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Teaching and teacher education in the age of evidence: The case for artistry
An interview with Gert Biesta* by Philip Winter

Ensino e formação de professores na era da evidência: O caso da arte
Uma entrevista com Gert Biesta* por Philip Winter

L'enseignement et la formation des enseignants à l'ère de la preuve: Le cas de l'art
Un entretien avec Gert Biesta* par Philip Winter

In July 2022, Gert Biesta gave an invited keynote lecture at the 2022 EDULOG International Conference on Teacher Education: Building an Agenda for the 21st Century in Porto, Portugal.[1] In the following interview, Gert Biesta shares key ideas from his lecture, particularly highlighting that any discussion about the future of teacher education needs to start from a meaningful understanding of education and the important role of the teacher. In his lecture, Biesta made a case for understanding teaching as an art rather than an applied science and made the interesting suggestion that we should see teaching as a double art. This suggests that teacher education that understands that teaching is an art and not the application of rules and recipes needs to work with students to develop their teacherly artistry. Such a future for teacher education is quite different from the idea that teaching should be a profession based upon or informed by scientific evidence about what works. The main problem with that idea, which Biesta makes clear in this interview, is that looking for evidence about what works misunderstands what education is and what the work of the teacher entails.

Em julho de 2022, Gert Biesta proferiu uma palestra a convite na conferência internacional EDULOG 2022 sobre Formação de Professores: Construir uma Agenda para o Século XXI, no Porto, Portugal[2]. Na entrevista que se segue, Gert Biesta partilha as ideias-chave da sua conferência, sublinhando, em particular, que qualquer debate sobre o futuro da formação de professores deve partir de uma compreensão clara da educação e do importante papel do/a professor/a. Na sua conferência, Gert Biesta defendeu uma visão do ensino como uma arte e não como uma ciência aplicada, e fez a interessante sugestão de que o ensino deve ser visto como uma arte dupla. Isto sugere que a formação de professores que compreende que o ensino é uma arte e não a aplicação de regras e receitas precisa de trabalhar com os/as estudantes para desenvolver a sua arte de ensinar. Este futuro para a formação de professores é muito diferente da ideia de que o ensino deve ser uma profissão baseada ou informada por provas científicas do que funciona. O principal problema com esta ideia, que Biesta deixa claro nesta entrevista, é que a procura de provas do que funciona não permite compreender o que é a educação e o que envolve o trabalho do/a professor/a.

En juillet 2022, Gert Biesta a donné une conférence invitée lors de la conférence internationale EDULOG 2022 sur la formation des enseignants: Construire un agenda pour le 21e siècle à Porto, au Portugal[3]. Dans l'interview qui suit, Gert Biesta partage les idées clés de sa conférence, en soulignant notamment que toute discussion sur l'avenir de la

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[1] For more information about this event, see here: https://www.2022.edulog.pt
[2] Para mais informações sobre este evento, ver aqui: https://www.2022.edulog.pt
[3] Pour plus d'informations sur cet événement, voir ici: https://www.2022.edulog.pt

formation des enseignants doit partir d'une bonne compréhension de l'éducation et du rôle important de l'enseignant. Dans sa conférence, Gert Biesta a plaidé en faveur d'une conception de l'enseignement comme un art plutôt que comme une science appliquée et a fait la suggestion intéressante de considérer l'enseignement comme un double art. Cela suggère que la formation des enseignants qui comprend que l'enseignement est un art et non l'application de règles et de recettes doit travailler avec les étudiants pour développer leur art d'enseignant. Un tel avenir pour la formation des enseignants est très différent de l'idée selon laquelle l'enseignement devrait être une profession basée sur ou informée par des preuves scientifiques de ce qui fonctionne. Le principal problème de cette idée, que Biesta expose clairement dans cet entretien, est que la recherche de preuves de ce qui fonctionne ne permet pas de comprendre ce qu'est l'éducation et ce qu'implique le travail de l'enseignant.

Images of teaching

Philip Winter (PW): You started your presentation with two rather strong images. Can you say a bit more about these images and also why you selected them?

Gert Biesta (GB): I did indeed start my lecture with two images because I think that in addition to all the discussions we have about teachers and teaching – which, in a sense, are all words – we also have images of education, images of teaching, images of the school, images of professionalism, and so on. And such images are not only more telling but are often also more powerful. The question I asked my audience was what our image of teaching is, and I showed them two different depictions. The first is a rather big painting that hangs in the Scottish National Portrait Gallery in Edinburgh. It is painted by the Scottish artist Ken Currie and is called 'Three Oncologists'.[4] I started with this painting because medicine is often seen as a prime example of a profession and, more specifically, of a profession that has sorted itself out, so to speak. Medicine has a very strong and always developing research base, and over time, it has also developed many technologies and techniques. Many would even argue that for these reasons, medicine provides a really good example of how the field of education should develop: with more research that tells us what works, with teachers using the research in their teaching so that education can be put on a path of continuous improvement.

PW: Is that what you can see in the painting?

GB: On the contrary. The painting does depict three oncology professors from the University of Dundee who really are at the top of their game. But rather than a painting that shows the triumph of research-based medical technology, the painting is rather weird and spooky. It shows, in a rather vague way, three doctors against a very dark background – their faces are more or less recognisable – and they seem to be moving into the dark. It was actually precisely this phrase – 'going into the dark' – that the painter picked up in conversations with these professors. Rather than that, they spoke about their work in a 'clinical' way, that

[4] The painting can be seen online here: Three Oncologists (Professor RJ Steele, Professor Sir Alfred Cuschieri and Professor Sir David P Lane of the Department of Surgery and Molecular... | National Galleries of Scotland

is, detached and self-assured; they said that cancer is a dark disease and that their work was to go into this darkness and try to retrieve the patient from it. That, so we might say, is a very different account of medical professionalism than what we often hear and also very different from what people who think that education should become more like medicine tend to tell us. The painting is, in this sense, a very helpful correction of this rather simplistic idea about the medical profession.

PW: And what about the other picture you showed?

GB: The other picture came from a Scottish educational newspaper and shows the snouts of seven pigs in an intensive pig farming set-up. The picture was used in an interview the newspaper had with me about the introduction of a website in Scotland called the Teaching and Learning Toolkit. This website, which makes use of a similar toolkit developed in England, apparently brings together findings from research that can tell what works and what doesn't work in teaching. It provides a very simplified overview with a list of interventions – a word I would put in quotation marks – and an indication of whether these interventions work or not, how much research evidence there is for this, and what the costs that come with each intervention are.

Some people think that such toolkits are very helpful for teachers and also for policymakers who have to make decisions about how to spend public money on schools. What I said in the interview with the newspaper, however, is that for me, this toolkit promotes an image of education as a form of intensive pig farming. After all, what happens in intensive pig farming is that the farmers measure all the input factors, such as food, water, light, heat, space, and so on, and relate that to the main output factor, which is the amount of meat they can get from each pig. And their ambition is to find the most optimal – that is most efficient and effective – which basically means the cheapest – way to turn food, water, light, heat and space into meat.

PW: And how does that relate to education and this toolkit?

GB: Well, many people think that the main discussion that needs to be had in relation to the role of research in education is whether teaching should be based upon research or should be informed by research. And there is a tendency to say that research cannot dictate what teachers should do but that teaching should, at the very least, be informed by the findings of research. What is often forgotten in these discussions is to ask about the research *itself*. This is my main problem with the research that informs toolkits such as this one, namely that it looks at education in terms of interventions that are supposed to bring about effects or, to use another really problematic term, learning outcomes. This, and we can talk a bit more about this later, is, for me, the fundamental problem of the research behind toolkits such as this one, namely that it thinks that what teachers do is to intervene upon students so as to produce, in some kind of mysterious way, measurable learning outcomes. And that the improvement of education is a matter of fine-tuning the

interventions so that they become more effective and also more efficient at producing such outcomes. This is exactly the logic of pig farming – and I often tend to say that even pigs deserve better. But I think that it amounts to a fundamental misunderstanding of what education is, what teaching is, and what education is about and for.

The problem with evidence

PW: Is that the main problem you see with this whole development about 'evidence' and 'what works'?

GB: Yes, my concern is that to think of teaching as an intervention that is to produce certain outcomes – a kind of quasi-causal conception of how education supposedly works – amounts to a fundamental misunderstanding of education. It is a form of research that misrepresents education and the work of the teacher, and there, to me, lies the real problem. And I find it remarkable that this problem is almost completely absent in the discussions about educational research because the question of whether education should be based upon or informed by research remains trivial if the research itself doesn't speak to the reality of education. But there is a whole research industry that keeps pushing this kind of research, often with big promises about how this is going to improve education.

PW: Do you think that there is some evil intent behind these endeavours?

GB: Not at all. But for me, this is also part of the problem. I often say that I have never met anyone in education who wants to make education worse. Everyone is interested in the improvement of education. But the real question, of course, is what counts as improvement and also what it would cost – not just financially – to 'improve' education in particular ways.

PW: In your lecture, you said that there is a kind of common ground among many researchers, policymakers and practitioners about what education should aim for.

GB: That's correct. I argued that many people – on the 'right' and the 'left' of the political spectrum – would agree with what I referred to as the social justice argument, that is, the idea that every child and young person, irrespective of who they are, where they are and where they are from, should have access to good education. Of course, not everyone agrees, as there are also people who think that education should help the elites to remain elites. But I think that there is a fairly broad consensus, also amongst those who believe in 'evidence' and 'toolkits', that every child has the right to a good education.

PW: In your presentation, you presented an analysis of what you called a 'slippery slope' where the

consensus about the social justice argument did not lead to a consensus on how this should be achieved.

GB: Yes, I showed that over time, little steps have been taken that, in my view, have led to what I just referred to as a misrepresentation and distortion of the reality of education. The social justice argument raises the question of how we can make sure that education is of the same quality everywhere. And this is an important question, of course, but it asks for judgement about quality. Here, a decisive step was taken when the question of how we judge the quality of education was turned into the question of how we can measure the quality of education. Even if you believe that measurement is, in itself, not always a problem – and my optimistic side would agree that there are things we can measure in education – a further step was taken when people said that the measurement should focus only or, first of all, on the 'outcomes' of education. And that, you could say, is beginning to narrow the whole discussion about the quality of education. From the focus on outcomes, there was a further step because where some people asked which outcomes should be measured, others were more pragmatic and argued that we should begin with the outcomes that we can measure and sort of do the rest later. But that is always a dangerous argument because before you know it, the 'rest' is forgotten and 'later' actually never happens.

PW: So what then would you see as the outcome of this slippery slope?

GB: I think it has resulted in a situation where the measurement of outcomes is driving our sense of education's quality more and more. In one of my books – "*Good Education in an Age of Measurement*" (2010) – I put it as the question of whether we are still measuring what we value or are more and more valuing what is being measured. And this is what systems such as PISA are doing, which are not just managing to dominate the discussion about education's quality in many countries but are also able to generate much panic among policymakers, politicians and the public, particularly when PISA apparently shows that one's country is scoring 'low.' But what the 'low' actually is, what it actually says, is hardly ever questioned. That's why it is a slippery slope where, from a social justice argument that makes a lot of sense, we've ended up in a global rat race for league table positions.

PW: That's a rather bleak picture.

GB: In a sense, it is, but I do wish to highlight that the bleakness I'm depicting is a very different bleakness from what PISA and similar systems try to feed us – the bleakness of saying that there are big problems in some countries, that their performance is going down, and that strong interventions are needed. And when you then ask, 'Stong interventions for what?' you often hear politicians saying that we need strong interventions to drive up test scores or drive up the position of the country in the league table. That, in my view, is bizarre because the league table is, at most, a very rough indication of some aspects of what goes on in schools, but it is nothing beyond that. As I've said in some contexts, I cannot imagine that any teacher

would go to work in the morning with the ambition to push the country they are working into a higher position in some global ranking. They go to work because they believe in the value of education and because they want to make a difference for the children and young people they teach, not because they want to please PISA.

PW: Would it be correct, then, to say that you are not against research but that you are against particular forms of research?

GB: I think that that's a good way of putting it. My ongoing critique about 'evidence' and 'what works' has been taken by some as the suggestion that I would be against all research. That is, of course, a rather silly way to read what I have been trying to argue. But it also shows the rhetorical power of the whole evidence movement because if you raise critical questions, if you argue against the idea that teaching should be informed by or based upon research evidence, it looks like you are making the case that teachers should remain stupid, to put it crudely. It very quickly positions you in a kind of anti-intellectual corner, which is precisely not what I am trying to do, of course. The point I'm making again and again is that we need research that 'makes sense' with regard to the practice of education and the work of teachers. And much research that presents itself with the word 'evidence' doesn't manage to do so – it misrepresents and distorts. So, the real challenge is to come up with much better research. But when I suggest this, it has, so far, remained quiet.

Pushing back

PW: In your presentation, you suggested that we need three 'pushbacks' in this whole discussion. Can you say a bit more about this?

GB: Sure. Perhaps the first thing to say is that I tried to summarise the impact of the developments I just mentioned on education – both on the practice of education and on the discourse about education, let's say, our image of what education is and what the work of the teacher entails. One thing I mentioned is that the rise of the idea that education is about interventions that should produce measurable outcomes has led to an increasingly narrow view of which outcomes count. In many countries, you see politicians arguing that education should focus on the 'basics,' and those are always reading, writing and arithmetic – the three so-called 'Rs'. Of course, we want to make sure children can read, write and count because these are important aspects of how modern societies are organised. But to just keep focusing on these and doing so in very simplistic ways – measurable outcomes rather than engaging with the complexities of language education, for example – amounts to a hugely narrow view of what education is supposedly for. It is this narrowing of the educational 'diet' that is one problematic consequence of what has been going on.

But it is not just a narrow view of what counts in education; there is also a very narrow view of what counts *as* education. The language of interventions and outcomes assumes that education is some kind of mechanistic process – like pig farming, as I've said – and that the only work to be done is to make the connection between intervention and outcome more effective. But that is a real distortion of how education 'works', and it also is a highly distorted vision of the work of the teacher. The idea that the teacher is just someone who is delivering interventions is already a weird idea. But also this claim – which is being repeated everywhere, so it seems – that the teacher is the most important in-school factor in the production of measurable learning outcomes is, in my view, bizarre, simply because the teacher is not a factor but a thoughtful professional who has reasons for doing what he or she is doing.

A colleague in Germany has suggested that the way in which education is understood as a result of all this is as a cybernetic system, that is, the logic of the thermostat where policymakers set the desired temperature – the learning outcomes – and teachers simply need to keep pushing until this temperature is reached, that is until there is a perfect score.

Performativity: When indicators of quality become definitions of quality

PW: You also mentioned performativity in this context. Can you explain what this is about?

GB: I understand performativity as the situation in which indicators of quality turn into definitions of quality – and again, I think that this is a hugely problematic development. Briefly, the point is that league tables, for example, can be seen as indicators of quality. Of course, they are very crude, problematic and simplistic indicators, but the main point is that they are indicators. But when schools or policymakers or politicians begin to take the league table position as an indicator of quality and, even more, when policymakers argue that schools should work hard to increase the league table position, the position begins to function as a definition of quality, so that ending up higher in the league table becomes the aim for schools or countries as a whole.

I worked in a University where the strategic ambition was to end up in the top 10 of a national University league table, and this was pursued in quite cynical ways, for example, by closing down those programmes that couldn't attract students with high exam grades. And this was not because there was something wrong with the programme, but because the exam grades students come with to the university were part of the calculation for the position in the league table. Diane Ravitch, in her book The Death and Life of the Great American School System has described in most detail what happens when schools start to focus on league table positions rather than the quality of the education they offer. And the big problem here is that if you only try to increase your league table position without being concerned whether this has anything to do with the quality students are receiving, you have created a perverse universe – yet this is what is happening in many places and settings.

PW: This brings us to the pushbacks then.

A broad conception of what counts in education

GB: Indeed. In my presentation, I argued that there is a need for three pushbacks or actually a threefold pushback, as I think it's not a choice between one of these, but these are three areas in which something is needed. The first pushback has to do with reclaiming a broad sense of what counts as education in order to push back against the narrowing of this. Here, I refer to an argument I have been making for quite some time now, namely that education always needs to be orientated towards three domains of purpose, which, in more technical terms, I have referred to as qualification, socialisation and subjectification. In more everyday terms, we might say that qualification has to do with the ways in which, as educators, we try to 'equip' our students for their personal and professional lives. This is the domain of knowledge, skills and attitudes or, more precisely, the domain of understanding and action. This already contains much more than the transmission of knowledge and skills. It is rather about helping students to become knowledgeable and competent.

Socialisation has to do with providing students with orientation in the world with a sense of direction. In vocational and professional education, this has to do with a feeling for the field one will be working in, for its history, and for the things that matter in a particular job or profession, including values that matter. And in general education, it has to do with a feeling for the society in which one is growing up, its history, the things that matter there, the values that give direction, but of course also the tension, conflicts, unresolved issues, and so on. Socialisation is, therefore, about much more than just incorporating 'newcomers' into existing orders – that is just a very narrow view of socialisation.

And with regard to subjectification, I often use the word encouragement, as it is about encouraging our students to be a self, to not forget themselves, and to act with consciousness and a conscience, so we might say. To never simply follow the rules or do as one is told, but always remain aware of whether that is what needs to be done. Being a self, by the way, is very different from being oneself. The latter is the opposite of what I have in mind.

PW: You call these three domains of purpose. Why not just three purposes?

GB: The main reason for this is that within each domain, many more detailed decisions can be made and probably need to be made, for example, about the curriculum, pedagogy and didactics, and about assessment. The main point of highlighting that there are three domains in which we, as educators, have something to do is to broaden the picture but also to see that there is difficult work to do in keeping these three domains together in some kind of never-entirely perfect balance. One could argue that the narrowing

of what counts in education has focused strongly on a rather rigid interpretation of qualification – the knowledge and skills phrase or the reference to the so-called basics. So I'm first of all arguing that there are other domains that we need to take care of as well as teachers. But I'm also arguing for a much more meaningful idea of what qualification actually is. And also for a more meaningful idea of what socialisation is.

PW: You said in your presentation that this also has implications for research.

GB: That is correct. One big problem with the search for evidence about 'what works' is that what may work for one domain may not automatically also work well for the other two domains. It may, for example, be the case that if we pay children for the work they do at school, that we will get much higher test scores. But to pay children – to bribe them, as I would call it – sends out rather worrying signals with regard to subjectification and even with regard to socialisation, for example, because it would signal to children that we don't really care about their independence and are only interested in making sure that they do well on a test. So bribery might 'work' with regard to one of the domains, but definitely not with regard to the other domains. So, if we are really interested in conducting research about what works, we need to start by giving this complexity a place in the research design. I haven't encountered research where this is happening, which shows, in my view, how *uneducational* such research actually is. It is a misrepresentation of education that produces a distorted image, and it is sad – and very worrying – that so many people think that research about 'what works' exists and is educationally valid.

PW: What about the second pushback?

A better conception of what counts as education

GB: In addition to pushing back against the narrowing of what counts in education, we also need to push back against the narrowing of what counts as education. And here, the main problem with talking about interventions and effectiveness is that it assumes some kind of causality between what teachers do and what happens on the side of students. I often refer to this as a quasi-causal conception of education because I don't often encounter people who would simply argue that if the teacher does 'A', then it will always result in 'B,' but there is nonetheless this idea in research about what works that correlations between 'As' and 'Bs' can be understood as causal connections where 'A' brings about 'B.'

PW: Are you suggesting that there is no relationship at all between what teachers do and what students take from that?

GB: That's not my point because we obviously know that how we teach makes a difference. On the one hand, I'm pushing back against implicit and explicit causal thinking about education, but on the other hand, I'm also providing a better account of what actually goes on, which starts from the idea that teaching is not an intervention upon objects but a matter of communication between subjects – between human beings: teachers and students. I have found insights from social systems theory quite helpful in describing how education really works. The starting point here is that mechanistic causality – the causality of the clockwork – actually only happens under very specific conditions, that is, in systems that are closed (which means that there is no interference from elsewhere), that working in a mechanistic way (where action 1 causes action 2 which, in turn, causes action 3, and so on), and where such a system works in a linear way, that is, where everything goes in one direction. The causality of the clockwork is the appropriate image for this – where all the cogwheels are interconnected, and the whole machinery goes in one 100% predictable direction.

We can also talk about education as a system, but rather than being a closed, mechanistic, linear system, education is an open, semiotic and recursive system. Semiotic means that the interaction between the 'elements' is a matter of communication and interpretation; students are trying to make sense of what teachers say and do (and teachers, of course, also work hard to try to make sense of what students say and do). Open means that there are all kinds of influences from the outside that can interfere with the interaction between teachers and students, beginning with the simple fact that students go back home at the end of the school day and are, therefore, exposed to many more influences than just the teacher. And recursivity means that this system doesn't just move in one predictable direction, but that as a result of what students learn, for example, they will alter their behaviour – so the way in which the system 'moves' over time is impacted by what the 'elements' in the system 'pick up.'

PW: This sounds like what has been called chaos theory. Are you suggesting that education is chaotic?

GB: Yes, this is sometimes called chaos theory, though I prefer the phrase 'complexity theory,' as this is about how complex systems function. But the beauty of this way of looking at the dynamics of education is that we can describe with much more precision how we can increase the predictability of what happens. And this is important for research but even more so for the practice of education. The basic idea is that we can make systems such as education more predictable when we begin to decrease the degrees of freedom in each dimension. We can make systems such as education function in a more predictable way if we limit the influences from 'elsewhere,' if we limit the possibilities for interpretation and if we limit the recursivity of the system.

This sounds very abstract, but this is actually what we are constantly doing as teachers and educators. We have, for example, school buildings and classrooms in order to block out influences from the outside. But we also have curricula and timetables to begin to structure the actions and interactions within education. All of this makes it possible that teachers and students can focus on something, can devote attention to it, which is much more difficult if you would have to teach on the street. But in teaching, we also reduce the

opportunities for interpretation. After all, we are not saying to our students that any view, opinion or interpretation is simply 'fine' – it matters how students make sense of things, and again, curricula and textbooks try to bring focus into this, and assessment is also an important tool to 'check' the ways in which students make sense. And in education, we also work to reduce recursivity, for example, when, in teacher education, we work with our students so that they begin to think as a teacher, which is not just any way of thinking but is a very particular way of making sense of educational situations.

So along these lines, by reducing degrees of freedom, we might say, education becomes more structured and, in a sense, more predictable. This is not bad. On the contrary, this is precisely the hard work we do as teachers in order to make education meaningful for students, and not just a nice being together in which anything is possible, and nothing really matters – that would be chaos. So, I do think that this is a much better account of how education really 'works.' But there is one further advantage to this account because it can also make visible that if we go too far in trying to reduce the complexity and unpredictability of the system, for example, by completely shielding students from any influence of outside – which would require that we control their environment 24 hours a day, 7 days a week, and 365 days a year – and if we tell our students that there is only one right answer, only one way to make sense, only one way to do things, and if we tell our students that there is only one way to think or, even 'better,' if we tell our students that they actually should not be thinking at all, we are quickly reaching the point where we have education that is totally predictable, but that no longer is education but has become indoctrination.

PW: So, in this way, we can see much better what the 'drivers' are for making education more predictable, but at the same time, we can see what happens when we push too hard on these 'drivers.'

GB: That's indeed the point. On the one hand, this approach shows all the work we do as teachers to make education work – and it shows it with much precision – and at the same time, it shows that there is always the danger of indoctrination, the point where we see students just as objects that we need to control, rather than as subjects whom we should equip, orient and encourage to lead their own lives well.

Education, not indoctrination

PW: Is that related to the third pushback?

GB: Yes. In my presentation, I argued that we should never forget that at the end of the day, we are after the independence of our students, we want them to be able to lead their own personal and professional lives. We want them to exist as subjects, not objects. We want them, in other words, to exist as human beings rather than survive as adaptive organisms. I try to make this point in much detail in my latest book, *World-Centred Education*, arguing that educational questions are always and fundamentally existential

questions. And, of course, I here rely on the distinction between education and indoctrination because, in indoctrination, we are precisely not interested in the independence of our students – we see that rather as a problem that needs to be solved. Indoctrination wants to erase the student's freedom; education understanding that freedom is the very point of education.

Educating the teacher's eye

PW: In the third part of your presentation, you discussed what this means for teaching and teacher education. You started with an interesting observation about what you called the teacher's eye. Can you say a bit more?

GB: The idea of the teacher's eye has to do with the question of what teachers should be able to see. Those who are in favour of evidence and evidence-based education often argue that teachers should look at their classrooms with an empirical eye. They should think of their own activities as interventions, and they should constantly be looking for the effects of those interventions and then adjust their intervention if it doesn't have the desired effect. Some people call this data-driven teaching, but you can also see that this is the logic of experimental research: you intervene and measure the effects of the intervention. My question is whether this is the way in which teachers should be looking at their classrooms and what happens with their students. And I would start by saying that this is precisely not how teachers should be looking at their classrooms – because the empirical eye is very much the eye of pig farming.

PW: So what kind of eye do teachers need then?

GB: One suggestion I make is that teachers should be able to see more than what is visible. They should be able to see possibilities in their students that are not yet actual. They should, for example, be able to see beyond the difficult behaviour of students – if they only focus on that, they end up in endless cycles of punishment and control – and be able to see that a difficult student, or a student how behaves in a difficult way, is more than just this behaviour, and may, over time, become a very different person. Teachers need to see with this kind of hope, which is also trust. Approaching students with trust opens up a future for students, and in a sense, as teachers, we need to orient our actions on how the student may become in the future rather than what the student is in the here and now. It is a very fundamental educational attitude, and I think that if, as teachers, we cannot see beyond where and how our students are now, we block the future for them.

PW: You related this in your lecture to trust. Can you explain this connection?

GB: Yes, the interesting thing about trust is that if you already know how someone else is going to act, you don't need trust. So if you trust a student, if you give them a task and say, or gesture, that you trust them with this task, you refer to an unknown future precisely because you do not know what the student will do with your trust, and I would say that the student probably also doesn't yet know what he or she will do. But that is the beauty of trust, that you open up this future and, in a sense, invite the student to step into this future possibility – the possibility to be trustworthy, so we might say. All this has to do with the teacher's ability to see more than what is visible in the here and now. And, of course, I'm using examples from the domain of subjectification, but the same holds for the other domains. If, as a physics teacher, I won't see my students as young people who may, at some point, 'get' physics and are able to be 'at home' in the world of physics, then I could as well stop teaching. So, it's very basic but also very fundamental.

PW: And what about the other eye?

GB: In addition to the fact that teachers need to have an eye with which they can see more than what is already there, they also need an eye with which they can see less than what is in front of them. In a sense, it's the corollary of what I've already said. But I often refer to Anton Makarenko, the Ukrainian educator, who worked with young people with 'difficult' backgrounds and who, as a rule, didn't want to know the backgrounds of the young people he was working with, particularly not their criminal record. And the reason for this is that as soon as we know too much about this, there is a danger that we can no longer see the student in front of us but begin to see the student purely through his past, which is, in the case of Makarenko, a past in which things had gone wrong. Opening a future requires that we are willing to make a break with the past – again also, with hope and trust. And for this, knowing too much about everything that may have gone wrong in the past can get in the way of this. That is also why I worry about too much diagnostics in education. The idea is if we have a diagnosis of what may be wrong with our students, we can better serve their 'needs,' as the saying goes. But there is a tremendous danger that the student becomes the diagnosis and that we cannot see the student in any other way. And this becomes even more of a problem when students begin to become their diagnosis, for example by saying that they have this or that syndrome and therefore cannot engage with this or that task. That, again, stops the future, blocks the future, and is precisely in that way uneducational.

PW: And what about the empirical eye? Has that no role?

GB: It has a role, but not in the crude logic of interventions and effects. Of course, it is important that, as teachers, we also keep a close watch on the dynamics that are unfolding in our classrooms and in the interactions with our students. Perhaps it is better to call that the phenomenological eye of the teacher.

PW: So the teacher needs three eyes, then?

GB: Yes, that is the conclusion, and while this is, of course, a metaphorical way of speaking, this has huge implications for teacher education because it highlights the importance, in teacher education, of helping student teachers to develop their capacity to see classrooms in these three different ways.

PW: Seeing what is not yet actual and not seeing what is in front of us thus pushes back against the idea that everything should be visible.

GB: That's correct, too. I am indeed complicating the whole question of what teachers should be able to see, and in that way, pushing back against far too simplistic ideas about evidence and visibility, including this unhelpful phrase of 'visible learning.'

The art of teaching and the artistry of the teacher

PW: That brings us to your observations about the art of teaching and the artistry of the teacher. What are the key ideas there?

GB: The point I have been trying to make in my presentation, and also in our conversation, is that education is an interaction between human beings in which the independence and freedom of the one being educated is the central concern. Education is not a machine or clockwork; there is no mechanical causality, but it is a thoroughly human and, therefore, open endeavour. Therefore, teachers need to be able to navigate this reality wisely rather than they just need to follow rules and recipes, and this has much to do with art and artistry.

PW: You take Aristotle as a main reference point here?

GB: Yes, what I find tremendously helpful in Aristotle's work is that he acknowledges that there are parts of the reality we live in that do resemble clockwork. There are aspects of the reality we live in that have a very high degree of predictability. The movement of the planets, for example, belongs to the domain of the 'eternal,' as he calls it, where we have causes and effects and predictability. And if we manage to get correct knowledge about those eternal, never-changing parts of reality, this knowledge will also be true forever.

But Aristotle highlights that most of what matters in our lives does not take place in the domain of the eternal but in the domain of the variable, as he calls it. The domain of the variable encompasses the living world and also the social world. It is not the domain of causes and effects but the domain of actions and possible consequences. And the word 'possible' is perhaps the most important word here. Because in the

living and the social world we don't encounter total chaos, but there is never 100% certainty either. So when we act in the domain of the variable, we don't have knowledge that tells us that if we do A, then B will always follow. We learn, over time, through experience, that if we do A under these circumstances, in this context, there is a possibility that B may follow. But we can never be 100% sure because, in the domain of the variable, we work with 'living material,' so to speak.

In discussions about Aristotle, our actions in the domain of the variable are referred to as 'art,' although I think that craft and craftmanship are perhaps the better words here. Experienced craftsmen have a lot of knowledge, built up through years of doing their craft, about the possible consequences of their actions. But they have also developed an 'eye' for the materials they work with and a sense of what their craft is about. A saddle maker, to use one of Aristotle's examples, is not someone who simply follows a recipe and always does the same thing. To make a saddle, the saddle maker must have an understanding of what the requirements of a good saddle are, but also has the challenge to make a saddle that fits this horse and this particular rider, and then there is the challenge of making the best possible saddle out of this piece of leather, which is never entirely perfect, so we might say.

So craft requires quite a lot: it requires a sense of the 'point' of the craft, it requires experiential knowledge, it requires the ability to see and to judge, and still, each time, the saddle maker cannot be 100% sure that he will succeed. That's an open question.

For me, this is almost exactly how we should think about teaching. Because teachers also need to understand the 'point' of their practice, they need to bring a lot of experience and understanding to their practice, but they always need to work with the particular students in their classes, which are never 'perfect' in the same way in which a piece of leather is never perfect so that with each student they need a degree of inventiveness in order to bring about meaningful education.

PW: You see 'almost exactly.' Why?

GB: The almost is important here, and again, I rely on Aristotle because what is interesting about his observations is that he highlights that in the domain of the variable, there are two different arts. One is the art of crafting and craftsmanship. The art of making things, so you could say. This requires what Aristotle calls techne, which we can translate as knowledge and understanding of how to act, of how to do things. But in our social lives, which are also part of the domain of the variable, of actions and possible consequences, we are not making things, but we are interacting with other human beings with an interest in their ability to live their life well, to put it in general terms. Education is a good example of this, but political action, action in and for the political life, the life we live together, is another example of this. Both are not actions in which we make things – teachers don't make their students; politicians don't make their citizens – but are actions in which we try to contribute to the good life. Good politicians should serve the citizens; good teachers should, in the same way, serve their students.

Of course, teaching and politics have a component of craft, of techne. It is important that teachers have

a repertoire of how to do things. But there is always also the question of what needs to be done, what the right way of action is, the question as to what needs to be done, what the situation asks so that we can contribute to the good life of the student, to put it a bit philosophically. For this, Aristotle argues, we need 'phronesis,' which is often translated as practical wisdom. This is never about recipes and rules, but it always raises the question of judgment: what is the wise thing to do in this situation, with this student, in this context, and so on?

Some people argue that teachers only need practical wisdom, but for me, that is too narrow. It runs the risk of suggesting that teachers only need to think and act wisely but that their craft, their repertoire of how to do things, wouldn't matter. I disagree, and this is why I would argue that teaching is a double art, where there is both the question of how to do things and the question of what it is that needs to be done and what the wise thing to do is. And, to make the point one more time: this is always situational, always contextual, always related to the here and now, and can never be a matter of just doing what the 'evidence' tells that is effective – for all the reasons I have mentioned.

Reclaiming the artistry of teaching

PW: You said in your presentation that we need to reclaim this artistry. Why did you use the word 'reclaiming'?

GB: I used it because I think that we actually have known for a long time that teaching cannot be a matter of just following rules and recipes. We have known for a long time that teaching has this quality of craftsmanship – I am aware that it's unfortunate that the word 'craftswomanship' is hardly ever used; perhaps we should go for 'craftspersonship,' though 'artistry' is even better, I think. It is only recently that people have forgotten this truth, and I have tried to indicate a bit of the history of this forgetfulness. Of course, the social justice argument in education is undeniable. Every child has a right to a good education. But this cannot mean that we turn education into a machine that just produces 'outcomes' and forgets that we are always educating human beings for their own free life.

The reclaiming also speaks to authors who, in the past, have made the case for art and artistry. In the UK, Lawrence Stenhouse is an important scholar. In the US, Elliot Eisner has made the case for artistry, and I also think that the work of Joseph Schwab around the idea of the practical is part of this tradition. So, there is already quite some literature that can be helpful in making the case for the art of teaching and the artistry of teachers. But there is also a task to bring this discussion into the 21st century because the educational landscape has 'moved on,' so to say, with a much stronger – but in my view mistaken – belief that if we just generate more and more evidence about what works, we will eventually be able to make education 'perfect.' But perfect education is probably no longer education but gets dangerously close to indoctrination.

Teacher education

PW: My final question then is about what all this means for teacher education. That would probably require another conversation.

GB: There is, of course, much to say about this, but my main point is that any discussion about teacher education and its future needs to start with an understanding of what teaching is and how it works – and not with a distorted view of misunderstanding. In my lecture, and also in this conversation, I have highlighted the misrepresentations and distortions and have also tried to explain where they are coming from and why they may be attractive. And I have tried to articulate a better view, a better understanding of education, teaching, the work of the teacher, and the complexities of education. Now, if we believe that teaching is simply a matter of administering those interventions for which we have scientific evidence that they work – a misunderstanding and a distortion in my view – then teacher education becomes very straightforward. It should tell teachers which interventions work, and it should train them to administer those interventions. That's all there is.

But of course, that would be a disastrous way to educate future teachers because they would probably fail in the very first classroom they enter or the very first encounter with students because students know all too well that they are not objects waiting to be intervened upon, and intelligent students – and my teacher's eye starts from the assumption that all students are intelligent – will quickly undermine teachers who enter the classroom with such a mindset.

So, teacher education that makes sense for the realities and complexities of the work of teachers needs to focus on enhancing and deepening the teacherly artistry of students, which is partly a matter of craft and of honing the craft, as the saying goes, through practising. But practising should always be thoughtful; teachers should know what they are doing and why they are doing it, and engaging in these questions further enhances and deepens the craft. This, by the way, shows that the unhelpful distinction between 'practice' and 'theory' should have no place in teacher education (or in education for that matter). What we're always after is to make our actions more thoughtful, more 'intelligent,' as John Dewey would put it, which is the hard work of putting the thought into the action, not applying theory to practice. And all this hangs together around the question of wisdom, the constant engagement with the question of what, in this situation, with these students, with this curriculum, with these ambitions, and also with these policies, is the wise thing to do. That question, for me, is not the last question we should pose in teacher education, but rather is the first question – the question that should be on the table from day one. After all, craft without wisdom is dangerous, just as wisdom without craft gets you nowhere.

PW: And that is the double art of teaching?

GB: Indeed!

PW: Thanks very much.

Further reading

More details about some of the ideas discussed in this interview can be found in the following publications:

Biesta, Gert (2023). Reclaiming the artistry of teaching. In Robert J. Tierney, Fazal Rizvi, & Kadriye Ercikan (Eds.), *The international encyclopedia of education* (4th ed., pp. 648–654). Elsevier. https://doi.org/10.1016/B978-0-12-818630-5.04034-3

Biesta, Gert (2023). Reclaiming teaching for teacher education: Towards a spiral curriculum. *Beijing International Review of Education*, *1*(2-3), 259-272. https://doi.org/10.1163/25902539-00102015

Biesta, G. (2024). Educational research and the distortion of educational practice. In Johannes Drerup, Nina Göddertz, Ruprecht Mattig, Werner Thole, & Uwe Uhlendorff (Eds.), *Bildungsforschung: Erziehungswissenschaftliche Perspektiven*. J. B. Metzler. https://link.springer.com/book/9783662669228

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Gert Biesta is Professor of Educational Theory and Pedagogy at the Moray House School of Education and Sport, University of Edinburgh, UK, and Professor of Public Education at the Centre for Public Education and Pedagogy, Maynooth University, Ireland. He has recently held visiting professorships at the University of Agder, Norway, and Uniarts, The University of the Arts, Helsinki, Norway. From 2020 until 2022, he was a member of the Scientific Curriculum Committee in the Netherlands, advising the government on the future of the curriculum for primary and secondary schools. In 2023, he became a member of the Education Council of the Netherlands, the advisory body of the Dutch government and parliament. Gert Biesta has published widely on educational matters, with a focus on theory and policy and an interest in teaching, teacher education, curriculum, arts education, citizenship education and religious education.