



CIRCLE

The Center for Information & Research on
Civic Learning & Engagement

How Teachers' Preparation relates to Students' Civic Knowledge and Engagement in the United States: Analysis from the IEA Civic Education Study?^{1, 2}

By Judith Torney-Purta, Carolyn Henry Barber, and Wendy Klandl Richardson
April 2005

Civic education conducted in schools plays a significant role in fostering citizenship but teaching about these themes is often incorporated in history or social studies courses and not found in a distinct subject³. An essential part of improving civic learning opportunities for students is preparing teachers more adequately for civic-related subjects, but there is little consensus about what that preparation should entail. At least three dimensions of teachers' preparation have been identified as important: teachers' content knowledge, teacher's pedagogical content knowledge, and teachers' beliefs (for example, their sense of confidence in teaching the subject matter)⁴. A lack of empirical research linking teachers' knowledge and beliefs with the achievement and engagement of their students stands in the way of charting a clear direction for improving teacher education in civic-related subjects.

In other subject areas there is research of this kind. Darling-Hammond found a correlation between state average scores on NAEP mathematics and the proportion of teachers in the state holding a degree and certification in the field⁵. That type of analysis has been impossible in the civic-education area because the NAEP civics assessment does not sample or report on a state-by-state basis. In another informative study, Dunkin, Welch, Merritt, Phillips and Craven examined Australian teachers' knowledge related to a unit developed to conform to new government guidelines for improving the teaching of civics. The teachers attempted to acquire information for themselves immediately prior to teaching the unit to students. While this helped teachers acquire knowledge, there were factual errors in their subsequent teaching that suggested a surface understanding of the topics⁶. Students were not tested, so we cannot tell whether the teachers' misunderstandings had consequences for students' learning.

Information Available from Teachers in the IEA Civic Education Database

The IEA Civic Education Study⁷, which collected data in 1999, surveyed approximately 200 civic-related teachers in each of twenty-seven countries in conjunction with the testing of 14-year-olds. In each school where students were tested three teachers were identified who taught subjects covered in the students' test of civic knowledge (subjects such as government, national history, social studies, and social sciences). While it was preferred that the teachers sampled could be linked to the class of students who participated in the survey (i.e., they taught these students), other teachers of civic-related disciplines were surveyed if one or more teachers could not be linked to the tested class. The IEA student samples were nationally representative, but the samples of

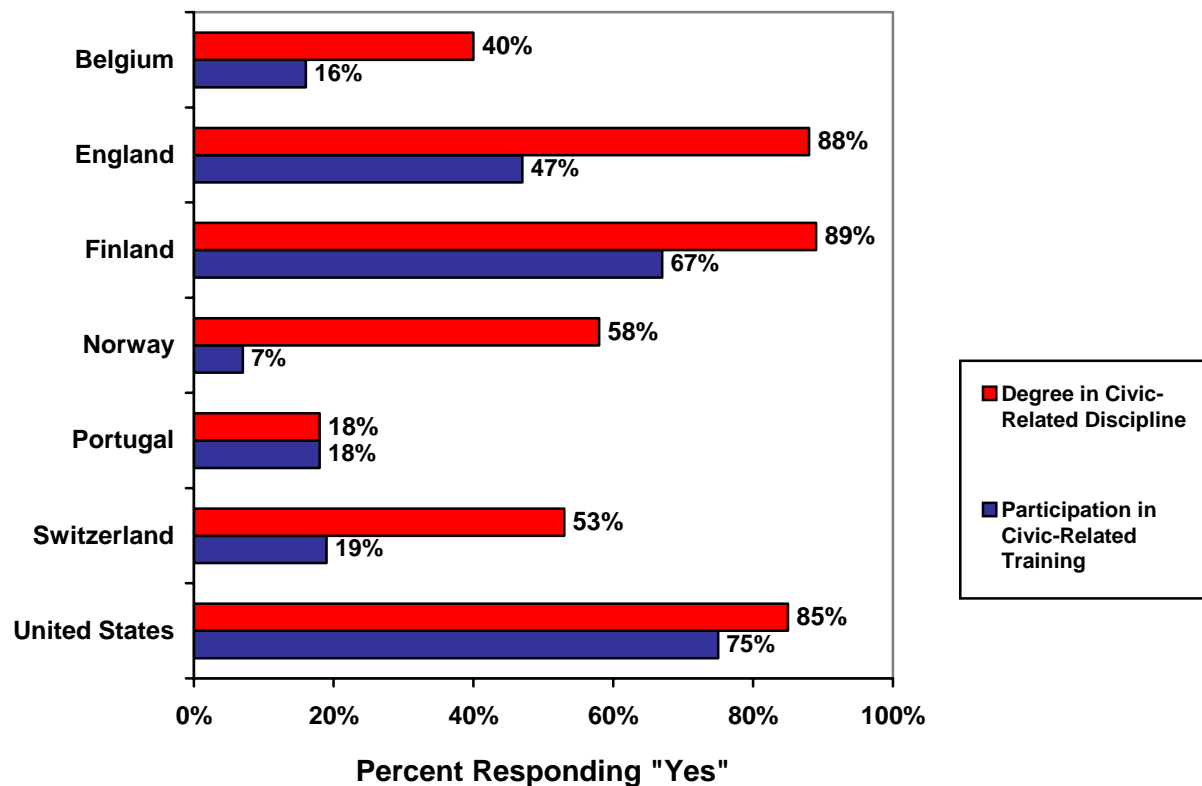
teachers were not. Once teachers were identified, they were administered a survey about their teaching background and methods, their experience and confidence in teaching various civic-related topics, and their attitudes towards civic education at school. Unlike previous research, it was possible to link these teachers to the class they taught in many of these countries including the United States.

In this fact sheet we first examine how teachers responded to questions about their professional development, confidence in teaching, and attitudes towards civic education. We draw profiles contrasting the teachers' patterns in countries where students performed at different levels on the test of civic knowledge. Second, within two of the higher performing countries, United States and Finland, we explore how teachers' educational experience relates to students' civic achievement and civic engagement (likelihood of voting).

Teachers' Preparation in Civic-Related Subjects across Countries

Students in the United States generally performed well on the civic knowledge test⁸. As Figure 1 shows, both pre-service training (degree in a civic-related subject) and in-service training among teachers in the United States was high and similar to that in Finland, another country where students scored also high on the civic knowledge test. Teachers' educational experience was considerably more substantial in these two countries than in three countries where performance on the knowledge test was low (Switzerland, French-speaking Belgium, and Portugal). However, this analysis of between country differences suggests that the educational experience of teachers is worth further exploration.

Figure 1: Differences Across Countries in Percentage of Teachers with Pre-Service and In-Service Training



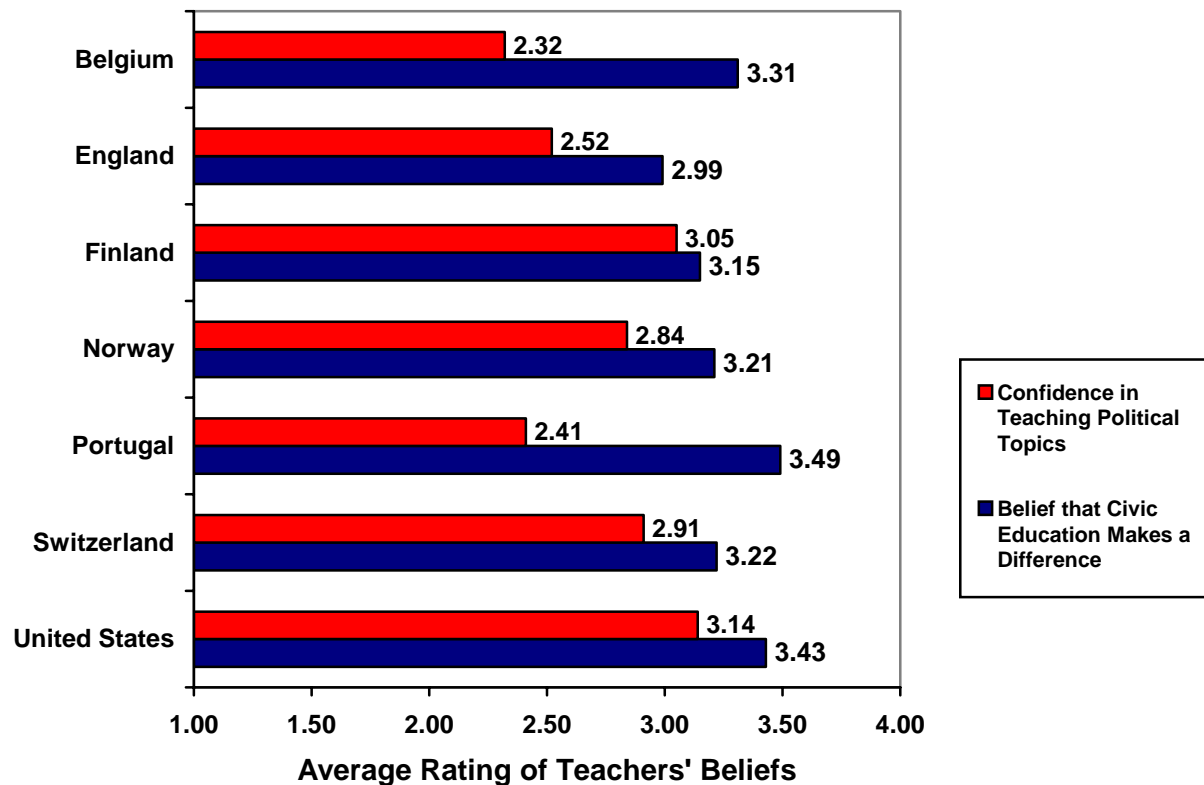
Looking separately at the components of educational experience, in Finland, England, and the United States more than seventy-five percent of the responding teachers reported that they had taken their degrees in a civic-related discipline (including history) (Figure 1). In contrast, only 53% of the teachers in Switzerland, 40% in French-speaking Belgium, and 18% in Portugal completed their initial or pre-service preparation with a degree in a civic-related subject. The extent of in-service experience also varied. More than 65% of the teachers in the United States and Finland had in-service professional training, but fewer than 20% of the teachers in French-speaking Belgium, Portugal, Switzerland, and Norway reported these experiences. In England slightly less than 50% of the responding teachers reported in-service professional development when this testing took place in 1999.

Teachers' Confidence in their Ability to Teach Civic Topics and in the Value of Civic Education across Countries

We looked at two types of confidence or efficacy. The first was teachers' confidence about teaching political topics (e.g. the constitution or the judicial system), which was high in United States as well in Finland (Figure 2). Belgian, English, and Portuguese teachers lacked confidence in teaching about these topics. In 1999 teachers in England were facing changes making civic education a statutory subject (in response to a national report). English teachers' lack of confidence may signal uncertainty about what they would be required to teach in the future. In Portugal and French-speaking Belgium low confidence may be attributable to lack of in-service education (and to a relatively low percentage of teachers with a degree in a civic-related subject area).

The second type of confidence was teachers' belief that civic education makes a difference for the country. Across countries there was strong agreement about the importance of this subject. Again responding teachers in the United States strongly believed that what they were doing mattered, while the Portuguese and Belgian teachers were also convinced that this was important (even though they were not very confident in their own ability to teach political topics). Relative to teachers in the other countries English teachers lacked both confidence in their own abilities and belief in the value of civic education, perhaps for the reasons previously noted.

Figure 2: Differences Across Countries in Teachers' Confidence in Teaching Civic Education

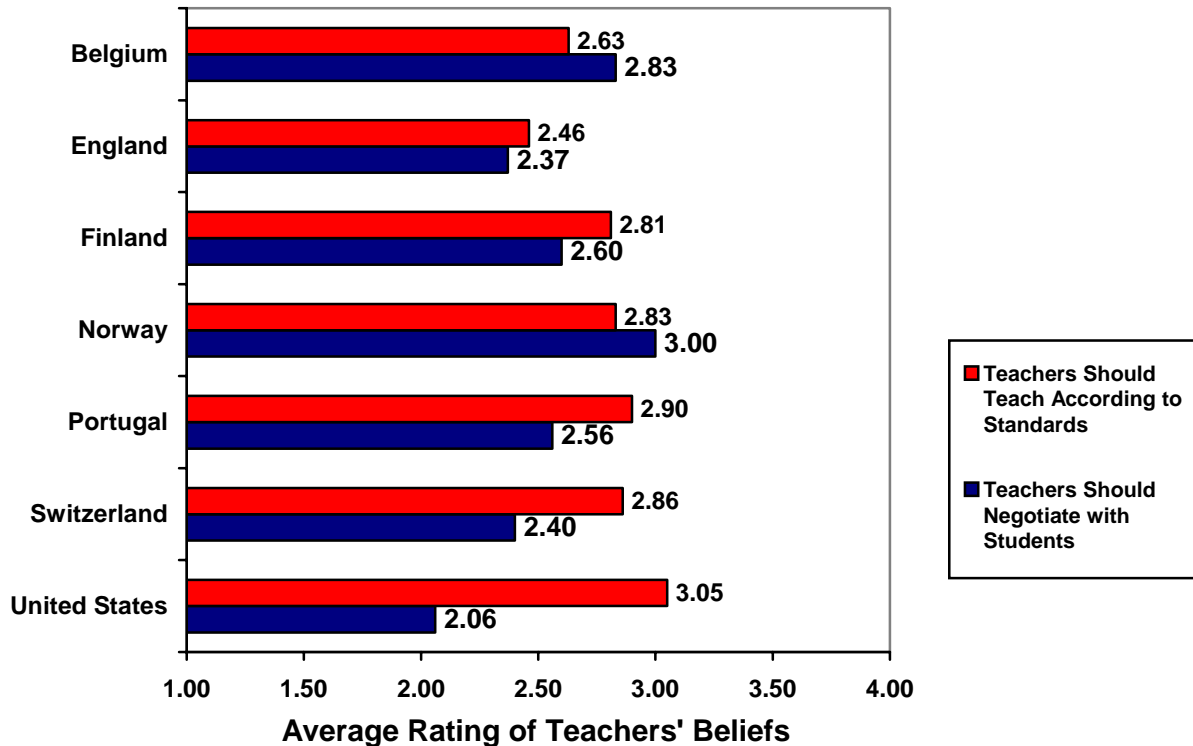


Note: Teachers' beliefs confidence are rated on a four-point scale with 1 equaling "strongly disagree" and 4 equaling "agree"

Teachers' Views on the Source of What is Taught

Established standards were the accepted guide in deciding what to teach about civic-related topics for teachers surveyed in the IEA Civic Education Study. Standards were considerably less likely to be important in England, however, with responding teachers in most of the rest of countries finding them at least moderately important (Figure 3). In 1999 standards in many European countries came from national education ministries, while in the United States they were state-based or district-based.⁹ Negotiating with students about what is to be learned was the least likely to be accepted by responding teachers in the United States, and the most likely to be an accepted part of decision-making in the Nordic countries (Norway and Finland) and in Belgium and Portugal.

Figure 3: Differences Across Countries in Teachers' Beliefs in Teaching According to Standards and in Negotiating with Students about Content



Note: Teachers' beliefs are rated on a four-point scale with 1 equaling "strongly disagree" and 4 equaling "agree"

Similarities and Differences between Teachers of Civic-Related Subjects in the United States and in Other Countries

Teachers in the United States on average are likely to be relatively well-prepared to teach civic-related subjects, quite confident in their preparation to teach the topics that are represented in the curriculum, confident that civic education is important for the country, and likely to favor standards-based teaching. They are relatively unlikely to want to negotiate with students about what is to be taught (compared to teachers elsewhere). Although there may have been some changes since 1999, teachers' knowledge and beliefs in these areas are relatively slow to shift.

Students' Civic Achievement and Engagement in Relation to Teachers' Levels of Preparation

Our central analysis investigates whether teachers' preparation for teaching civic-related subjects relates to their students' civic knowledge and attitudes when analyzed within countries. We performed a series of multilevel regression analyses using Hierarchical Linear Modeling in the United States and Finland. The analysis is very similar to a regression analysis¹⁰. In addition to testing the statistical significance of differences in civic knowledge associated with different types of teacher preparation, the analysis estimates means for different groups. The differences between these means can be assessed in relation to the variability of the scores (their standard deviations) to indicate whether a difference is likely to be meaningful as a guide for policy or practice.

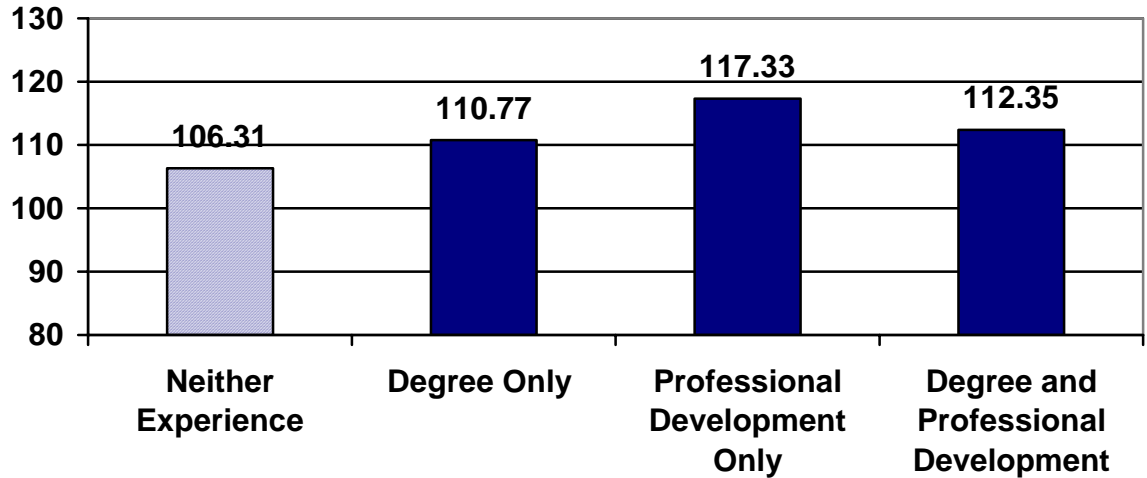
Students' civic knowledge and their assessment of the likelihood that they would vote as adults are the outcomes explored in this analysis. The civic knowledge scale assesses students' content knowledge and interpretive skills measured by the IEA Civic Education Study with a 38-item test scaled with an international mean of 100 (over all of the countries participating in the Study) and a standard deviation of 20¹¹. The likelihood of informed voting was scaled with an international mean of 10 and a standard deviation of 2.

The preliminary analysis indicated that while only 8% of the variance in students' civic knowledge existed between schools in Finland, 30% of this variance existed between schools in the United States. This means that there are greater differences between the achievement levels in different schools in the United States. Later analysis showed that these are linked with differences in home educational background. In other words, the average level of home educational resources among students in a classroom relates to an individual student's civic knowledge and engagement, even after taking the student's individual report of home resources into account.

Our multilevel analysis used teachers' educational experience in civic-related topics to predict their students' civic knowledge. Each model controlled for the number of books that students reported having at home, a common practice in IEA analysis to control for home educational resources (the closest equivalent of SES that can be reliably reported by 14-year-olds). All the analyses attempt to explain the classroom-level variance in student outcomes after controlling for students' home resources and classes' average levels of home resources. We have reported the results in two bar graphs, Figures 4 and 5¹².

After controlling for home resources, in the United States teachers' professional development experience related positively to their students' civic knowledge (Figure 4). In particular, students who had teachers with in-service professional development but no degree had civic knowledge scores (117.33) that were a half of a standard deviation above those of students who had teachers with neither degree nor in-service (106.31), a statistically significant and relatively substantial effect. The effect of having a teacher with both in-service professional development and a degree was also significant. Students of teachers who held a degree in the subject but had no in-service professional development did not differ significantly from students of teachers with neither type of experience. A parallel analysis showed that teachers' educational experience did not predict student's civic knowledge in Finland.

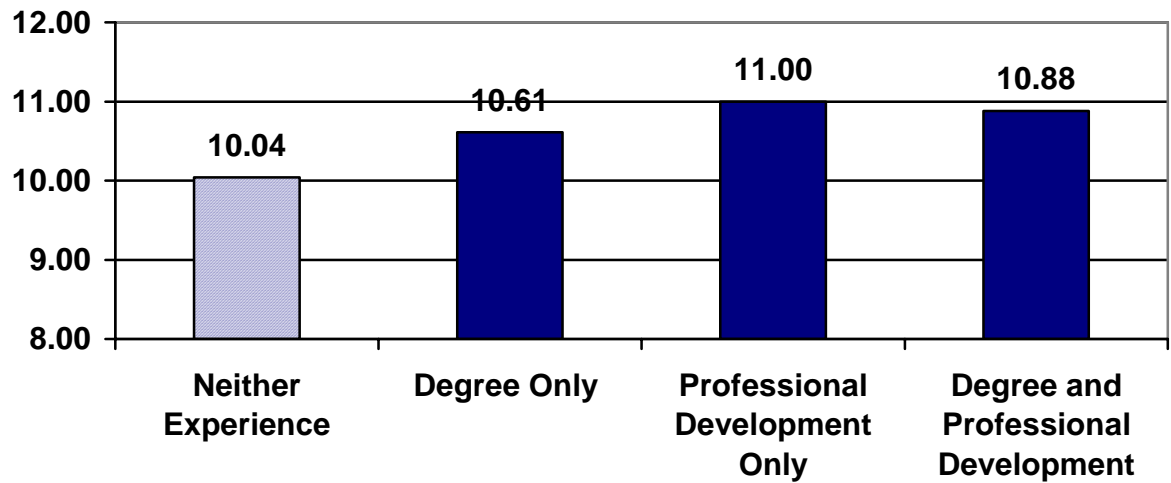
Figure 4: Difference in United States Students' Civic Knowledge Scores by Teachers' Educational Preparation



Note: All averages control for the number of books in the home of individual students as well as the average books in the home for each tested class of students. All analyses compare teachers with "neither experience" to the three other groups. The international mean of the Civic Knowledge IRT score is 100 with a standard deviation of 20.

Teachers' experience also predicted students' expectations of participating as an informed voter in the United States (Figure 5). This IRT informed voting scale is based on two items: expected likelihood of voting and expected likelihood of seeking information about candidates before voting. Once again, the effect of teacher experience was greatest for students with teachers with professional development only. The average of these students' informed voting expectations were about one-half of a standard deviation above the scores of students who had teachers with neither type of experience (11.00 compared to 10.04). The effects were more moderate but still significant for students with teachers who only had a civic-related degree or with both types of experience. The teacher educational experience variables did not predict likelihood of voting in Finland.

Figure 5: Difference in United States Students' Expectations of Informed Voting by Teachers' Educational Preparation



Note: All averages control for the number of books in the home of individual students as well as the average books in the home for each tested class of students. All analyses compare teachers with "neither experience" to the three other groups. The international mean of Informed Voting IRT scale is 10 with a standard deviation of 2.

These analyses strengthen arguments for a concerted effort to provide in-service training that focuses on topics relevant to civic education and also for assigning teachers to subject areas in which they have had academic preparation¹³. The variation in both knowledge and likelihood of voting that is associated with home background should be addressed. Finally, differences in the prediction patterns in the United States and Finland along with differences across countries in teachers' preparation and attitudes reinforce the importance of dealing with the cultural and policy contexts of teaching.

Notes:

¹ Department of Human Development, College of Education, University of Maryland, College Park. For further information about the material in this fact sheet contact Judith Torney-Purta at jt22@umail.umd.edu

² Portions of the analyses reported here (with a full review of literature and a slightly different set of countries) will appear in the first issue of the *International Journal on Citizenship and Teacher Education*, in an article by J. Torney-Purta, W. Richardson, and C. Barber titled "Teachers' Educational Experience and Confidence in Relation to Students' Civic Knowledge across Countries." See <http://www.citized.info> for further details.

³ R. Niemi and J. Junn, "Civic Education: What Makes Students Learn," New Haven, Yale University Press (1998); and J. Torney-Purta (2002), "The School's Role in Developing Civic Engagement: A Study of Adolescents in Twenty-Eight Countries," *Applied Developmental Science*, 6 (4), pp. 203-212.

⁴ Torney-Purta, Richardson, & Barber, in press (note above).

⁵ L. Darling-Hammond (2000), "Teacher Quality and Student Achievement: a Review of State Policy Evidence," *Education Policy Analysis Archives*, 8 (1).

⁶ M. J. Dunkin, R. Welch, R. Merritt, R. Phillips, and R. Craven (1998), "Teachers' Explanations of Classroom Events: Knowledge and Beliefs about Teaching Civics and Citizenship," *Teaching and Teacher Education*, 14 (2), 141-151.

⁷ All analysis and graphs are based on data from the IEA Civic Education Study. The nationally representative sample of 14-year-olds tested in 1999 totaled 2811 students in the United States. In total, 28 countries participated in the study: Australia, French-speaking Belgium, Bulgaria, Chile, Colombia, Cyprus, the Czech Republic, Denmark, England, Estonia, Finland, Germany, Greece, Hong Kong, Hungary, Italy, Latvia, Lithuania, Norway, Poland, Portugal, Romania, the Russian Federation, Slovakia, Slovenia, Sweden, Switzerland, and the United States. For more details, see "Citizenship and Education in Twenty-Eight Countries: Civic Knowledge and Engagement at Age Fourteen," by J. Torney-Purta, R. Lehmann, H. Oswald, and W. Schulz, Amsterdam, IEA (2001) [available at <http://www.wam.umd.edu/~iea>].

⁸ "Strengths and Weaknesses in U.S. Students' Civic Knowledge and Skills: Analysis from the IEA Civic Education Study," by J. Torney-Purta and C. Barber, College Park, MD, CIRCLE (2004); and Torney-Purta, et al. (2001).

⁹ For a data-base of released assessment items keyed to voluntary national standards, see www.ecs.org/nclc.

¹⁰ This analysis focused on students and teachers in Finland and the United States. In these countries, there is generally one teacher per school linked to the class of students surveyed, allowing for a clearer estimate of the effects of the classroom teacher's characteristics on students' civic knowledge and for statistical "nesting" of students within classes. Classes of students were linked to one teacher each, and all teachers reported that they taught the class of students. However, we do not have information on the particular subject that these teachers taught (e.g., history, social studies, civics). The average number of students per teacher was 19 in Finland and 23 in the United States. Because teachers were linked to students, and the student data were nationally representative, these data were weighted using the weighting factors included in the IEA Civic Education data set. See "IEA Civic Education Study: Technical Report," edited by W. Schulz and H. Sibberns, Amsterdam, IEA (2004).

¹¹ Computing IRT scores is standard practice in studies such as NAEP and the IEA studies. See Torney-Purta, et al. (2001).

¹² See Torney-Purta, Richardson, and Barber, in press, for details.

¹³ "The Civic Mission of Schools," by Carnegie Corporation and CIRCLE, New York, Carnegie Corporation of New York (2003).