

Recordings for Pisa program

ALAN SMITHERS

Track MZ03

0:00 (discussion)

0:10 I am Alan Smithers and I am Director of the Centre for education and employment research at the University of Buckingham

Could we start by talking about the technical aspects of Pisa, the sort of questions that they use and what are they trying to measure?

PISA is distinctive in that it wants to measure the application of and understanding of education in everyday life. So it doesn't actually set maths questions that involve calculation or science questions that depend on the recall of knowledge. It has a long description of some sort, with some questions built-in. So in maths it may have a drawing of a cube and ask young people to explain various things that they do with it. There are usually long passages that have to be deciphered, so all the questions are very wordy, and one of the interesting things is how similar the scores are from the different tests, and that may indicate that there is some underlying talent which is measured there, and that could be the ability to comprehend what is written, very rapidly.

01:35 does this in any way discriminate between different educational systems?

Well it's a big step to say that the young people in your country can do these things, and infer from that that it is down to the educational system. It could be due to any number of other things. For example in South Korea and Japan there is a lot of tuition that takes place outside the school, so we don't know how much of the performance in those countries, which is generally very high, is down to the school. It could be the amount of practice that the children have on a particular kind of test, because it is an unusual sort of test. It could be how seriously the tests are taken in different countries. So to move from just the few questions, the sampling of people, the sampling of subjects, the sampling of tasks, then infer that the formal education system of one country is much better than another is really a very big leap indeed, and I think it really has to be justified.

02:45 are some countries doing something to try and raise the Pisa performance?

Well the position in the league table can be very important. So take Wales, they are very upset about their lowly position in terms of Pisa. They are currently considering buying some tests from the OECD and training their children on these tests. Lichtenstein managed to raise itself from 20th in 2000 to 4th in 2003 by concentrating heavily on practising the tests that were involved.

We mentioned the league tables of course. Are you confident in the sort of rankings that countries get?

Well we get these rankings where one has a country at the top, and one is second, one third, one fourth and so on. There are a number of weaknesses there. One of which is that not all the scores differ from each other. If one wants to be confident 19 times out of 20 that you've got the right results, then the countries fall into groups. So although we appear to be a long way down some league tables, in fact there are relatively few countries that are scoring above us, and relatively few that are scoring below us. We are in a group in the middle where it is very hard to tell us apart from other countries.

04:25 (discussion)

Track MZ04

0:00 *Pisa produce these league tables. How confident can we be about the rankings that Pisa produces?*

Well there's a lot of uncertainty. The scores are taken at face value but they are not measurements of temperature or length or football scores. They are actually assessments, they are estimations, of different people at different times, and the results put on the same path. So a better way of interpreting this in terms of groups. Various league tables have been compiled and they come up with very different results. So looking at the latest league tables, in Pisa we are 27th in maths, and in TIMSS, the trends in International mathematics and science study, we are 10th and in an index compiled by Pearson we are 6. Now what are we to believe? All of these have been highly publicised in the newspapers, with cheering on some occasions, "we are 10th in the world in maths and English". On other occasions we are told our education system is failing. All of this comes from putting too much weight on the raw scores, and not interpreting them properly.

01:40 *Are there some countries from the Pisa league tables, where we can be really confident that at least on these measures they are doing better than ours?*

Yes you can group the scores, and you can identify countries that are a long way ahead of us, and also countries that are a long way behind. Now the countries that are ahead of us are often Asian countries, or Asian cities. So there's Hong Kong and Shanghai and South Korea, Japan, Taiwan, but also Finland. And one has to say that the education system of Finland is very very different from the education systems in those countries, so one wonders to what extent the scores depends on the education system.

02:35 *Why do you think the South Asian countries do so well?*

I think a variety of reasons, one of which is that making the best use of school education is a key part of their cultures. So when people move from China to here they star in our national tests. There is something about their attitudes to learning and the support they get at home. But also a lot of importance is attached to performance in Pisa. So our students take these are very casually, it doesn't add up to very much with them and their schools. There are just given these tests, they tackle them as they would quizzes in newspapers. **In South Korea the students are actually clapped into the test all by their fellow pupils.** It is really a very important part of their nation to do well in the educational tests.

03:45 that is amazing. (Discussion)

04:10 given that these Asian countries do so well in Pisa type tests is this something we should be trying to emulate?

Well I think it is important to look at how they are doing so well, and to ask, to understand it. But a lot of what they do isn't transportable. The people are transportable so they can bring their attitudes to education here, but we can't necessarily encourage our children to adopt the same attitude to education that has been developed in those countries over many years. There is the suggestion that those countries do well because their teaching is a very high status profession in those countries. And therefore it is encouraging our government to do what it can to make teaching a high-status profession in this country, and that this very good. But again one is making causal inferences and it may be that because the schools are so much more enjoyable to work in, it is easier to get good people to go and work on them. And it may be that the alternative occupations aren't as attractive. So it is very easy, **and this is what the OECD itself does**, it is what our politicians do, it is what newspapers do, **it is very easy to over-interpret these numbers**. They are very good indicators, they are well worth following up in a number of directions, but if you place too much weight on them you can mislead yourself.

06:00 Finland always comes up as doing incredibly well in pisa, what can we learn from Finland?

Well Finland is very important. It is at the opposite end of the spectrum from these Asian countries. The schools are very similar to one another in Asian countries, they are selective systems, it is very important to get into the top universities, there is a lot of testing along the way. In Finland teachers have a great deal of freedom, there is no inspection, there is no testing of the pupils. And ever since these national tests came in the Finns have been doing extremely well, and they are rather surprised that they are doing so well. So we don't know. It has become a tourist industry, there are actually charging people to go over to the country and sit in their classes to see what they are doing to achieve these results! It may not be to do with the way the schools are organised. It could be due to other things. It has been suggested, we know these questions are very wordy, so it has been suggested that the Finnish language actually enables pupils to comprehend the questions much more rapidly than say the English language does, or other translations. So it could be these other things, but it is a bit of a mystery. There are books about it, there are chapters about it, and I still can't tell you exactly what it is that the Finland does so well. So it is very difficult to distil the essence of it and bring it over to this country.

07:45 I understand, now what about Germany? They had some "Pisa-shock" at their results, it seems to be the opposite of Finland

Yes Finland has a very good education system, but it has only a modest economy. Germany has a very successful economy, it has a very successful education system to the outside observer. For example by teaching maths in practical courses, it has a very high level of mathematics achievement, and German goods are sold all over the world. So it all looks to be working very well. When they did these wordy Pisa tests they did very badly and they were very upset about this, and various inquiries have taken place. And they have been nudged by people who don't like selective education systems into introducing more comprehensive schools. Now our experience in this country would suggest that that isn't the route to go down. So yes the Pisa results can be taken too seriously and they can disrupt something that is actually working very

successfully but doesn't show up in the Pisa numbers.

09:10 politicians have made a lot of the decline of England since Pisa 2000. What do you think explains this apparent decline?

I think it is the narrative that the politicians want to develop. Our results in 2000 were a big surprise. These international tests have been running since 1964 and we always came low down in maths. We have sometimes done quite well in science. And suddenly we were up in a high place. Our government was celebrating this, saying "reforms are working, we are going in the right direction". It turned out actually that our sample was biased. Only high-performing schools took part. The independent schools were greatly over represented, so the performance wasn't, even in Pisa terms, a good reflection of what our children can do. Now a lot of effort has gone into getting a better sample and in the latest results, in 2009, we were down in England in 27th place in this. Our present government wants to reform our education systems, so it has been keen to highlight the extent to which the results have fallen saying "we have got failing education system, we have got to do something about it, we need a root and branch reform, let's go for autonomy in academies and that will make everything right". Unfortunately the 2000 results have been identified now as giving a misleading picture, but nevertheless that narrative persists. So when for example we appear to be 6th in the Pearson league table, the government came out and said "oh some improvement is welcome but we mustn't forget about the long tail of underachievement. So there are still very important issues to tackle".

So there is a dominant narrative, which is that the present government wants to change our education system and therefore wants to identify flaws in its performance.

11:40 the 2000 and 2003 results I believe are excluded by the OECD, for England?

Yes, the 2000 results were published, in spite of the fact our sample wasn't adequate. The United States was also included, and I think this was in part because we're major funders of the project. But we were there and celebrated by the government of the time. The OECD has subsequently scrutinised that sample, seen the defects in it, and now it won't include it in the comparisons between successive rounds of the Pisa study.

And 2003?

We couldn't make the sample there either, but that was recognised straightaway and our results were hidden in the appendix at the back. Still it's sometimes unearthed and used by people who want to show our performance is going down.

12:35 what you think is the effects of the time of year in which the Pisa tests are taken in England?

It is an important factor I think, because young people are taking the tests at an earlier age than they were previously. It has been mainly to help to get an adequate sample. The tests in March tended to interfere with preparation for school exams or national examinations. And that was a reason for a lot of schools not being willing to participate. By moving them back to a period of the school year where there is not so much else going on in the way of testing, it is a step forward. But it does mean that our people are about half a year younger than pupils in a lot of

other countries.

13:30 can we go on to the use that is made of Pisa, particularly the league tables, by government, media and even OECD itself?

Yes it is extraordinary. The OECD I don't think uses its data in an entirely inappropriate way. Andreas Schleicher, the head of Pisa, tours the world showing these very elaborate slides, which it is impossible to take in while you're sitting there. Take a look at the lectures on the Internet to see this in action. And then at the end of this he produces this chart, of characteristics of high performing education systems, with the inference that this is the direction that governments ought to go in and he says that non-selective systems do better than selective systems, getting at Germany again. Again he says that children should learn and enquire and understand for themselves, information shouldn't be passed on to them. And that diversity should be embraced, schools should be similar. And there is this whole list of things, but none of them seem to bear that much relation to the data that has been presented earlier. So I think he has a view of the ideal education system, which is using this great cloud of numbers to support. It is almost like a Rohrsach ink-blot test. You can see in these numbers exactly what your view of the world is.

15:20 And what you think of the media response to this?

Oh well the media like bad news, or they like something that is different. So we have had a parallel study to Pisa, with results given recently. And Andreas Schleicher came over here and said young adults in England are a long way behind young adults in other countries, causing great concern. The media took this up with great pleasure. The most moderate was the independent which said "Britain's education system in crisis?" Other newspapers had headlines like "young people in England lagging behind in the 3R's". So a tale of gloom and doom came out. Now as a matter of fact if you go through this report, and there are 460 odd pages there, there is a table that shows the apparently poor performance of the young adults in England is actually mainly in relation to how well our 55 to 65-year-olds are doing. Ours were doing better than any other country in the world except Japan. We are not a long way behind other countries. It is true we are in the bottom half, along with Spain and Italy. We don't know that that is anything to do with the school system. There is a high level of youth unemployment in this country, as in Spain, as in Italy. It could be due to that. It could be due to the willingness to do these tests. But it's being reported by the papers as reflecting our education system. And conservative politicians of leapt on this and said that those young people were going through the education system at the time Labour was in power, it's all their fault, our reforms will sort it out in 10 years time.

17:35 so what could you get out, of genuine value, from exercises such as Pisa?

Well they are potentially extremely interesting, because you have this attempt to administer the same test to children of the same age, or in the case of terms, the same grade, and you can compare how well the children are doing. You can compare how boys and girls are doing. So there is a wealth of data there. So for example we have a big problem in this country with recruiting enough maths and science teachers. There are questions set by both Pisa and Timss on this, and you can see which other countries are suffering shortages. Are there countries that don't find it hard to get teachers in these areas? So there are very important things that we can

do with this data, but they are all clouded by the league tables and the desperate attempts to score high in those tables, and interpretations that the OECD and Pisa itself and politicians and newspapers are putting on its.

19:00 what about social mobility, and the ability of kids from poor backgrounds to do well?

Well there is a strong relationship between social background and performance on Pisa, within countries. Again we don't know that this is because of the education system, that it provides better to those from high-income homes compared to those from low-income homes. Whether there is something about those people for example in reading comprehension, which actually produces these results. But it is clear that independent schools in a number of countries do better than maintained schools. Now Pisa doesn't really like this and what it does, it doesn't give these results and say this is very interesting, what is it about these independent schools? It says about the independent schools that the children come from different social class background. If we take that out, the difference between the state and the independent schools is very much reduced. And it takes out one or 2 other things as well and shows there is absolutely no difference -- except that the results of one set of schools is so much better than the other group of schools! It is explained away, rather than being explained.

20:45 the new Pisa results are due out very soon, how'd you think they're going to be handled?

I would hope responsibly. But they have almost become a form of entertainment. So I suspect we will get the same league tables, will get the same narratives from politicians, will get the same headlines in newspapers, and Andreas Schleicher will continue to tour the world promoting a particular form of education system.

21:30 (discussion)

Do you actually think our present government would actually like us to do worse in Pisa that is about to come out?

I think they would like to see the green shoots of recovery. The academies programme began in 2002. Some of those taking Pisa tests last year will have come through the academies programme. I think they would like to hold out hope for the future. I think they would like to see that it is getting things right, so it would like things to go up but by not too much at this stage.

22:25 Do you think that Pisa is becoming so important that it could be changing the English education system, in the way of teaching to Pisa type tests.?

Yes the over-emphasis on these has really quite important consequences for education throughout the world. It is essentially establishing a global curriculum. It is saying that when it comes to education, it doesn't matter about the creative arts, or the humanities, sports, or developing business acumen, what matters is basic skills in reading, in maths, in science. This is the way we judge education systems, if you wish to move up Pisa tables or improve your scores, these are the areas you must concentrate on at all costs. It is having a big influence on the areas that are studied, but also the ways that it is studied. Because the questions are very distinctive, they are about applying information in everyday life, they don't test the core of learning in schools in the way that Timss does. The maths questions aren't really about maths and science

questions really aren't about science. Anyone who can read through the questions rapidly can come up with the answer. There was one occasion in the year 2000 when the pupils in Ireland who weren't taking science actually did better than those who were, because in Ireland at the time you could give up science at the age of 14. So it is sending out messages about what is important in education, and they are not altogether helpful.

24:20 (discussion)

24:50 *do you think that the OECD, do you think the OECD's Pisa initiative is just becoming a bit too important?*

It is. I mean we have had international tests since 1964, and they were begun by a group of academics who said it would be very interesting to compare countries on the same tests, and that developed into Timss, through various stages. The OECD came on the scene and it has really pushed Timss into the background. It is the international organisation funded by a number of countries, it has great standing in the world, for its emphasis on economic development. It means that governments that pay into the OECD, will take what it says very seriously. So it does have potentially very great standing. It has become very much more important really in the way that politicians have been able to adapt it to their narratives, because there are so many numbers there that you can actually see in them whatever you want to see.

(Pause to consult notes)

(Discussion about the validity of rankings of countries that are scoring better)

27:15 *I think you can be confident that they are scoring better..*

27:35 *how confident can we be about these rankings?*

Well there are a lot of technical reasons for being uncertain. You've got to remember the particular set of questions that is being asked. So one way to test that confidence is to compare the results from different studies. Now relative to England, Australia and New Zealand do a lot better in Pisa. But interestingly in Timss they do a lot worse. Russia does a lot worse than England in Pisa, but does a lot better in Timss. So the scores that emerged depend very much on the tests, who is taking them and the particular occasion on which they are taking them. So there is a lot of uncertainty around those numbers that you have to have regard to, and you can't just list the countries like in football terms, because the numbers in football teams have been achieved through all those matches.

28:50 *do the OECD provide a measure of uncertainty about the scores of the given to each country?*

Yes to be fair to the OECD and Pisa, they produce great volumes, and actually make all the data available online. It is the league tables that are seized on by politicians and by the newspapers. In fact there are big charts within the reports that show which countries are similar in their performance and which ones are different. So the countries there are formed into groups. And yes the OECD is perfectly aware of this, but it is just that the rankings are seized upon by those who make the results public, and don't have time to go through the 5 volumes of Pisa's actual

results.

29:50 the idea there is that if 2 countries do get different scores, we can't actually be confident there is a real difference between them?

That is right. To be confident there has to be a minimum difference between the 2 scores. So what Pisa does is put together in groups all those countries where that minimum distance isn't exceeded.

And that is because the scores are only an estimate, and they are only tested on a limited number of people, while asking a limited number of questions?

Yes testing people isn't like testing length or taking temperature. You have a very direct relationship between temperature and what you're studying in the excitation of the molecules, and a very direct relation between how you're measuring length and what it is. The relationship between the tests and what people are doing is much less direct, there is quite a distance between them, because you sample some people, and a different sample of people might perform differently. You are giving them particular tasks and those same people might do differently on different tasks. You are doing so at different times, so there isn't the precision to any exam results, any psychological test results, that there is to temperature and length. And in presenting those results genuinely and accurately you need to take that into account.

31:30 and that uncertainty about the scores translate into an uncertainty about the rank in the league table?

Yes what you can't do is say this country with a score of 436 is better than this country with a score of 435. And that may put you 25th of 26. Those countries really haven't done differently because different people might have produced results the other way round. So yes we are over-interpreting the actual scores all the time..

(Discussion)

32:55 there is statistically another issue which is rather important. The children take the tests and the numbers, their answers are fed into what is in effect a black box, and a number comes out at the end. Now in Pisa 2000 we actually came out scoring higher than Switzerland, and Sid Price [??] who had been advocating the Swiss system in this country was incensed about this. So he took the trouble to trace the scores all the way back to the answers that the children were giving. And he found that the Swiss children got more answers correct than the British children, yet this came out as a higher score for Britain than it did for Switzerland. And this is because the items have different values attached to them, and one doesn't know how accurate those values are. So what the children do all goes into this system and what comes out of it is some seemingly precise figures. But if you have time to track it all the way back there are some inconsistencies along the way that make you curious and cause you to ask questions.

And I suppose that all contributes to the idea that if people are fairly close in the league table you really can't say the difference?

Exactly. When the scores are very similar you can't be sure that they are different, and to put

one country about another on that basis is illogical.

(Discussion)

36:20 do you think that the education system that children are getting now is actually being damaged by the obsession with Pisa?

I don't think it is in this country, because there is not a tremendous emphasis on us doing well. The education system is certainly being influenced by the regime of testing and inspection, so there are various incentives for schools to concentrate on core subjects for example, including maths and English and science. But Pisa is outside I think, at the moment, being used for these narratives. And because one headline says we are in the top 10 for English and maths, and then another headline says we are failing our young people and behind the rest of the world, I think the general public let this wash over them to an extent. I think the national tests have a much greater influence on our education system and the standards applied by Ofsted.

(Atmos)

End of recording