RSA

Five Minds for the Future

Manifesto Challenge: Developing a Capable Population

Speakers **Professor Howard Gardner**
Hobbs Professor of Cognition and Education, Harvard Graduate School of Education

Chaired by: **Mike Baker**
BBC Education Correspondent

Date: Wednesday 11th October 2006

Venue: RSA, 8 John Adam Street, London WC2N 6EZ

NB

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Liz Winder: Thank you very much to all for coming and now it gives me great pleasure to hand over to Mike Baker, who is the BBC's Education Correspondent. Thank you, Mike.

Mike Baker: Thank you very much. Good evening ladies and gentlemen. I always say at these events that it's rather strange for me not to be talking to a camera or to autocue but to have real people in front of me – you are real aren't you? Yes indeed.

But in fact today, of course, they have provided cameras, so I feel at home! But of course the cameras are not here for me, they are for our distinguished guest.

Just a couple of quick words before we get into the introduction: I would like to thank the RSA for hosting this, one of a series of wonderful debates and lectures that they do hold, I think we're all very grateful to them for that; and also to Edge who, of course, in case you didn't know, are an educational foundation which promote practical and vocational learning and they are sponsoring tonight's debate. Indeed this is one of three, as we just said, and I think that's tremendous that these are the sort of issues that we're getting into.

So thank you to RSA and Edge for that. And really, above all, for me to say that I'm extremely honoured and excited, actually, to be asked to introduce our guest tonight, Professor Howard Gardner, for his lecture entitled *Five Minds for the Future*.

Professor Gardner is undoubtedly one of the 'big beasts', I think, of the education world. He's a genuinely creative thinker, although I'm sure he also exhibits high capability in all the other five minds that we're going to be hearing about as well.

He has written well over 20 books and has had, I think it's fair to say, global influence on many disciplines, but especially on education. And in educational circles he really is best known perhaps for his theory of multiple intelligences.

His identification and description of seven intelligences has strongly influenced schooling in the USA and elsewhere and indeed here in the UK as well.

In particular, teachers have used it to justify the development of a broader curriculum, of wider opportunities and increased differentiation in teaching.

In this country the government's commitment to personalised learning clearly owes much to his theories and we've heard quite a lot from the government about personalised learning, although I still think there's quite a lot of bafflement about quite exactly what it does involve.

The bare facts of Professor Gardner's biography barely do justice to his influence and I'm going to give you just a very few of them because I think most of you will be familiar with those details.

Professor Gardner is the Hobbs Professor of Cognition and Education at the Harvard Graduate School of Education; he is also senior director of Harvard Project Zero, where he and his colleagues work on, amongst other things, the design of performance-based assessments, education for understanding, the use of multiple intelligences to achieve a more personalised curriculum, and the nature of interdisciplinary efforts in education.

I was having a little look at the website the other day and I would recommend it to people, there's some fascinating material on that; so that's Harvard Project Zero.

Last year he was chosen by *Foreign Policy* and *Prospect* magazines as one of the 100 most influential public intellectuals in the world. I suppose it would be vulgar to ask whether they ranked you or not, but um… perhaps we'll have to look that up and see!

Anyway, his lecture tonight is based on his forthcoming book, *Five Minds for the Future*, which is due out next year. We look forward to that and we're delighted to be getting this sneak preview tonight. So please welcome Professor Howard Gardner.

Howard Gardner: Thank you very much, Michael Baker and ladies and gentleman. Am I audible? Good. Thank you and you can soon see the slides.

It's an honour for me to be speaking here tonight in this lecture series in a historic building, in a distinguished room, which I actually spied in the newspaper this morning because Gordon Brown spoke here yesterday. I thought it might be a surreptitious ad for my talk, but they missed the punch line!

As Michael said, I'm going to speak about a forthcoming book called *Five Minds for the Future*, and for those of you who know something about my work, I have to begin with a disclaimer: I am the person responsible for suggesting that human beings have various kinds of intelligence, what we call the theory of multiple intelligences, and I claim that human beings are better described, not as having a single intelligence, but by having a number of relatively discreet intellectual capacities.

When I read about the intelligences, when I speak about them, I'm talking as a psychologist and I'm speculating about how the mind evolved and how it's organised now.

When I'm speaking about five minds for the future, I'm not speaking particularly as a psychologist: I'm speaking much more as a policy buff, a policymaker, suggesting the kinds of human capacities and skills which we'll have to cultivate in the future, both so we can survive as a species and so we can have a world that we'd want to live in.

When I talk about the future, I will say right off the bat that I have nothing particularly original to say about the topic.

This slide is a *TIME Magazine*-style list of aspects of globalisation, of new kinds of scientific and technological innovations, of political promise as well as political turmoil and turbulence.

And if you are talking about the minds for the future, you have to put it against the backgrounds of the various facets of globalisation. And since *TIME Magazine*, as well as I, uses images, here are just some images to accompany that laundry list of future events and future pressures.

Discoveries in biology; mega cities from around the world; the commodification of everything and the internationalisation of that commodification; circulation of money, a trillion dollars a day – I guess that's half a trillion pounds – circulate every 24 hours in markets all over the world.

One thing that I'm going to say several times tonight is that almost everything that can be done by technology, whether it's computers or robots, or virtual reality, will be.

And that, in a sense, makes almost all past education at least partially anachronistic, because so much of what people had to do before is now going to be done by automata of various sorts, such as a car that's being driven by something called telematics, and I'm looking forward to that so I don't have to drive on the wrong side of the street and imperil others as well as myself.

Virtual reality: everything from architecture to surgery, to aeroplane navigation, will increasingly take place in artificial intelligence environments.

Life-long learning, autodidacticism, they're not necessarily antagonistic; and moving somewhat closer to my topic about minds for the future, what this slide basically says is that people who are simply doing routine things in routine ways will have less and less of a place in the world of tomorrow.

There's a need for thinking beyond specific disciplines, for thinking outside of the box, for being very flexible and being able to do things just in time.

More and more work is being done by teams which assemble for the purposes of carrying out a mission and then move on to another site and carry on the mission there. I'm always a bit behind the times but PowerPoint has probably already seen its apogee!

So here are the five minds, and the structure of the rest of my talk will be to say

something about each of these kinds of minds, what they're like, how they're nurtured, and in each case, pathological forms of these minds.

At the end, I talk a bit about the ambience in which I think the five minds are best nurtured, as well as some of the tensions between these minds, because they don't necessarily mesh: there are antagonisms among them.

I hope to finish in time for lots of questions and discussion from you in the audience.

I was asked at the beginning of the millennium what I though the greatest invention was of the last 2000 years. And I though for a while, and I said: "Classical music".

This is Mozart, who I worship above all other artists, and I really do think classical music was a fantastic invention. But the truth is, the reason I gave the answer "classical music" was more because I wanted the pundit who asked me to quote what I said.

And I knew that if I'd said "the wheel" or "the Pill", many, many people would have said it, but yes, nobody said "classical music", so I had my 15 seconds of coverage.

Actually there's something in the United States called 'Edge', which has no relationship to the sponsoring foundation this evening.

But an answer which I would have given seriously, but alas would not have been quoted, was: "The scholarly disciplines".

Those of us who are in education, in the academy, and almost everybody who is here tonight probably is at least related to those institutions, take the disciplines totally for granted: history, science, mathematics, the arts.

We assume that they are part of being human and that they've always existed. But in fact a moment's thought confirms that the disciplines were all invented in the last few thousand years.

Classical music is an invention of a few hundred years ago; history probably from the Greek/Roman times; science, as opposed to technology, is really an invention of Europe in the 16th and 17th century.

So the disciplines are very precious inventions. When barbarians take over, they usually try to wipe out all the disciplines except for warfare, which is, you know, a discipline which has a very long history.

When I talk about 'the disciplined mind', I'm making two points, both based on the dour meaning of 'discipline' in English.

A disciplined mind is one that works steadily on things and gets better and eventually becomes an expert of one sort or another, and no matter how talented you are at birth, unless you work at something you're not going to attain expertise, you will not be a craft person, a professional, a scholar, without the regular discipline.

But the point that I focus on, because a lot of our research has shown that the second aspect of discipline is very difficult to achieve, are the distinctive ways of thinking which are associated with the major disciplines.

It would be nice to think that human beings evolved to think scientifically, but we didn't. Science thinking is a very unnatural way of thinking. Lewis Wolpert, here in the UK, has written much about this.

Historic thinking is also quite unnatural. Of course every society, every culture has stories and narratives, but that's very different from thinking historically.

So just to say a word about those two disciplines to make them stand for the array of disciplines.

Scientific thinking involves creating a model of the world, an explanation of how the physical or biological or social world works. The model should yield some predictions.

People carry out experiments or observations, and if those empirical forays confirm the theory, the model, it lasts; if not, and as Carl Parker said, the real purpose is to

show where it's wrong. Then a new revised theory or model emerges.

Very, very unnatural way of thinking, very much against common sense.

There's a slide that says, "Common sense says that if A happens and then B happens, A caused B" and this goes back to Hume's philosophical writing.

But of course, A may not cause B; B might be caused by a third factor and be completely independent of one another. But you have to think scientifically, not to confuse correlation with causation.

Historical thinking is an attempt to reconstruct what happened in the past. It involves written texts, more recently graphic, occasionally oral testimony.

When you write history you have to realise that it only happened once, you can't do experiments. You have to realise that human beings have goals and try to achieve those goals in whatever way they can. History both involves recognising what's uniform about human beings, historically and prehistorically and cross-culturally, as well as what's very distinctive about human beings given the cultures that they live in.

Perhaps most interestingly and again, quite counter-intuitively, is that every generation has to re-write history.

The most vivid example I can give is if you live in the United States today, and you write the history of the Roman Empire, you would write it differently than if you'd be writing it 50 years ago because now, for better for worse, the United States <u>is</u> the Roman Empire, and it would be impossible not to think about those issues if you were a historian in the US today.

So when I talk about the disciplined mind, I'm talking about those ways of thinking, those distinctive ways of thinking, which humans have invented and are not completely natural.

You might say well, you really need to know these; I mean, maybe you'd win the lottery and then you wouldn't, but I think you do, because if you want to make any kind of a decision as a citizen, or any kind of decision about health, or about Medicare, or medication, or care of your children, if you can't think scientifically, historically, politically, you're just going to be helpless and you'll have to depend upon other people or just toss a coin.

So I think that to be an engaged human being now, you need to have these disciplined ways of thinking, but you also need discipline in the first sense: you have to be good enough at something that people will value you and you'll be able to make a reasonable living as an expert in one sphere or another.

Now, in each case I'm going to talk about a form of this mind which doesn't quite work.

The "No cigar" is an allusion to a US cliché, which I know where, you go to a carnival and you're given ball and you're supposed to toss it and knock down a Cupid Doll, and if you get close, the barker says: "Close, but no cigar". So these are efforts to achieve these kinds of minds which are not entirely successful.

One example is when you see everything just through your discipline: the shoemaker only looks at people's shoes, the lawyer who insists on being a lawyer with her 3-year-old child or with her spouse when they're trying to decide to go to the movies, that's an over-emphasis of a discipline in not realising that every discipline has limitations.

Nowadays as an academic, I feel that this, you might say, hyper-disciplinarianism affects many people in evolutionary psychology who try to explain everything about human beings in terms of evolution, or people from economics who try to explain everything via rational choice.

These theories have their place but they're not, they're not all powerful.

The other example is somewhat un-homier, but you already know that I am partial to music. Arthur Rubinstein was a great pianist of 50 years ago and he was very,

very talented, he was a prodigy, and he used to go round all the world giving concerts.

He got tremendous acclaim but he realised that he wasn't practicing, and anybody who knew a lot about music would realise that. But instead, he was getting acclaim because he knew what encores to play, he knew how to throw his hands up, he knew the dramatic things to do which would make it look like he had complete control of the instrument, but he realised that he had stopped honing his discipline.

So, as he describes in his autobiography, at the age of 30 or 35, he decided to stop going out at night, stop drinking, stop carousing, stop womanising, and start working regularly every day, which he did for 50 or 60 more years and became, even toward the end of his life, a very, very good pianist, thereby really combining both senses of the word discipline.

So, my number one, the 'disciplined mind'.

The second mind is the 'synthesising mind', but it's actually the one that I've become most fond of in working on this book, because I think it's the mind that we all desperately need these days and yet there's really very little practical that we know of how to help people synthesise.

This is a great synthesiser, Darwin, who in his 20s travelled the globe on the *Beagle*, took copious notes, and then for 20 years reflected on what he'd seen on his trip around the world, reflected on his own domestication of plants and the animals, corresponded with every naturalist in the world and then finally, 25 years later, not far from here, his famous paper was given in 1858, and the next year he published *On The Origin of the Species*, which is one of the great intellectual syntheses of all times.

What does synthesis involve and why do I think it's both important and rare?

Nowadays, every one in this room knows that we are inundated with information. Almost any topic that you put into a search engine you will get so much information you couldn't possibly digest it, let alone remember it or use it.

So what does a synthesising mind have to do? First of all, it has to decide what to pay attention to and what to ignore and there needs to be reasons for that; it can't be random or just pick the first site on Google and assume that it's the best, because there are all kinds of adventitious reasons why something might be site number 1.

Then, when you've decided what to focus on, what's important, putting it together in a way that makes sense for you, because if you can't hold on to it, retain it, put it into a framework, a theory, a grid, then it's going to be evanescent and you'll have to go back to the search engine or to the Wikipedia or to an old-fashioned thing called a library, or get on the telephone and so on.

But putting things together for yourself is not enough, unless you're a hermit. Almost all of us, whether we are educators, or journalists, or work in business, need to be able to communicate syntheses to other people.

And so, after we've decided what's important, put it together for ourselves, we're going to have to be able to communicate it to other people. Murray Gell-Mann, the Nobel Prize-winning physicist, said in my presence 10 or 15 years ago, "In the 21st century the most important mind will be the synthesising mind", and I think he was really on to something.

When I say psychology has dropped the ball, I'm a psychologist and before embarking on my own enquiry, I looked through textbooks to see what was available on 'synthesis' and I was able to find very little.

So, *Synthesis for Dummies*, because it was written by somebody who was just one step ahead of the student, is, you first have to decide, of course, what you want to synthesise: what will its form, what will its format be?

Are you going to put together an essay or you going to give a talk? Are you going to prepare an annual report, something

for a board, something for your classroom? Where do you start? Where's the dry land? Are there earlier syntheses? What do textbooks say? What does the most informed person you know say? You've got to start there.

Then, the key part, I think the part that separates the experts from the novices, is what's the method that you're going to use? What are the data you're going to look at, how are you going to evaluate them? What are the formats that you're going to use? I have a whole list of formats here from narratives to maps, to equations, to taxonomies.

How are you going to organise and reorganise the material, as you try to get closer to the end point, which is the synthesis which you're going to live with, because time is finite?

It's very, very important to have what I would call a proto-synthesis, a rough draft, done enough time beforehand, so that you can get some feedback from knowledgeable people, or from people who are going to have to be your audience and who are going to have to make sense of what it is that you've said.

And then, of course, finally, because life is finite and because there are syntheses yet to come in the future, you have to be able to put it to bed and move on.

Those people who know how to do this and those who know how to train other people to do this will be at a tremendous advantage in the years ahead.

No cigar for Procrustean efforts: people who try to put too much in the synthesis so it's overwhelming.

No cigar for syntheses which are too eccentric – I mean they may be amusing but they're not going to be very useful: as I say, "a textbook that's too eccentric is better used as a doorstop".

And in my book *Five Minds for the Future* I actually spend some time discussing two synthesising works by contemporary writers and try to show my own aesthetic of what makes a good synthesis and what makes an inadequate synthesis.

But I freely admit that I have my own standards, my own criteria. For me, people who try to lump too many things together are not good synthesisers. I much prefer people who can split and make distinctions and provide powerful examples of those distinctions, so for me that's what makes a good synthesis.

But if you're a teacher, the important thing is to help students recognise criteria and see when and when they're not applying those criteria. They can argue with them, and of course, ultimately the good synthesiser has internalised the criteria so he or she doesn't need to have a master providing feedback on that synthesis.

The third kind of mind is one that will be familiar to everybody here, the 'creating mind'.

Einstein is an icon of the creative mind in the 20th century, as is Virginia Woolf, two very different kinds of creators, and of course, there are creators in spheres across scholarship, across the arts, and in the learned professions as well, though the creations there are less radical; I mean we don't really want people in law or medicine to do things that are too radical at least for us, whereas in the arts, or in sciences nowadays, we admire quite radical breakthroughs.

We know from research and creativity that you can't simply start to create without having any disciplinary kind of mastery. And indeed, in any discipline which has a history to it, not a discipline that has been invented last year, it takes up to a decade to master that discipline.

And again, you need to do a certain degree of synthesis in order to be a creator; you can't assume that nobody's ever tried to put things together before.

In our own work we call this 'Big C creativity' and it is something that we want to reach for, though most of us are more likely to end up with 'Middle C creativity' than

creativity of the Einstein, Darwin, Virginia Woolf variety.

By definition, work, and people who are creative, go beyond what's known. The phrase is: 'they think outside the box'.

And that's more and more important, because anything that's in the box will be in the computer and it you can just do what the computer can do, you'll be all too expendable.

The creative mind comes up with new questions, new methods, new combinations, new disciplinary nexes, and so on.

Until I began to study creativity, I assumed that creativity was best started as a cognitive endeavour, with people having a certain kind of mind, and certainly, it's useful to have a mind if you want to be creative!

But my research, and that of my colleagues, brings to the fore two aspects of creativity which are less well known and appreciated.

One is that probably the nature of your personality and temperament is very, very important if you want to be creative.

Creative people are ones who are never satisfied, they like taking risks, when something doesn't work, they don't kick the dog or quit, they get energised to try again something new.

Jean Monnet, the great economist who was behind the Common Market and the European Union, said, "I regard every defeat as an opportunity" and that is the mental state, the frame of mind, the stance of the creative individual, and if I wanted to nurture creativity I'd spend a lot of time helping people deal with criticism so they aren't floored by it, but rather, energised by it.

The other aspect of creativity is we tend to confuse it with novelty. But it's easy to do things that are novel: I could give the rest of this talk with water over my head, it might be amusing, it would be novel, but it certainly wouldn't be creative because it wouldn't affect what anybody else does, it would just be seen as being weird.

The only way to know if something is creative is to have informed people, which we call 'the field', make judgements, so Einstein began to be accepted when Max Planck, another great physicist, said "This guy's on to something, even though he isn't in the University and he's working in a patent office" and so on.

And that's true for almost any outstanding creator: it takes some time for people to separate out what's worthwhile and what's not.

What I say about that is because 'the field' sometimes takes a long time to make its judgement, you can never know for sure that you're creative, because that might only be discovered after your death.

But the good news is you'll never know for sure that you're not creative, because maybe like Van Gogh and Emily Dickinson and Gregory Mendel, you'll be discovered posthumously. No cigar.

A lot of books are bestsellers; a lot of art shows put on lots of art; but my guess is even if you looked at the list of Turner Prize winners or Booker awards, you would find that most of them become obscure pretty quickly, and we know there are many famous artists and writers who never win the Royal Society, never win the Nobel Prize.

So those things I would call interesting, but they tend to really be too far out to affect anybody, or just a very good example of what everybody else is doing.

In the area of physical sciences, in the 18th century people used to think that you had materials that were combustible because they joined with something called 'phlogiston', it was a special substance that made things burn.

In the 19th century, people thought that time and space existed in something called 'the ether', until Einstein showed, based on both theoretical and empirical work, that there was no reason to hypothesise an 'ether'.

And a recent example from the United States was the great excitement about cold fusion, 10 or 15 years ago when people said we can get infinite amounts of energy just from water and electrodes and we don't have to do anything at all fancy.

But cold fusion, like phlogiston and ether, turned out to be not creative because they are not domain changing.

Now when I spoke about this the other day at The Open University, people rightly pointed out, "Well, if people talked about phlogiston or ether in good faith, would that really be non-creative?"

And the answer I gave them, truthfully, that I had only in my book focused on cold fusion, and with cold fusion it's fair to talk about this as not being creative because, while there were some promising experiments, when these experiments were challenged, the scientists who carried them out became defensive, backed out, wouldn't provide their data and it basically didn't follow the rules of scientific work. So in that sense I think you would not want to call it creative work.

I would have to do more due diligence about phlogiston and ether before I could give you a good answer about the ways in which that was or was not creative.

Until this point I have spoken very much from the point of view of cognition, or thinking; how the mind works in terms of what goes on in academic settings. And that's in part because my own work has been focused very much on the disciplined mind, the creative mind, and more recently the synthesising mind.

But I'm going to argue tonight that at least important for those of us who are interested in policy, is to go beyond cognition and to consider two other kinds of minds, which I call the 'respectful mind' and the 'ethical mind'.

The respectful mind is rather easy to describe. It basically involves acknowledging that we have all kinds of human beings and all kinds of groups in the world.

Many of them look differently and have different mores than we do. Perhaps when we evolved thousands of years ago we could stick together and ignore those people or fight with them and one group would win and one group would lose.

But now, of course, while we have more people than ever in the world, we are also closer in countless ways to people, and at the very minimum one needs to have tolerance: that is acceptance of people who are different from us.

But ideally, one wants to have respect, and respect means an effort to try to empathise with others, try to understand them, try to make common cause with them, give them the benefit of the doubt.

And respect, I contend, begins from birth. It has to do with how parents relate to children; how children relate to one another on the playground, within school settings; it's how adults relate to one another, teachers to teachers, teachers to parents, adults to children, teachers to staff and so on.

I visit a lot of schools, particularly in the United States, and I believe that I can tell very quickly when I go into a school whether there is a genuine respect in the institution, in the environment, or whether the respect is put on for my benefit or whether it's very top-down, very authoritarian, you know, "Do what I say or else".

Some examples of "no cigar": the first one is a line that's become quite popular in the United States, but I assume it's transparent here as well, "kiss up, kick down".

Basically, when someone has power over you or you want something from them, you're nice to them, but otherwise you ignore them, or mistreat them and so on.

Bad jokes, telling jokes at the expense of other groups, even when you think everybody will find them amusing, they're a dangerous thing to embark on, though probably few of us have not made that error.

Tolerance is obviously better than intolerance, but respect goes beyond tolerance: it's a genuine effort to try to join in with other people.

And I don't believe that one has respect eternally. There are people who can sacrifice worthiness of respect, but on the other hand, I think respect with too many conditions: I'll respect a person if he or she always behaves wonderfully toward me and never does anything wrong and, you know, gives my kids presents and so on, I think that that's going too far.

To put perhaps a more positive spin on this, I jotted down some of the entities in our world now which I think have tried to deal with what happens when you have an intolerant or disrespectful society.

We all know about the Commission on Peace and Reconciliation in South Africa, set up under Mandela and Tutu, where victims and victimisers spend time together in the same space and try to understand one another and try to forgive, though, of course, they can't forget.

But actually close to three-dozen countries now have commissions like this and in places like Northern Ireland or the former Yugoslavia, I think they're necessary if you want to move on.

I also have two examples from the area of music:

Some years ago Daniel Barenboim and Edward Said set up an orchestra in the Middle East called the Divan Orchestra, which actually had Israeli and Palestinian musicians play together during the day and talk about political issues at night, and this has continued right through to the present, though obviously it's not a good time for Middle Eastern civility let alone respect.

In the United States, Yo-Yo Ma, the wonderful cellist, about 10 years ago set up something called the Silk Road Project, which involves musicians and music from the 2000 miles of the old Silk Road all the way from Asia through to Europe and Yo-Yo, who actually studied Anthropology when he was un undergraduate, is interested in having people realise that nothing invented in music was ever simply invented in one place.

The synchronism and the transmission and the cultural contact is absolutely immanent in all of music and he hopes that the understanding will extend beyond the musical realm.

And I think in a time where respect is so important and yet often such a rare commodity, paying a lot of attention to these political and aesthetic, also ping-pong diplomacy comes to mind, it actually began the US-China connection 30 years ago, these are important, respect-engendering institutions.

I thought I would do a little confessional here. As a card-carrying member of something in the United States called the American Civil Liberties Union, I initially made common cause with the cartoonists in Denmark, who were making critiques of Islam, and with the minister in France some years ago, who said that French students should not be allowed to wear scarves in school.

But I actually changed my mind about this and was thinking about the issues of respect. I decided, rightly or wrongly, that for me in this case, respect trumped the opposite value, not because the opposite value is unimportant, but basically I was thinking that the cost was too great.

And, of course, the cost has been deaths as well as great tension, which continues to this day, as my last points here remind us.

The opera production in Germany which was cancelled because *Idomeneo*, the Mozart opera, was seen as being insulting to Islam – I think it's still a question whether it's going to be mounted or not – and, or course, in Britain, people are very well aware about Jack Straw's temperature-raising remarks about the wearing of veils here in Britain.

So issues about respect and its relationship to ethics are very much around us everyday.

The 'ethical mind' is more difficult to describe briefly, but I shall try.

Respect, as I said, is something that young people can sense almost from birth. It goes back to the most elementary human relations.

When I speak about ethics, I am talking about an abstract capacity to think of one's self not just as Howard Gardner or Michael Baker, but as a worker and as a citizen.

So if you conceptualise yourself as a worker, you say I'm a teacher, I'm a journalist, I'm a physician; what are my responsibilities in enacting that particular role? If I want to live up to the core values of that profession, what is it that I should be doing?

And, I also believe an abstract attitude is required to think about yourself as a citizen: a citizen of your community, if you live in London, the borough that you live in; a citizen of your region, whether it's Britain or Europe; and then a citizen of the world, a citizen of a planet, with implications for ecology, climate change, the survival of the species and so on.

And a person who thinks ethically is able to make that intellectual leap and to think about himself or herself in those kinds of roles and, of course, not just thinking that way but acting appropriately with regard to those roles.

This is a bit of a leap, it came out of my mouth last night, so I'm going to share it with you: my daughter, who is here with me today, and I went to see the movie *The Queen*, the other day. We thought this was an appropriate country to see the movie and I recommend it.

The thought I had is that the Queen occupies a role. It's a role which nobody else in the world occupies and probably most of us have a great deal of difficulty understanding that role.

The tension in the movie was how should that role be enacted in Britain in 1997?

Well you don't have to make that decision because I don't think anybody here is going to be Queen, but we do have to make those decisions about our self in our jobs and in our citizenship.

I've been working on this issue for the last 12 years, on a project called 'The GoodWork Project', carried out with Bill Damon and Mike Csikszentmihalyi.

We've been studying good work in the United States and we describe 'good work', (for these purposes, "ethical work"), work that is high in quality, the discipline is top-flight, but also work that is ethical, that is socially responsible.

Work where the worker says not, "What do I want? What's good for me?" but, "What ought I to do as a scientist or an artist, or particularly a professional?" Most of our work has been in the professions, law, medicine, science, and so on.

And the third aspect of good work, the third 'e', excellence and ethics, is engaging. Good work has to be meaningful to people or they can't carry it out; it's too difficult.

And the people who are most admired in the world by, not just me, but by many people, are people who are able to work in terms of those 3 'e's: excellence, ethics and engagement.

And we've studied over 1200 people, in 9 different professions, as well as a number of institutions, in an effort to understand of what does good work consist today, and how do people carry out good work or fail to carry out good work at times when things are changing very quickly?

Our whole sense of time and space is being altered by technology and, most important for our argument, markets are very powerful and we don't have forces, which used to exist, to temper markets: religious, communal, ideological kinds of forces.

So GoodWork is a study of how do people manage to be ethical, excellent, and engaged, or fail to do so in our current environment.

The summit of GoodWork is people who are universally admired, people like Martin Luther King Jr.

I don't know if I should say this with my daughter here, but I usually have a line here where I say, "My kids think this is Ben Kingsley!" But I think she knows better.

Of course, Ghandi is again hugely admired. And a person that's rarely recognised but very important, the Burmese dissident, Aung San Suu Kyi, who for many, many years has been under house arrest if she tries to lobby for a government that's worthy of her country.

And you'll notice that two of these three people, who are giants in the same way that Einstein and Darwin and Woolf are giants, were fascinated and, you know, Aug San Suu's life is also often in jeopardy for these reasons.

So good work is not easy and that's one reason if it's not highly meaningful to you, as it was for these people, it's unlikely to be carried out.

Now, it would be nice to be able to say that everybody wants to be a good worker and everybody tries, but in another study carried out with several colleagues, we studied over 100 young people in America in three different professions. These were people in school or internships, or in their first jobs.

And we discovered a very unsettling picture, which I want to share with you. These young people all know what good work is and they would like to be good workers and they admire people who are excellent and ethical and engaged, and of course, some of them themselves live up to these high standards.

What we discovered in the United States was that many of these people told us: "Someday, we want to be good workers, but we don't think we can afford to be good workers now. We don't think we can afford to be ethical because we don't think our peers are: we don't trust them, we think they're cutting corners, we think they're doing everything to advance, and we don't want them to get the positions of power and prominence at our expense".

And so what they say is, "Someday we'll be good workers and then we'll try to teach and train other people to be good workers, but right now give us a pass".

And I'm reminded of what St Augustine said, he said: "Oh Lord make me chaste, but not quite yet!" and this is what the good workers are saying.

And the phrase 'moral freedom' comes from Alan Wolfe, a very excellent Sociologist in the United States. He says that: "No society can exist without a moral core" and this comes out of sociology, people like Max Weber and Emile Durkheim.

But Wolfe goes on: "The Americans" – and just the Americans he's talking about now, people from the United States – "are the first to decide in the history of the world where people think that they can decide for themselves what's moral and what's not".

And Wolfe wrote about this before we did our study and what we saw was over and over again, young people saying: "As long as I have good intentions and someday I'm going to do the right thing, don't bother me with making me too accountable nowadays".

No cigar for compromised work. Compromised work is what too many of us, and I'm sure I'm guilty of it, sometimes do.

We don't do something in our work that's illegal; that's bad work. That's Enron, or giving your students the answers to the examination.

But many of us do compromised work: we don't do the extra due diligence when we're writing a story in journalism; we don't do the necessary control when we're doing a scientific experiment; we know in the area of accounting, too many people work both for the auditing agency and for the company as consultants and that's not acceptable.

So I've been particularly studying compromised work, work that isn't strictly illegal, but of course both of these are perils: bad work and compromised work.

Summary. I described – forget the wise New Englander for one or two minutes – I described five kinds of minds, three of them cognitive: disciplined, synthesising, and creating, and two of them in the human sphere: the more direct respect, which we owe to our neighbours and to our families and to people who are more remote; and the more abstract kind of ethics, our self in roles such as a professional or a citizen.

Ideally as a policymaker I would hope that we could engender all five of these minds in young people.

By far the best way to do it is a way that all of our grandparents knew, namely to put them in environments where these kinds of minds are modelled, where people do have discipline, can synthesise, are willing to break new ground, treat one another with respect and take the ethical stance.

So a desire for these minds is easy to justify and the belief that if they are in the air, in the atmosphere, they are more likely to be achieved, is, again, uncontroversial.

This goes beyond the banal when it comes to choosing the place that you work. Sometimes people have no choice, but often they do, and one of the important things is to be able to take the temperature of the institution which you decide to work at and to say: "There's good work modelled there".

Similarly, some people have no choice about mentors, or about role models, but to the extent that you do, and we can all choose what's called a 'paragon', somebody from history or even from mythology to identify with: do you pick people who wanted to have it all before they died or do you pick people who behaved in ways that were responsible and ethical?

However, as I said at the beginning, there are tensions between these kinds of minds. I described one with reference to myself: namely the question, do I go by, you might say, the US constitution and the ethics implied there, or do I go by more person-to-person respect? And that's a place where actually I changed my mind.

I did the opposite in recent years at my own university, where I decided at some cost to become a public critic of the President of the University because, as someone who'd been there for many years, I concluded that I had an obligation as a citizen of that community to speak up and that's a case where ethics trump respect.

The more familiar kinds of tensions are between discipline and creating. If you're too much in your area of discipline, you don't have any distance from it and you're unlikely to break out of it and try something new.

An even greater amount of tension exists between respect and creativity because we owe our teachers and our mentors a certain degree of respect, but being creative means also rejecting the mentor's model at a certain point. But can we do that and watch the cost?

It's frequently noted that in east Asia, students' protégés have an enormous respect for their mentors. For that very reason, many of them end up leaving the country and coming to the west, because it's easier there to forge your own path than it is to do when the huge shadow of your mentor is in front of you.

So even though the five kinds of minds would be great to have as an ensemble, there are going to be tensions; and even though I think everybody can develop some aspects of these kind of minds, probably we'll end up in the cognitive sphere, having some people who are more synthesisers and some people who are more creative and so on.

Interestingly, in the end, nobody can put these minds together for you, you have to put them together yourself, and I think of that as sort of the ultimate synthesis, it's a personal synthesis.

If you believe the pentad that I've put forth, how do you put them together in a way that makes sense for you?

So finally, a closing thought from the wise New Englander. This is Ralph Waldo Emerson, a famous 19th century philosopher

from New England, and Emerson declared that character is more important than intellect.

I've spent my life studying intelligence and creativity, largely from an amoral perspective because you can't understand those properties unless you study people whom you don't like who exemplify them, as well as people whom you like.

But certainly I concluded, and the events of the last 10 or 15 years have contributed mildly to that, that we don't have a lack of people who are smart in various ways, we have a lack of people who act in ethical ways, people who display and embody a character.

And so I applaud Emerson's insight of many years ago.

If you want to pursue any more of these ideas, actually Michael has pointed out that if you go to PZ Web, Project Zero Web, you can learn more about some of my educational ideas and I'm happy to talk about them in the question session.

You can learn more about the GoodWork project by going to that website; if you want to know what I'm up to you can look at www.howardgardner.com and I'm happy to show you that my new book actually has a cover, *Five Minds for the Future*, and before too many months have elapsed I hope that some of you will take a look at it. Thank you.

Mike Baker: Well thank you very much Howard, that was, I think it was like being taken on a guided tour through the five minds, a bit like being taken on a guided tour through a palatial mansion really, with a very witty, informative, challenging guide, who offers us new perspectives, some interesting characters that we've met along the way as well, and I think raising some interesting questions for policymaking and for practitioners, particularly in education.

If I might just start with a little aside, I was just wondering which category you put the journalistic mind into? I suppose we might hope it would be the synthesising mind, but a mind that's rather tight on deadlines and certainly cuts a lot of corners to get to where you're getting. Rather different I guess from an academic, I always think.

Often when I go out to interview academics like yourself and we ask them to sum up their research project, which may have taken them 5, 10 years and a whole team of people, and we say, "Could you do it in about 15 seconds, please, for a sound bite for the news". I think that's a little bit unfair.

I certainly won't ask whether the ethical mind is compatible with journalism, although I think the creative mind comes in when we start doing our expenses. At least that's what my editor says anyway.

But more seriously, I'm interested and I think many of our audience will be interested in what some of the implications are from what you are saying, some of the lessons that there might be from this for educators for policymakers and, as I say, for practitioners.

And I recognise that what you're talking about here in the development of these minds is not just about formal education, but it's about life-long learning, it's about what happens in the family and from birth really.

But I would be interested perhaps to tease out during the questions, you know, how you think educational practices might change to take into account these five minds in the same way as there's been a lot of discussion about adapting educational practices from the seven intelligences.

In England, as I mentioned in the introduction, we're still struggling really to understand quite what personalised education might mean and how it can be made to fit in with formal schooling, with large classes, with a nationalised curriculum and high stakes testing.

Again, I think with the development of those minds it might also be interesting to know to what extent we are constrained by some of those factors.

We also continue to struggle with the English disease that not only separates vocational and academic learning, but also tends to value one over the other; the old 'parity of esteem' issue, which has dominated really discussion in British education policy circles for a long time.

For example, we have a very big development looming here about the creation of the new specialised diplomas for pupils from 14 upwards, where they will specialise in areas like Engineering or IT rather than the more traditional school subjects, and one wonders, is that too early to be specialising?

Are we trying to produce oven-ready workers or are we just trying to engage those who are hard to reach with a more traditional curriculum?

I'm also interested to know what you might think about whether it's important for schools, and universities for that matter, to try to cultivate the creative mind that you talked about: can you do that, or is that going to happen by individuals on their own?

In fact, can too much formal education, too much of the disciplined mind, as you suggested, perhaps get in the way of creativity? There's a lot of discussion here about the extent to which schools should concentrate on creativity.

And then perhaps we might want to explore a little bit about whether schooling can help develop the respectful mind. I think many people in schools, particularly primary schools, would say that they do see that as an important part of their role.

How might faith school, for example, whether they are Anglican, Catholic, or Islamic, how might they fit in with the need to understand other types of people? And you mentioned the interesting debate we have at the moment about the veil.

But I don't want to limit the discussion in any way; this is about your questions! And I won't ask you to answer any of those and I'm hoping maybe other people will pick them up and if they don't, it doesn't matter at all, because other people may have questions which are less involved in terms of drawing out perhaps the policy lessons, although you have yourself said that that's something you are interested in.

So I'm going to invite questions now. Just a couple of points, it would help very much, first of all if you raise your hand so I can spot you and so we can get the microphones to you, but just to help everybody here and also the television cameras, if you could stand up. If you could just let us know your name and if you are representing an organisation, that would be helpful to know that as well.

I encourage you to speak clearly and into the microphone because we all want to hear what you're saying.

And just one other point, if you could please keep your questions concise, I know there's going to be a lot of questions and we don't have a lot of time, so questions not statements, please, that way we can get through as many as possible.

So, if you'd like to indicate by raising your hand, the gentleman over there was first. Thank you.

Maurice Craft: Maurice Craft, Fellow of the Society. A most stimulating address if I may say so, sir.

I'm interested in the social policy aspects of what you've been saying. You spoke at the beginning about 'just-in time planning', 'out of the box thinking', 'flexibility', one might add 'rapid social change'.

I'd be interested to have your thoughts about social continuity, social stability, social control. Are you suggesting that these five minds, or several of them rather than others, are a contribution to this, are a way of coping with the somewhat chaotic post-modern world we live in?

Howard Gardner: My first comment on that is that formal education is quite a conservative institution and that's not all wholly a bad thing. I'm not in favour of faddishness, I don't know anybody who is, but I'm not.

However, I guess I feel that so much of education in the United States, and I suspect it's not just the United States, is really preparing us for a society which doesn't exist anymore.

I mean so much attention now in our test is about factual information and the truth is that people carry around with them little hand-held machines which have all the factual information there and it's just not a good use of time to rehearse that in school let alone to make the tests being based on that.

The second point I would make and perhaps the more important one is that we need to know what our most basic values are as human beings and as workers and those are not things that we change, except for the most overpowering of reasons.

The political leaders whom I respect are ones who make those deep, long standing values very clear, but at the same time show that they're willing to learn, they're willing to change their minds when things don't go as they predicted they would.

They carry on the way Ghandi did: "Experiments with truth" was his phrase. They are learning individuals, just like institutions need to be learning institutions.

But against the background of the deepest values, we might call them the domain beliefs, which should be quite difficult to alter, and that's where I see social continuity and stability coming in.

I'm going to refer a bit to journalism because I've actually, of all the domains, I've studied journalism the most and I think journalism is in huge peril in every society that I know. And one of the reasons is that even when journalists themselves hold on to the deepest values, which would be getting the story as right as you can, doing enough due diligence, being able the next day when you write a story to look at the person and even if you've been critical they will agree you've done a fair job, this is not only difficult for journalists, but much of the public, perhaps most of the public don't even think it's possible.

They assume journalism is partisan and, of course, it becomes a self-fulfilling prophecy. And so when we did the GoodWork project, a well-known journalist said something to me, and he didn't want it to be quoted, and it's a shame because I thought it was one of the most prescient things that we heard in our whole 1200 interviews, he said to me: "The media are an early warning sign".

What's happening in the media, basically the loss of professionalism and everything becoming simply commoditised and marketised, is going to happen in every profession and our observations just bear that out vividly.

Unidentified speaker: Hello, I too enjoyed your talk greatly, Howard Gardner. I am an educational researcher and writer and a Fellow of the RSA.

I was particularly interested in what you said about the synthesising mind. You were saying it was one of your favourites. This is a practitioner question and it's got a British school context.

One of the things which seems to me to help children synthesise and make sense of their learning, is narrative. And one of the most important forms of narrative is children's stories and children's literature.

In the curriculum we have in our primary schools at the moment, they get sound bites, bits and extracts in the literacy curriculum and very rarely do they hear whole stories unless teachers really make time for them.

In part, our national curriculum has squeezed stories out. I could go on and talk about meta-narratives, but I'll leave my question at that for your comment. Thank you.

Howard Gardner: Well first of all, the reason I was excited about the synthesising mind is because when you write about something, the things that are most interesting are the things that you don't understand. And even though a lot of what I wrote about could be explained in terms of

multiple intelligence theory, which I've spared us all this evening, synthesising is very difficult to explain in terms of that theory, so it's a prod to me.

But you all know that the… Monsieur Jourdain in *Le Bourgeois Gentilhomme* discovered to his amazement that he'd been speaking prose all of his life and he'd never known it.

Schools have always involved a lot of synthesising: that's what term papers are, that's what an essay is, that's what a written examination is, a talk can be synthesising. But I think we haven't been as explicitly aware of this until recently.

It's often said, maybe you can tell me by whom, that the last person in the world who knew everything was Matthew Arnold, and whether or not that's literally true, nobody now can even master his or her own discipline so the pressure to synthesise is just much greater than ever before.

I can't comment on the specifics of the curriculum here. I will say that having toured much of the world, I finally discovered what the purpose of education for policymakers is all over the world: it's very simple, and that's to be number one in the international comparisons.

And that has replaced any kind of mindfulness about where we want to be at the end of the day. I think it's, I think it's, it's really disgraceful and, you know, league tables are what people talk about and not the kind of human beings or even the kind of intellectual virtues which individuals should have.

I'm a great lover of literature, of narratives, and I think you're absolutely right. For many if not most children, that's a very natural form of synthesis, what happened to you, what do you want to be and so on.

I would just point out though that it's not the only genre, and one of the dividends of multiple intelligences has been to realise that schools are very much focused around language and logic, and there's nothing wrong with that, but it makes the school very much focused on people who already have those skills.

It's what's behind the A-levels and the O-levels and 11-plus and all that sort of stuff, but that's not necessarily the kinds of minds that all children have or the kinds that are necessarily going to develop the best. And so I would just say we should be pluralistic about the form of syntheses that we ask for our kinds. Sometimes a mural or a computer programme could be very, very synthesising as well.

Mike Baker: Gentleman over there.

Trevor Sandford: Thank you. Trevor Sandford, Fellow of this Society and education advisor.

I appreciated your epistemology – let me put to you a chronology: ethics - learned in the home and the family about what's right and wrong, perhaps in pre-school; respect - learned in infant school, taking turns, being part of a group and so on; creativity - learned perhaps in 7-11 to 12-14 when you haven't got the pressure of exams; synthesising - perhaps the hallmark of GCSE and A-level coursework projects, for right or wrong; and the disciplines - left to higher education, the first time you really get into a subject perhaps in depth or maybe even research these days.

Is our education system perhaps too over-burdened nowadays with the pressure to move young people on from one stage to the next, to get a passport to go on to the next stage, that we've forgotten to bring what they've learned with them from one stage to the next and that's maybe why they arrive at the discipline of higher education without the ethics?

Howard Gardner: Well my temptation is to say, "Have a journal ask you to review my book and you can put forth that taxonomy and maybe I would engage in discussion with it!"

Let me just make two points as a reaction to this.

I talked about ethics as being an intellectual and human endeavour of

adolescence because I think pre-adolescence and younger children can't really think in that abstract way.

But something I didn't say in the talk but I mentioned in the book, is that from a very young age, youth should see parents and workers engage with these ethical issues.

When I come home and talk about work, I shouldn't be complaining, I should be talking about things I did right and wrong and young people seeing that this is taken seriously is important, whether or not they can themselves assume that abstract attitude.

The other point about creativity and I think it's a point that applies to the UK almost as much as the United States, and that is when a certain human capacity is very widely valued and exhibited in the society, the pressure to focus on it in school is less, and certainly I know from having watched my own children and their friends, that they pick up, just by living in the United States, the high value of being able to be innovative in their work.

There are other societies where that's much less the case and there I would think the burden on the schools is to focus a lot more on engendering the personality and temperament of the creator as well as the intellectual stances.

On the issue of the disciplines, I would agree that the disciplines in the way that I've spoken about them should not be started until middle school, but I think they should be started then.

There's a lot of research which shows that by the time young people are 10, 11 or 12, they can begin to make the distinctions which are at the heart of the various disciplines, so I don't think it's necessary to wait till university, but I do appreciate your very quick effort to developmentalise my scheme.

Mike Baker: So do you think it's the role of formal education to develop all of these five minds, and I'm thinking particularly of the 'creative mind', where actually what you seem to be suggesting is that a pre-condition of that is the ability to have failed several times and to go through failure. Do we do enough in formal schooling to teach children to fail, I mean first, and many people try to avoid that?

Howard Gardner: Asian education was described to me one time ago, a long time ago, as being 'error-free education' and it is true that if you break things down into small enough pieces and you do them one after another, then the chances that anybody will fall flat on their face are much less. But that, that tends to produce performances rather than understanding.

I'm talking about education well beyond school and that's why I made the comment about creating.

An interesting thing from the research of my wife, Ellen Winner, who studies children's artistic development, is, she and her colleagues have been studying what do young people learn in art classes, particularly in the visual arts, but I think it would be true in other arts.

One of the interesting things which young people learn in the arts classes, and they don't learn it elsewhere, is self-critique and critique of others.

How do you learn to indicate what you think of somebody else's work without making them feel bad but with showing where it's inadequate? How do you learn to take criticisms of your art which is almost always confusing intention with achievement, you know, "This is what my poem meant", "I'm sorry, that's not what the words say". And so I think that we might well learn some of these things in unlikely corners of the school.

Mike Baker: OK, thank you. A whole host of questions, a lady there in the middle, the white… if the microphone can reach through there, that's it, the microphone is on its way, yes that's it, thank you.

Dr Joanna Le Metais: Thank you I'm Joanna Le Metais, I'm an international education researcher and a Fellow of the Society.

What you've said is very interesting and it is something that is being pursued in a number of countries around the world. What are the implications for teacher education if we want to change the environment in the school to bring about these preparations for the future rather than teaching ways of the past?

Howard Gardner: A modest question. Well let me approach it with certainly the spirit of the last question but in a different key.

I've said and I'm willing to defend it for the purposes of this evening, that if I were the Tsar, I would send my child to maternal schools in France, to pre-schools in northern Italy, to elementary schools in Japan, to secondary schools in Europe and to colleges and universities in the United States.

And that's because I think different parts of the world have actually solved the various developmental/educational challenges better than other parts, so one of the things I think is most important in teacher education is to go beyond how you've been educated yourself and have your mind open to possibility.

Not everybody can fly to Finland and to Japan and so on, but the more, and of course it's much easier now with the Web, the more you can be exposed to various different forms and have a chance to immerse yourself, the less you'll just be teaching the way you taught, which is almost always going to be anachronistic.

Let me make one other quite specific point when I referred to northern Italy, I was referring as probably the early charter educators here know, to the schools in Reggio Emilia, which I think are the most outstanding new schools in the world, they are about 40 years old.

And my own teacher, actually the teacher of Michael Maccoby who is here this evening, Jerome Bruner, a great educator, has been spending a month in Reggio Emilia for years and I go there every chance I get and it's not just because the pasta is good, it's because our understanding of what's capable of young children has really been exploded, in a good sense, by spending time there.

So if I were developing a teacher education programme, I would really try to de-parochialise us all, and travel is of course one way, but a lot can be done now even if you don't have a ticket.

Fred Jarvis: Fred Jarvis, a Fellow of the Society. I was in two minds whether to ask this question…

Howard Gardner: There's three more to go!

Fred Jarvis: Given the formidable list of changes in our world and society that you gave at the outset of the lecture and what you said about character being more important than intellect, do we, as individuals, have the chance to acquire all five minds? And if not, which one should we strive most to achieve?

Howard Gardner: I guess consonant with what I said at the end, if we want to survive as a species we have to develop respect. If we want to live in a world where it's worth living, we have to develop ethics. Beyond that, obviously, we have to make a living and if you don't have a discipline that's very difficult to do, so perhaps synthesising and creating are a bit more of a bonus.

But I'm never of the view that therefore we should only cultivate synthesising and creating among the children of the privileged.

My daughter and I went yesterday to the Foundling Hospital, there's now a museum there, and as you probably know – we didn't – the hospital was started in the 18th century because many children were dying on the streets of London, and I believe Coram was the name of the man who decided to admit a certain number, a hundred or so young people each year, and education began very early for those children and some of them ended up, you know, doing very impressive things and it would have been a mistake to say: "Well because you're a

foundling we're not going to try to develop your intellect".

Mike Baker: OK, a gentleman at the front here, than I'm going to come over this side next because I'm aware I haven't come to this side yet and there's a lot of hands coming up now so can we try and keep our questions short.

Brian Butterworth: Hello, Brian Butterworth, neuroscientist. Policymaking involves politics and I want to ask you a difficult political question. My kids went to an inner-city comprehensive, whose head teacher is sitting there, where they learnt respect for a whole range of different cultures and practices, languages and sexes. Is it your view that it's possible to have respect in the sense that you mean it, in a single faith school?

Howard Gardner: I guess my initial answer, and you're right this is not only a difficult question but one that I haven't thought of is, "yes". But, of course, it's more difficult because it's more difficult to have heterodox views brought… Let me use this to make a more general point, since I don't have a thought-through answer to your question.

I teach in Harvard and every 30 years Harvard introduces a new curriculum and you may know about this from having read the education pages, conflict about the curriculum was one of the major bits of turmoil over the last few years.

Well last week Harvard announced the nominated new core curriculum. And I was quite astounded because it's very specific and one of the eight required courses is on reason and faith, which would have been astounding to even consider 10 or 15 years ago.

I actually think it's very gutsy and it's a great thing to do, but my worry, which is in the spirit of your question, was, I think Harvard will probably do it pretty well but I could easily see it being used in many places to show faith rather than reason and maybe in some places to show reason and no faith, so to handle these things is very, very difficult.

It's rather like home schooling. Home schooling is very good for your kids in certain ways but if you don't try to compensate for the limits of home schooling then you end up getting people who are quite fundamentalist, not in a sense of religion, but in a sense of not being willing to change their minds. I think that's the risk of uni-faith schools.

Mike Baker: Thank you for that question, that's the journalist question actually, a tough one too! Yes over here.

Lilly Evans: Lilly Evans. I wanted to thank you for a great lecture, as you can see I brought the good work for you to sign here so… this is where my question is going to come from. I see your last quote, and as somebody who has been working and learning positive psychology, I'm very interested in the quote about 'the character'. I wanted to find out where and how and what links do you see between the ethical mind and a positive psychology?

Howard Gardner: This is kind of an in-group question because my guess is that most people here haven't heard of 'positive psychology'.

Very briefly, psychology became a big industry in the United States after World War II but it was focused very much on dealing with neuroses and mental disorders, and so in the last 10 or 15 years a psychologist named Seligman and Csikszentmihalyi and others have started a movement called 'Positive Psychology', which tries to talk about human strengths, which exist, how can they be nurtured rather than focusing so much on undoing the damage.

I think it's a good historical corrective, but my feeling ultimately is that psychology shouldn't be positive or negative, being open to the full range of goodness and badness should be part of psychology.

Ethics is not a word that's much used in psychology, except in terms of the profession, which I think is appropriate. There's a lot of talk about moral development and certainly part of positive psychology would be how to have people who are moral, but I distinguish between moral and ethic because of my rather refined

notion of ethics as having, if we take an abstract attitude, morality: it starts with not hurting people and stealing and it's much more present from one and of course is very important.

Greta Krendal: My name is Greta Krenal. I'm a design and technology teacher at Chesham Park Community College. May I thank you for an excellent lecture, lots of things to think about and I'm sure people involved in education really enjoy coming to these things.

My point and my question is this, it's really a practical one, it's not anything terribly deep, but as an ordinary classroom practitioner and I say that with pride, actually on the coalface, often what we think doesn't get to the policymakers. We are not the policymakers.

Unfortunately, in education in this country, a lot of it is top-down and we do have to deal with a lot of initiatives. I actually feel that our teacher training has improved; I'm a person that came into teaching only 5 years ago.

But my point is this and what I'd like to ask you, is there one tip, because I'm fired-up and I'm all excited and I can't wait to read the book, but then when I get into the classroom, and this happens with a lot of teachers, is what do we do to keep it alive, being that a lot of us haven't got that power to policy-make… if there's one tip that you send me away with tonight, then please could you give it to me?

Mike Baker: Ok, thank you.

Greta Krendal: Thank you.

Howard Gardner: OK, I may speak a little bit more about this so it will be up to Michael whether you want to continue the question. First of all I'm asked this question in effect in America and I always say we all have to make a decision about whether we want to be educators or politicians, and I don't make that as an invidious statement.

If you really want to change policy, you have to go into politics, because one thing I've learned in a long life is that you never win at something that you do part-time when there are people doing it full-time.

Fine to go into politics, it used to be an honourable profession.

The answer I give, again at a somewhat broader level than your question, is that teachers are, or should be, professionals. And if you are a professional you have a set of values and beliefs which you need to adhere to, even if they seem to be against what's being called for.

Because if not, then you really are simply a hired worker or, even worse, you're a prostitute and nobody wants to be called that, but, you know, if a physician doesn't act in terms of the Hippocratic oath then, you know, at least in principle, the physician's licence should be removed.

And so I've been very influenced by a book in the United States called *Exit, Voice and Loyalty* by Albert Hirschman, it's a great book, and Hirschman says: "Everybody who is in any kind of an institution owes them a certain amount of loyalty, but if at a certain point you feel that what's going on is not valid, you've got to speak up". That's the story behind my little speaking up at my own university.

Ultimately, if speaking up and critiquing doesn't get you anywhere and you feel that the institute is not viable, you have to exit, and that's the reason in the United States we have a lot of charter schools now where people who have things they believe in feel that it's just not possible to exist in the current milieu.

Now I'm going to get to your question. In the studies that we've done of all the professions in the United States, teachers are the ones that are most trusted. That's amazing. We won't even talk about journalists or politicians…

Mike Baker: No, they're right down the bottom along with estate agents and…

Howard Gardner: Even above physicians, that's something very, very valuable, something to take very seriously.

I'm going to end with an American vignette and you'll have to help me, Michael, or someone else, come up with a non-American example, maybe Annie can help me come up with this.

There was a great baseball player named Joe DiMaggio, you've probably all heard of him, he was married to Marilyn Monroe. In the 1930s, Deborah Meier, who was the best know principal school head in America, and her brother, used to go to Yankee Stadium to watch Joe DiMaggio.

Her brother wanted to be a great baseball player like the 'Yankee Clipper' and, of course, Debbie wanted to fall in love with Joe DiMaggio, but Marilyn Monroe got there first. Both of them venerated Joe DiMaggio.

What Debbie Meier says to the teachers in America: "We have got to be the kids' Joe DiMaggio, we've got to be the people whom they respect and look up to and love and want to be like".

So pick people whom you really admire, your mentors, not your tormentors, your anti-mentors, do that and eventually it will be you and then you'll have the best positive influence on your children (and no, it's not David Beckham!)

Mike Baker: I was just…. David Beckham as well… you read my mind there and I wasn't convinced it was right. I fear, unfortunately, we are really already just a little bit past our time. I'm very aware that there are drinks downstairs and I don't want to hold you back from that, maybe one or two people will be able to grab you on the way down there or speak to you there. So I would just like to say… bringing this fascinating evening to a close… in a sense it seems too soon to end, but all good things do have to come to an end. So I'd like to thank the RSA again for hosting this and just to remind you that there are drinks downstairs. Thank you Edge again for sponsoring this. Thank all of you for coming tonight and for your questions and apologies to all of those who wanted to get questions in and we just didn't have time for. But most of all, of course, I want to thank Professor Howard Gardner and I'd like you just to join with showing your appreciation to him as well, thank you.

Howard Gardner: Thank you.

Liz Winder: That was wonderful, thank you very much and thank you very much, Mike, for chairing this evening. Yes the drinks are downstairs in the Benjamin Franklin Room directly below us and there's a bookstall outside as well. Thank you all for coming.