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[Session: Education and Outreach]

Creating a Skilled and Capable Homeland Security Education Workforce

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The challenge and title that has been given to us this afternoon is looking at creating a skilled and capable Homeland Security workforce. Last Thursday night, MTV featured an interview with Bill Gates. He is now touring the country promoting computer science as the up and coming career of the future. Bill and his wife, Melinda Gates, and their foundation have given more than one billion dollars to build high schools throughout the United States. The schools have smaller class sizes, higher forms of technology and a focus on math and science.

A couple of take-a-ways I had from that interview last Thursday is that, well, it takes money. Bill has that. The comparison that I draw, however, with some of the efforts that we've made, at least in our state of Michigan, is that it doesn't necessarily always require money. Cooperation, collaboration and a spirit of vision can be some corner stones towards achieving great things.

The 1994 Academy Award winning movie of the year was "Forest Gump" and some of you may remember that Forest traveled the world dispensing his lessons learned. So I'm going to share with you some lessons learned, some philosophical views and some thoughts from a rookie – both from a 30,000 foot view and ground level as well. IFT's 2004 conference last year in Las Vegas featured keynote presenter Joel Barker. You may know his name from his work in paradigm shifts and looking at that concept. Joel said that I could share some information from his presentation with you here this afternoon.

I'll touch on 2 concepts; one is paradigm enhancement in this incremental innovation. I'm from the state of Michigan and so we look at innovation within the car industry. We started out with seatbelts as being mandatory, we moved to antilock braking systems and now we have airbags all around us in vehicles, an example of incremental car safety or automobile safety innovation. What we've been asked to do by the Dept. of Homeland Security is look at revolutionary innovation in teaching, in training, in education, in preparing to prevent intentional contamination. So we are on a definite up direction arrow, creating a paradigm shift. One other concept that Joel Barker describes is the idea of a technical ecosystem.

I'll touch briefly on those 4 points. The first is that we are looking at a lot of diverse elements. They interact to create an environment where we can foster change, where we can foster growth and make a difference. You can see I have the 4 centers of excellence represented here but its very naïve to believe that this is the silver bullet. We know that there are a lot of other networks, a lot of other groups out with whom we need to cooperate to make changes and create an environ-

ment of change. As an example, the October 28th Edition of the Chronicle of Higher Education, last week's issue, talked about training at community colleges. 85-percent of our first responders have received training through community colleges or through trainers who participate in community college education programs.

Those not involved with community colleges must recognize that we have an untapped resource there but we also know that we have a robust network as well. Let me give you just one example; Kirkwood Community College in Iowa has a program there conducted by Ron Snyder called Foreign Animal Disease Preparedness. Ron takes trainers through a multi-day program but has worked with a network of 125 community colleges, looking at community response and training these folks so they can go and train others. It's a wonderful model, a wonderful example that others can tap into and be a part of that environment of creating a capable and skilled workforce and be a partner in fulfilling our education mission as well. One lesson learned we might take away from part one of this technical ecosystem is that the innovation and the expertise is out there. We also know that successful innovators in these environments have created successful alliances, a lesson that we hope to work upon here today and tomorrow as we meet here in Atlanta. The second component to this technical ecosystem is taking the resources we have and turning them into ideas.

In January, the NCFPD Educational Component brought together 35 folks from academia, from government, from industry to talk about Homeland Security education and career building. This was a group that looked at needs, looked at gaps, what's out there, and what else needs to be there. The workshop was a great example of looking at resources and developing ideas. One of these was the development of a website, foodprotectioneducation.org. It's meant to be a compendium of all of these different resources where the police officer in Miami, the apple farmer in Washington, the government employee in DC, the graduate student in New York State can all go and obtain just-in-time or some longer term resources.

A few other examples of the second component are a metadata open archives initiative that our friends from Kansas State Univ. will touch upon a little bit later. Reality-based exercise is another example and Gordon Meriwether from the Uriah Group has been leading that charge. Some of you may be familiar with Ron LaPorte at the Univ. of Pittsburgh and his development of the Supercourse program. Ron has developed a network wherein educational materials and messages are provided to virtually millions of people around the globe; so again, a resource serving to carry educational messages.

The DHS Grants and Training Initiatives should not be overlooked. Established to provide education and training, the initiatives work through the Dept. of Homeland Security. How can we take our Dept. of Homeland Security Centers of Excellence, walk across the hallway and start working together? Last of all, the DHS Scholars and Fellows; this is something that Mel Bernstein touched on this morning but let me give you a little more background. The Scholars & Fellows are the best and brightest undergrad and graduate students across the United States. They participate in multi-year educational programs, one of which is a summer internship program where they can visit national labs or educational institutions around the United States.

When we talk about building tomorrow's Homeland Security Workforce, you've got an example here of folks who will be sitting with us at these tables in the future, if not today. So a lot of examples, a lot of resources that have been converted into ideas, but what we are being asked to do in meeting this challenge of agro-terrorism, bioterrorism, intentional contamination is to look at this not as education with a small e, but education with a big E, what can we do collectively to make a larger difference?

One take-a-way is that we have current technology to advance what we are doing. The third part of the technical ecosystem is looking at a specialization of elements; each of you as a subject matter expert in perhaps many different areas. So how can we provide, for example, a module contribution type of format those different elements? This is something that our friends at Kansas State will touch upon as well.

We have technical advisors amongst us who know how to communicate messages not only through the right words and the right messages but also through the right technology as well. Then, spokespersons; where is our Bill Gates to enhance people's understanding, shift beliefs so that we can create Homeland Security career options and make it exciting? As Maureen McCarthy from Homeland Security says, what can we do "to create some splash?" I add to that, create some buzz and some evangelism as well. So a lesson learned, who we have here and now is vital but who else needs to be a part of this party? The fourth aspect to this technical ecosystem is looking at all the different aspects of interaction. We've got competition; that's a part of the beast.

What about the collaboration and mutualization so that we can allow us to achieve short-term goals and long-term goals as well? We bat around the terms interdisciplinary and multidisciplinary. About 2 years ago, Dr. Mather hit on a new buzzword, trans-disciplinary. We went to Google and searched for transdisciplinary. We found that a lot of other people had thought of it first, but it's still something that we've latched onto. My interpretation of the word, trans-disciplinary kind of spells out like this; you have groups from different disciplines working together, sharing concepts from their disciplines, drawing together those approaches so we can solve a single problem from any different perspectives.

I kind of liken it to the periodic table of elements. I'm not a chemist but, as many of know, you take an element here, you take a couple here, you put them together and you have something unique. So a take-a-way we have from this idea of a technical ecosystem—fulfillment of our mission can occur due to a skilled and capable Homeland Security workforce through trans-disciplinary means. One way that we've attempted to meet this mission is through the creation of foodprotectioneducation.org that I described earlier.

The website has the marquee of National Center for Food Protection and Defense there at the top. That's the Center to which this effort belongs. We also hope that it can be inclusive of all of our different partners at other Centers of Excellence, at the GNT Initiatives and of other groups around the United States. This website has become a compendium for resources that we've organized by topic. We've taken the same resources and organized them by occupation as well. So

what we've attempted to do is follow along with the AIPD approach to website; attracting and forming, positioning and delivering so that we can build some web equity.

The site includes the development of a glossary. Some contributors are here at this conference and along with others who started using this in their courses are here at the conference as well. Upcoming goals for our trans-disciplinary website include some pod casting capabilities and video casting capabilities in order to reach audiences through other vehicles besides the written word or the onscreen word or a face-to-face approach.

Another tool that I'll mention is a CLM approach. CLM stands for customer list management so that our customers coming to the site can tell us what they need and that we can specifically target resources to meet their needs. We've gotten some good feedback from DHS and other partners. However, I believe that we still need to move up a little bit and we need your help to do that.

My conclusion is that from a trans-disciplinary approach this website can hopefully be a mouthpiece for all that we're trying to accomplish and for making a difference. Let me end on somewhat of a sobering note and bring us back to why we're here, why we're talking about food protection in the 2 days here in Atlanta. The gentleman you see here is Randy J. Bertram. Randy worked in a supermarket in Western Michigan until late 2002. Following a bad performance review, Randy returned to work one day with a pesticide discovered in his garage. In December 2002, Randy contaminated the ground beef served in the supermarket deli area.

The outcome is that 200 people were made sick because of his taking out those frustrations and that anger. The reactions and the response to this on a local level in our state has been fantastic; it has galvanized a lot of different groups and caused them to work together to a further degree. One output from that has been the development of a guide on emergency action plans for retail food establishments, a quick-flip book that someone in a retail establishment can use to address problems. One facet I wish to point out are the logos on the back from three different counties who put together work and money on this, including the Michigan Dept. of Agriculture and the Michigan Restaurant Association. So they got together in a trans-disciplinary fashion to solve a problem.

Another example that has just been produced is this thick, plastic card with a nail hole at the top so you can post this in your own establishment, brought to you by Michigan's Animal Industry Partners. Who is that? A lot of different groups, a lot of different organizations that have contributed to this. The title reads "Protect Michigan's Food from the Farm to the Family." It has some tips listed here and some phone numbers as well. It's something that's out there, on the ground, hopefully making a difference.

On October 3rd, Steven Covey (ph) paid a visit to Michigan State Univ.. Many of you may know Steven from his "Seven Habits of Highly Effective People." Now there's an eighth habit and the eighth habit focuses on leadership. Let me read a brief quote here from Steven. He is, like Bill Gates, touring the country sharing his message. Covey says, "Leaders don't necessarily manage programs, they lead people. Part of that is finding your own voice and then helping others to find theirs as well."

One of the actions that I would like to put forth today is that we need to find a voice for education. We need to find that collective voice and it's something that we've been urged to do by our leadership in the Dept. of Homeland Security. We also recognize that we need to move quickly. The how is important but the when is just as important. Last of all, I think we could all agree and all recognize that if we today do not make an effort to shape our futures, the Randy J. Bertrams of the world will make efforts to do so for us.

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November 3, 2005 – IFT - Atlanta

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1 - Takes money

2 - Not necessarily

3 - Takes cooperation, collaboration & vision

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Today:

Lessons learned,

O.P.S. &

Toward an Education Technology Ecosystem

- **30,000 ft view**
- **Ground level**

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TechnEcology

Technical ecosystem – 4 parts:



Many diverse elements interacting to make the physical setting into a viable & growth-oriented environment



Ability to convert resources into useful ideas



Specialization of the elements



All aspects of interaction: competition, collaboration & mutualization for long-term success

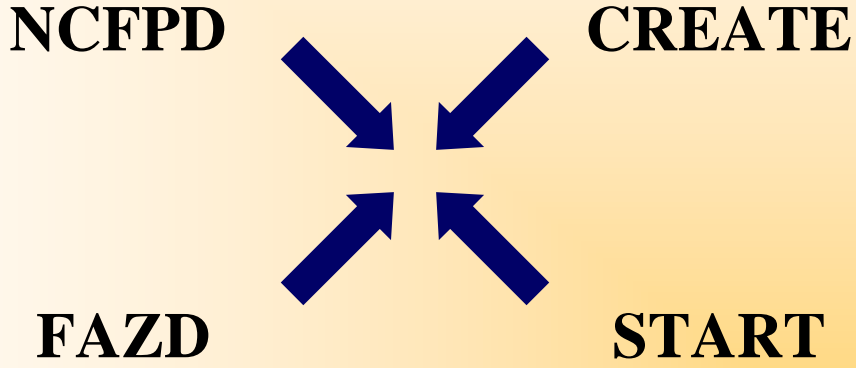
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TechnEcology

Technical ecosystem – part 1:



Many diverse elements interacting to make the physical setting into a viable & growth-oriented environment



Who else?

Creating a skilled & capable homeland security workforce.

Community college network: *An untapped resource*

- have trained 85% of 1st responders
- have expertise & can move very quickly (administratively)

Community college network: *A robust network*

E.g.,

Prepare America

- 250 C.C. consortium pushing for federal training support

CCCHST

- Community College Consortium for Health & Safety Training
- Hands-on training addresses OSHA, EPA, DOT & DOE regs

Kirkwood C.C. - Iowa

- hosts network of 125 colleges for train-the-trainer program

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Community college network: *An untapped resource*

Community college network: *A robust network*

What's in it for us:

- Vast network
- Can benefit from our research
- Can test our research projects & hypotheses
- Can train our people / target audiences

Can partner in fulfilling our educational mission!

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TechnEcology

Technical ecosystem – part 1:



Many diverse elements interacting to make the physical setting into a viable & growth-oriented environment

LL # 1: **Innovation & expertise exists**
for an innovative & expert
educational ecosystem

LL # 2: **Innovators build alliances –**
Leads to a viable &
growth-oriented environment

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Technical ecosystem – part 2:

⇒ Ability to convert resources into useful ideas

NCFPD Education - January 2005 workshop



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Technical ecosystem – part 2:

 Ability to convert resources into useful ideas

- NCFPD Education - January 2005 workshop
- FoodProtectionEducation.org
- Metadata OAI
- RBE
- Supercourse
- ODP initiatives
- Scholars & Fellows



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Technical ecosystem – part 2:



Ability to convert resources into useful ideas

LL # 3: **Current technology**
provides the vehicle
to enhance
what we're doing

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Technical ecosystem – part 3:



Specialization of the elements

- **Module contributors – SMEs**
- **Technical advisors**
- **Spokespersons**

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Technical ecosystem – part 3:



Specialization of the elements

LL # 4:

Who, here & now is vital

– but –

Who else is out there ?

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Technical ecosystem – part 4:



All aspects of interaction: competition, collaboration & mutualization for long-term success

Interdisciplinary

Multidisciplinary

Transdisciplinary

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Technical ecosystem – Our mission “fit”:

Creating a skilled & capable homeland security workforce
through transdisciplinary means



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Technical ecosystem – Our mission “fit”:

Creating a skilled & capable homeland security workforce
through transdisciplinary means



- Resources by topic
- Resources by occupation
- Links
- Glossary
- Event update

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Technical ecosystem – Our mission “fit”:

Creating a skilled & capable homeland security workforce
through transdisciplinary means



- Bulletin board
- Podcasting - Videocasting
- Metadata – OAI
- CRM

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Technical ecosystem – Our mission “fit”:

Conclusion:

**Transdisciplinary
mouthpiece for
“making a difference”**



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Creating a skilled & capable homeland security workforce.

West Michigan

December 02

Ground beef contamination

- **Reactions / responses**
- **Leaders made the choice to make a difference**

Creating a skilled & capable homeland security workforce.

Creating a skilled & capable homeland security workforce.

Actions:

Move quickly

Capitalize on TechnEcology environment

Find a collective voice

Creating a skilled & capable homeland security workforce.

Creating a skilled & capable homeland security workforce.

**We can & should shape our own futures...
...because if we don't, someone else will**

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