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Education Commission of the States

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Presentation by Sir Ken Robinson

Senior Advisor for Education to the J. Paul Getty Trust

It's a real pleasure to be here and to listen to the speeches from Florida and Utah about their extraordinary achievements. It's also a privilege to be a member of Governor Mike Huckabee's Commission on the Arts in Education. It's very significant that the ECS has taken this theme for Governor Huckabee's chairmanship and an honor to be invited to speak about it today.

I ought to start with a confession. I'm not actually from America. I'm from the UK and I moved out here four years ago at the invitation of the Getty Center in California. There are many similarities between the UK and America, so in moving from Europe to America you do feel instantly at home in a lot of respects. There are many challenges we have in common and high among them are the challenges that face education.

Every country in the world is currently reforming its education system. So in the few minutes that we have, I want to put an international frame on what's happening here in the States and especially on the ECS initiative – the arts in education and Governor Huckabee's commitment to it.

One thing that strikes me as I travel about is that there is almost everywhere the same hierarchy of subjects in the school system. It doesn't really matter where you go. It's true in America, throughout most of Europe, in Asia, and in Australia. I ran a project for the Council of Europe called Culture, Creativity and the Young. It involved surveying curriculum provision in 22 European countries – north and south. I also chaired a commission on creativity and education in Britain for Tony Blair's government. Our report, All Our Futures: Creativity, Culture and Education, sets out a broad framework for education in the future.

The hierarchy in every school system is like this: at the top are languages and mathematics and then science and then a bit further down come the humanities and then come the arts. And in the arts, there is another hierarchy – art and music are normally thought to be more important than drama and dance. This is true almost everywhere, in every school system.

There isn't a school system on earth that teaches dance every day to every child with the same commitment that we teach them mathematics. Why not? If policymakers examine education performance and they find low mathematics results, they get into moral panic and say, "How on earth are we going to improve them?" If they see poor dance teaching, they're more likely to say, "Why are we doing this in the first place?" Why is this? Why don't we teach dance as thoroughly as we teach mathematics?

If I had to finish now, I would leave you with that question because it's worth ruminating on. Dance is as important in human development, as central to human culture, as our capacity for mathematical abstractions. In all cultures, dance is present and has a formative influence. But we don't teach it. Why not? We all have bodies, don't we? In practice, we tend to educate people progressively from the neck up and slightly to one side. If you asked what the public education system was designed to do, you would have to conclude that it's designed to produce university professors, because they're the people at the top of the tree. I speak as a former university professor and I love academics and academic work, but I know it's a very partial form of human life. Something that's true of many university professors is that they live in their heads and slightly to one side. They're in a sense, disembodied. They look upon their body as a form of transport for their head. It's a way of getting their heads to meetings.

Governor Huckabee's initiative is not only asking, "How are we going to raise standards of arts education?" The prior task is to get people to take the arts seriously and teach them in the first place. No Child Left Behind has the arts in the core curriculum.

I don't believe any politician sits round in Washington or Whitehall, or Paris and says, deliberately, we must reform education and root the arts out as soon as we can because they're causing problems. Nobody does that. What they do is focus on math and science and languages. The arts, especially in times of financial stress, become part of the collateral damage. So, against the stated intentions of No Child Left Behind, there is mounting evidence across the country that arts programs are withering on the branch and that schools are cutting them. Consequently, many school students in the United States go through their entire education never lifting a paintbrush, never lifting an instrument, not being in the choir. They're not in theater companies, they're not in choirs. All parents hope they will be, but actually they're not. In California for example, the arts are not taught systematically in many school systems, though there are various attempts to remedy this.

CREATIVITY IS AS FUNDAMENTAL AS LITERACY AND NUMERACY.

I believe that creativity should now be as important a priority for education in America and everywhere else as literacy. I think we really have to grasp this. Creativity is as fundamental as literacy and numeracy. All young children have immense creative confidence. What strikes me is how few adults do. If you ask adults, they mainly think they're not very creative. All young children think they are up to a certain point.

I heard a great story recently of a teacher who was teaching a drawing class with a group of six-year-olds. There was a little girl in the back who hardly ever listened, hardly ever attended. But she was drawing and feverishly concentrating for about a half an hour. The teacher went over to her and said, "What are you drawing?" The girl said, "I'm drawing a picture of God." The teacher said, "But nobody knows what God looks like." The girl replied, "They will in a minute." Isn't that great? How many adults would do that? But children reach a point where they start to lose this creative confidence.

Creativity is a function of intelligence. The reason that adults often think they're not very creative often is that they haven't found what they're creative at. The reason we think we're not very intelligent is because we underestimate the nature of our own intelligence. And the reason we do this is education, for the most part.

About ten years ago, George Land and Beth Jarman published a book called, *Breakpoint and Beyond: Mastering the Future Today*. They report on research they did over a series of years of divergent thinking. Divergent thinking is not the same thing as creativity, but it is a good example of it. It's the capacity to think non-logically: to think analogically and associatively. They gave a series of tests to 1,600 three- to five-year-olds. If they achieved above a particular score they would be considered geniuses divergent thinking. Of the 1600 children, 98% scored at the genius level or higher for divergent thinking. They gave the same tests to the same children five years later at the ages of 8 to 10. Then 32% scored at the genius level in divergent thinking. They gave the same test to the same children at the ages of 14 to 15 and the result was 10%. Interestingly, they gave the same test to over 200,000 adults and the figure was 2%. Now this doesn't tell us everything, but it tells us something, doesn't it, about the erosion of a capacity that children once had.

PEOPLE MARGINALIZE THE ARTS IN SCHOOLS IN GOOD FAITH BECAUSE THEY BELIEVE THAT TAKING COURSES IN THE ARTS WILL NOT LEAD STUDENTS TO A JOB AT THE END OF SCHOOL.

Now a lot of things have happened to these children by the time they got to be 15, but one of them is that they became educated. Much of what we teach in education is about not being wrong, about not taking risks, about knowing there's a right answer and it's at the back and you're not to look yet.

The arts are marginalized in education for two reasons. The first is vocational. People marginalize the arts in schools in good faith because they believe that taking courses in the arts will not lead students to a job at the end of school. So teachers and parents will say, "Don't do music, you're not going to be a musician, don't do dance, you're not going to be a dancer, don't do art, you're not going to be an artist." Young people are steered away from the arts by well-intentioned people looking ahead at their futures. But interestingly, people do not say, "Don't do math, you're not going to be a mathematician." They don't say, "Don't do languages, you're not going to be a linguist." The reason is that there's a second compelling restraint on the arts, which is intellectual.

Most public education systems paid for from taxation came into being quite recently – in the United States in the eighteenth century and nineteenth centuries. The intentions of the founding fathers were written into education, which was designed to promote a

certain type of social settlement. From the outset, public education also had an economic intention. It was designed to meet the needs of the prevailing industrial economy, and that economy required a workforce that was roughly 80% manual and 20% professional.

The third great formative influence on education has been a particular form of accountancy, which is based on the need for easy ways to measure results. These are implicit ideological constraints on education and they apply in many countries, not just America. There are compelling reasons to re-think them.

Like America, every system on earth is attempting to reform education. There are two reasons. The first is economic. Every country in the world is facing an economic revolution. Industrialism in most of our countries has had its day as the major form of employment and wealth. In America in 1965, manufacturing accounted for something like 30% of employment. It's currently less than 12% of employment. Manufacturing output has increased and is still a very important part of the economy, but it doesn't employ as many people.

Throughout the world, the real growth era is the intellectual industries, including the arts, software, science and technology. These are areas where new ideas matter most. So, for example, Singapore aims to be the creative hub of Southeast Asia and they have in place the Creative Singapore Strategy. I spoke recently at a conference in Beijing for the Fortune Global Innovation Forum. China, as a compelling priority, is trying to figure out how to educate their people to be creative. Many countries recognize know that the future of national economies depends upon a steady flow of innovative ideas. There is no other way forward if our young people simply are to have jobs to do. So there's a compelling economic argument here, which I tried to set out in my most recent book *Out of Our Minds: Learning to be Creative*.

But there's a second equally powerful imperative to reform education, which is cultural. People talk a lot about globalization and we should, but we often make a mistake. Globalization is thought to mean that everything is becoming the same. Well, it is to a degree. There is certain homogeneity, but there is also a deep-seated and resilient strain of cultural difference and identity, which we're all very keen to maintain. One of the great imperatives behind the ECS was to help states maintain their identity against a federal identity. If you look at what's happening in Europe, it isn't just that countries want to remain national, it's that regions are becoming more distinct. The Länder in Germany, for example. For the first time in recent history Britain has divided into four regional assemblies.

We're all trying to work out how to educate our children to survive in a world we can't predict and to maintain a sense of cultural identity in a world that's changing faster than ever.

Children who start in school today will be retiring in 2065. Do you have any idea what the world will look like in 2065? I don't. I don't think anybody can venture a guess beyond the next five years, but it's our job to educate them to get there. We won't do it by looking backwards. Most of our reform movements are based on a misconception: that the way we face the future is to do better what we did in the past. We just have to do more of it and raise standards. Well, we do have to raise standards, but we need to be sure what standards we're trying to raise.

For the future, we need to recognize that the economic and cultural agenda are powerful drivers of change in education reform and that the arts are central to both – not on their own, but co-equal with other major disciplines. The arts teach many of the things that children will need for the new economies and that America will need: self-confidence, creativity, innovation, flexibility, social skills and a sense of well-being. They're also at the heart of our sense of cultural identity. The arts weren't invented by the National Endowment, or by the ECS, or by the federal government. Our task is to channel them into the main stream of education.

Creativity is a function of intelligence. We know three things about intelligence on which I believe we should base our planning for education and the place of the arts. The first is that intelligence is diverse. We think in many different ways and in all the ways that the senses make available to us. We think visually, in sound, in movement, mathematically, in abstract ideas – in a whole panoply of ways. Education has to address the full range of our ways of thinking and there's a mountain of research to support this idea.

The second is that intelligence is dynamic. The human brain is intensely interactive. Mathematicians often think visually; dancers think mathematically. The school curriculum tends to still these interactions by setting up separate subject departments. So we teach math on a Thursday and we know that music is different because that's on a Tuesday. Actually, these processes should be highly interactive.

> WE KNOW IN OUR HEARTS AND FROM ALL OUR EXPERIENCES THAT CHILDREN LEARN DIFFERENTLY.

Third, intelligence is distinct. We all are unique and we all think differently. I once met a physicist who described himself to me as a native speaker of algebra. I don't speak algebra. I only have phrasebook arithmetic frankly, but he speaks algebra. He said when he was 14 he discovered algebra in school and he loved it – and as a result he became a physicist. He now spends all day speaking algebra, which irritates his family quite a bit because they're still speaking English.

We know in our hearts and from all our experiences that children learn differently. We all have different learning styles and we need different points of entry. Consequently, our school curriculum should cover a wide range of thinking skills; it should be interactive and it should address individual learning differences.

Now this isn't a theory. There are great programs happening all over the country, including Arkansas, Florida and Utah. There are specific schemes including the work of the Galef Institute in Los Angeles, CAPE in Chicago, A+ Schools. There are great cultural organizations involved in this whole endeavor, including the Getty Center, the Kennedy Center, the Lincoln Center and the Music Center of Los Angeles. All around the country people are putting their hands to this particular task.

Our job is to syndicate the best practice and make it pervasive and not exceptional. To do this we need to rebalance the curriculum to give equal weight to these disciplines and not to live any longer with the hierarchy. We need to make education more interactive internally within disciplines. We need to look thoroughly at assessment because in assessment we marginalize things that can't be quantified easily. Schools are pressed to teach to the test. The result is known as McNamara's Fallacy – the tendency to make the measurable important rather than the important measurable. That pressure has to be tackled in a serious and sustained way. Finally education should be seen as a partnership activity, not as a ghetto. Education is not something that just happens in schools. We all have an investment in education – business, industry and cultural organizations, community leaders.

The best models in America are showing that way. America is in pole position again to show the world how to do this. Britain, I think it's reasonable to say, dominated the world in the 19th century in terms of industry, culture and the rest. If you had said to political leaders in the middle of the 19th century in Britain, "By the way, this will be over in 50 years," they would not have believed you. There is no question the 20th century belonged to America. But we should not take it for granted that the 21st century will belong to America. There are serious competitors coming up on the rails, notably China. Asia may well own the 21st century. America will keep its place only be keeping pace, not by looking back but by looking forward into a world we can't predict.

I'm working on a new book called *Epiphany*. This is a collection of interviews and reflections on how people discovered their talent. One of the reasons Governor Huckabee is so committed to the arts is that they had a transformative effect in his life. *Epiphany* was triggered by a conversation I had with Gillian Lynn. Gillian is a choreographer and she was responsible for Cats and Phantom of the Opera. She's wonderful. I had lunch one day with Gillian and asked her how she got to be a dancer. She said it nearly didn't happen. She said that when she was in the elementary school she was a terrible student. Her handwriting was awful, she didn't concentrate, couldn't apply herself and was always looking out the window and being disruptive. As a result she was constantly in trouble. Eventually, the school wrote to her parents and said, "We think Gillian has a serious learning disorder." Well, that's a big stigma, then and now. I think now, by the way, they'd say she had Attention Deficit Disorder and put her on Ritalin.

Anyway, she remembers being sent to see a specialist with her mother, who'd dressed her in her best frock and her Sunday shoes. She remembers walking into an oak-lined study with leather bound books and a man behind a large oak table in a rather impressive suit. She was led in and he took her to the far end of the room and set her down on a leather sofa. Her feet didn't touch the ground and she sat on her hands so she wouldn't fidget. For about 20 minutes her mother described to him all the problems she was having at school and all the problems she was causing. All the time he was watching her intently. At the end of it, he stood up and came across and sat next to her. And he said, "Gillian, I have been listening to all the things your mother's told me – all the problems you're having at school and I really now need to speak to her privately, so I'm going to leave with her and leave you on your own, but we'll be back. We won't be very long – just wait for us." She said okay and they got up and left the room. But as they went out of the room, he leant across the desk and turned the radio on that was sitting on his desk.

She found out later that as they got into the corridor he turned to her mother and said, "Just stand here for a moment and watch her." There was a window back into the room. The moment they left the room, Gillian was on her feet moving to the music, all around the room. They watched for a few minutes and then he turned to her mother and said to her, "Mrs. Lynne, Gillian isn't sick – she's a dancer. Take her to dance school."

I said, "What happened to Gillian?" She said, "I can't tell you. I walked into this room and it was wonderful. There were all these people like me, people who couldn't sit still – people who had to move to think." I said, "What did you do?" She said, "We did ballet, we did tap, we did modern, we did jazz, and we did contemporary." She was recommended for the Royal Ballet School, was auditioned and accepted. She became a soloist at Sadler's Wells Royal Ballet. When her career came to a natural conclusion at the Royal Ballet, she founded her own company – the Gillian Lynne Dance Company. She met Andrew Lloyd Webber. She's been responsible for some of the most successful musical theater productions in history, she's given pleasure to millions and is probably a millionaire. Somebody else might have put her on medication and told her to calm down.

Now my point really is that there are millions of Gillians. We are all of us Gillians in our different ways looking to find the thing we can do. People achieve their best when they're in their element – when they do the thing that they love. And by the way, when they do that they get better at everything because their tails are up. When people find the thing that they can do, they get better at everything. It's true everywhere.

DANCE IS AS IMPORTANT IN HUMAN DEVELOPMENT, AS CENTRAL TO HUMAN CULTURE, AS OUR CAPACITY FOR MATHEMATICAL ABSTRACTIONS.

I think the challenge that faces America is one that faces the world just now, which is how on earth do we compose an education system to prepare people for a future that we don't understand and cannot predict? The only way we can do it, I think, is to have children leave school firing on all cylinders – confident, creative, in their element, full of possibilities and full of hope. The arts are a central part of that solution – sitting foursquare with the sciences, with physical education, with the humanities and with languages. We cannot predict the future, we can't look above the horizon, but if we raise our children up, if we lift their eyes, maybe they'll see over the horizon and they will help to create this future and they will flourish in it. And if we do that, I think, we'll have fulfilled our obligations as the current owners of education. I wish us all well in trying to achieve that. Thank you.

Sir Ken Robinson