the standards: by the disciplinary core ideas, by topic, or individual performance expectations. Last, but not least, there are performance statements linked to the crosscutting concepts for each grade. A video and detailed instructions on how to interpret and use the standards speaks to their complexity (http://www.nextgenscience.org/how-to-read-the-standards).

My point is this: keep it simple. Strive to develop a structure and organization that helps people to understand the key points. The goal should be to have a clear framework that is accessible to a range of users.

STEPS FOR A SUCCESSFUL STANDARD-SETTING PROCESS

Developing standards is a complex, time-consuming process, with many sub-processes. Here are a few notes based on my experiences to guide procedures.

1. Assemble a core writing team of experts in geography education: Recruit a small group of geography educators to produce the framework and consequent standards. One person must lead but all members should feel empowered to make suggestions and help to shape the document. The team organization will depend upon the working process. As noted in the paper, there are different models. I suggest the optimal organization is to have two or three geographers working across grade levels to develop specific strands of content and performance standards.

2. Build an advisory group of external stakeholders: Stakeholders can include members of the ministry of education, school leaders, representatives from industry, and influential citizens who support geography education. This group should be consulted as the process begins to seek input and consulted periodically throughout the development phase. When the project is completed, this group can endorse the standards to provide authority to them.

3. Organize a group of academic geographers to provide guidance and legitimize the work of the core team: Inviting leading geographers to help shape the content of the standards closes the gap between the discipline and "school" geography. It also can contribute to alignment, continuity, and seamlessness between higher education and elementary and secondary education. Finally, it may suppress any suspicions that academics may have about geography education.

4. Organize an advisory team of teachers to provide guidance and build support within that constituency: Remember that teachers are the gatekeepers. Standards are designed to help them improve the coherence and quality of instruction. Listening to their concerns and designing with them in mind will make implementation easier as well.

5. Develop a schedule for the process, building in time for work, open comments, revision, field testing, and final publication: As one of the first tasks for the core team, set a realistic and feasible work schedule with time for the process to be open and consensual. As drafts of the standards are completed, they should be available for comment, first by the advisory groups of stakeholders, teachers, and academic geographers, then by a wider audience. Comments should be reviewed and action taken on them.

6. Organize a dissemination team and develop a plan for professional development: As the process proceeds, begin to think about all the support materials that are needed to implement standards. Curricular frameworks, instructional materials, and professional development will all be needed to implement the standards. Teachers will need to learn about the standards and what they will mean to their teaching practices. Plan all along to meet this key need.

7. Do the work: As we say in Texas, there are many ways to skin a cat. I do not want to be prescriptive here and suggest any single way to organize geography or to produce standards. There are many decisions to be made and those need to be based on the local context and needs. Should the standards focus only on what students know or should they integrate skills and practices, that is, what students can do with what they know? Should the standards be for individual grades or across series of grades? How is the content actually organized? These are difficult questions, often very political, but consulting with the advisory groups is a good way to start.

8. Celebrate: Completing the document is only the beginning, although it is hard for the core writing team to focus on that. Dissemination is so important to the ultimate goal of improving geography education and student achievement in this vital discipline. But completing a landmark document like standards is an opportunity to celebrate geography and to assert its importance to the public.

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