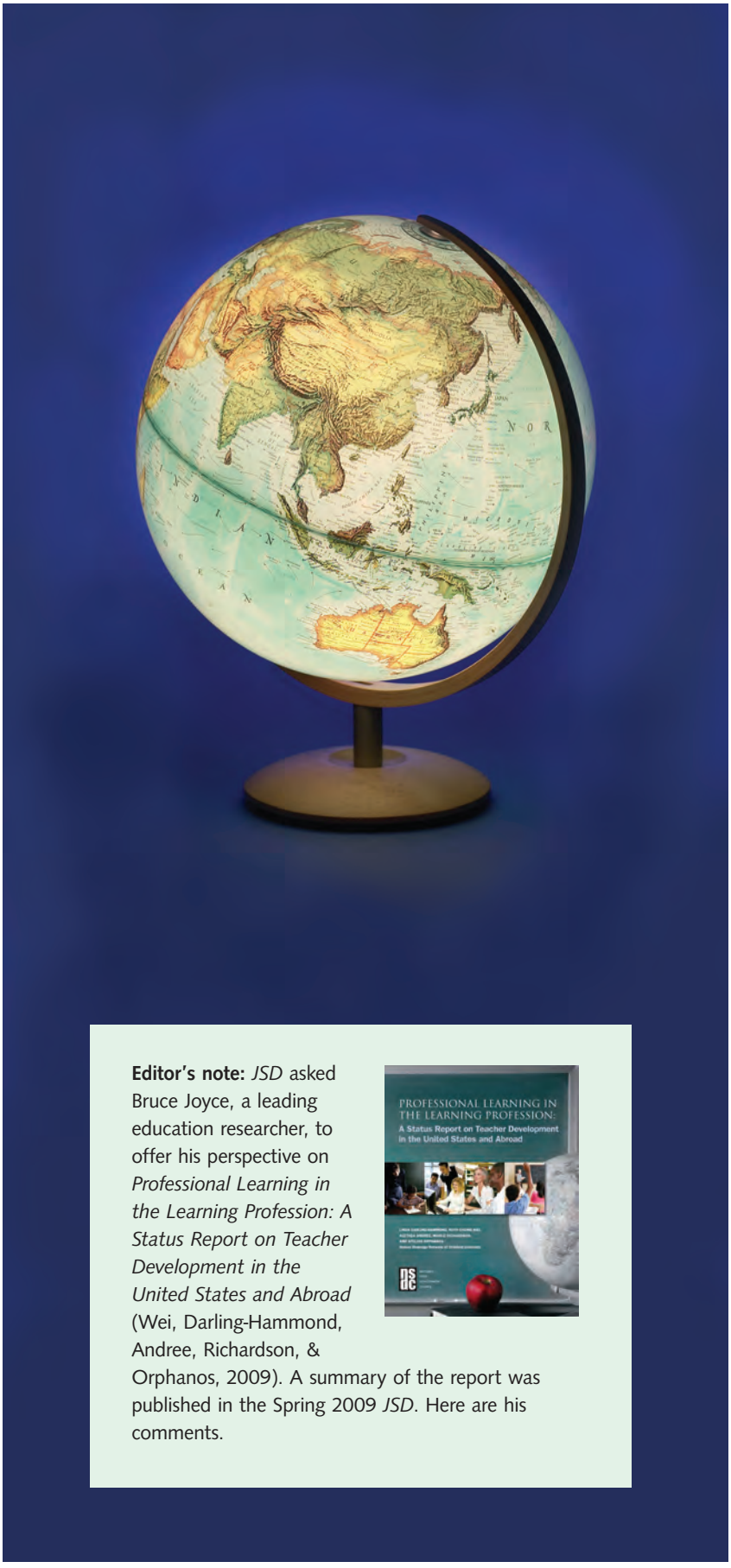
STATE OF THE PROFESSION revisited

Global statistics bring fresh thinking to inquiry into professional development

BY BRUCE R. JOYCE



Most approaches to professional development have not been accompanied by programmatic research, leaving us with too little information to guide policy and practice. To bolster the knowledge base in the field, the National Staff Development Council is engaged in a three-phase inquiry into staff development. NSDC published the technical report of the first phase in February 2009 (Wei, Darling-Hammond, Andree, Richardson, & Orphanos), and a subsequent summary in the Spring 2009 issue of *JSD* (Darling-Hammond, Wei, Andree, Richardson, & Orphanos). NSDC disseminated information from this study widely through other publications and press coverage. My comments refer to the

Editor's note: *JSD* asked Bruce Joyce, a leading education researcher, to offer his perspective on *Professional Learning in the Learning Profession: A Status Report on Teacher Development in the United States and Abroad* (Wei, Darling-Hammond, Andree, Richardson, & Orphanos, 2009). A summary of the report was published in the Spring 2009 *JSD*. Here are his comments.

PISA (Program in International Student Assessment) scores and rankings by country, 2006

COUNTRY	Mean score science	Country rank in science	Mean score math	Country rank in math
Finland	563	1	548	1
Canada	534	2	527	5
Japan	531	3	523	6
New Zealand	530	4	522	7
Australia	527	5	520	9
Netherlands	525	6	531	3
Korea	522	7	547	2
Germany	516	8	504	14
United Kingdom	515	9	495	18
Czech Republic	513	10	510	11
Switzerland	512	11	530	4
Austria	511	12	505	13
Belgium	510	13	520	8
Ireland	508	14	501	16
Hungary	504	15	491	21
Sweden	503	16	502	15
OECD average	500	NA	498	NA
Poland	498	17	495	19
Denmark	496	18	513	10
France	495	19	496	17
Iceland	491	20	506	12
United States	**489**	**21**	**474**	**25**
Slovak Republic	488	22	492	20
Spain	488	23	480	24
Norway	487	24	490	22
Luxembourg	486	25	490	23
Italy	475	26	462	27
Portugal	474	27	466	26
Greece	473	28	459	28
Turkey	424	29	424	29
Mexico	410	30	406	30

Source: Wei, R.C., Darling-Hammond, L., Andree, A., Richardson, N., & Orphanos, S. (2009, February). *Professional learning in the learning profession: A status report on teacher development in the United States and abroad: Technical report.* Dallas, TX: NSDC.

technical report — the most complete version.

That a national organization should tackle its knowledge problem directly is wonderful. And the report is ambitious. It "is intended to provide policy makers, researchers, and school leaders with a teacher-development research base that can lead to powerful professional learning, instructional improvement, and student learning" (Wei et al., p. iii). I believe it will have a positive effect on discussions of practice.

In my reflections on this work, I'll focus on the most unique feature of the effort, the authors' attempt to mine international comparisons of student achievement and studies of teachers' workdays around the world. This strategy brings fresh thinking to inquiry on professional development. The authors reflected on research conducted by the Organisation for Economic Cooperation and Development (OECD) on student achievement in science and mathematics and the instructional duties of teachers in OECD's 30 member countries.

The report confirms some of my current beliefs and extends some of them, such as:

- Our schools can be improved.
- The learning environment for educators and students needs to be improved.
- Staff development is a critical avenue to school improvement, and it can use substantial improvement.
- The experiences of educators in other countries may help educators in the U.S.

These beliefs give us direction as we struggle to learn what to do and how to do it in professional development.

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And I agree wholeheartedly with this core position from the *JSD* article: "Effective professional development is intensive, ongoing, and connected to practice; focuses on the teaching and learning of specific academic content; … and builds strong working relationships among teachers" (Darling-Hammond et al., p.44).

How does this statement hold up as the authors examine international data and draw conclusions? They do not mince words.

In the preface: "As this report shows, such an approach to professional learning [the one summarized just above] has become the norm in many countries that are our competitors, but is the exception here. … [T]he kind of high-intensity, job-embedded collaborative learning that is most effective is not a common feature of professional development across most states, districts, and schools in the United States" (Wei et al., p.iii).

In the conclusion: "Comparisons of American teachers' participation in

professional development with that of teachers in the international community also demonstrate that the United States is substantially behind other OECD nations in providing the kinds of powerful professional learning opportunities that are more likely to build [teachers'] capacity and have significant impact on student learning" (Wei et al., p. 61).

Those strong statements deserve careful attention. Let's look at some of the OECD data as we consider the reasoning the report authors present to support those assertions.

INTERNATIONAL COMPARISONS

OECD's research includes the development of tests, questionnaires, and self-studies that are used with samples of students and educators in the member countries. The best sources are annual *Education at a Glance* documents (see OECD, 2007).

The NSDC team drew on data collected in PISA (Program in International Student Assessment), which measures achievement by 15-year-old students in various subject areas (science and mathematics in its 2007 document).

The PISA comparisons are fascinating. The table on p. 47 showing scores and rankings by country in 2006 was used in the NSDC technical report (Wei et al., p 19).

The NSDC authors emphasize the embarrassing position of the United States as they search for information from other countries that may help the U.S. improve.

PISA REVISITED

As I looked at these data, I had more questions than firm conclusions. I have heard colleagues suggest that the United States' rank is a result of demography — that is, the diversity of the U.S. population creates disadvantages in comparisons. That is probably not so in the case of PISA. OECD has gone to great lengths to take socioeconomic status into account — a tricky business with the variety in the 30 OECD countries. We should not casually dismiss the comparative data.

The countries on which the authors focused are important in the inquiry. The authors concentrated on the European countries and Singapore, Hong Kong, South Korea, and Japan. After looking at achievement, they examined information about the time teachers teach classes in relation to the amount of contracted, in-school time available.

Let's look at the distribution to focus on the nature of the highest-achieving countries and the crowd of countries around the middle.

ENGLISH-SPEAKING COMMONWEALTH COUNTRIES

Three of the countries with the highest average scores are English-speaking commonwealth countries (Canada, Australia, and New Zealand), and the United Kingdom ranks ninth in science. Should we initiate a study designed to learn what we can about how those nations' conduct of education may be different, including how they conduct professional learning? The U.K. is engaged in an interesting longitudinal study, but the results thus far are confusing (see Office of Manpower Economics, 2008). Over time, the findings will become clearer.

A real puzzlement is the rank of these four countries that have so much in common and are in many ways closely connected with the U.S. We do know that a signal strength of these countries' staff development is its use to promote quality in curriculum and instruction in core areas.

We also need to consider whether factors having little to do with staff development are responsible for their achievement. Two possibilities come to mind:

- These countries make little use of interscholastic sports competition. Rather, their athletics are centered in out-of-school organizations, generally called clubs. The position of interscholastic sports in the United States is a real difference both in investment of time and energy and in the status given to athletic accomplishment compared to intellectual attainment.
- In Australia, high school students select academic "majors" in the core curriculum areas that may affect achievement. I am not familiar with high school curriculum in the other commonwealth countries, but we might try to learn whether there are differences in curriculum and instruction that might be factors in generating high achievement.

THE CENTER OF THE DISTRIBUTION

Looking at the whole distribution of PISA science scores, I conclude that U.S. scores are similar to many of the other countries rather than hugely different from them. The averages in the table on p. 45 are standard scores (referred to as score points). The OECD average is 500. One standard deviation above that is score point 600. Two is 700, and so on. One standard deviation below the mean is expressed as 400. In terms of percentile differences, 10 score points translate into about 3.4 percentile points, 15 into about 5.1.

In science, the averages of 18 of the 30 OECD countries lie between 486 and 516. In other words, 60% of the countries, along with the U.S., are crowded within about five percentile points of the OECD average. That such a large number of the industrialized nations' 15-year-olds achieve at such similar levels in science is worth noting.

With respect to the conclusions drawn by the NSDC authors, if there

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Bruce Joyce's career as a practitioner and researcher has focused on long-term teacher education, professional development, and school improvement. Projects include research on models of curriculum and teaching, approaches to professional development, teachers as learners, and student characteristics and learning. His recent publications include the 8th edition of *Models of Teaching* (Allyn & Bacon, 2008) with Emily Calhoun and the forthcoming *Models of Professional Development* (Corwin Press), also with Emily Calhoun.

He has worked abroad extensively, particularly in India, Hong Kong, Egypt, and in Europe, primarily in the U.K., where Open University Press just published the third edition of *Models of Learning/Tools for Teaching*, with David Hopkins and Emily Calhoun.

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WITH APPRECIATION

I thank several colleagues who have been very helpful as we have reflected on the report, including my colleague and co-author, David Hopkins. He led me to Andreas Schleicher, who heads the OECD division that generates the *Education at a Glance* reports and special reports for each country. He has answered some important questions on the PISA effort and the information underlying the *Education at a Glance* reports.

— Bruce Joyce

are differences from the U.S. in time allotted to professional development, those are not reflected in achievement in those countries.

TIME TEACHERS ARE IN CLASS

The OECD studies indicate that teachers in many other countries spend less time in the teaching of classes than do teachers in the United States (see Chapter D of the 2007 *Education at a Glance*).

The NSDC authors posit that poor achievement of U.S. students results from the smaller proportions of contracted time that European and some Asian teachers are with classes as instructors. The larger amount of time not used in instruction is occupied in collaborative planning and staff development.

I don't believe that we know with certainty how the noninstructional time is used. We should conduct serious inquiry into what those teachers do with the contracted, noninstructional time. If part of that time is used in collaborative planning and study, we should learn what that means and what types of collaboration occur. If part of that time is in other forms of professional development, we need to find out how that time is used and how it affects teaching.

Importantly, I don't think that average achievement in many of the other countries differs much from the U.S average. That does not relieve us from tracking down how teachers from other countries use their time.

LEARNING FROM OTHER NATIONS

The United States has much to learn from other countries. In Finland, the provisions of care for children from birth on are outstanding. Possibly none are raised without assiduous physical and social care, health care, and early education. South Korea consistently has comparatively high mathematics achievement and 95% of its math teachers have majors in the area compared with 75% in the U.S. (see Kang & Hong, 2008). Japan's teachers instruct classes many fewer hours than ours, but class sizes are about a third larger. The school year is a month longer. The average score of its students is about the 64th percentile of U.S. distribution. In the Netherlands, child care is thorough: From birth through age 18, all families receive a stipend every three months to support their children (Shorto, 2009). Among other things, Shorto mentions that a 2007 UNICEF study of the well-being of children in 21 developed countries showed the Dutch at the top and American children second from the bottom (Shorto, p. 47). Americans have much to learn from international comparisons of developed countries, and some of it will shock us.

Some thoughts on a few other key questions:

- **National curriculum standards.** The United States has traditionally used curriculum guidelines as general directions. Individual differences and diversity in terms of gender, ethnicity, capacity, learning disabilities, socioeconomic status, and primary language are to be addressed with the result that modifications are normal. In the U.S., we have recently begun to worry that some modifications actually have a weakening effect that can defeat their purpose.

  The extent to which national curriculums in some countries regiment instruction may be a force with good and bad sides. Strong implementation of set curriculums can ensure that students have exposure to the same processes and materials regardless of their backgrounds. On the other

hand, as Kang and Hong (2008) point out with respect to South Korea, the national curriculum reduces the options for dealing with individual differences among students.

- **Instructional materials.**

Schools in the U.S. rely on private companies to produce textbooks and other materials. These companies can be driven by marketplace considerations rather than scholarship and higher levels of curriculum guidelines. In some other countries, the governments produce materials or supervise private contractors closely. We might try to learn which approach generates the highest-quality materials.

- **Class size differences.**

Many of the other countries have larger class sizes than in the U.S., and yet their achievement is equal to or better than ours. For example, in South Korea, the average class size in mathematics is about 35, where in the United States it is less than 25. Does this relate in some way to higher achievement? I recently visited a high school math class of just five average to above-average students. The environment was deadly. The instructor had no idea how to generate synergy in such a small group. Smaller may not always be better.

On the humorous side, imagine selling the idea that if we enlarged our classes, teachers could spend less time teaching and more time for other professional activities.

FINAL THOUGHTS

While I do not come to the conclusions that the NSDC report authors do in terms of student achievement and professional development in other countries, I don't want anyone to think that I am not in favor of reorganizing the school into professional learning communities nor in favor of greatly increasing time allocated to communal professional study.

We need programmatic research that helps us learn from international comparisons. And we need more work on some of our domestic models of professional development, school improvement, and curriculum and instruction. The NSDC authors acknowledge the need for sustained inquiry on mentoring and coaching, as Emily Calhoun and I do in our forthcoming book on models of staff development, where we attempt to squeeze guidelines from small amounts of solid data.

We need criteria for judging the quality of professional development, but we also need to pay attention to the types of staff development that can meet them. It is one thing to advocate the collaborative study of teaching and quite another to select or even build the approaches that generate productive collaborative inquiry.

Professional learning communities need much more support than some advocates acknowledge, and development of models of learning will be essential to their success. Even the currently heavily criticized menus offered on designated staff development days can be improved substantially with a little creative effort and the application of current knowledge.

The What Works guidelines for research from the Department of Education have such a narrow stricture that much existing and potential research is arbitrarily excluded. With colleagues in Canada, we recently completed a study in K-2 with 187 teachers and more than 4,000 students, but it included all the students, not random assignment. What Works guidelines exclude such studies as well as all descriptive studies, such as the OECD research. I am an advocate of well-designed and rigorously conducted research, but not of ignoring the logics of the various legitimate designs where random assignment to alternative treatments or placebos is not necessary or possible.

We are grateful to the NSDC team and its effort and appreciate the opportunity to comment on its report. We have some very good knowledge and need a great deal more. Educational research is not easy; interpreting it requires an interplay of frames of reference. That we differ in interpretation is not important. That we not communicate would be to our great disadvantage.

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