

John Hattie – Professor of Education, University of Melbourne.

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Intro: But first, how can schools and teachers really make a difference? Sarah Montague continues a new series talking to people whose work and ideas are shaping education. They are, “The Educators”

Q: Wouldn't it be good to know what really works in teaching? Whether it's Finland's class sizes, Australia's approach to homework or South Korea's approach to teacher's pay. It's considered 'The Holy Grail of Teaching'; finding out what works and how much it works. My guest today spent fifteen years putting together the biggest and most ambitious analysis of education research there has ever been. And his results surprised everyone. As a result, he is now one of the world's most influential education academics. He is John Hattie, Professor of Education at the University of Melbourne and Chair of the Australian Institute of teaching and School Leadership.

Professor Hattie, before you tell us about the findings, give us some sense of the scale of what you undertook.

A: What I've done is tried to get as many studies as I can that have looked at achievement as an outcome – across every subject I can find. I have about sixty thousand studies and about a quarter of a billion students in the study.

Q: Over what years?

A: Well the studies go back to the fifties and sixties but the majority of them are in the eighties, nineties, two thousands cos that's where the bulk has happened.

Q: So, can you explain to us what you did?

A: I went out and looked at what many people have done in this business over the last thirty or forty years. In the jargon it's called meta analysis and one of the beauties of meta analysis, it doesn't really matter if the study used a particular way of doing things, it doesn't matter if they used different tests, different age groups, different countries, you can include all those and then you can ask, “Does it make a difference?” So, does class size differ with five year olds or fifteen year olds? Does it differ in America and in England? So, I truly have stood on other people's shoulders to build this database.

Q: Which effectively ends up as a league table of what matters in teaching.

A: Yes. Now I can go a step further and I can actually put a (metricate?) system, a ruler, around how big that effect is and so we can actually quantify that and we quantify that using this thing called effect sizes.

Q: Okay. You've done this for years. Why? Why did you get involved in it?

A: Well, I started off and I got my first job in a department of education and you meet all these people out in schools and they were all different and you would talk to the students and they'd say, "What's it like out there?" "Well all these teachers are different but they all know truth". You then read the journals and, like, we publish thousands and thousands of articles every year and nearly everyone of them says, "Here's the answer". It doesn't make sense to me that everything is true in this business.

Q: So, what you've come up with, would you say it is the answer?

A: Oh no, no. What I've come up with is the relativity of the effects. It's a hypothesis that, 'this is what makes the difference'.

Q: And what really does work?

A: Well the major areas I looked at were the home, the family, the schools, the teachers, the curriculum, the strategies etc and it really comes down to expertise, the teacher expertise and I know, from a government point of view, that's hard to see but it is the most important thing; how teacher's think, how they make daily decisions and judgements. It's not necessarily what they do. It's not necessarily who they are. It's how they think and that's the biggest difference. The good news is that, when you look across those quarter of a billion students, we have some pretty impressive teachers in our system and all I want to do is make all teachers like our best.

Q: Parents, of course, make decisions about where they're going to send their children to school based on what they think are the most important things and we asked parents at a swimming club, who all had children at different schools, what mattered most to them.

Rachel: I'm Rachel. I've got a thirteen year old and a fifteen year old at High School. We wanted a fairly small school with small class sizes and just somewhere where we felt comfortable as parents.

Susan: My name is Susan. I've got two children, one aged ten and one aged seven. We looked at the OFSTED report first of all between two local schools and we were very impressed with the school that we went to with the Head, how he sold it to us as a school. Walking round we like the open plan scenario and how the children were mixed between the years and that was a big choice for us.

John: My name's John, I have a nine year old and a five year old and I picked the schools in the old fashioned way, I went there and it's on the street where you live but the kids are really confident and they enjoy school which is the most important thing, at primary level at least.

Jo: My name's Jo, I've got an eleven year old at school. I think extra curricular activities are great. After school clubs are important and when you go for a visit are the children happy, do they look as if they want to be there. I like to know that the Head's always available if a parent's got a concern and she isn't one of those Head's that takes you down the chain of command, that you can always go to them straight away.

Anna: I'm Anna, I've got four. It's the leadership and leadership is far more than the Head, in fact, the leadership can bypass the Head if the Head isn't particularly strong. It's walking round and uniform being perfect because that's one less argument that teachers are then gonna have. It's having high expectations of behaviour, of learning so that they do all have the same expectations everywhere they go.

John: I think there's so much to be gained from extra curricular, sometimes more important than the actual lessons, you know, it almost should be really part of curriculum. If you can build that into the education and the learning that's when it really counts.

Q: Those were parents in Cheshire. So, Professor Hattie, you heard it there and just not surprising. Small class sizes, good head teachers, extra curricular activities. Are they all wrong?

A: Well, firstly, it's interesting there that in almost every case there you heard them talking about the things they can see. They didn't talk about the quality of the teaching and that's hard to see and, let's be fair to parents, they choose schools. We're very good in the education profession of not letting them choose teachers but it is the teachers that make the difference and it's unfortunate that they look at those things and many of them are proxies, like, class size is a very good proxy. Parents believe that if the classes are small their child might get more attention.

Q: That's obvious isn't it?

A: Well, it is obvious. It doesn't mean to say it happens. You can be in a class of fifteen students with a teacher that hasn't got a lot of expertise and doesn't give the children much attention. You can be in a much larger class where they do but you can't see that so you go for proxies like the uniforms, the behaviour, class size nothing wrong (talking together) with those things but they are just not that important.

Q: Okay, well let's take a look at something like class size cos you analysed this. You looked at the difference that it makes and what did you come up with? What did you establish about where it is on the spectrum of, of making a difference?

A: Well, the first thing is, reducing class size does enhance achievement, however, the magnitude of that effect is tiny. It's about a hundred and fifth out of a hundred and thirty odd different effects out there and it's just one of those enigmas and the only question to ask is why is that effect so small? Cos it is small and the reason, we find out that it's so small is because teachers don't change how they teach when they go from class of thirty to fifteen and perhaps it's not surprising. Like, you look at the top countries in the world, most of them are in class sizes of forty or fifty, not that I'm advocating that at all but they have learned how to be an expert in those classes and here in England many teachers have learned how to be expert in classes of twenty five to thirty and they're very good at it. So, when they go down to smaller classes you just don't see that effect.

Q: Okay. So, if we look at something else. I mean some other things that might be obvious, like the type of school that you send your child to. That must make a difference even down to whether it's private or state.

A: Well, in a way it does. Parents, I think, are quite rational when they choose schools. They choose along the basis of the kind of friends they want their child to have and that brings in a whole set of values and a whole set of assumptions about behaviours and the kind of environment but if you chose on the basis of achievement, to be fair, most parents don't have that information despite all the efforts we've made to put it out there. And they don't choose teachers, which are the biggest effect, and so they do use these proxies which is extremely unfortunate because they're the wrong ones. Here in England, if you take out the prior differences from going to a private school where they tend to get parents who choose, as oppose to them sent to the local school, they tend to get a brighter student, you take that out, there's not much difference. In many places the government school would be better. So, it's kind of ironic, in the last twenty years where we've pushed this notion that parents have choice, so they can choose the school that may not be in the best interest of their student.

Q: (Laughs) So, there's no difference between private and state once you've stripped out the other factors...

A: Correct.

Q: ...What about within the State system? I mean there's a big move here towards free schools and academies and in the States, of course, Charter Schools. Do they make a difference?

A: Look, I'm sorry, that is a distraction. I kind of understand why we want all these schools cos it looks like we're doing something but the hard core reality is, within six months of starting a new school, it's a school and they don't differ that much. You get some very good academies, you get some very good state schools but it's a false belief that suddenly, if you change the buildings, if you change the amount of glass in the buildings, you're suddenly gonna get a massive change. It's the quality of the teacher in those buildings. It's so obvious that it's that but you'd never know that from the way those parents made their decision.

Q: Well a lot of people would say that the school turns to an academy or a free school, "Look at our results", and they'll point to those and say, "We're making a difference".

A: Absolutely and there are many government schools that can point to their results. Now, what happens in many new schools, you have a very effervescent principal, who often has his or her choice of staff, and you do get a initial innovation effect but within six months to a year those effects, kind of, dissipate.

Q: Okay but part of the idea of autonomy or a good principal is they are picking good teachers. Now, you've said that that matters so (talking together)

A: Yes, it does.

Q: So the structure matters in creating that environment does it?

A: Yes it does and good leadership can make a dramatic difference about how they not only choose their teachers but what they do with them afterwards but here's the irony, all the discussions about the autonomy of schools and the autonomy of school principals, the question I ask is whether all teachers should have autonomy. Some of them absolutely yes, some of them I'd say no. And I think that is really quite amazing that we don't even have a debate about that. We're debating the wrong thing.

Q: Before we debate and talk about teachers, can I just throw a few other things at you as to see whether they matter? Uniform?

A: If a school is debating a uniform, it's in big strife, it's created a massive distraction. There is a zero effect of uniform which means, I don't care whether you have it or you don't just don't make it an issue.

Q: Homework?

A: Homework in primary school has an effect of around zero. In high school it's larger.

Q: (talking together) Zero. What? Zero? It makes no difference (talking together) to a child?

A: Which is why we need to get it right. Not why we need to get rid of it. It's one of those lower hanging fruit that we should be looking in our primary schools to say, "Is it really making a difference?". If you try and get rid of homework in primary schools many parents judge the quality of the school by the presence of homework. So, don't get rid of it. Treat the zero as saying, "It's probably not making much of a difference but let's improve it". Certainly I think we get over obsessed with homework. Five to ten minutes has the same effect of one hour to two hours. The worst thing you can do with homework is give kids projects. The best thing you can do is to reinforce something you've already learnt.

Q: What about secondary schools?

A: Secondary school, it makes a bigger difference primarily because the nature of homework in secondary school is often reinforcing and giving the students another chance to practice what they've learnt.

Q: What about extra curricular? How much does it matter what happens outside the classroom whether it's in sport or music or drama?

A: Those kind of extra curricular are, can be very powerful in terms of helping kids learn. The mistake we make is we think, yeah doing those things, we are increasing their maths and their reading and their science and their writing. We're not. If you look at the effect of the amount of school time, the amount of school year. Which country has amongst the lowest school time per day, per year in the world? Finland. We have enough time in school to really make a difference and so all the extra curricular, absolutely fine. That's excellent, you know, kids should. What are they

gonna do instead? Go home and watch TV? I think there's no reason those things shouldn't be held and certainly many of your parents said, many of the kids, some of my boys, they lived for those things. I think it's a really important part. One of my obsessions is finding ways for kids to stay in this thing called school. The best protector of health, wealth and happiness in adult life is not achievement at school, it's the number of years of schooling. So, we have to make our schools inviting places for kids to want to come and learn and often those extra curricular ones are the way to do it.

Q: You've looked at things like television at home as well haven't you? You've looked at the environment.

A: Unfortunately it's a negative effect and the problem with that is often people at home who watch a lot of television haven't learned how to do other things relating to reading, listening, interacting with others so it's a missed opportunity if you watch too much.

Q: Okay. So, it's not necessarily the television it's just that it's stopping you doing other stuff.

A: That's correct.

Q: Did you look at things like children born in summer? You hold children back because they're born relatively late within the school year.

A: That can be an effect in countries which have a policy that says a child starts school in the year they turn five or six. In countries and places where school starts on the day the child turns five or six, you don't get that effect. There's a massive difference between a five year eleven month old and a five year one month old person and, certainly, if the child is small it can make a difference. I just think it's a pity that we have a policy that forces parents to choose when they send their kids to school on the basis of their star sign.

Q: So, if you were a parent of a child who was going to be young in a year, you'd hold them back?

A: I'm not sure I would. The way I read the research is that within two or three years you can't find a difference. The study I think was the most important was done here in England by Maurice Galton. If a child makes a friend in the first month it makes a dramatic difference and that's what I'm more interested in rather than when they were born.

Q: Okay. So, if we look at what's going on within the school and within the classroom, you'd look at something like streaming. A lot of people say, "It's really important to set or stream your child. They're bright, they should be with other bright kids. They're not so bright, they'd do better with those who aren't pushing ahead so fast".

A: It doesn't make a difference.

Q: (Laughs) At any age?

A: No. And so, in one sense, again, it says it doesn't matter whether you stream or you don't stream. Like, in America at the moment there's a lot of movement to unstream schools or what they call 'detrack' schools. Again it doesn't have any effect cos you're fiddling with the structural things in schools. The most absurd thing about school is that we block kids according to their age as if all ten year olds learn the same things as all ten year olds. We're not going to change that readily, that's been in place for a hundred and fifty years. Excellent teachers find out what the common parts are, similarities, and allow for the differences but it is a crazy model that we have with the age group, the way we do it but it's just not going to go away quickly.

Q: But bright kids aren't held back by less bright and less bright ones (talking together) suffering...

A: No. No difference at all. No. Teachers think it's easier for them and it may be but in terms of the effects of students, no. Now you've got to remember that a lot of students gain a tremendous amount of their learning from their other students in the class and variability is the way that you get more of that kind of learning from other students.

Q: This is peer to peer. This is kids teaching other kids.

A: Yes and learning from other kids and listening. Like, as you're learning something and you're starting to get a grasp of something, when you're fellow peer, another student, says it correctly, you're more likely to learn it than if a teacher says it or you read it again. But, unfortunately, a lot of our classrooms, by age eight, if your child hasn't learned to be passive and listen, they get in trouble. We actually want the opposite, we want them to be quite active in knowing what to do when they don't know what to do. And that's what great teaching can do.

Q: Okay. What about testing because, you know, different countries have very different systems with the frequency of testing?

A: My background is a psychometrician so I don't have a problem against testing. In one sense, my problem, as I said, in most schools, is schools are awash with data. They have enormous amount of tests but the amount of interpretation and use of that information is quite limited. Tests can be a dramatically good help for teachers. Unfortunately we often introduce tests at the end of the year, well, it doesn't help the teacher very much, they have moved on. So have the kids.

Q: Okay. So it all comes down to the quality of the teacher. Let's hear again from our parents, what they think makes a good teacher.

Parent: I think we can all remember subjects from school that may not have been our favourite subject but we loved the teacher and in those subjects you always put in far more effort.

Parent: Certainly I know, I've seen my child achieve in a particular year with a particular teacher because they have gelled with that teacher, they can talk to that

teacher and how that teacher sells that maths, may be English, whatever, how he sells that story to them makes a big difference to the child.

Parent: I've just had my son go through GCSE's so I've asked him who his favourite teachers were, out of interest, and he named two and I said, "Well why are they your favourite?" And they weren't necessarily the subjects that he likes best or even that he's particularly the best at and in both cases he said, "They make the learning fun and they're very good at their subject".

Q: Very good at their subject and yet, from what you're suggesting from the research, that doesn't seem to matter as much as certainly most people think.

A: That's correct, however, I heard slightly different. I heard two things from those parents. The first was that the teachers had a passion for what they were doing and they communicated that.. They made it fun, they made it exciting. As that one person said when they asked their son, "I'm not very good at the subject but this person knows how to turn me on to their passion". I think the second thing I heard was that the great teachers have higher expectations of you than you had of yourself. They can see something in you you might not have seen in yourself. They can draw you out. They can make you learn. They can make you have an understanding of the subject and certainly that notion of passion right throughout, all the research, comes out. Teachers who really have a passion to help kids understand, enjoy and know what they have a passion about.

Q: But this is quite interesting because when we go right to the top of your league table of the interventions, what makes a difference, right at the top is 'student expectation'. Which is what, this idea that a teacher says to a student, "What do you think you will get?". Why does it matter?

A: Well, again, in the grammar of most of our classrooms where students are asked to sit, teachers talk a lot, there's a lot of clerical activities go on and some students love that and survive in that climate. Some students, particularly as they get to adolescence, don't enjoy that kind of climate and, again, by about the age of eight, many of students learn their place in class. They know they're a 'C' student or a 'A' student or an 'B' student and the unfortunate part of that is that what sets their expectations, "I got a C: last time. If I get a C: or a C:+ I'm doing well". The job of the teacher is to mess that up, is to help them become a B student and an A student. And that's the role of teachers is to actually upset some of those expectations for some students.

Q: So why does that change things?

A: Because it sets an expectation that what they did yesterday is okay tomorrow and it dampens what they potentially could do.

Q: Okay. So you establish what they think they are gonna get and you say, "No, you can do better than that".

A: Absolutely.

Q: And when they do their confidence is built.

A: The worst thing you could say to a student, whether you are a parent or a teacher, is, "Do your best". It's not good enough and I had to say to my boys many times, "Sometimes your best's not good enough". Now, our job is to help them get there. Not just to say, "You're gonna do better and we're gonna throw you in the swimming pool". We're gonna do that and one of the ways is to turn the kids onto the passion and the enjoyment of learning.

Q: You're making all these assertions about what works and what doesn't. How can you be sure that your methodology is right because it's all very well collecting thousands and thousands, and these are other people's studies, but how do you know about the quality of the data that you're using?

A: Yeah it's, the quality can vary dramatically and that's an empirical question. It turns out that, if the effect is very small, quality does matter a lot but if the effect is quite large, the quality of the study isn't that important. Like, there are some areas out there where the quality of the work is very, very poor and the early works I included those and made those comments. In later works I actually dropped many of those but, overall, it doesn't make a difference to the story. What I really want to get across is that I don't want someone to go to the work that I've done and say, "These are the top ten things, we're gonna tick 'em off and these are the ones we want", because it doesn't work. What I want them to say is, "I'm gonna go in, as a school leader, as a teacher, and I'm gonna evaluate the impact". I'm not saying there's a script. I'm not saying here's a programme. I'm not giving you a recipe. I'm giving you a way of thinking and that is, "Look at your impact".

Q: You talk about all these things I mean, ultimately, in one sense, what it boils down to is good quality teaching which in, of itself, is just not surprising really is it?

A: And like, again, you listen to those parents speaking before, I was hearing them say things like, "The teacher was listening to the student", where the student was at and they were adapting in light of that and I have a hunch that for many of those great teachers their judgements and their expectations are pretty challenging.

Q: Are you able to say, "A teacher should be talking this much in a class or not talking that much".

A: I struggle to find the answer to that. If you're introducing something brand new and you've got a lot of knowledge and vocabulary, then teacher talk is not a bad thing but as you get into the more deeper learning then you want more student talk and student language but it's not as trivial to say what the percentage is but I can tell you it's aint eighty percent of the time teachers talking.

Q: At any stage?

A: I don't think it's right that kids come to our schools to watch us work.

Q: (Laughs) Hold on a second. But part of the watching is not learning?

A: No. No. because it's exploring your ideas. It's exploring what you don't know. It's the notion that errors and mistakes are an absolute critical part of learning.

Q: So, is that what you think is going on in most classrooms? Pupils are watching, just watching teachers at work?

A: Correct and you learn very quickly, that's what your job is. Now the bright kids, they don't have any troubles with this and they can adapt with it and the ones at the bottom can often struggle and they do what they think they are supposed to do which is not necessarily the best interest of what they are doing.

Q: And how do you establish that? How do you evaluate that?

A: My mantra is that every, every child deserves at least a year's growth for a year's input. Like, I'm getting a bit tired of the argument that I hear that it's about the teacher. It's about the teachers. We have to look at the collective impact that they have and this is where school leaders are very, very powerful. The most anal study we've ever done is we actually measured what teachers talked about morning tea, lunchtime and professional development. They talk about the curriculum. They talk about the students. They talk about the assessments. One minute a month, they talk about teaching and even less, obviously, they talk about the impact of their teaching. But when you go into really excellent schools, they do create dialogues and discussions about the impact of their teaching. Like, in England and certainly it's true in Australia and New Zealand, we're three of the five countries that have gone back the most in PISA over the last twelve years.

Q: Okay. Now PISA is the international league tables. Isn't that just because some other countries are going forward so fast?

A: That's one reason but even if you look at your overall scores, we're going backwards.

Q: And why do you think that is?

A: Firstly, I think that we've overplayed, in a desirable way, the emphasis on kids that are below the average, and there's nothing wrong with that. That's excellent but we have forgotten kids above the average. They need a year's growth too and we have too many cruising schools. They say, "Oh look, they are above the level of SATs, they are above the standard and therefore they are doing a good job". Well, no. They're not allowed to cruise. They should be getting that same year's growth and I think that's one of the problems we have.

Q: Is a lot of what you are doing now, do you think back to when you were at school?

A: Yes but I'm afraid it's not a very good standard in one sense. Like, I was brought up in small country town. Today in New Zealand all schools are ranked by their socio-economic status and the schools I went to were all in the bottom ten percent. The luxury I had, as a student going through them, is I didn't know that. No one told me that I was not supposed to succeed and so I am a great fan of the naivety that I experienced as a child. If I look back at the quality of the teaching, I'd have to say it

was post war, military like. I certainly would not want to see that in our schools today. I can certainly remember many teachers who made a dramatic difference and I look back to them often and try and understand what they did that turned me on to certain things and it comes back to that notion, they saw something in me I didn't see myself but I don't want to go back to those schools.

Q: So, if you were to devise a school, by looking at the best in the world, what would you pick from where?

A: One of the thing that intrigues me about many of the Asian countries is they have a language that, if you don't succeed, it's because you didn't put in the effort. In our society, if you don't succeed, it's cos you weren't very able and we too often we think, "These children are not very bright or these students are very bright, we give them differential work". That reinforces the very issue and one of the reasons the Asian societies can outstrip us in many cases is they see effort. They also see social motivation, "We're doing this because we want our family, our class, our peers to be proud". We don't do that in our society. So, those are the things I take from those societies. I wouldn't want their selection system, which is ruthless. I look at curricula and, I'm probably embarrassed to say, that there's a tipping point above which I don't think it matters and I think in most countries that we work in, it doesn't matter. I don't care whether you learn about the Duke of Cornwall or Richard the Third. I care that someone cares but I think that debate doesn't really matter. I think there are lots of things that you can turn kids on to. There are some subject knowledge that we do want them to have, like, you're not going to succeed in adult life if you can not read and write and do numeracy up to about a twelve year old level. Above that I think we get a bit over obsessed about it. And so, in our high schools I would like to see a lot more variability in what's taught so that it is challenging. It's bit like watching kids play video games. The interesting thing in video games is they know exactly what your prior achievement is, your past score. They then set a success criteria that's not too much and not too little above it but, unlike many classrooms, they don't then change that success criteria. They don't say, "Oh, you're not doing very well, we'll make it easier and you're gonna do success and we're gonna make it easier". They keep it. And then they pile on the opportunity for practice. And, as you know, and I can get a bit obsessed this way, we can spend hours and hours and hours practicing and we get feedback, lots of it, good and bad and what happens when we get success? They raise the bar. Well that's the kind of model of good teaching. A teacher who knows where exactly you are, how to set the bar and not change it.

Q: Okay. So, if you had the ability to change something in the UK, what would it be? What would you say to the British government, this is what you need to do?

A: (Laughs) The first thing I would worry about is, stop this collecting numbers. I want you to collect instead the judgements teachers make and the quality of those judgements. Like, at the moment, we think that schools that have high achievement are good schools. I think schools that have high growth are good schools and that's a big difference. I also want a moratorium on discussing all the things that don't matter. All the things that have low effect sizes. We've done that so well over the years. Let's stop talking about new schools. Let's stop talking about new forms of inspection. Let's stop talking about new forms of tests. Let's start talking about teacher expertise because it's all around this and all I want is all teachers in our system to be like our

top twenty, thirty percent of our teachers. That requires passion. That requires diagnosis. It requires an incredible amount of practice. Very powerful things.

Q: Professor John Hattie, thank you very much.