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BL CLC 24.07.2018 Wrap-up

	Settle-in, Welcome to the Blended Learning Collaborative Learning Community, and Agenda (light-lunch from 11:45)
Item 1	**A/Prof Yasir Al-Abdeli,** Co-coordinator BL CLC, School of Engineering Progress and updates for the learning community
Item 2	**Dr Catherine Moore,** Co-coordinator BL CLC / Senior Academic Developer, CLT Research Methods: BL CLC's first collaborative/multi-disciplinary project: Overview of the Padlet reflective online spaces project, the research tools /questions
Item 3	**Richard Stals,** Senior Learning Solutions Advisor, CLT Blackboard usage metadata/trends(mobile-vs-desktop, hour of day access), Blackboard updates
Item 4	**Amanda Myers,** Librarian, School of Education, ECU LTI – Learning Tools Interoperability, updates on the SLIDE project
Item 5	**Arron Jackson,** Project Advisor - School of Business and Law Student focus group feedback on blended and technology enhanced learning
Item 6	**A/Prof Sally Male,** Chair in Engineering Education, The Univ of Western Australia Case study: Virtual reality in teaching design safety; **Dr Elaine Lopes,** Assoc Director - Capability Development , The Univ of Western Australia Blended learning perspectives/directions at UWA
Item 7	**Dr Kate Rowen,** Assoc Dean L&T, School of Engineering, Murdoch Univ Case study: from traditional delivery to blended; BL perspectives/directions at Murdoch
Item 8	**Prof Iain Murray,** Faculty of Science & Engineering , Curtin Univ Case study: Remote (online) labs, Blended learning perspectives/directions at Curtin Univ
Item 9	**A/Prof Yasir Al-Abdeli and Dr Catherine Moore,** Co-coordinators BL CLC Open floor discussion: EOI's for multi-disciplinary research projects/collaborations in blended learning between staff at ECU schools or across Perth's Uni's

This learning community aims to share and foster good practice in blended learning across all disciplines within ECU and beyond.
As a community of practitioners and developers, we aspire to work hand-in-hand in providing a collaborative, supportive and collegial forum and networking platform for sharing experience and identifying relevant resources.
Through our meetings, the group also serves as a sounding board for new ideas in best practice face-to-face, online and blended learning.
Ultimately, we aspire to not only help members identify and understand what blended learning is, but (and as with the pinnacle of Bloom's Taxonomy) to transition those in the Learning and Teaching sphere to the higher levels of analysing and evaluating their blended learning practices, then leading to knowledge creation and discovery guided by scholarly research in this area.

Slots include Q/A time

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Item 1

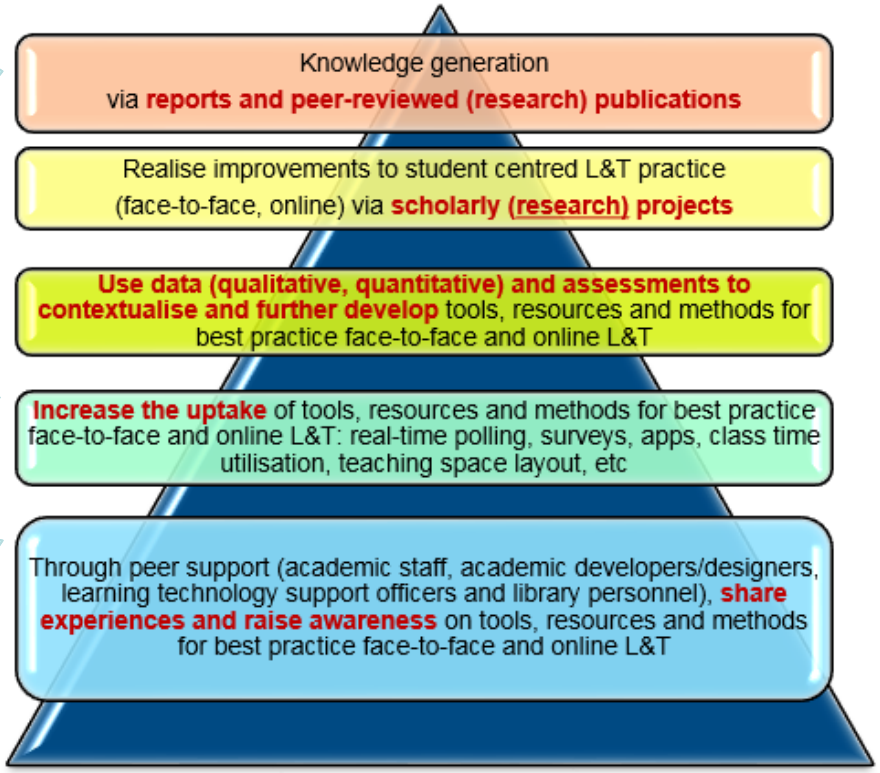
A/Prof Yasir Al-Abdeli, Co-coordinator BL CLC, School of Engineering

Progress and updates for the learning community

Research Projects: The Role of Online Reflective Spaces (Using Padlet Walls) in Learning
Research Publications: Work-in-progress (Padlet project)

Workshops: BL
Expansion of app usage: apps reviewed, application examples given
Face-to-face: flipped classes (student perspectives, case studies)

Library resources: blended and technology enhanced learning (apps, literature, SLIDE)
Blackboard: meta data on platform usage
Case studies: blended learning



Blended Learning Collaborative Learning Community
Purpose (activities, direction)
A work-in-progress

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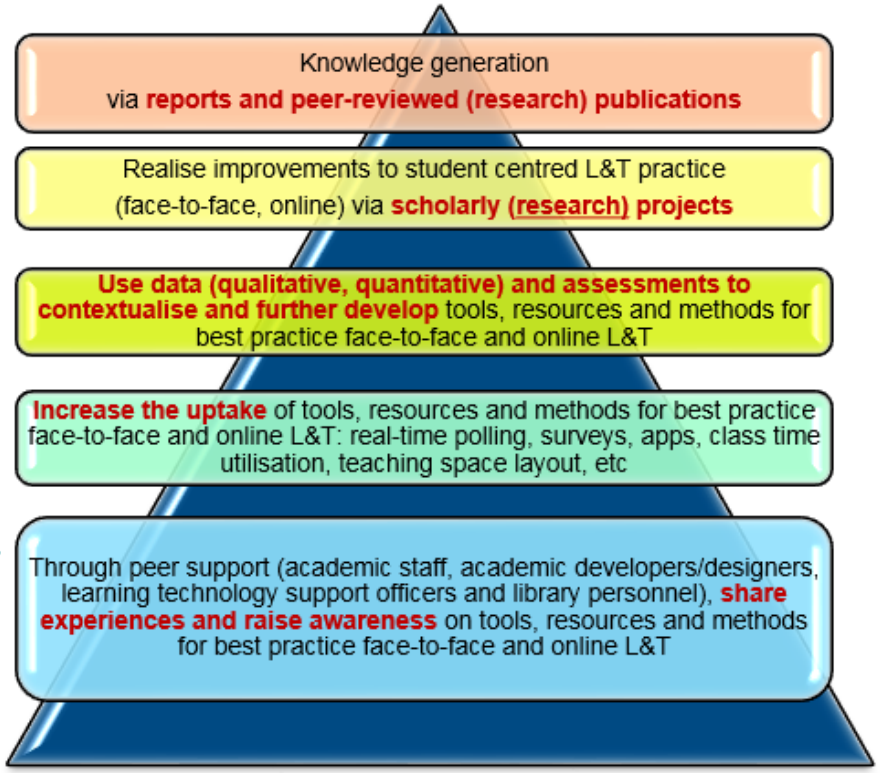
POLICY

Policy Title:	**Assessment**
Policy Owner:	**Pro-Vice-Chancellor (Education)**
Keywords:	**Assessment, Feedback, Moderation, Benchmarking, Transformative, Learning-centred, Globally Relevant**
Policy Code:	**PL281 [ac112]**

What next?
Implementation Plans for the Suite of Curriculum Policies / Assessment Policy Implementation and Communication Plan (4.2c)

"Assessment practices that enhance students' global competitiveness by incorporating relevant technologies to facilitate a future-oriented experience"

Action item: *Case studies of technology-enhanced assessments (July 2018 - Dec 2019)*



Blended Learning Collaborative Learning Community
Purpose (activities, direction)
A work-in-progress

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Item 2

Dr Catherine Moore, Co-coordinator BL CLC / Senior Academic Developer, CLT

Research Methods: BL CLC's first collaborative/multi-disciplinary project: Overview of the Padlet reflective online spaces project, the research tools /questions

Summary notes compiled post BL CLC meeting (unconfirmed)

- Students learn about concepts (using the graphical oriented reflective spaces), but (the hypothesis is that) if they can translate these learning concepts through (other) images or movies (reflect) this helps their learning.

First collaborative research project

- The role of online reflective spaces in learning
- Engineering (Yasir Al-Abdeli), SBL (Claire Lambert), CLT (Catherine Moore)
- Padlet walls to enhance learning of key concepts
  - Walls with graphical or multimedia intitiated by lecturer – students reflect on relevance, connections, interpretation
  - Walls where students post images/multimedia illustrating key concepts

Research questions

1. What benefits do students perceive from the graphically-based reflective learning activities?
2. What are the challenges associated with engaging the collaborative tool used in reflective learning activities?
3. Does providing a collaborative tool early on in the unit assist with enhancing student engagement?

Methods

1. Survey template compiled (available for others to modify/adapt)
2. Pre-research survey to refine questions/clarity
3. Short clip to introduce survey
4. Staff access to survey data after release of semester results

Item 3

Richard Stals, Senior Learning Solutions Advisor, CLT

Blackboard usage metadata/trends (mobile-vs-desktop, hour of day access), Blackboard updates

Summary notes compiled post BL CLC meeting (unconfirmed)

- Move to the (data) cloud has improved effectiveness of BB support
- Move to BB Collaborate (by end of 2018)
- Next “big thing” revolves around lecture capture (system ready by start of 2019).
- Video submissions will be enabled (Assessment tool)

Learning Technologies Update

- Moved to Manage Hosting – Blackboard in the Cloud
- Blackboard Collaborate – Adobe Connect Decommissioning end of 2018

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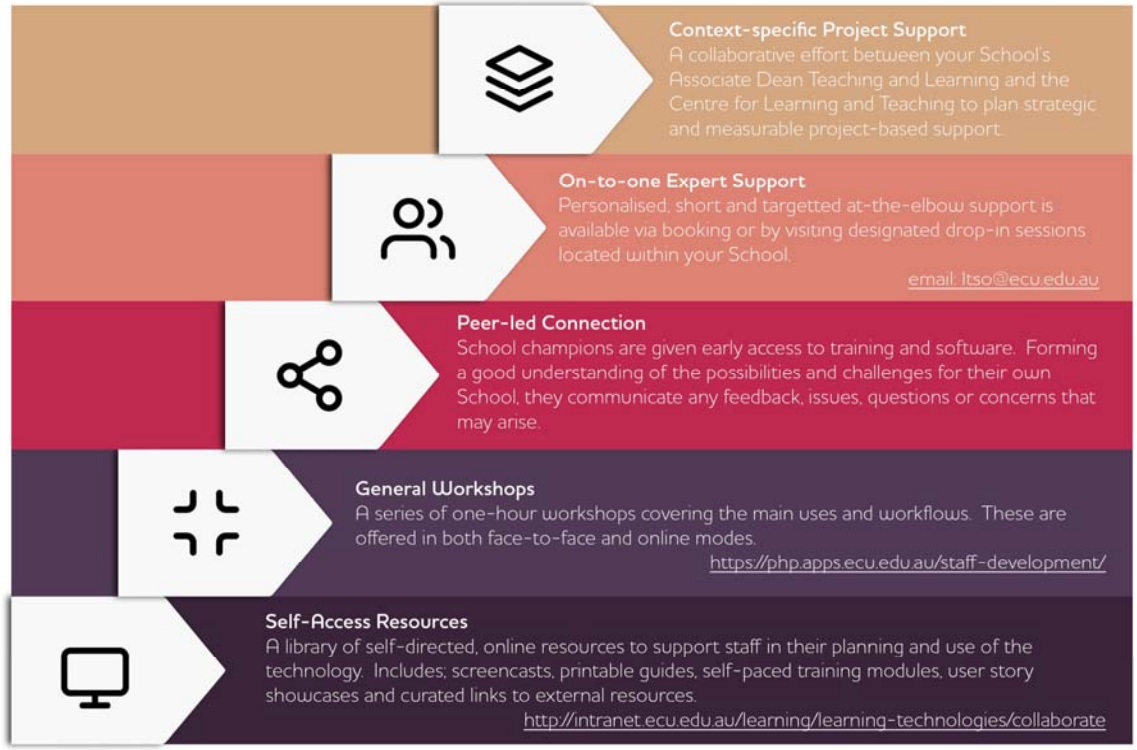
Learning Technology Support



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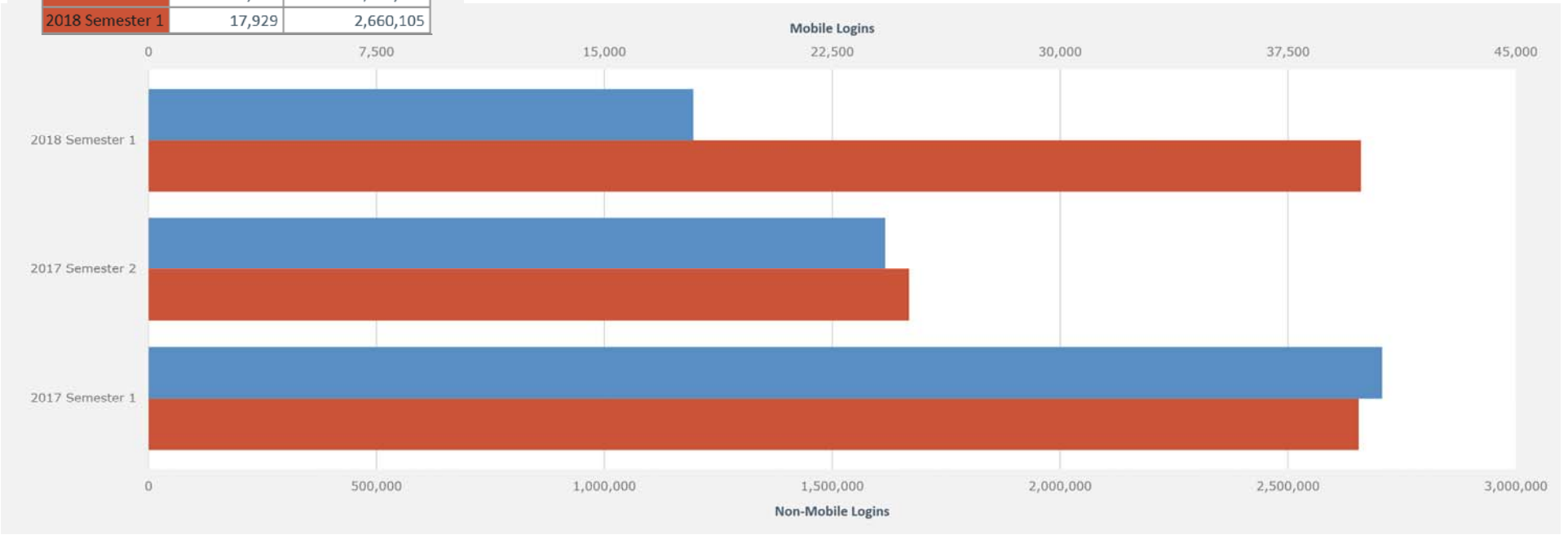
Blackboard Logins

	Mobile Access	Non-mobile Access
2017 Semester 1	40,599	2,655,095
2017 Semester 2	24,245	1,668,557
2018 Semester 1	17,929	2,660,105



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Blackboard Logins by Hour

	Mobile Access	Non-mobile Access
8 am - 8:59 am	1,209	164,814
9 am - 9:59 am	1,207	199,361
10 am - 10:59 am	1,379	219,027
11 am - 11:59 am	1,265	205,547
12 pm - 12:59 pm	1,302	191,943
1 pm - 1:59 pm	1,259	184,029
2 pm - 2:59 pm	1,128	170,453
3 pm - 3:59 pm	1,084	157,286
4 pm - 4:59 pm	984	149,743
5 pm - 5:59 pm	911	134,848
6 pm - 6:59 pm	885	127,777
7 pm - 7:59 pm	798	133,685
8 pm - 8:59 pm	863	132,485
9 pm - 9:59 pm	804	118,584
10 pm - 10:59 pm	654	87,985
11 pm - 11:59 pm	502	56,768
12 am - 12:59 am	216	30,916
1 am - 1:59 am	119	18,121
2 am - 2:59 am	93	12,358
3 am - 3:59 am	64	10,434
4 am - 4:59 am	66	11,766
5 am - 5:59 am	144	19,619
6 am - 6:59 am	342	39,927
7 am - 7:59 am	651	82,629

Item 4

Amanda Myers, Librarian, School of Education, ECU

LTI – Learning Tools Interoperability, updates on the SLIDE project

Summary notes compiled post BL CLC meeting (unconfirmed)

- Library guide for Technology Enhanced learning undergone more updates. This can be accessed from https://ecu.au.libguides.com/TEL/main
- Seeking staff to send citations to papers/works published (at ECU) under the themes of blended learning. These can be cited on the library guide.
- Suggestion made to include list of on-campus staff users (peer-support) to assist others wanting to use any apps that had already been tried.

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Item 5

Arron Jackson, Project Advisor - School of Business and Law, ECU

Student focus group feedback on blended and technology enhanced learning

Post BL CLC meeting compiled (unconfirmed) notes

- Teaching Enhanced Learning TEL Tales compiled
- Focus group feedback 12/18 TEL units at SBL
- Feedback includes less preference to use BB on mobile platforms; preference for diagnostic tasks (see how they are going, not necessarily assessed)


Technology Enhanced Learning
Enhancing your teaching with technology


TEL TALES
Adventures in Technology Enhanced Learning

TEL STUDENT FOCUS GROUP

- What aspect did you **enjoy** in the unit?
- What would you **change** in the unit?
- How do you feel about **technology** and **online** environment in the unit?
  - What worked well?
  - What could be improved? How?
- What would be the **absolute best learning experience**?
- What motivates you to attend lectures?... campus?

TEL FOCUS GROUP FEEDBACK - 12/18

Lecturer													
Great lecturer important	1	1					1	1		1	1	6	**The enthusiasm and care for students**
Approachable and encouraging		1								1		2	Approachable and engaging
Industry expereinced							1					1	Industry experience
Applicable explanations		1		1		1	1	1	1	1		8	**Applicable explanations**
Pre-class													
Pre-class was appreciated/preferred		1	1	1		1	1	1				6	**Pre-class was appreciated/preferred**
Quiz helpful for measuring understanding	1	1			1				1			4	**Weekly and summary diagnostic quizzes**
Links from pre-class to in-class are important						1		1				2	Must link pre-class to in-class
Pre-class did not link to inclass work	-1		-1		-1							-3	**Must link pre-class to in-class**
Weekly tasks were not clear	-1											-1	Clear weekly tasks
Quiz errors (lack of part marks)					-1							-1	Quizzes and test perform correctly
Videos													
Helps learning		1				1	1				1	4	**Video is a convenient and contextualised way of le**
Funny/interesting is important								1				1	Interesting videos
Videos can be too long			-1						-1			-2	**Videos need to be less than 10 minutes**
Bb													
Bb well prepared							1	1				2	Bb was clearly laid out
Bb available from semester start							1	1				2	All weeks available from start
Bb is easy to use								1	1			2	Bb is intuitive to use
Bb login issues					-1						-1	-2	**Bb login needs to be more reliable**
Bb not good on phones	-1		-1									-2	**Bb needs to improve on mobiles**

PRE-CLASS

Preferred

- Work at own pace
- Variety of mediums
- Available early
- Love videos

Videos

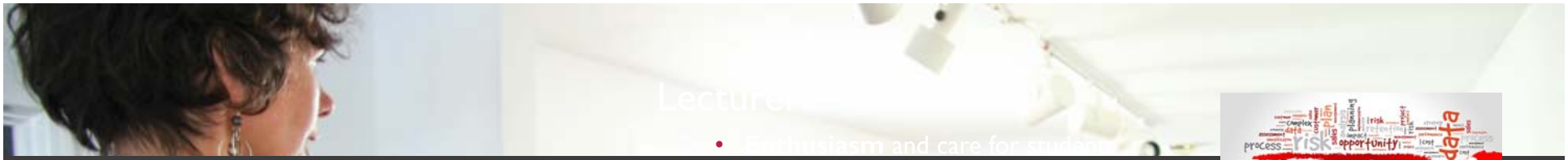
- Target 10 minutes
- Funny/interesting/case study
- TechSmith Relay link

Quizzes

- Marks or no marks
- Reference point - league table

Bb

- Template is intuitive
- More mobile friendly



CLASS

Lecture

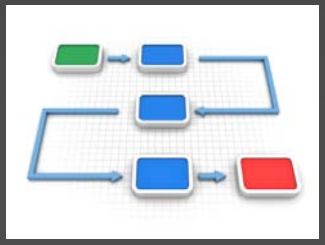
- Enthusiasm and care for students
- Explanations by **application**
  - **Industry experienced/connected**
- **Guest** speaker

Active-learning

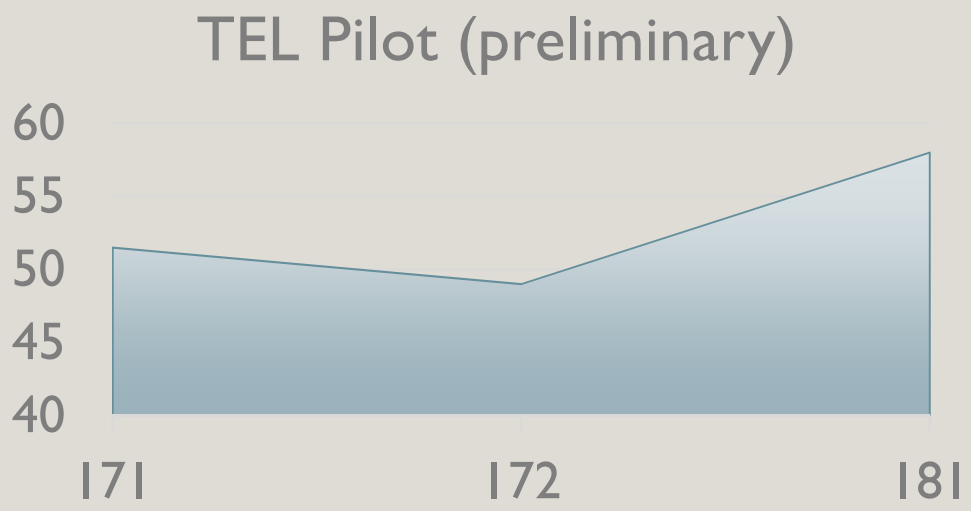
- Class **discussion** and **problem solving**
- **Kahoot**!
- Good **balance** between pre-work, explanation and active-learning time
- **Rooms** could be more collaborative

Flow

- **Link** between pre-class, in-class and assessment
  - Repeatedly communicated
- Don't repeat pre-class
- Weekly sign-posting



UTEI RESULTS…



Item 6

A/Prof Sally Male, Chair in Engineering Education, The University of Western Australia

Case study: Virtual reality in teaching design safety

Summary notes compiled post BL CLC meeting (unconfirmed)

- Use of VR in the Master of Professional Engineering course.
- Students identify risks (a “thing” that might particularly be associated with a risk)
- Case study: crane in back of truck (controls at the back, user cannot see the object being moved and simultaneously look at the controls).
- App: Unity (to develop the VR tool)
- Challenges: using VR in very large classes.
- Approach: One student uses VR which is then followed by a (group) discussion.

THE UNIVERSITY OF WESTERN AUSTRALIA

Using VR to teach Safety in Design to 300 Students

Sally Male

VR was used with 300 students to teach safety in design. All students learned about the authentic process, despite only one student per group wearing the headset.

Acknowledgements

Researchers: Patrick Kenworthy, Tim French, Ghulam Mubashar Hassan, Andrew Guzzomi

Funding:

- Australian Government Department of Education and Training
- Engineers Australia
- CingleVue International
- Curtin University
- UWA
- Australian Council of Engineering Deans
- UWA Edfutures

Item 7

Dr Kate Rowen, Assoc Dean L&T, School of Engineering, Murdoch University

Case study: from traditional delivery to blended; BL perspectives/directions at Murdoch

Summary notes compiled post BL CLC meeting (unconfirmed)

- Case study: Unit which assists students transition if they had not done chemistry before at high school (Unit Learning Outcomes are chemistry related).
- Delivery: no face-to-face classes (see Evolution slide showing progression/timeline), online learning platform adopted.
- Approach: Redeveloped lab activities as workshops (no preparation needed for labs, not dependant on having earlier pre-reqs)

Fundamentals of Chemistry
From Traditional to Blended Delivery

Kate Rowen

Leonie Hughes

LanChi Koenigsberger

Murdoch
UNIVERSITY

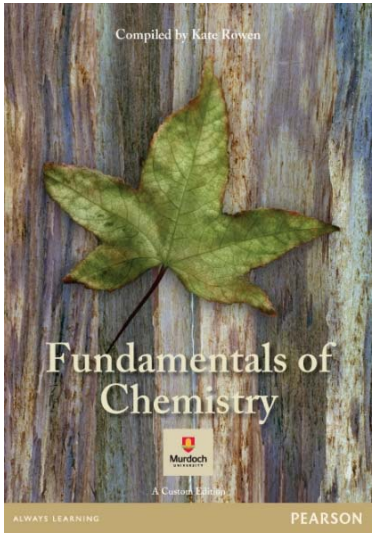
Context

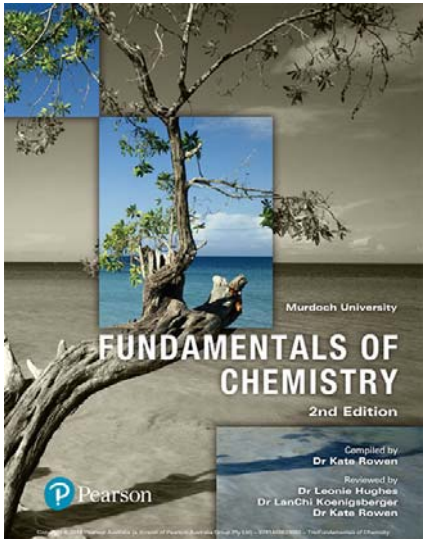
Bridging unit for students who have not completed chemistry at high school (700 – 800 students/annum)

Learning outcomes relate to chemistry knowledge that students need to underpin further study in science

Preconceived ideas of difficult subject matter and irrelevance to their further study influence student engagement in the unit

- Low utilisation of lectures and tutorials
- Need to improve engagement and achievement in the unit





Major changes

- Cessation of classroom lectures and tutorials
- Custom textbook development
- Adoption of online learning platform
- Redevelopment of lab classes

Pearson | Mastering | Chemistry

Evolution

Pre 2015

- Traditional format
- Lectures – 4 hours/week
- Tutorial – 1 hour/week
- Lab – 3 hours x 5
- Standard textbook
- Learning materials mainly documents

2015 2016

- No classroom lectures
- Workshop – 2 hours x 5 (structured learning activities based on POGIL pedagogy[1,2])
- Custom textbook
- Mastering Chemistry online tutorials
- Lab – no change

2017

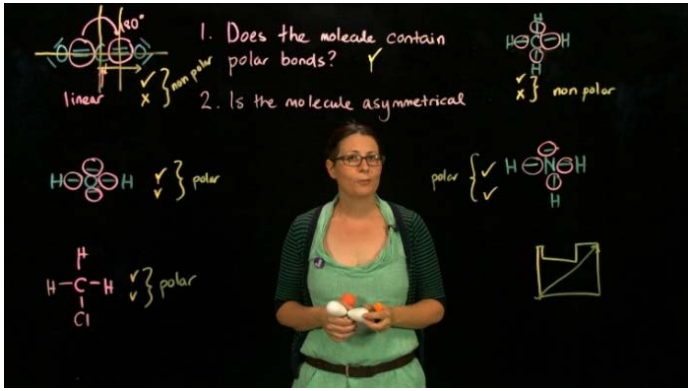
- No classroom lectures
- No workshops/tutorials
- Mastering Chemistry online tutorials with assessment weighting for participation
- Custom textbook
- Drop in clinic for learning support
- Lab redeveloped to merge workshop and lab learning activities

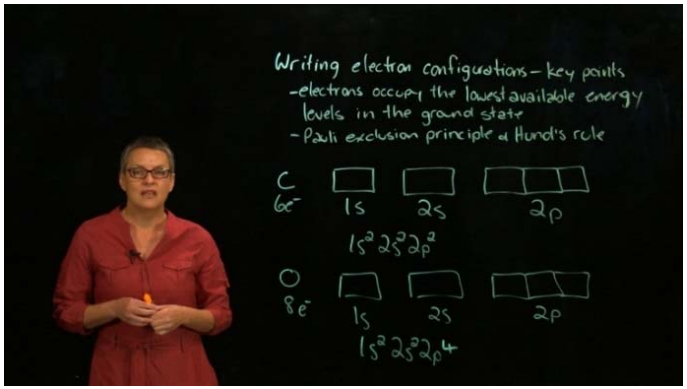
[1]Moog, R. S.; Spencer, J. N. *Process-Oriented Guided Inquiry Learning*; American Chemical Society: Washington DC, 2008.

Lecture Recordings

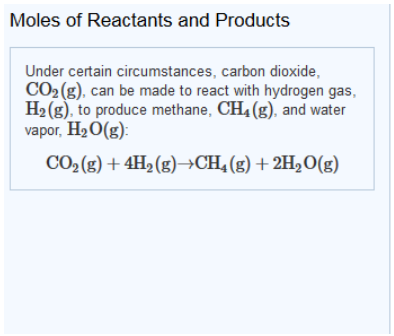
Original recordings
- Long (like traditional lectures)
- Not many

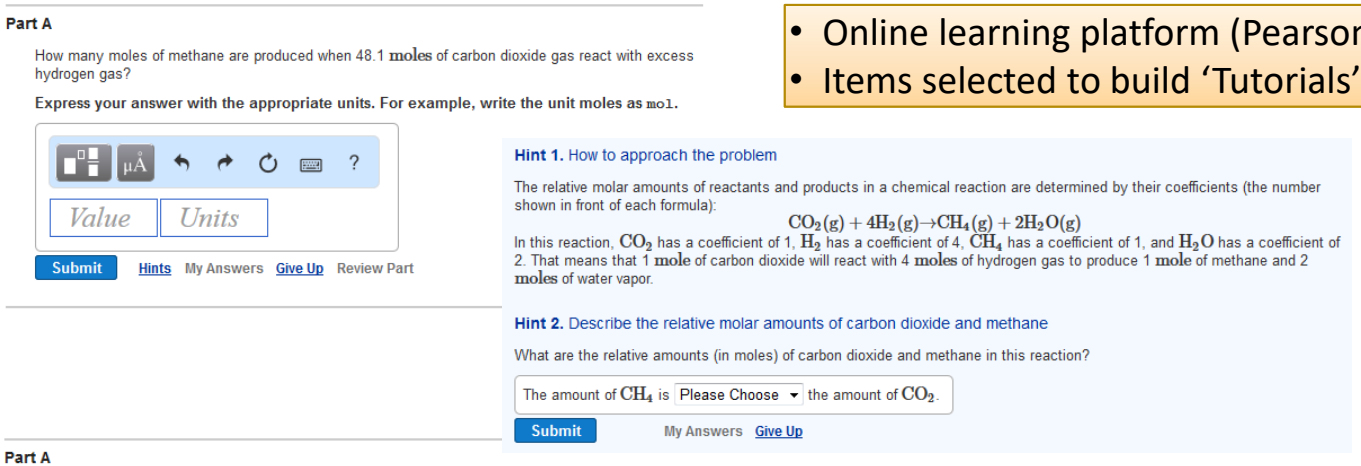
New set of recordings for 2018, using a variety of technologies
- Power point screen capture (Camtasia), lightboard, document camera screen capture
- Short (bites) and several recordings for each module



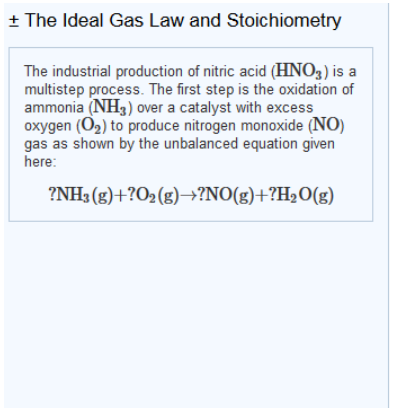


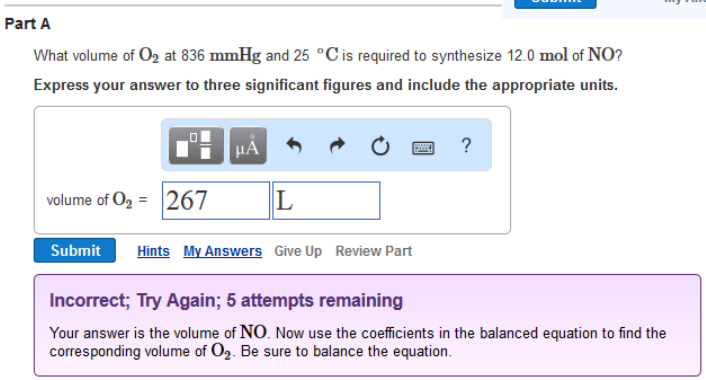
Mastering Chemistry





- Online learning platform (Pearson)
- Items selected to build 'Tutorials'





- Hints to guide students through problems – just like we do in classroom tutorials
- Incorrect answer feedback helps students determine where they went wrong

Labs – old and new design

Old laboratory classes (3 hours x 5)

- Lewis structures and molecular shapes
- Solubility rules
- Stoichiometry
- Titration
- Organic compounds

New laboratory classes (4 hours x 5)

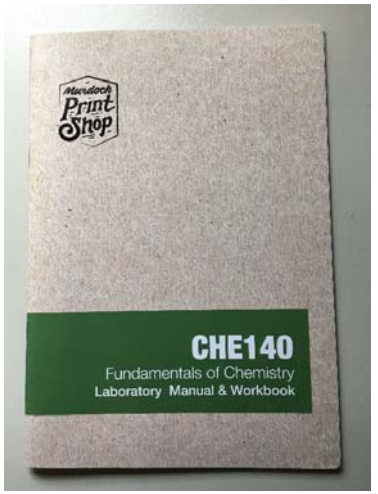
- Elements and the periodic table
- Representing pure substances and molecular shapes
- Intermolecular forces (Part A) Chemical reactions and equations (Part B)
- Oxidation and reduction reactions
- Synthesis of paracetamol

Old laboratory classes

- Limited range of concepts covered
- Focus on experimental work and associated student anxiety can take attention away from the learning opportunity
- Better if students prepare for class (most don't)
- Assessment by lab demonstrator in class

New laboratory classes

- No preparation required or expected*
- Highly structured, stand alone learning activities*
- Not lecture based, demonstrator facilitates learning*
- Workshop focus with basic experiments to reinforce certain concepts
- Demonstrator allocates participation mark
- Online quiz at the end of each lab



*POGIL principles – Moog, R. S.; Spencer, J. N. *Process-Oriented Guided Inquiry Learning*; American Chemical Society: Washington DC, 2008.

Conclusions

- Complete transformation from traditional to blended learning mode
- Good overall student satisfaction on unit surveys
- S1 2018 Question 8 – internal 5.00 and external 5.55 (out of 6)
- Average mark has improved, however…
- Assessment has also been restructured during the transformation
- Much research to be done
- Staff job satisfaction improved too ☺

Item 8

Prof Iain Murray, Faculty of Science & Engineering, Curtin University

Case study: Remote (online) labs, Blended learning perspectives/directions at Curtin University

Summary notes compiled post BL CLC meeting (unconfirmed)

- Context: teaching over many locations at the same time.
- Challenge: some students do not to come to campus, and so the challenge is how to get them to engage the learning. Hardware resources cannot sometimes be replicated (cost a factor).
- Approach: use online labs (booked by users), system allocates teams to do the labs collaboratively.

Remotely Accessible Synchronous Delivery of Electrical Engineering and Computing Subjects

Prof. Iain Murray AM
School of Electrical Engineering, Computing and Mathematical Sciences
Curtin University of Technology

What we will present today …

- Motivation for remotely accessible labs
- A bit of history
- The virtual classroom
- Extending the system
- Conclusions

CAVI

- Established Academies at –
  - Association for the Blind WA
  - National Association for Blind, New Delhi,India
  - Enable India, Bangalore, India
  - Ceylon Employers Federation Colombo
  - Peradeniya University Kandy
  - Royal National College for the Blind (UK)
- More than 300 students enrolled globally
- Offering 12 unique courses in ICT

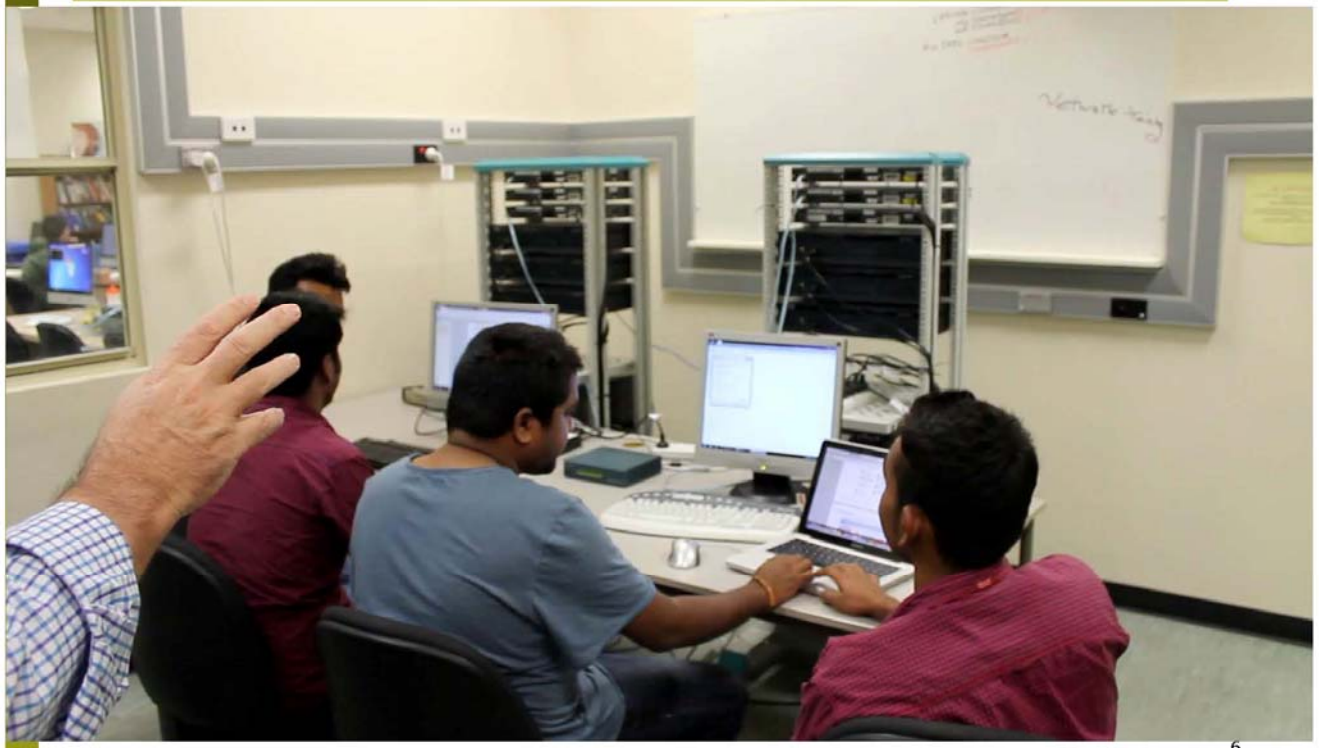
Motivation

- Cost
  - Equipment eg NI USRP $10,600 per pair +Labview
  - Expert support staff at each location
- Student access
- Scalability
  - Currently 4 campuses, Bentley, Miri, Sri Lanka and Dubai
  - MOOCS/Micromasters
    - 64,000+ students
    - Verified gain access to our labs

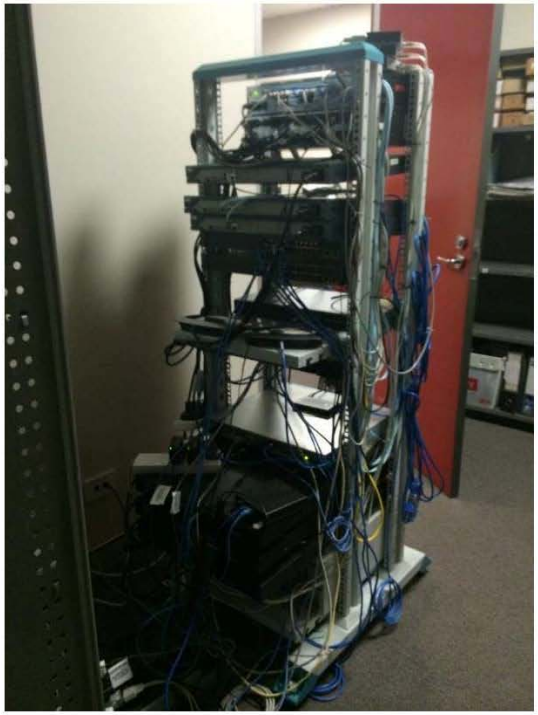
Cisco Network Academy Program

- Highly respected industry based program
- Over 1,000,000 students in 165 countries
- Started teaching blind and vision impaired students in 2002
- Included in ECE Units in 2003
- The Cisco Academy for the Vision Impaired (CAVI) is in around 15 countries
  - Not sure how many as it doesn't matter

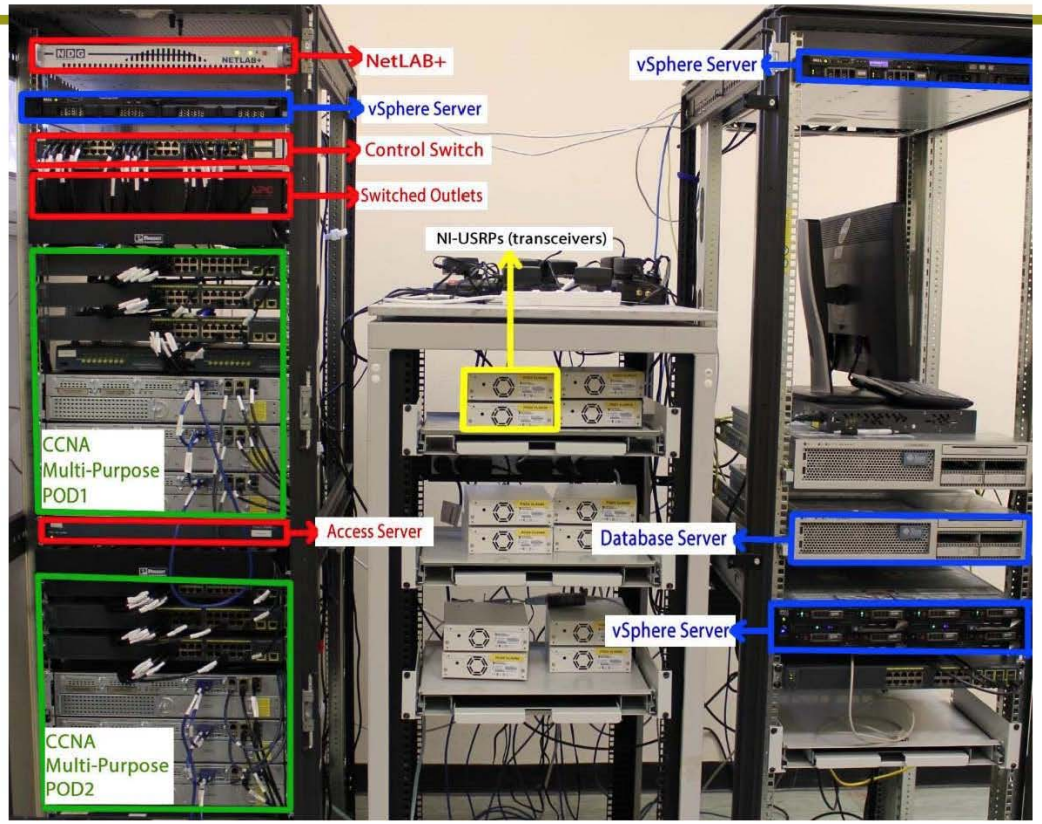
Current in Person Labs



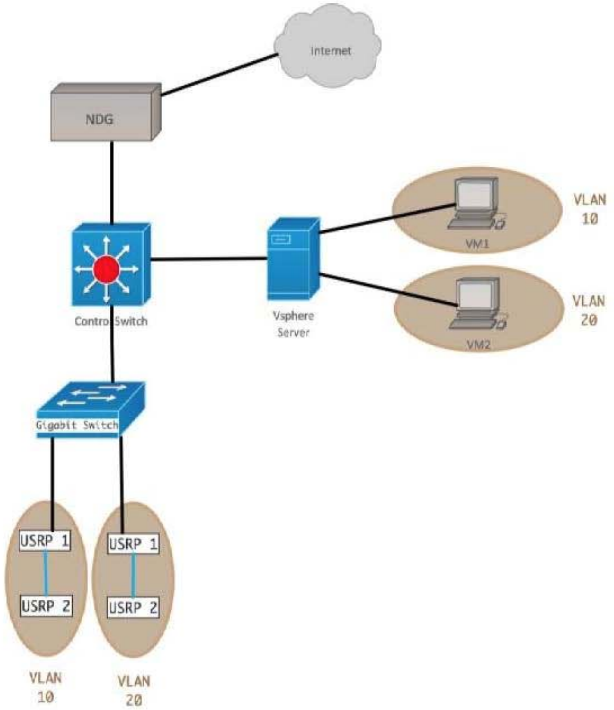
Remote Lab Equipment

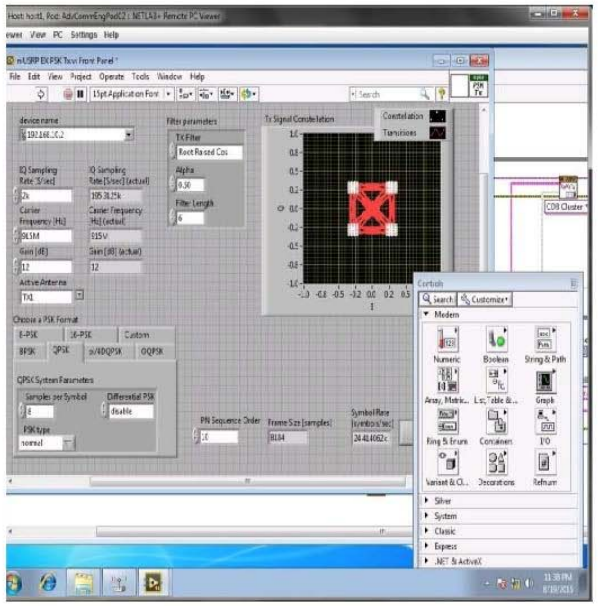


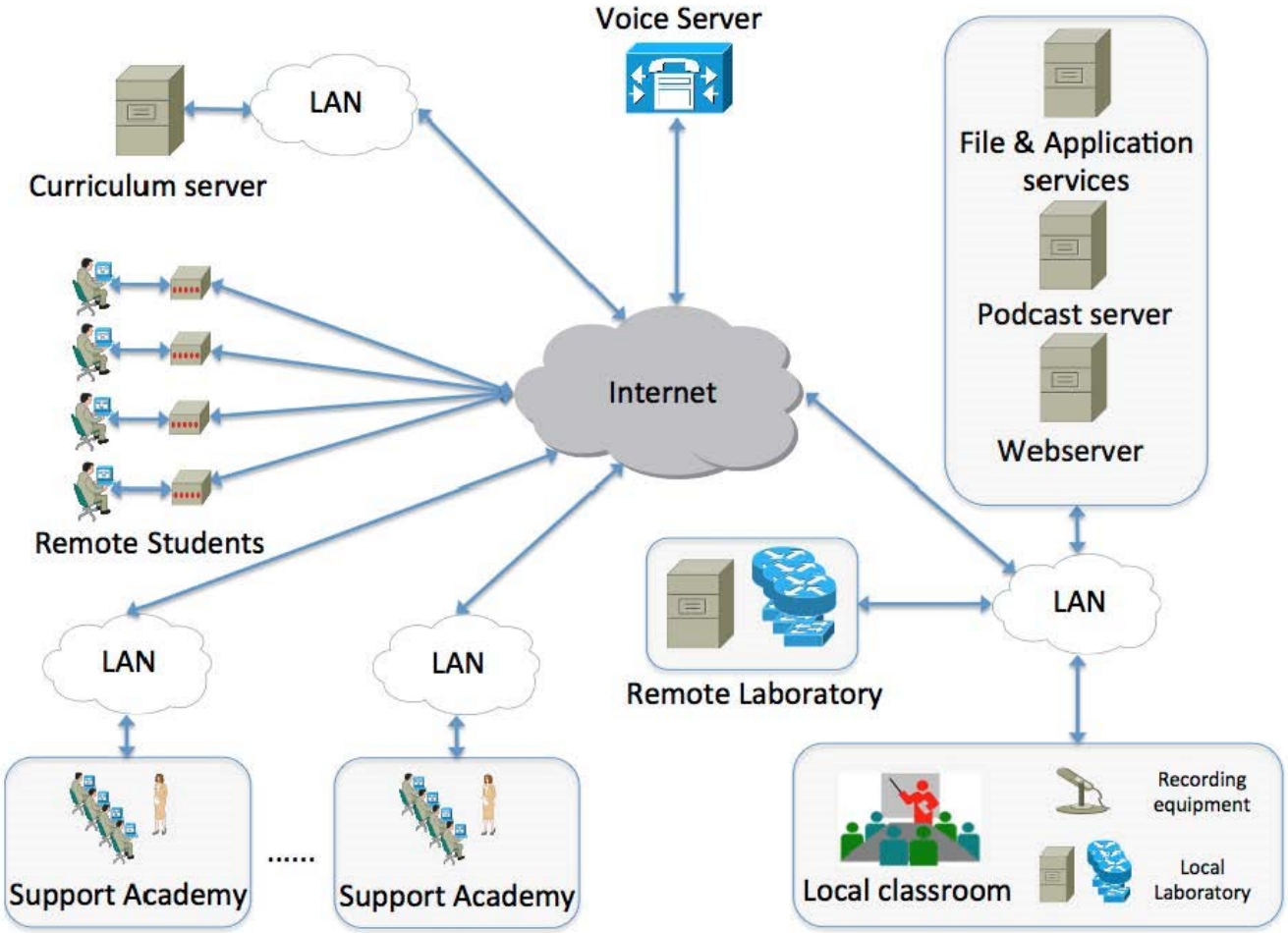
The New System

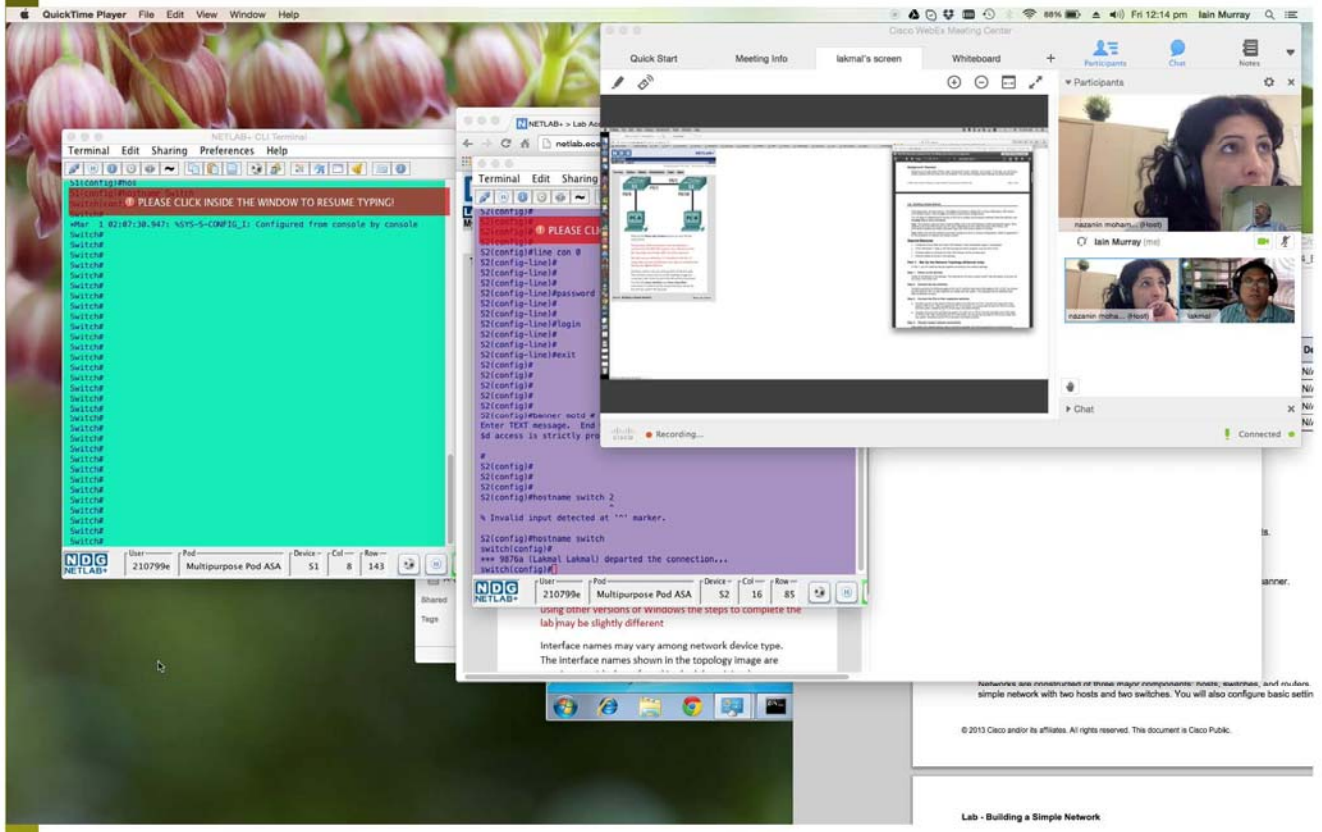


USRP Software Radio (QPSK modulation)






Voice Server
LAN
Curriculum server
File & Application services
Podcast server
Webserver
Internet
Remote Students
LAN
LAN
LAN
Remote Laboratory
Support Academy
.....
Support Academy
Local classroom
Recording equipment
Local Laboratory


QuickTime Player File Edit View Window Help
Fri 12:14 pm Iain Murray
Cisco WebEx Meeting Center
Quick Start
Meeting Info
lakmal's screen
Whiteboard
Participants
Chat
Notes
Iain Murray (me)
Recording...
Connected
NETLAB+ CLI Terminal
Terminal Edit Sharing Preferences Help
PLEASE CLICK INSIDE THE WINDOW TO RESUME TYPING!
Switch#
Terminal Edit Sharing
PLEASE CLI
S2(config)#
S2(config-line)#
S2(config)#hostname switch 2
% Invalid input detected at '^' marker.
S2(config)#hostname switch
switch(config)#
*** 9870a (Lakmal Lakmal) departed the connection...
switch(config)#
NDG NETLAB+
User 210799e
Pod Multipurpose Pod ASA
Device S1
Col 8
Row 143
Device S2
Col 16
Row 85
Interface names may vary among network device type.
The interface names shown in the topology image are
simple network with two hosts and two switches. You will also configure basic settin
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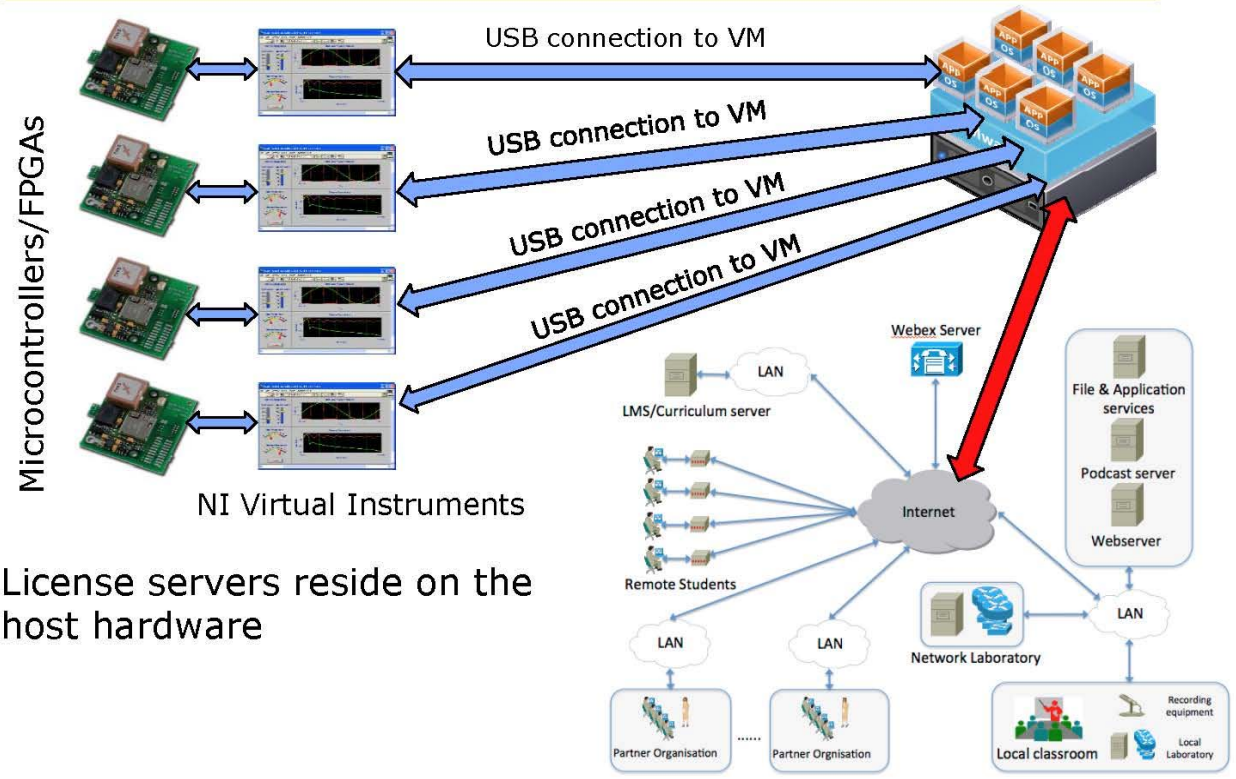
Lab - Building a Simple Network

New Challenges



License servers reside on the host hardware

New Challenges

POD USAGE EARLIEST to NOW

ID	NAME	TYPE	LABS	HOURS
1	Pod01-Multipurpose-ASA	AE Multi-purpose Academy Pod with ASA	1127.0	1984.7
2	Pod02-Multipurpose-ASA	AE Multi-purpose Academy Pod with ASA	525.0	869.9
3	Pod03-Multipurpose-noASA	AE Multi-purpose Academy Pod	756.0	704.4
5	Pod04-Multipurpose-noASA	AE Multi-purpose Academy Pod	359.0	367.7
1005	AdvCommEngPod03	NDG 1 Host Pod	213.0	317.3
1004	AdvCommEngPod02	NDG 1 Host Pod	197.0	305.0
1003	AdvCommEngPod01	NDG 1 Host Pod	275.0	259.5
1009	GEEP POD 01	NDG 1 Host Pod	58.0	134.3
1000	GEEP POD 02	NDG 1 Host Pod	56.0	118.5
6	Pod05-Multipurpose-noASA	AE Multi-purpose Academy Pod	92.0	65.3
1006	AdvCommEngPod04	NDG 1 Host Pod	68.0	55.2
1001	MCU01	NDG 1 Host Pod	28.0	53.0
1007	AdvCommEngPod05	NDG 1 Host Pod	57.0	43.4
1008	AdvCommEngPod06	NDG 1 Host Pod	50.0	39.6
1002	Embedded	NDG 1 Host Pod	18.0	18.6
4	Wireless	Wireless	6.0	15.8
1011	RedHat_Pod01	RHSA7	3.0	0.2
1010	RedHat_Master	RHSA7	1.0	0.0
TOTAL			3889.0	5352.4

Two units with approx. 550 students

- average of 7 laboratory sessions undertaken by each student
- 1 hour 45 min average on each session
- 5352 hours and 3889 individual or group sessions

Student Responses

Figure 1:Did you utilise the laboratory equipment outside normal operating hours

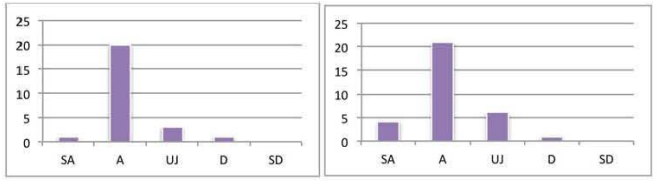


Figure 2: My Experience with Netlab was positive (left). Netlab is effective software for remote lab access. (right)

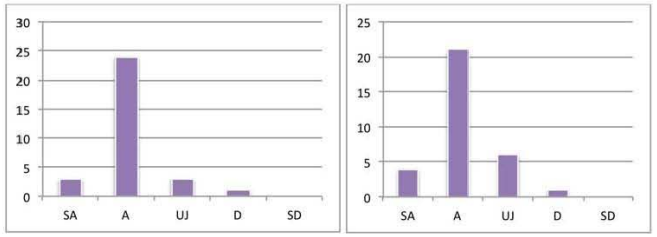


Figure 3: Netlab is easy to use (left). Netlab offered a consistent experience between the 2 campuses (right)

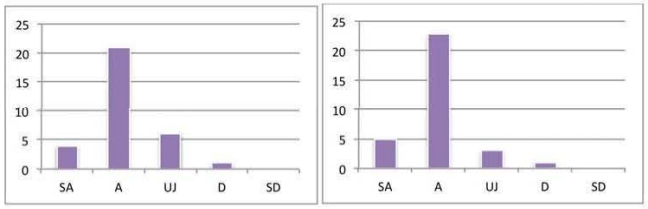


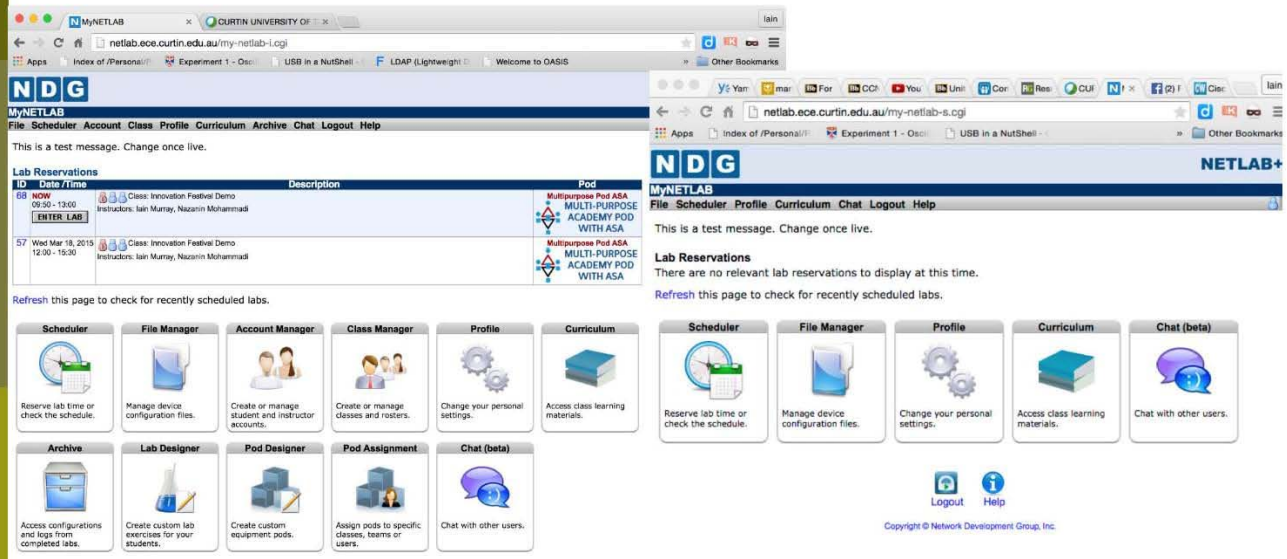
Figure 4: The remote lab offered me a safe learning environment minimizing possible safety risks, health hazards and accidents. (Left) The remote lab offered a good overall learning experience. (right)

Conclusion…

- 24/7 access to **REAL** laboratory equipment
- Cross campus collaboration
- Logging of laboratory work
- Shared Access
- Critical aspects
  - Peer support and sense of belonging
  - Face to face (or voice to voice) contact
  - Real (not simulated) lab equipment
  - Assessment


QUESTIONS?
http://www.cucat.org
NETWORKING ACADEMY
educating the Internet generation
success
innovation

Instructor and student main page

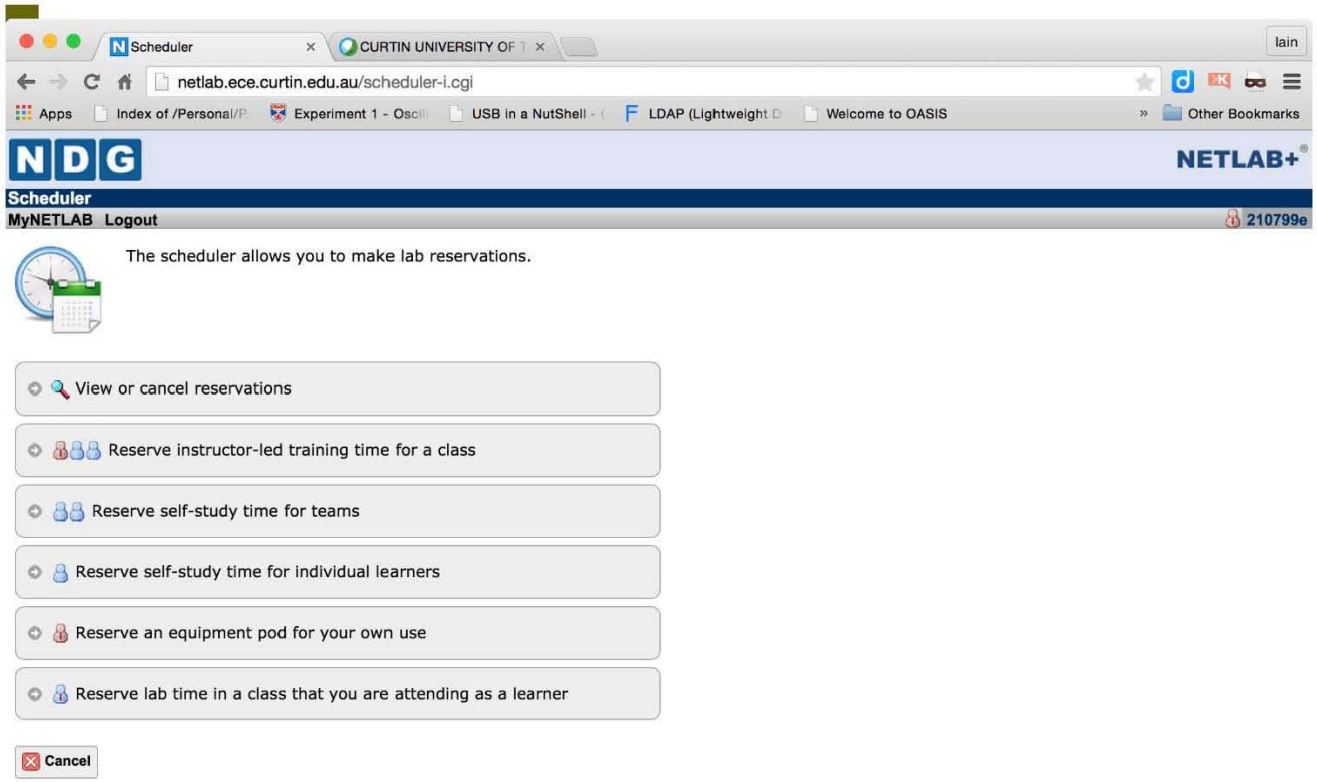


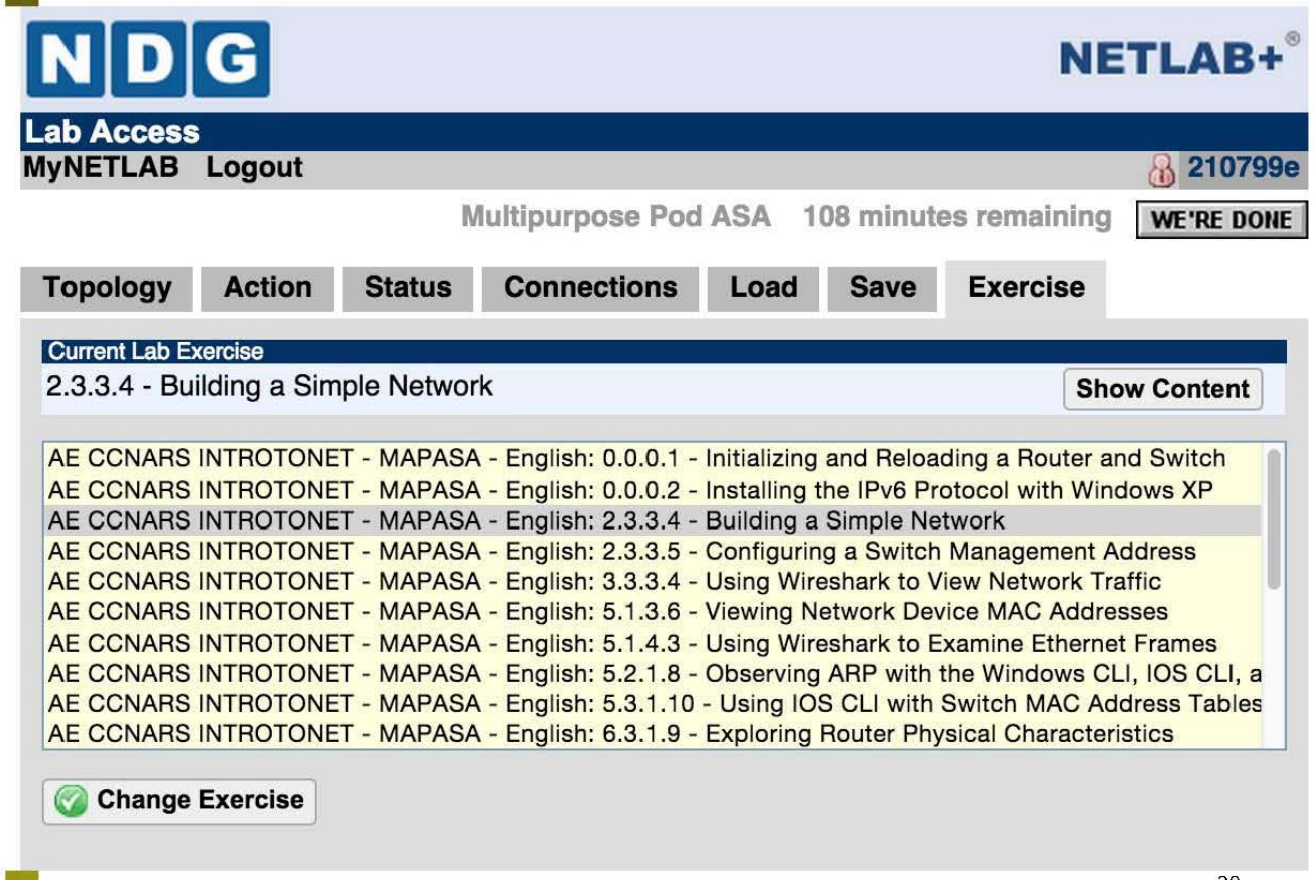
Select Class

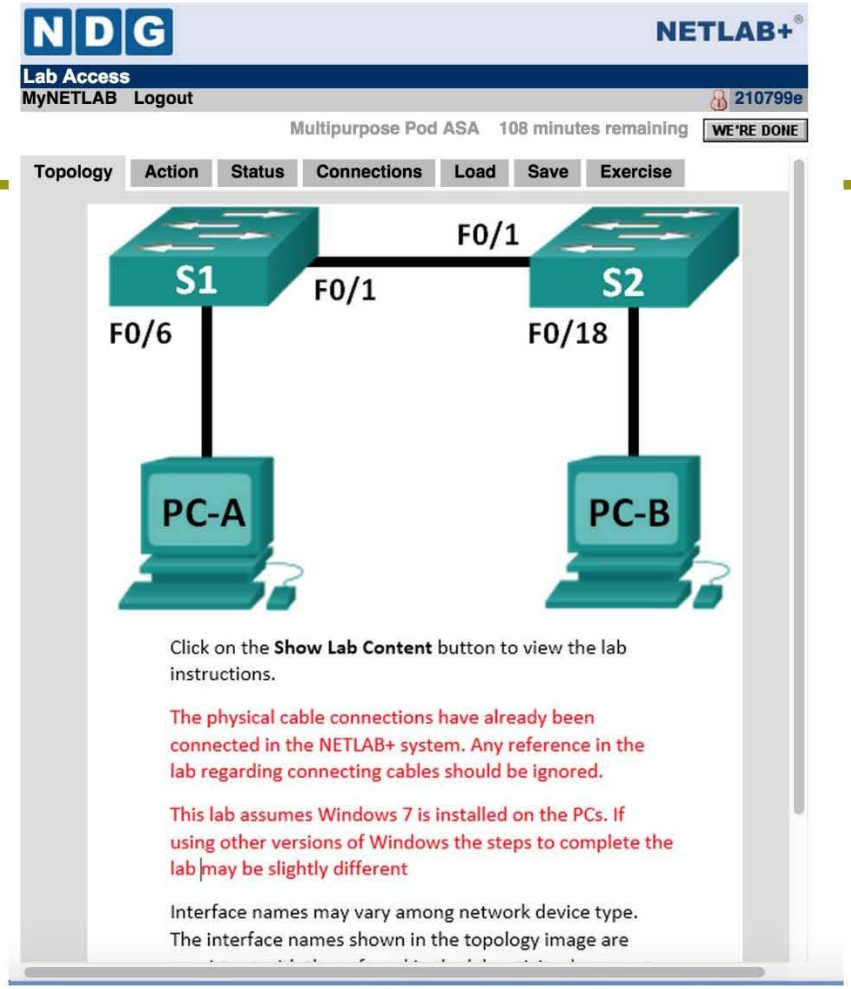
You are a lead instructor in the following class(es).

Class Name	Lead Instructors	# Enrolled	Start Date	End Date
DCNM-Sem1-2015	Iain Murray Nazanin Mohammadi	25	Feb 24, 2015	Jul 15, 2015
DN-Sem1-2015	Iain Murray Nazanin Mohammadi	18	Feb 23, 2015	Jul 15, 2015
Innovation Festival Demo	Iain Murray Nazanin Mohammadi	6	None	None
ND-Sem1-2015	Iain Murray Nazanin Mohammadi	15	Feb 24, 2015	Jul 15, 2015

Cancel


Scheduler
CURTIN UNIVERSITY OF T
lain
netlab.ece.curtin.edu.au/scheduler-i.cgi
Apps
Index of /Personal/P
Experiment 1 - Oscil
USB in a NutShell - (
LDAP (Lightweight D
Welcome to OASIS
Other Bookmarks
NDG
NETLAB+
Scheduler
MyNETLAB Logout
210799e
The scheduler allows you to make lab reservations.
View or cancel reservations
Reserve instructor-led training time for a class
Reserve self-study time for teams
Reserve self-study time for individual learners
Reserve an equipment pod for your own use
Reserve lab time in a class that you are attending as a learner
Cancel


NDG
NETLAB+
Lab Access
MyNETLAB Logout
210799e
Multipurpose Pod ASA 108 minutes remaining
WE'RE DONE
Topology
Action
Status
Connections
Load
Save
Exercise
Current Lab Exercise
2.3.3.4 - Building a Simple Network
Show Content
AE CCNARS INTROTONET - MAPASA - English: 0.0.0.1 - Initializing and Reloading a Router and Switch
AE CCNARS INTROTONET - MAPASA - English: 0.0.0.2 - Installing the IPv6 Protocol with Windows XP
AE CCNARS INTROTONET - MAPASA - English: 2.3.3.4 - Building a Simple Network
AE CCNARS INTROTONET - MAPASA - English: 2.3.3.5 - Configuring a Switch Management Address
AE CCNARS INTROTONET - MAPASA - English: 3.3.3.4 - Using Wireshark to View Network Traffic
AE CCNARS INTROTONET - MAPASA - English: 5.1.3.6 - Viewing Network Device MAC Addresses
AE CCNARS INTROTONET - MAPASA - English: 5.1.4.3 - Using Wireshark to Examine Ethernet Frames
AE CCNARS INTROTONET - MAPASA - English: 5.2.1.8 - Observing ARP with the Windows CLI, IOS CLI, a
AE CCNARS INTROTONET - MAPASA - English: 5.3.1.10 - Using IOS CLI with Switch MAC Address Tables
AE CCNARS INTROTONET - MAPASA - English: 6.3.1.9 - Exploring Router Physical Characteristics
Change Exercise


NDG
NETLAB+
Lab Access
MyNETLAB Logout
210799e
Multipurpose Pod ASA 108 minutes remaining
WE'RE DONE
Topology
Action
Status
Connections
Load
Save
Exercise
S1
S2
F0/1
F0/1
F0/6
F0/18
PC-A
PC-B
Click on the Show Lab Content button to view the lab instructions.
The physical cable connections have already been connected in the NETLAB+ system. Any reference in the lab regarding connecting cables should be ignored.
This lab assumes Windows 7 is installed on the PCs. If using other versions of Windows the steps to complete the lab may be slightly different
Interface names may vary among network device type. The interface names shown in the topology image are

NDG NETLAB+

Lab Access

MyNETLAB **Logout** 210799e

Multipurpose Pod ASA 106 minutes remaining WE'RE DONE

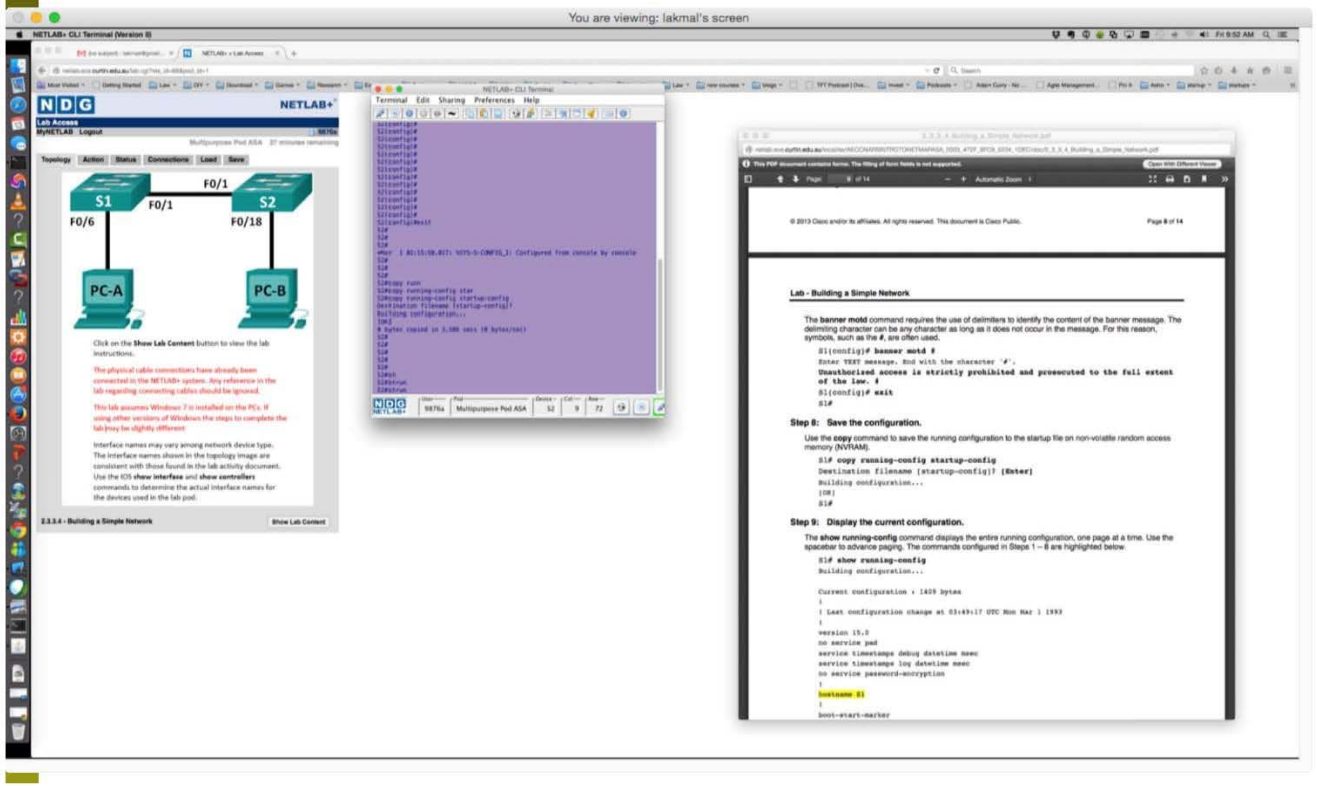
Topology | **Action** | **Status** | **Connections** | **Load** | **Save** | **Exercise**

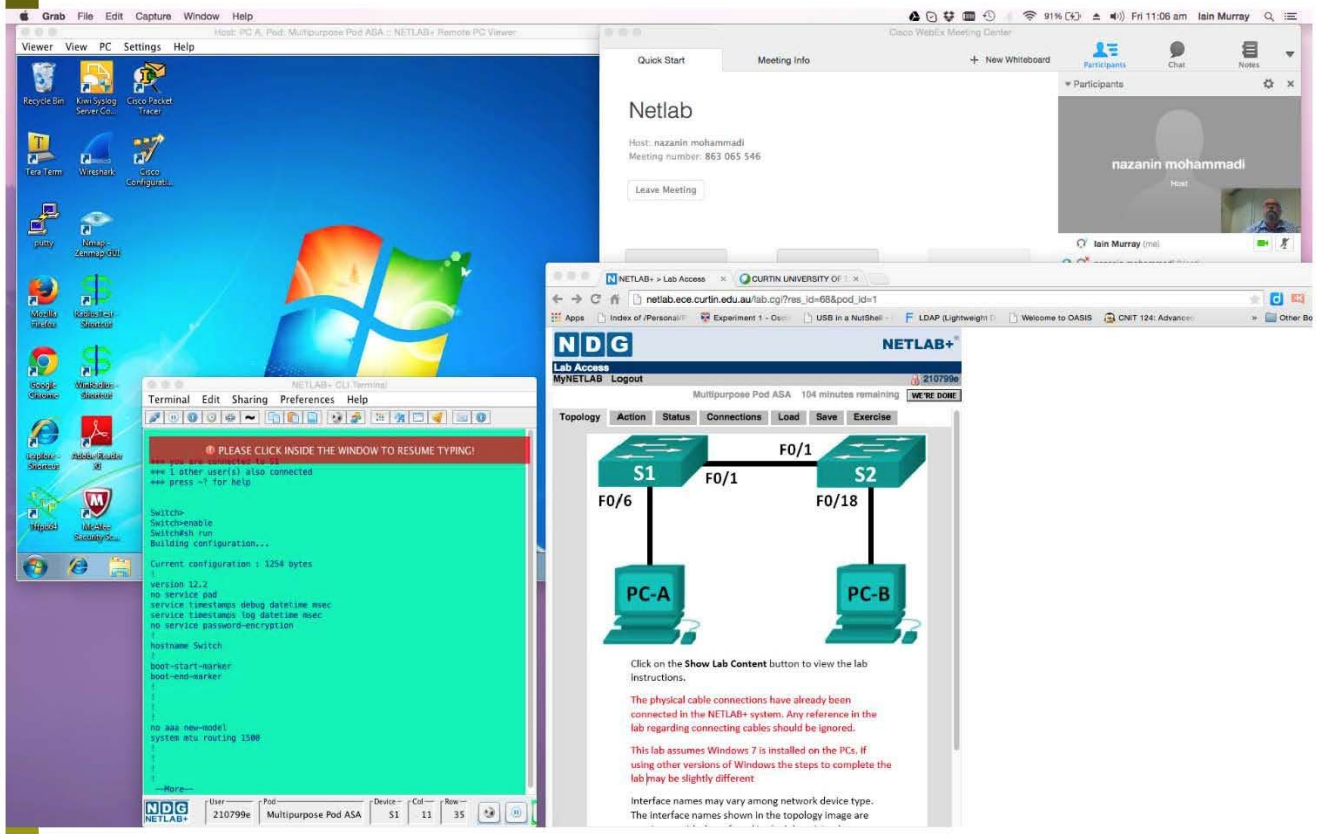
DEVICE	TYPE	USER ID	NAME	PRIORITY
R1	Cisco 2901/2911 (S0/0/x)	-	-	-
R2	Cisco 2901/2911 (S0/0/x)	-	-	-
R3	Cisco 2901/2911 (S0/0/x)	-	-	-
S1	Cisco 2960	235526l	Nazanin Mohammadi	1
S2	Cisco 2960	-	-	-
S3	Cisco 2960	-	-	-
ASA	Cisco ASA 5505	-	-	-
PC A	Windows 7	235526l	Nazanin Mohammadi	
PC B	Windows 7	-	-	-
PC C	Windows 7	-	-	-

CLICK ON THE DEVICE NAME TO OPEN A CONNECTION

Drop My Connections

Instructor view of a students screen




Netlab
Host: nazanin mohammadi
Meeting number: 863 065 546
Leave Meeting
nazanin mohammadi
Host
Iain Murray
NDG
NETLAB+
Lab Access
MyNETLAB Logout
Multipurpose Pod ASA 104 minutes remaining
WE'RE DONE
Topology
Action
Status
Connections
Load
Save
Exercise
S1
S2
F0/1
F0/1
F0/6
F0/18
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PC-B
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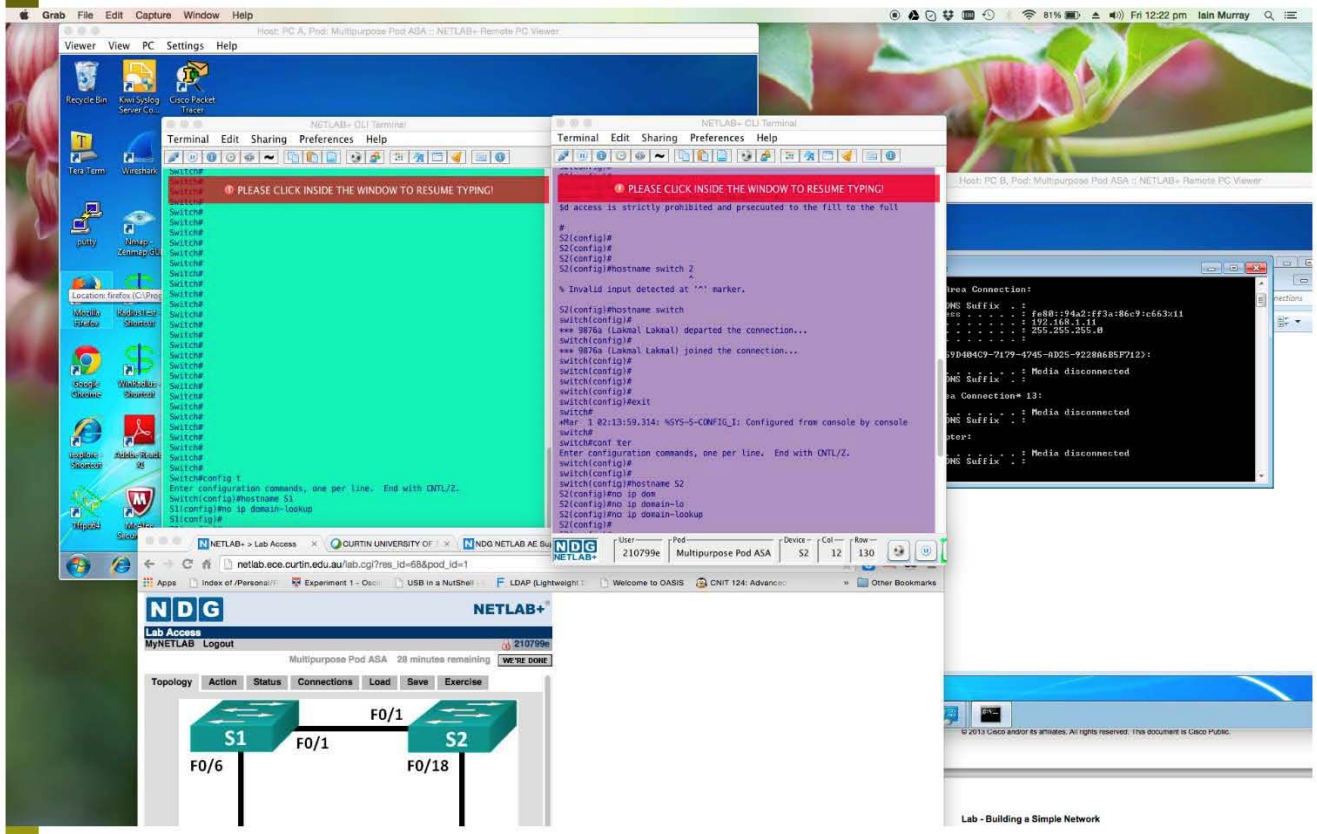
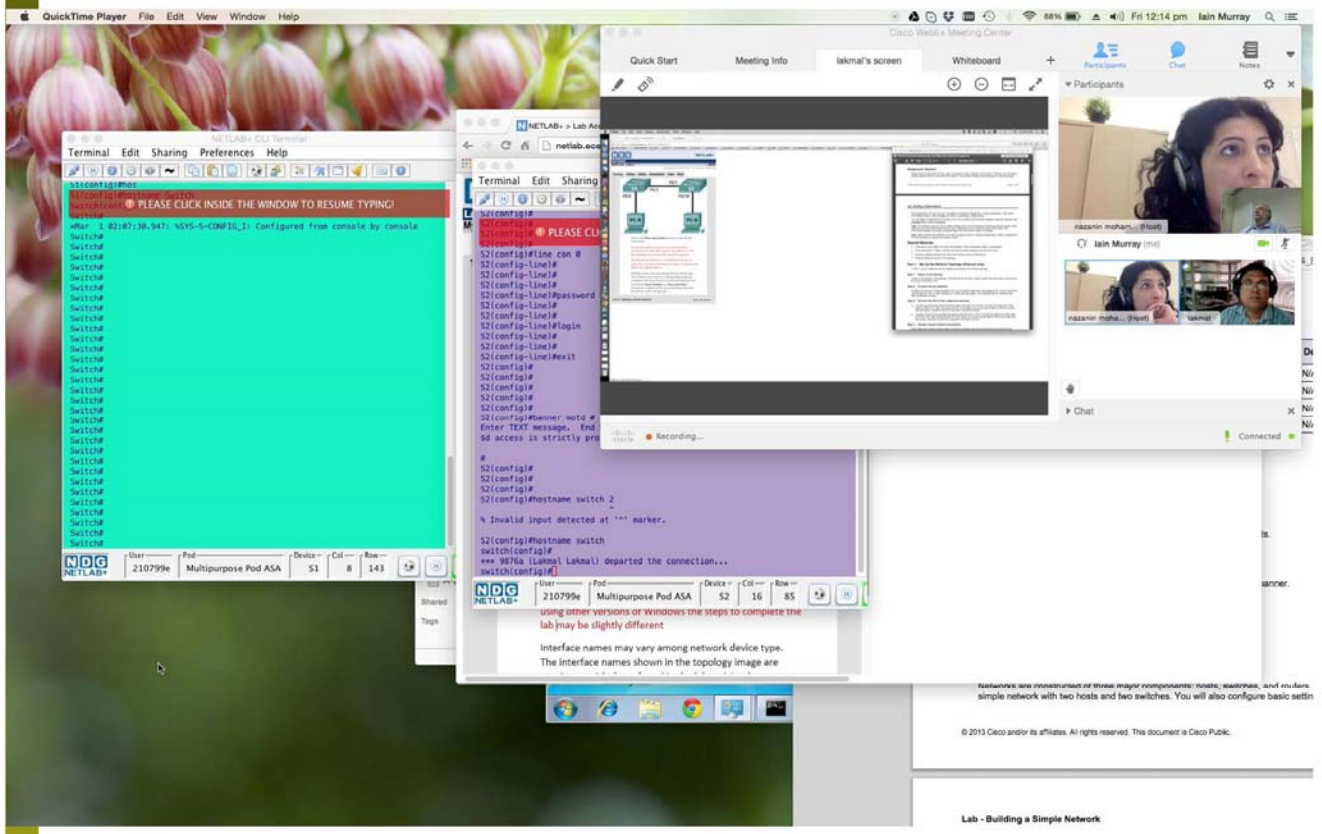

Grab File Edit Capture Window Help
Fri 12:22 pm Iain Murray
Viewer View PC Settings Help
Terminal Edit Sharing Preferences Help
PLEASE CLICK INSIDE THE WINDOW TO RESUME TYPING!
Switch(config)#hostname S1
S1(config)#no ip domain-lookup
S1(config)#
S2(config)#hostname switch 2
% Invalid input detected at '^' marker.
S2(config)#hostname switch
switch(config)#exit
Enter configuration commands, one per line. End with CNTL/Z.
S2(config)#hostname S2
S2(config)#no ip dom
S2(config)#no ip domain-lo
S2(config)#no ip domain-lookup
netlab.ece.curtin.edu.au/lab.cgi?res_id=68&pod_id=1
NDG NETLAB+
Lab Access
MyNETLAB Logout
Multipurpose Pod ASA 28 minutes remaining
WE'RE DONE
Topology Action Status Connections Load Save Exercise
S1
S2
F0/1
F0/1
F0/6
F0/18
Lab - Building a Simple Network


QuickTime Player File Edit View Window Help
Fri 12:14 pm Iain Murray
Terminal Edit Sharing Preferences Help
PLEASE CLICK INSIDE THE WINDOW TO RESUME TYPING!
Terminal Edit Sharing
Quick Start
Meeting Info
lakmal's screen
Whiteboard
Participants
Chat
Recording...
Connected
Interface names may vary among network device type.
The interface names shown in the topology image are
Lab - Building a Simple Network

Edith Cowan University
Centre for Learning and Teaching

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Join us for our next event and **forward** this to other colleagues at ECU and any of Perth's based Uni's who may want to join the BL CLC

✉ y.al-abdeli@ecu.edu.au or c.moore@ecu.edu.au

Co-coordinators, BL CLC

Acknowledgements: Thank you to presenters for consenting to share their slides.

Access: Summary notes (slides) of earlier BL CLC activities:
https://intranet.ecu.edu.au/learning/academic-development/learning-communities/blended-learning-community