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Washington, D.C.
Friday, December 17, 2010

INCENTIVES TO INNOVATE AND ENCOURAGING EXPERIMENTATION AND TECHNOLOGY ADOPTION

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P R O C E E D I N G S

MR. WEST: Okay. Our next panel is going to address the topic of encouraging innovation and technology adoption and we have several distinguished speakers. Ed Fish is CEO of ePals.com, which runs a K-12 learning network devoted to safe, collaborative, and connected classrooms. His background is in building community-based internet products and innovation online.

Peter Levin is running a little bit late so he'll be joining us en route. He's the chief technology officer of the U.S. Department of Veterans Affairs.

Paul Peterson is a professor of government at Harvard and director of its program on education policy and governance. He also is the author of the book, *Saving Schools: From Horace Mann to Virtual Learning*.

And Marilyn Reznick is executive director of education leadership at the AT&T Foundation, and in that position she coordinates a range of innovations in the education area.

So I want to start with Ed. Let's talk about the K-12 market where I know you work. Research reinforces how important the right foundation is for future success. Are there any special issues of opportunities that could be addressed with incentives for technology adoption?

MR. FISHER: so K-12 I think is a very different kind of marketplace. There's an increased need to be safe and secure. There is much more teacher-mediated interaction and a focus on core skills, and to some degree that makes it different than other marketplaces. But at the same time K-12 may be the place that could benefit the most from the application of technology and I think that's what the opportunity is if we can innovate in the proper way.

So I'd like to thank Darrell for having me here today. And my distinct pleasure is to run a company called ePals. And what ePals is about, we're a K-12 education technology company that is building a safe and secure platform for building educational communities, quality content, and collaboration-oriented project-based learning. And when I heard a lot of the discussion today it really brought me back to many of the core elements that ePals has been about for more than 10 years. We're used by more than 650,000 classrooms around the globe,

so when the President talked about connecting Kansas to Cairo, that happens every day on ePals, and reach millions of educators, students, and parents.

So we've heard also a lot I think about perceived obstacles to technology adoption in K-12. And schools don't have money for new technology. Current infrastructure we couldn't support them anyway. How do I keep students safe online? And what about bullying and other kinds of social issues? And won't new technology just be harder for teachers who are already stretched way too thin?

And I think it's time, and I think this kind of conference and what we're seeing the marketplace shatters those. So these assumptions are all wrong. Technology exists today that allows you to host collaboration and communication in the cloud and save millions of dollars for school districts on an annual basis. Technology exists today that allows you to apply rules and digital policy management. In my previous company we coined the term digital rights management and the first company in the space and so know a little bit about it, but applying rules and digital policy management to keep our students safe. And technology exists that allows teachers to automate interactions so that they can engage students in a much more efficient and compelling way. That takes into account how the student already finds them. The only time when most kids aren't connected is when they're in school. And that's a serious issue that we all really need to address.

So part of it's about changing our mindset. It's not about adopting more technology; it's about how we leverage technology in new models that better engage the entire constituency of the education community. Educators, students, and let's not forget their parents because we know the one element that works across all socioeconomic strata is the more involved a parent is in their child's education, the better that child is going to do. So engaging parents in ways that understand that a lot of parents are working two jobs or they're single parents and finding efficient ways for them to be able to take part in their child's education is something that we could all benefit from. And a lot of technology allows us to do that.

So when I was thinking about this today, I think there are some steps we could take. And some of it's about lessons that we've learned from every other marketplace and

industry that's gone electronic. We just need to apply those. We know that the Internet has already transformed music. It's transformed the entertainment industry. It's transformed the way in which we do commerce online. It's transforming government and we need to apply those same lessons into the education space. So to me some of the big things are connectivity and speed help full stop. Removing barriers help. Barriers to interoperability of data so that we can see what works and how to apply it. Barriers to comparison and validation of information and barriers to adoption. So it was neat to walk up to the Brookings today and I remembered back. Now, this both, A, shows my age and kind of a past career but when I think of the common core standards, what I think about is how the business community embraced the uniform commercial code in the 1950s. It helped markets grow. And so when I think about the next generation beyond common core standards I think about what is it that helps the school district in Beloit, Wisconsin, or the school district in Kansas City, Missouri, easily adapt to what needs to be a nationwide marketplace. And that helps individual businesses as well.

So to make -- and I think there are sometimes small things because sometimes if we get too caught up in the large things it's hard to make the progress that really works. So to me there's two ideas here. One is standardized Internet usage policies. And I know it sounds silly but all around this country schools and school districts reinvent the wheel everyday to explain to parents here's what our set of policies are for using the Internet. And a very simple thing would be to make three, four, five templates, just like we did in the uniform commercial code to say we don't want to limit your choices but we want to make it easier for you to actually adopt something that stands as a real barrier. The other is shining a light on what works and why it works.

So I think from my background there is no tech crunch in the education space and that's a problem. If I want to very simply understand what is it that works in social computing and entertainment industries and the Internet I go to tech crunch and it shows up on the first page of Google. Because, remember, it's very important that when I put in the term that I actually be able to find it efficiently. And so there is no tech crunch and I think that's a really serious issue.

So from my vantage point, because when I hear a lot of the discussion today one of the things I was thinking about is, okay, so if we're supposed to be talking about how to

incentivize innovation then I need to find common threads. Until I find common threads, then all the various good ideas that we hear have a harder time getting to market, have a harder time influencing people. So I've got two very simple ideas and there's a lot of folks smarter in the room than me. As the father of five kids I learn every day what are my limitations, so I certainly want -- I don't think that, you know, these came down from on high by any stretch of the imagination.

But first idea: Extend cloud first principles to education. It would certainly have a far greater impact than the impact we're already seeing in the federal government. And it would address cost issues that are very, very real for schools all over the country. So cloud first principles for education.

Second is if we're serious about online collaboration, writing for a purpose to audiences that are authentic, digital literacy, global understanding, then a very simple step we could do is set a goal of every student having an online collaborative account by 2015 because we're Americans. We need to -- we need to have a goal and we need to know when it's achieved. Man on the moon. And so some very simple goals can actually galvanize action on top of which we can build the whole set of value-added solutions and individual and adaptive scenarios that are really crucial to the future but we've got to take those first steps. And without a concrete goal it's very hard to know when that's been attained. So those are at least two ideas for consideration.

MR. WEST: Thank you, Ed.

Paul, you've written about virtual learning. How do you think we can increase innovation and adoption in the education area?

MR. LEVIN: Well, let me begin with a thought that the United States is a big market, and big markets encourage innovation and the United States over the last century has brought more innovation to market than probably any other country in the world. It may be that there's a bigger market coming online right now in the 21st century and we'll no longer be able to claim we've got the biggest market out there, but at least up until now the United States has been the biggest market. And when you look at what's been happening in the health industry that

helps to explain why so much innovation in health care and pharmaceuticals -- so much innovation is here in the United States. It's a great big market.

Schools are tiny markets historically. Neighborhood schools, it's for the kids in the neighborhood. It's for 100 kids or 400 kids, small markets. It's very difficult to innovate in small markets. Now we are asking our educational system to undertake innovation in lots of tiny little markets. And the challenge that we face in moving to scale, and I've heard a variety of people talk about the need for scale and I couldn't agree more, we have to find a way of moving from multiple small markets to regional markets or a national market, ideally a national market. And so the idea behind the common core standards is maybe moving only modestly in that direction. So how can we get there?

Well, for one thing, a large market is going to attract very big investments and you cannot produce dramatically transforming educational experiences online without large upfront investments. Up until now most of the online learning advances have been marginal, incremental, with limited resources and that's probably where it should be in the first stages of the investment. But until we bring in those with deep pockets -- think of the deep pockets that are in the health care industry and the great investments they make before they bring products to market today -- when you have that kind of investment being made in education, you will have a transformative, online environment. And we're beginning to see that now. Kaplan was one example we heard about. Another example is Wireless Generation being taken over by News Corporation. A third example is Pearson Publishing forming an alliance with Florida Virtual School.

The one I like the best is still a small market but the potential is so great, and that's Middlebury College has teamed up with K-12 to produce language courses. Middlebury College is known for its language courses and they're now this coming month going to be bringing to market language courses in the K-12 sector that will be providing language experiences for people in those parts of the country that can no longer get it in their elementary and secondary schools.

Now, the reason I like that example is because one of the most powerful

transformative events that could happen in secondary education is for universities teaming up with those who have deep pockets to create very exciting courses that are preparatory to a college experience. In terms of getting college ready that's where we could see a dynamic transformation, but to do that we have to have regional or national policy frameworks. And we have to create an environment where you can put a course out online and it's going to be an accredited course. And it's going to have to show that it is an effective course. It's going to produce the outcomes that are desired and that once it's been vetted it will be available for anybody to put on their high school transcript.

And the revenue from that course will go to whoever creates that course and is delivering that course. And the revenue can be shared between a local school and the provider that's created this course. It doesn't have to all go -- in Florida right now we have this model with Florida Virtual creating courses that are being taken all over the state of Florida and applied to the student's transcript in Florida, but all the money goes to Florida Virtual right now. So either you pay Florida Virtual or the local school district. Well, there's no need for that. You could have a blended formula. But once you get a regional national framework and you get a compensation system that rewards whoever creates that product based on the utilization of that product, and if you have a competitive system where the student is making the choices, the way to get the industry to be constantly improving is to put the student in charge of which course they want to take. So you have competition, you have accreditation, you have accountability, you have transparency. That is the way you can create a policy environment in order to have a transformative experience in the online world that will go far beyond the marginal increments that we have seen up to this point in time.

MR. WEST: Thank you, Paul.

Marilyn, what are private companies doing to encourage innovation?

MS. REZNICK: Thank you. For the private sector, education is probably one of the most important investments we can make. We need a highly educated workforce to be successful in an increasingly competitive and global marketplace. But to help develop the talent to help us create economic value we must not only invest but we must help drive innovation in

education. Technology and the competition it has enabled demands innovation in the business world. To stay on top, to be the best, we have to see innovation in every aspect of our business. Innovation has to be embedded in our culture and we have to help bring that same condition into education.

So here are five ways that business can help do that. First, leadership. The business community has a responsibility to define the talents and skills we need and then collaborate with educators to create the kind of experiences that will enable students to acquire those skills. We need to better convey what the work environment is like today and it's very different than it was five, even three years ago.

Today, the workforce is mobile. We have all kinds of little smart devices that enable us to work almost anywhere, anytime. Educators should have the same options. Students are already very adept at using mobile technology for social networking, for casual communication. Now we need to apply that ability to some serious learning.

The second way is investment. Businesses can push innovation by targeted investments in research, in programs, in building models. We can help drive the innovation by partnering with our finances to make that happen.

A third way, technical assistance. We can share our technical expertise with educators and students to facilitate the creation of new models, new applications, new learning environments.

A fourth way is convening. We can help bring together other business leaders, educators, policymakers, to identify issues, map out solutions, share best practices.

And fifth, it's through advocacy. Business leaders can be strong advocates for innovation in education by talking on panels like this, by talking with other policymakers, educators, and other business leaders to again reinforce our vital vested interest in education.

And those are just some ways. But in all ways we need to be partners with educators. We need to respect each other's expertise and the business community needs to listen to educators so that we can better understand their issues, their needs, and how we can then partner to create solutions, and in that way we can help bring real innovation to education.

Thanks.

MR. WEST: Thank you very much.

I have a couple of questions I'll throw out to our panel and then we'll open the floor to questions and comments from the audience.

The first question concerns measures of success and the role of evaluation in education technology and education innovation. What do you think is the role of evaluation? How do we know what works and what doesn't work?

And the second question is on our earlier panels there were predictions of success in the education and technology area five years from now versus 50 years from now. That was kind of the range of optimism and pessimism. And so I'm just curious what each of you think. How long will it take before we actually will see the fruits of some of the ideas we've been talking about this morning?

MR. PETERSON: Well, if I can take a crack at that question, Darrell.

On the distance it's going to take us or how long we're going to have to travel on this journey to get there will depend a lot on the policy framework we put together. If we put together the right policy framework I would say 10 years. I wouldn't say 5, but I would say 10 years. If we don't put together the right policy framework it's going to take a much longer period of time.

The -- in terms of accountability, I see the word evaluation -- the way I would translate it as the word accountability. It's the biggest challenge out there. We, first of all, have to make sure that online learning we know who's taking the course and we know who's performing and we know that the work is being done up to the level of expectation that society has for that experience. And that's something that doesn't necessarily happen in classrooms today. We don't always know who's taking -- who's handing in the paper -- who wrote the paper that's being handed in. And we don't always know what the teacher is teaching in the classroom. In fact, it's very hard to know what the teacher -- so actually when you go to online learning there's an enormous opportunity for transparency. At the Florida Virtual School they're able -- managers are able to see what the teachers are doing and their relationship to the students. And, of course,

they can see the curriculum that's being provided. So the transparency of online learning is absolutely extremely important for evaluative purposes.

Now, the other obvious thing is that the introduction of randomized field trials can be greatly facilitated by the onlining environment and the Kaplan comment earlier was very much on target in this regard. But I would think that we have to have also -- we've got to make sure the vendors are being held accountable. I mean, if we do -- if we allow anybody to go out there and say I've got a course, it's online, I want to get paid now, well, this is not going to work. We've got to have a system that allows for the evaluation and accreditation of courses without stultifying innovation. And that's a balance that is going to be -- it's going to be an experiential solution, one that one can articulate theoretically in advance.

MR. WEST: Marilyn?

MS. REZNICK: I think there's a growing sense of urgency in the business community. Yes, we need all the right policy frameworks and this is really hard to do but we can't wait. I mean, our workforce depends on those students having those kinds of skills and abilities. So I think the business community is going to be driving for a little more acceleration here in making this happen.

And the other thing is I think students are going to demand this. It's their way of life. So they're either not going to participate because they can't and use mobile technology, or they're going to cry out for that to be part of their education. And I think that demand may soon push us to that tipping point.

I remember years ago when we were trying to introduce computers in classrooms there was a lot of fear, a lot of resistance, oh, my god, students will do nothing but play video games all day. Now we think it's terrible if there's not a computer in the classroom. So we've got past some of the fears, some of the resistance. Still a lot of work to do but I think we can do the same with mobile technology and overcome some of those obstacles that are still out there because I don't think a lot of us can wait.

MR. FISH: I agree with what the other panelists have said and I bring -- which is one of the things I think is great about this conference, I bring a slightly different perspective. And

to think about the accountability issue I think of my board meetings every quarter and I think particularly of what Mitch Kapor says to me every quarter. And those of you who don't know Mitch, Mitch is behind Mozilla and he is chairman of Second Life. And Mitch was a founder of Lotus in the very early days.

But what Mitch says is nothing drives accountability like publishing the data. And I've seen that work in the software space. There was an old theory that you never talked about your bugs. And now, of course, we know the community helps you not only identify the bugs in your software but fix them. And by actually putting light on the issue and not being afraid of what data says is I think the greatest thing we can do transformationally around accountability.

As to timeframe, to me the question is what are the intelligent ways we can apply a catalyst? Catalysts speed up reaction times. And so what I look for are what are the catalysts that make this evolution a 5- or 10-year effort, not a 50-year effort. And to me that's why cloud first helps. If we work really hard to be 10 years behind we haven't moved forward. And I look at, for example, the way in which wireless communications have completely changed many areas of the world. And until we say there are some things we can do to encourage the next evolution in a technology-neutral, solution-neutral manner, I think we're going to deal with small markets. And to me, cloud first is a great example of that and education is a perfect use case. I mean, talk about a compliance-oriented large collaboration-enhanced environment. Exactly the principles that we're talking about in the context of Cloud First. So those are my two thoughts on that.

MR. WEST: Okay. Why don't we move to questions from the audience? Right here. Do we have microphones? We have a microphone coming up. And by the way, has Peter Levin arrived yet? Okay, apparently not.

MR. SAXBERG: Bror Saxberg with Kaplan.

Arthur Denning, I think his name was, years and years ago, tried to convince the automobile industry of the importance of statistical controls on variability of machine parts -- this was in the early '60s -- was unable to do so after a long time of convincing and so he went overseas and basically the Japanese really loved his ideas, transformed their industry, and then years later those cars caused our industry -- our car industry to transform as well.

Do you think that we have to wait for other countries to do this first and then that will drag us kicking and screaming forward? Or do you think that we can do it ourselves?

MR. PETERSON: Well, I have been saying in speeches that if we don't do it it's going to happen anyhow. So let's not sit around saying this isn't going to happen because it is. And you have to look to Asia. I don't think Europe is going to move that quickly. So I really think it's going to happen in Asia and we're going to have to -- we have a great advantage. I mean, we have so much high-tech concentration and so much broadband capacity now so that right now we have the advantage. But it's not going to be around for very long.

MR. FISH: So I'm reminded of an adage, which is cannibalize yourself before someone else starts cannibalizing you. And I think that time is really past. I think we are being and that's a fact. But I think it goes back to Paul's comments which is small market, large market is unbelievably important. And I think about the changes that have occurred in the availability of capital. So it wasn't that long ago where there were mid-market banks. There was a mid-market economy for people who needed the next stage of material investment. That marketplace is gone. That marketplace now exists in Canada for mid-market IPOs. And when we think about the infusion of capital that will actually be necessary to drive scale, I think we need to think about issues like that.

I know those are much broader than our ability to solve them through policy clearly, but there are things we can do. And I think Paul had some very good ideas around how we think much more about a national market because I think that goes to your point, Bror, which is the situation we have here is not the way it is overseas. Top-down decision-making, hierarchically done, ministries of education. It doesn't mean it's always right, but it does mean that I don't have the small market issue.

MR. WEST: Other questions? Yes, in the back.

SPEAKER: One thing that's been clear throughout most of the day is that the kind if innovation we're talking about really depends on the network not becoming a constraint. And in terms of wired broadband I don't think we have great fears on that score. However, in wireless there actually are great fears that the demand curve is going to hit the supply curve. And

there are really two ways to deal with that and one is national policy that somehow opens up more of that and that's an investment question. The other is to start allowing a set of restrictions that an event to pick up on. I guess Ed said on the word if they start permitting a network that is not neutral. And I'm curious about this whole question about how one promotes the investment in that infrastructure in such a way that money doesn't chase away innovation.

MR. FISH: All right, Paul. Now it's time to use your Harvard degree.

MR. PETERSON: That's too hard a question for me to answer. (Laughter)

MR. FISH: I guess I'm reminded of what one of the earlier panelists, which is -- I think it was the gender stereotype around men and their answers so I kind of feel like that man who threatened. Right? So I guess that means I'll hazard a suggestion.

It strikes me that the issues that we have around network are clearly not limited to the education sphere, are clearly much broader. But I think there are purposes that are public in nature that whether it's programs through the Federal Communications Commission, National Broadband Initiatives and other kinds where we say there's a public purpose that's meaningful, we can start to make inroads. So I don't pretend to be an expert in telecommunications policies as they relate to network utilization, but I do think that education is a wonderful public purpose to be thinking about these issues in that context. I think of, for example, you know, there was a lot of debate not long ago frankly, in and around whether web hosting was a proper purpose for the use of E-Right Fund. And I think in some very recent guidance out of the Commission they said something which made a lot of sense. Does it really matter if my message is in the form of HTML in an e-mail, HTML in a blog, or HTML in a Wiki? The answer to that has to be no. And let's please let the marketplaces decide and the users decide what's the most efficient way to communicate.

MS. REZNICK: Well, I'm sort of the elephant in the room here sitting on a network company.

Those are complicated issues. And as I'm sure you know there's been a lot of debate about how the network should be managed. We adhere to the principles that the FCC has put forward. We know there's going to be another huge hearing coming up -- Is that this

week? Next week? -- on that. But we continue to support the principles that the FCC has put forward to date. We appreciate the fact that the network does need to have some management. The network doesn't just run by itself. Someone does have to oversee that and manage that, and we want to do that in ways that are appropriate and that obviously continue to support education as we've all said. So from the network company that's my answer.

MR. WEST: Other questions? Right there.

MS. MULLINS: Thank you. I'm Chris Mullins. I'm with the Instructional Technology Council. We represent community colleagues around the country that have distance learning and online courses. And I've heard a lot of comment about we have 5 to 10 years, 30 years, whatever it is, to do all of this. And I don't think that's true. I see it happening right now.

We just did a survey of our members and we represent probably the most advanced of the colleagues in terms of online learning and they have experienced a 22 percent increase in student enrollment in distance learning which is huge compared to the face-to-face enrollment which has been fairly flat. It's documented by 1.5 percent from the Sloan Foundation. So I'd really love to see an emphasis -- I know the person from Kaplan University, they're a for-profit company. I'd really like to see that emphasis on faculty training which the community colleges especially are swamped. They have all this student enrollment. Their state funding has been cut so they don't have money to put into the faculty training, although the top schools know how important it is so they're trying to figure out how to do it. They're also faced with cutting faculty, so I'd love to see more.

And I would have liked to -- I asked this of the FETAL folks to see an increase in programs like the Learning Anywhere partnerships from 10 years ago, the focus on faculty training, the preparing -- was it PP3? It was preparing faculty to teach online. I'd love to see more emphasis on that rather than just the assessment because right now we kind of know a lot of what works. We just need to do it. And like AT&T, the workforce demands these technology-educated folks in math and science, all those, and we can do it but the colleagues are really strapped and need that funding.

So I don't know if I had a question so much as sort of a comment for you to

respond and I'll get off my soapbox as far as --

MR. PETERSON: Well, at the college level you're certainly right. The 22 percent growth rate has been happening annually over the last 5, 6 years, and I think the reason why that's happening is because colleges are in a very competitive market. It's also the case that community colleges and junior colleges have a very flexible workforce and they now will hire you only if you can teach a course online. They have a lot of part-time workers and they can be ruthless in saying, well, you don't have enough students in your class; I'm sorry, you can't teach this year.

And so the people are acquiring the skill set in order to teach online if they want to keep their positions or a few tenured positions but not many.

So I'm not sure you need a lot of training programs. What you need to do is to have a very flexible teaching force if you want to change your human capital rapidly. Because you've got to bring in new people to do this. It's not going to be just getting people like me to do that. It's not going to work. You're going to get people a different set of skills to be able to be effective in the online environment.

So yes, it's going to happen very fast at the college level where there's a lot of competition out there. It's at the elementary and secondary level where there are a lot of virginities, a lot of barriers, and a lot of vested interests where you're going to have to have striking policy innovations at the state and national level in order to get the changes at the kind of rate you're talking about.

MR. WEST: Okay. We have a question over here.

MR. ROWE: Dick Rowe, Open Learning Exchange.

As a member of the Open Coursework Consortium started at MIT, interesting, about 85 percent of MIT courses now have an online component that's open. Nothing is free, somebody is paying for it, but at least the students don't pay.

One of the interesting dynamics of this in relationship to faculty training is that MIT has found that the quality of instruction of those who are going online has significantly increased because, again, the transparency. A lot of people are looking at what's going on in that

classroom and so they're seeing side effect that the in-class quality of instruction has improved as a result of the external availability of that information.

MR. FISH: I think you make a really good point and kind of my thought process on that is so what does MIT have? A really great network and transparent data. And I think that shows you the transformational capabilities of when those two things come together.

MR. PETERSON: Yeah, MIT started this about, what, seven years ago. There are now 350 universities that are part of that open course consortium opening open course -- free open course (inaudible) around the world. The United States is probably one of the least represented in that consortium from Asia and Europe.

MR. WEST: Okay. There's a question over here.

SPEAKER: Hi, I'm Chris Losey with the Council of Chief State School Officers. And thank you for acknowledging the market-making capacity of the common core. We think of it as powerful but totally insignificant to the kinds of challenges that we're facing in terms of -- especially opening a market that's going to incent innovation around some of the technological pieces that need to be solved. And as we start to think about the sort of enabling frameworks that would allow for market creation in the technology space -- data standards as mentioned earlier, interoperability standards -- that calls for a sort of regulatory framework that's probably much more kinetically managed than government can think about right now. What are your recommendations for governments as they start to think about all these other policy innovations that are necessary from the human capital perspective from others around standards management.

MR. PETERSON: I agree with you. It's very difficult to get governments to figure out how to do this and it can be very controversial when governments take on setting standards as the common core standards history especially tells us. Accrediting agencies have historically been private entities, not public entities. What I worry about private accrediting agencies that are controlled by the industry is that the standards get set very low. So it's not an easy solution. I think it's well worth a lot of deliberation as to what's the right mix of public and private engagement to establish a set of standards that are on the one hand ensure high quality. If we

take the charter school experience as an example, the charter schools in some parts of the country are excellent because they've had high standards set by the governments. Other places they had very low standards, if any, and a lot of low quality schools were set up. So you have to worry about this. And the sooner we worry about it and get it into place the better off we are.

But charter schools are small markets and this is a big market. If it's going to be successful it's got to be a large market, so it really calls for thinking together by state policymakers so if they can come up with a joint policy, if it's impossible for the federal government to get involved.

MR. FISH: I think it was in the last panel where someone was talking about -- one of the questions came up about the relationship between private foundations and government programs. And I think this is a particularly ripe area because things that we've done on the technology side to drive certain kinds of standards like PCI. All kinds of standards come in the end from the direction and leadership of a consortium of companies and groups in combination with enabling kinds of legislative schemes. But in education I think being driven out of foundations is actually extremely important as it relates to the public good. And I think based on that additional work that can be done as seeded from foundations, then you get enough of a lift where then companies can really start to work in a very, very active way. So I think that this is a perfect area for that kind of work actually.

MR. WEST: We have time just for one last question (inaudible).

MR. GREIFF: Thanks. I'm Rusty Greiff with a company called Grockit. We build social media platforms and adaptive learning platforms inside school and outside of school.

I'm interested in Ed providing some specific context. Ed's a friend so this is not a softball homerun question I'm throwing but it's actually relevant to some of the conversations we've been having all day. Interesting in providing some perspective for folks in the room on some of the healthy tensions that you deal with as a private company and as a for-profit company as related to the demands as you mention from a board perspective, ROI, very real things, to the reality that we talked about related to the cyclicality of adoption penetration because I think that we've talked a lot today about the power of the private sector being truly disruptive and

innovative. I've had a lot of conversations with colleagues of mine outside the room of some of the struggles that we're facing as we're trying to really penetrate in the K-12 or higher ed space because the marketplace and the demand we think is there and that they want but it's just the challenge of actual true adoption because of some of the other very real obstacles that existed for decades if not for even long.

So I just would love to get that perspective because I think your point about the foundations being part of the solution I think is really powerful because it may provide new capital and new energy to really make that penetration work.

MR. FISH: Well, thank you, Rusty.

One of the things where I think ePals has been lucky is if you understand that this is a longer term kind of solution -- that there aren't panaceas and there aren't quick fixes because transformation never comes through those -- what I think often happens with very real world issues around return on investment in what period of time from venture capital felt is that you tend to not engineer or architecture for transformation and that merely reinforces the problem. Now, except for those days -- couple days after when I'm kind of whining about my particular board after a board meeting, one of the things that we have been very luck with is a group of folks that got committed around a private company solution that could drive transformational change in education. And so ePals was kind of founded out of folks who had built AOL and the Mitch Kapors of the world. And what that meant to us was a double bottom line, that is a purpose to do good. But to apply capital that could only come in the context of a privately funded company.

My particular advantage or at least pleasure here has been it took patient money because you knew it wasn't going to happen in one year, in 18 months, or in 36 months, but what it took was a commitment to say we know that this market when it moves will and we need to be ready for that and think about how we can be double bottom lined. Ted Leonsis now says he won't invest in any company that's not double bottom lined. And because it really is possible to do well and do good and I think education is a perfect use of that. But if we had not had patient money, it wouldn't be here.

MS. REZNICK: I just want to put a plug in for a different kind of model for bringing venture capitalists, venture philanthropists to the educators' table. And this is something that the U.S. Department of Education and the Aspen Institute are doing mid-January on something called the Innovation Summit where the projects that were applicants in the investing and innovation fund, the grants' program, couldn't all be funded. But there's going to be a forum for them to come together and then have venture capitalists, philanthropists, come, talk to them. It will be like an expo hall where they can actually go, visit with them, and find out on the spot if there are projects and organizations that could be worthy of their funding. So it's just a different model that we've not seen before, but a very creative way of thinking about bringing those two worlds together.

MR. WEST: There you go. If any of you have ideas, that's the place to go.

We're out of time on this panel but I want to thank Ed, Paul, and Marilyn for sharing their insights. So please join me in thanking them. (Applause)