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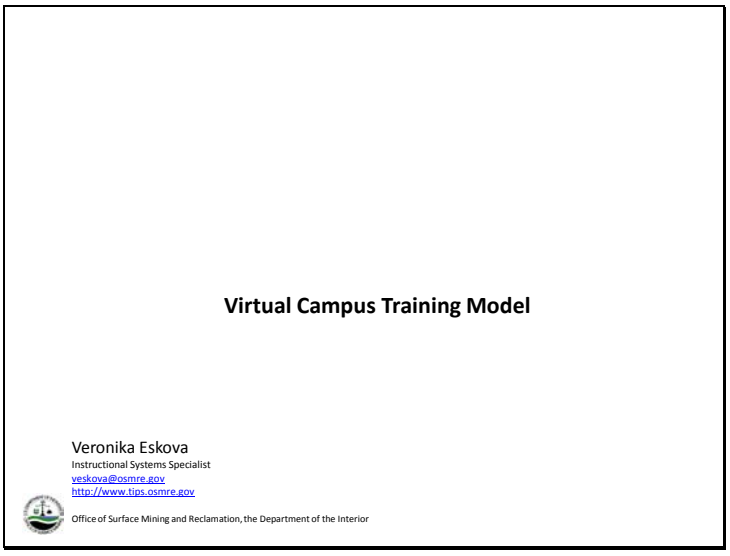

Currently I am working in the Technology Management Division of the Department of the Interior's (DOI's) Office of Surface Mining Reclamation and Enforcement (OSMRE). We develop and provide technical software training to our clients, who are OSMRE employees as well as the employees of U.S. States and Tribes that have coal-mining development regions in their territories.

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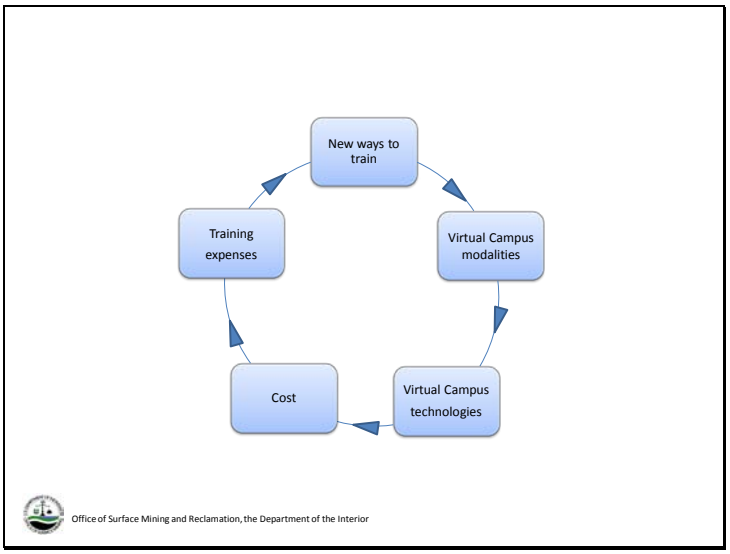

The main purpose of this presentation is to introduce a Virtual Campus (VC) training model that could be successful in training environments that are similar to those in our OSM offices. Such environments might be described as **technical software** training environments.

Outline:

New ways to train—I will briefly discuss new ways to train in general under the VC model; I will look at these in light of current communication trends that are present in our personal and professional lives.

VC modalities—I will explain in detail VC training modalities and their functions, as well as why these training modalities are highly recommended and successful in today's training environments.

VC technologies—I will explain how technologies that we already have could be used to support VC modalities.

Budgetary expenses —I will touch upon the budgetary expenses that have to do with traditional, real-time, instructor-led training and VC.

Cost—At the end of the presentation, I will provide an estimated cost comparison that is based upon OSM training-program data compiled from the previous 5 years. So doing, I hope to make clear the actual savings in cost that could be achieved by implementing a VC program.

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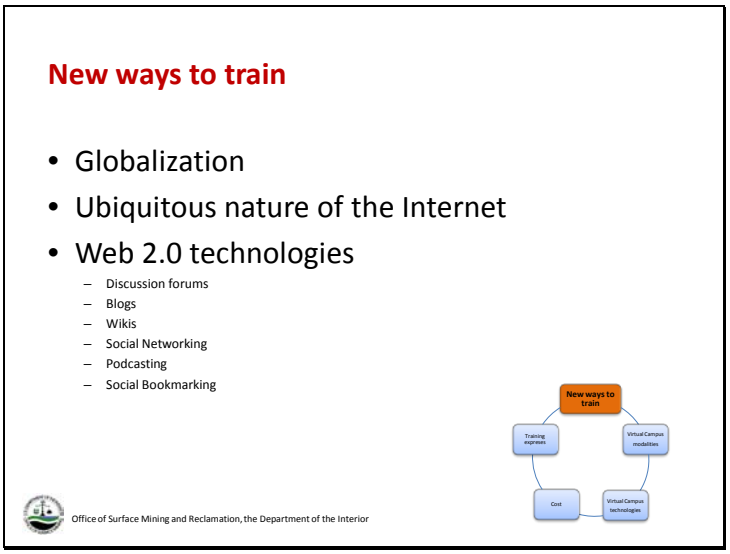

The ubiquitous nature of the Internet, which is everywhere at the same time has flattened out our world for us. Communication and information dissemination that were once closed or constrained have been opened up and globalized. One of that consequences of this has been a surge in the number of new ways to train:

Discussion Forums — Ask a expert
Blogs — The expert writes
Podcasting — The expert speaks
Wikis — Everyone's an expert
Social Networking — Locate an expert
Social Bookmarking — Experts share their favorite bookmarks

All of these communication technologies increase interaction and dramatically influence ways humans learn. Previously—5 to 10 years ago—, technologies that increased interaction had been expensive, difficult to use, and not often utilized. With advances in these technologies, along with the ubiquitous nature of the Internet, e-learning is changing. It is now easy and cost-effective to incorporate interactive instruction using, for example, the VC modalities that I will be discussing in detail.

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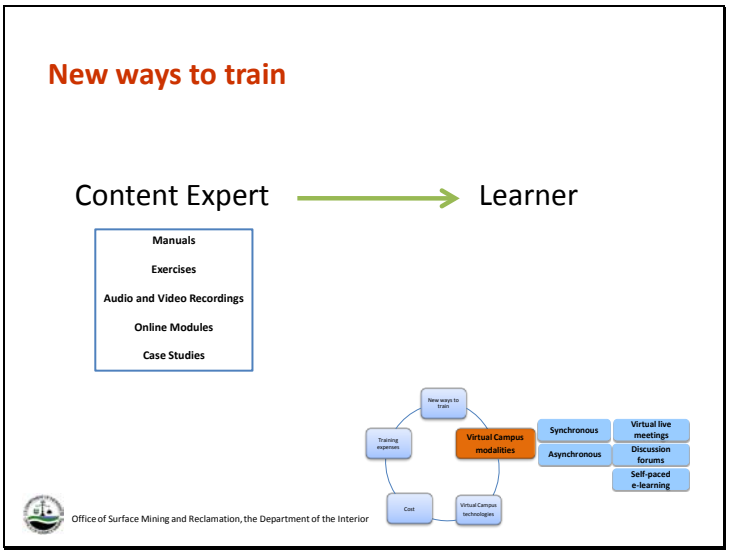

Before Web2.0 technologies and Internet era learning was often viewed as information transfer from one person's head (an instructor or expert) into another's (the learner).

Learners are thought to obtain information from an expert and add it to their own memory. Although this view of learning is still widely held, it is too simplistic: it conceives on learners as passive receivers of information and doesn't provide guidance for designing effective learning environments. In fact, designers who hold this view of learning often design learning environments that may not include elements critical to effective learning, such as **meaningful interaction, feedback, and the ability to learn over time.** [1]

1. Shank, Patti. "The Value of Multimedia in Learning." Adobe Design Center, May 2005.

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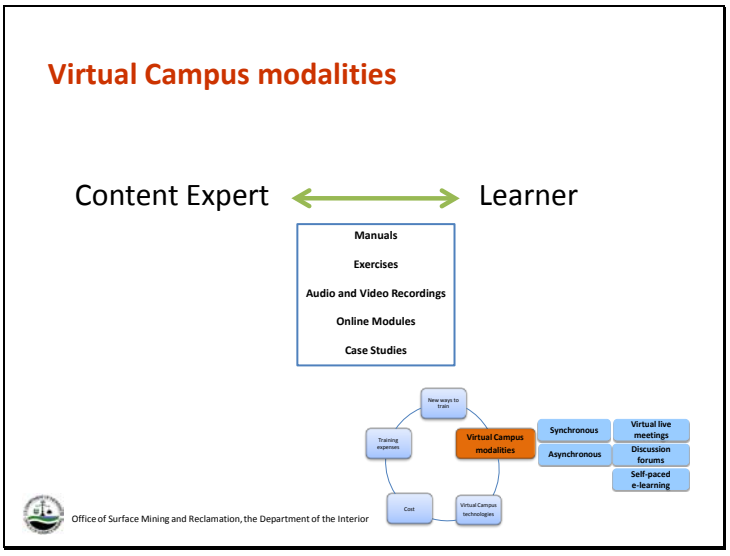

Meaningful interaction, feedback, and resources that are capable of facilitating the ability to learn over time are widely supported by VC modalities.

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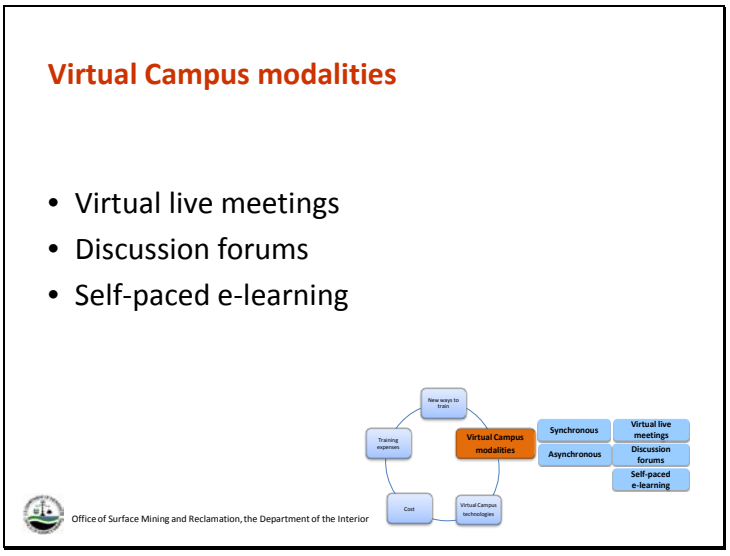

The terminology surrounding VC modalities:

Synchronous virtual live meetings, during which learners and instructors come together virtually, occur on predetermined, real-time schedules.

Asynchronous discussion forums, including bulletin boards and threaded discussions, allow participants to post questions, comments, and ideas publicly and upon multiple topics; these, in turn, can be accessed by others interested in a particular topic or discussion. Files may also be attached to posts. Because a record of bulletin-board and threaded discussions is maintained, their contents are searchable. When a forum is created, a moderator or instructor is typically assigned to monitor it. Moderator privileges include the ability to edit and delete posts that may be incorrect or inappropriate. All users may create new topics and new postings within those topics.

Asynchronous discussion forums are intended to enable students to access class-agenda information, assignments, digital materials, class exercises, case studies, and manuals, as well as to work in groups. Asynchronous discussion-forum functions are provided by technology platforms like Blackboard Prosite, Microsoft SharePoint 2007, and any other web-based technology platform that has data-exchange features built in.

Asynchronous self-paced e-learning is usually delivered in smaller modules or chunks and can be accomplished independently, on the learner's own schedule.
An instructor leads a virtual session by using a web conferencing tool such as Microsoft Live Meeting. The session is conducted in real time with students logged into their own computers.

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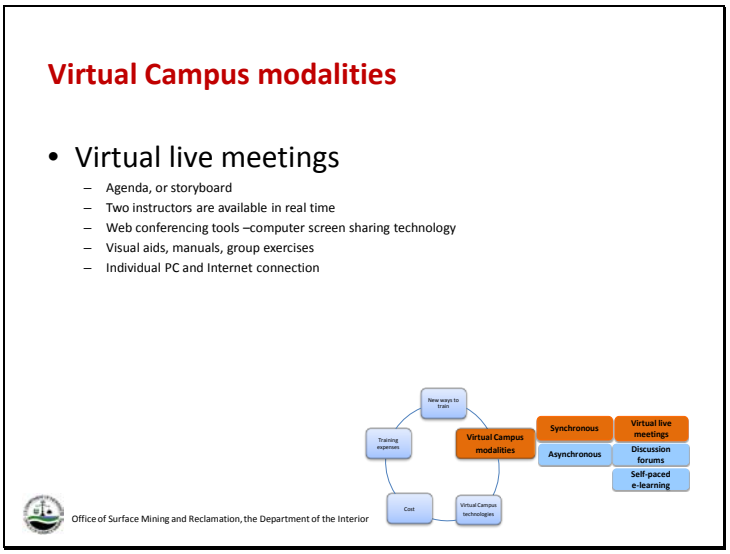

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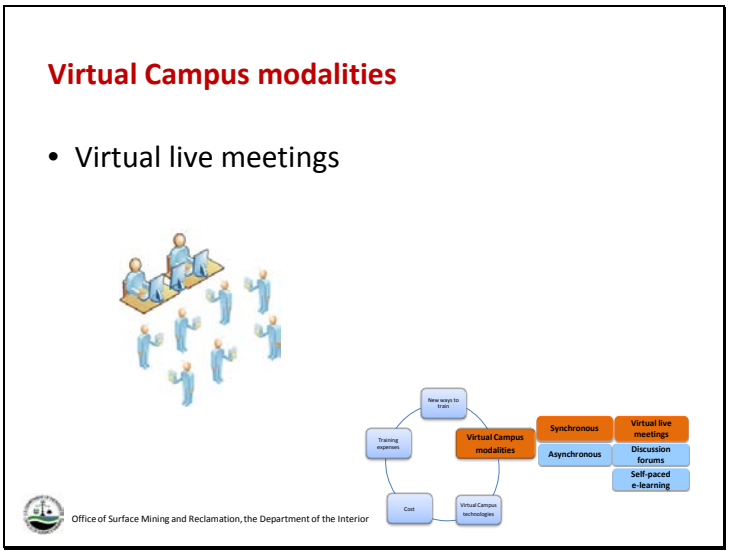

An example of a virtual session: Two instructors work together to help to facilitate students' participation. One of the instructors leads the session; the other helps students stay on track by, for example, leading a live chat during the session and monitoring any technical issues.

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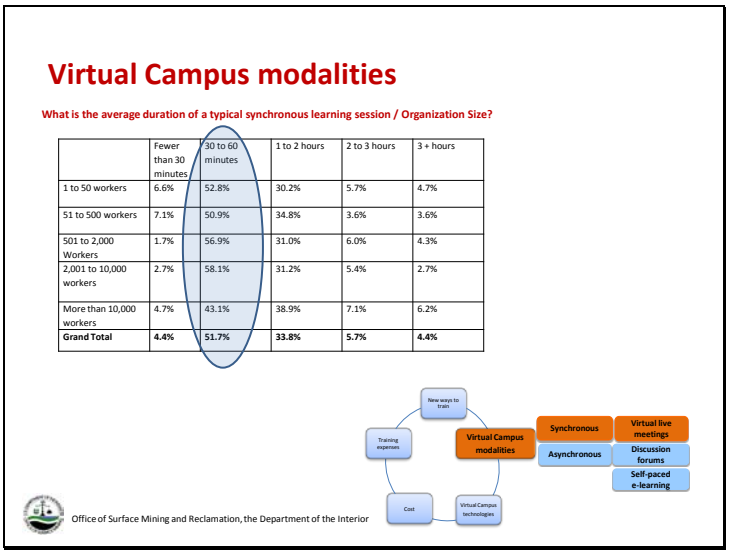

How long should virtual live-meeting sessions last? Irrespective of an organization's size, research shows that the most viable duration for a virtual synchronous-learning session is between 30 and 60 minutes.[2]

2. "Synchronous Learning Systems." The eLearning Guild. 360 Report. June 2008.

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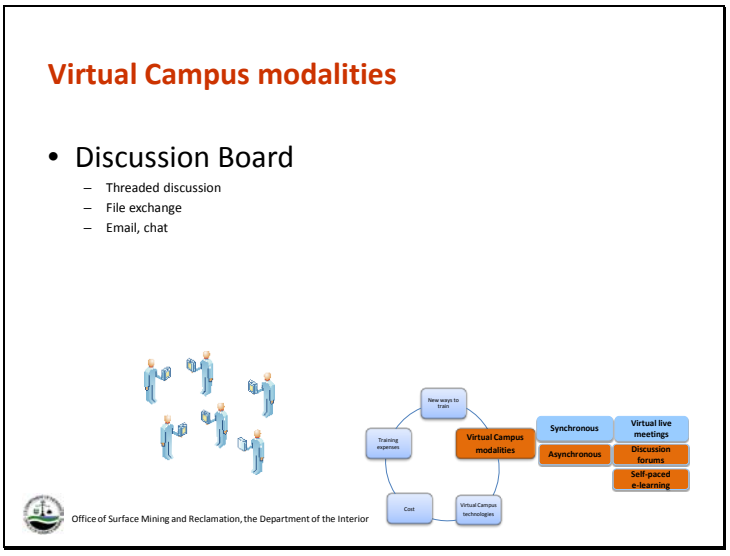

Discussion Board/Threaded Discussion, e-mail, and file exchange are tools employed in both synchronous and asynchronous collaboration. Threaded discussion posts are available for everybody to read and enter into; e-mail and file exchange, on the other hand, allow each individual student to share his or her own knowledge. Both Microsoft SharePoint 2007 and Blackboard ProSites technologies support all three of these tools.

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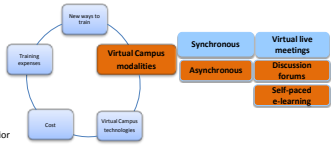
Virtual Campus modalities

- Discussion Board
  - Individual modules developed specifically for the course
  - Collaboration tools like forums with the topic group discussions
  - Web 2.0 technologies that are relevant to the subject



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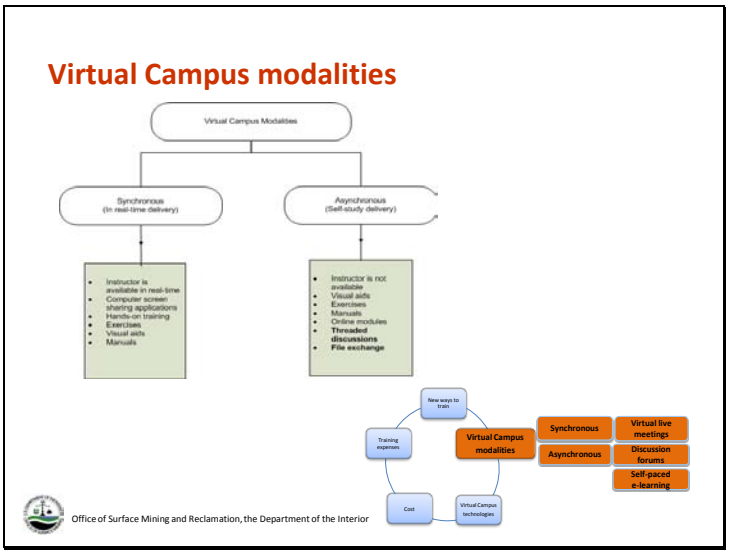

This figure is showing the main functions of synchronous and asynchronous VC training.

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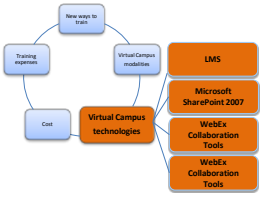
Virtual Campus technologies

- VC Technology platforms
  - Microsoft Live Meeting
  - Go to Meeting
  - LMS and LCMS
  - Microsoft SharePoint
  - Blackboard Prosites
  - WebEx Collaboration Tools



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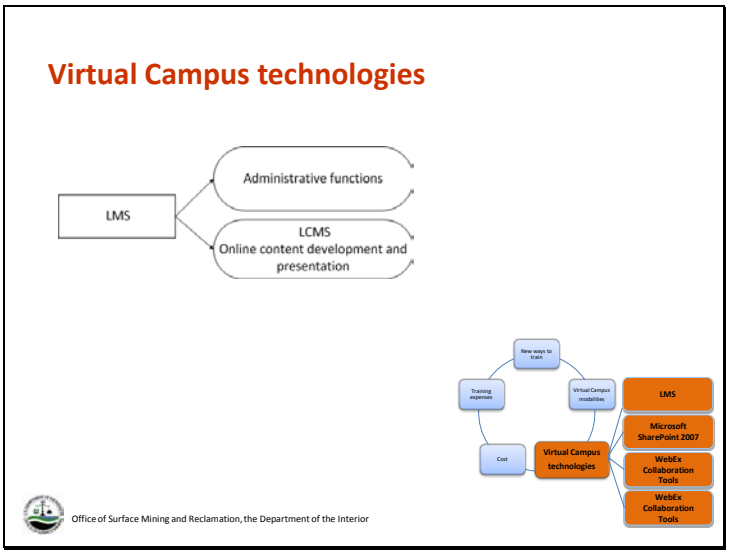

Learning Management System (LMS) is designed to make class announcements, register students for classes, and provide exam and survey functionalities. DOI Learn Learning Content Management System (LCMS) is designed to develop and launch online training self-passed courses.

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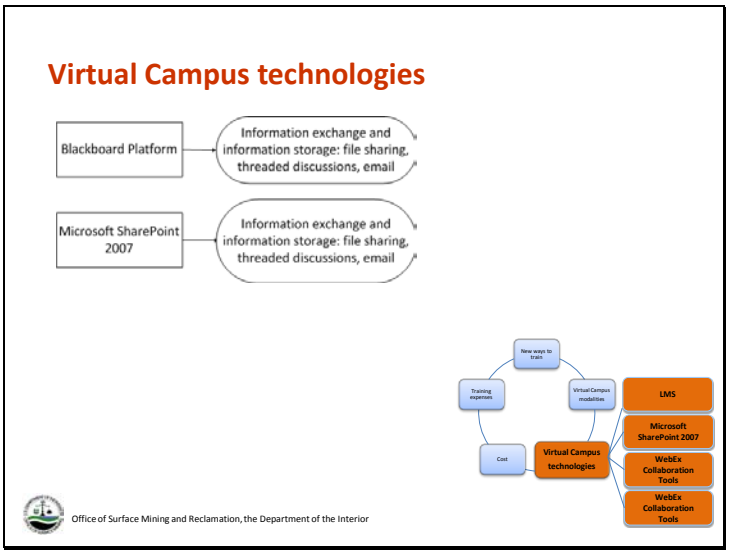

Blackboard Prosites Platform

Blackboard Prosites could be purchased from an external vendor. The "class shell" contains: file exchange upload/download, assignments tracking, email system, and threaded discussion board to post discussions by topic.

Microsoft SharePoint 2007

This platform is a great tool for the virtual campus. The SharePoint sites could be used in the same way as the Blackboard ProSites for information exchange, assignment tracking, instructor-student collaboration and discussion board by topic.

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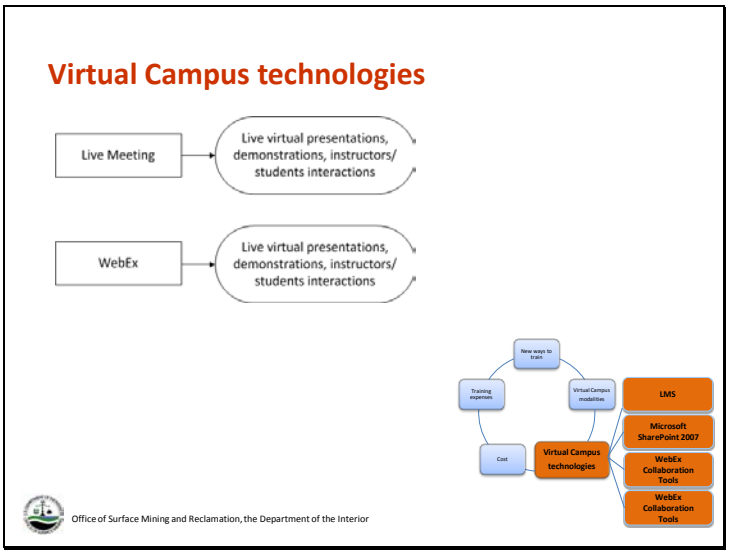

<u>An example of the WebEx technology functions</u>

WebEx Online Classroom enables instructors to share powerful presentations, stream media modules, or even pass control to attendees so that they may demonstrate software applications of their own choosing. It also allows instructors to set up hands-on labs so that students can practice and review before, during, or after a training session.[3]

3. WebEx Page. WebEx Communications, 2005.

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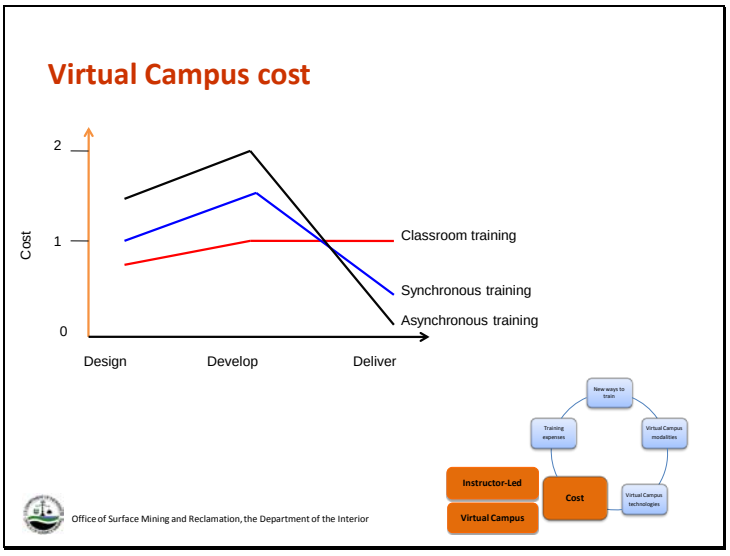

As you can see, traditional, real-time, instructor-led classroom training is cheaper to design and develop, but more expensive to deliver, largely owing to the ever-increasing cost of travel. Synchronous-training design falls between this type training and VC training in terms of cost. On the other hand, it takes a small army to develop good asynchronous training. The small army must be paid and fed, but once its asynchronous-training program is up and running—and tested and tested again—, that program is basically cost-free to deploy.[4]

4. Hyder, Karen and Kwinn, Ann. "Synchronous e-Learning". The eLearning Guild, 2007.

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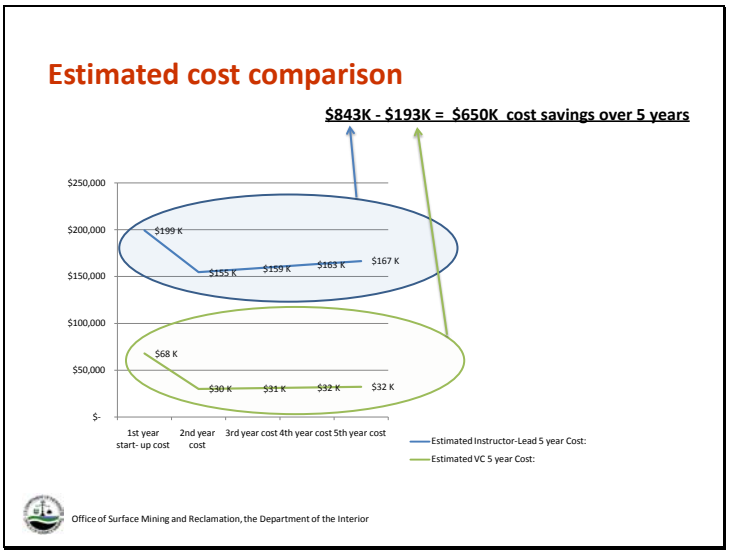

By implementing a VC program to handle a portion of its prospective training workload—specifically, one course that would include up to 5 classes and 100 students—, an organization stands to save up to $650 K over a 5-year period.

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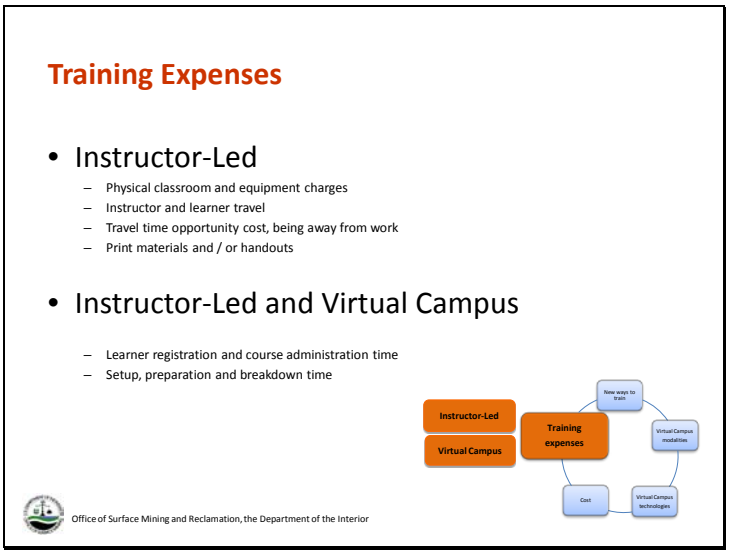

The Virtual Campus training model eliminates Instructor-Led expenses that are listed.

<u>Instructor-Led</u>

- Physical classroom and equipment charges
- Instructor and learner travel
- Travel time opportunity cost, being away from work
- Print materials and / or handouts

<u>Instructor-Led and Virtual Campus</u>

- Learner registration and course administration time
- Setup, preparation and breakdown time

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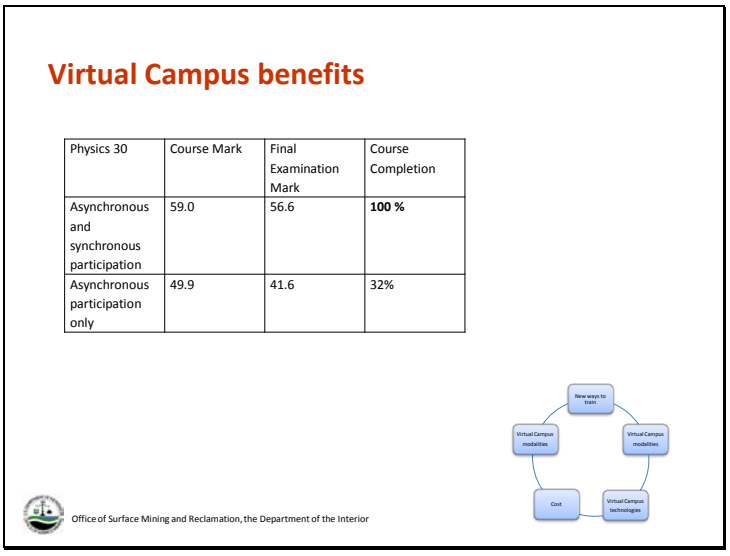

100 percent of the students who have attended synchronous sessions, which constitute a principal VC modality, have completed the course they were taking, compared to just 32 percent of those who did not participate in synchronous sessions.

Implementing a VC program for one course that includes up to 5 classes and 100 students stands to save an organization up to $650 K over a 5-year period.

The VC training model provides at least some of the benefits of traditional-classroom, instructor-led training (for example, allowing instructor/student interactions in real time) at the same time it eliminates some of the delivery costs of this latter form of training, which organizations can no longer afford.

VC asynchronous tools and resources are robust and comprehensive, because they are standardized, reusable, and updated regularly.

VC training materials are available digitally any time.

Slide 21

References

1. Shank, Patti. "The Value of Multimedia in Learning." Adobe Design Center, May 2005.
2. "Synchronous Learning Systems." The eLearning Guild. 360 Report. June 2008.
3. WebEx Page. WebEx Communications, 2005.
4. Hyder, Karen and Kwinn, Ann. "Synchronous e-Learning". The eLearning Guild, 2007.
5. Rocky View Virtual School Case Study. Elluminate, Inc, May 2006.