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## The Open Networking Lab: an open online course for experiential learning of computer networking

### Conference or Workshop Item

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# Open Networking Lab!

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*@OpenNetLab*

# Background

# The Basics of Networking

Who are we?

We work in the  
School of  
Computing and  
Communication at  
the Open University



# The Basics of Networking

Why do we need a zero to hero course?

- Solving the challenge of taking students through the first ‘threshold’ concepts of Network Engineering
- By creating a open BOC



# The Basics of Networking



Funded by UFI

Their passion for creating scalable tools with impact, longevity and reach.



# The Basics of Networking

## Netacad?

- Based on our community leadership role ... supporting 115 affiliated educational organisations?
- Ongoing support from Cisco
- Opportunity to reach wider national Post 16 education community
- Supported by a global 'vendor' CSR programme designed to help 'computing' and 'networking' engagement.



Networking  
Academy

# The Basics of Networking

Using an integrated network simulator.

1. HTML5 integration of Cisco Packet Tracer desktop based network simulator.
2. Devices include  
*Router, Switch, Server, PC, Wireless*
3. All configurable



**Open Networking Lab**



# The Basics of Networking

Offering a free BOC.

- Offering minor award
- Open to anyone anywhere
- Hosting on OpenLearn



**<badge>**

# Structure

# Structure

## Home Networking

Introducing  
concepts and  
practices in a form  
most students will  
have some  
'familiarity'.



# Structure

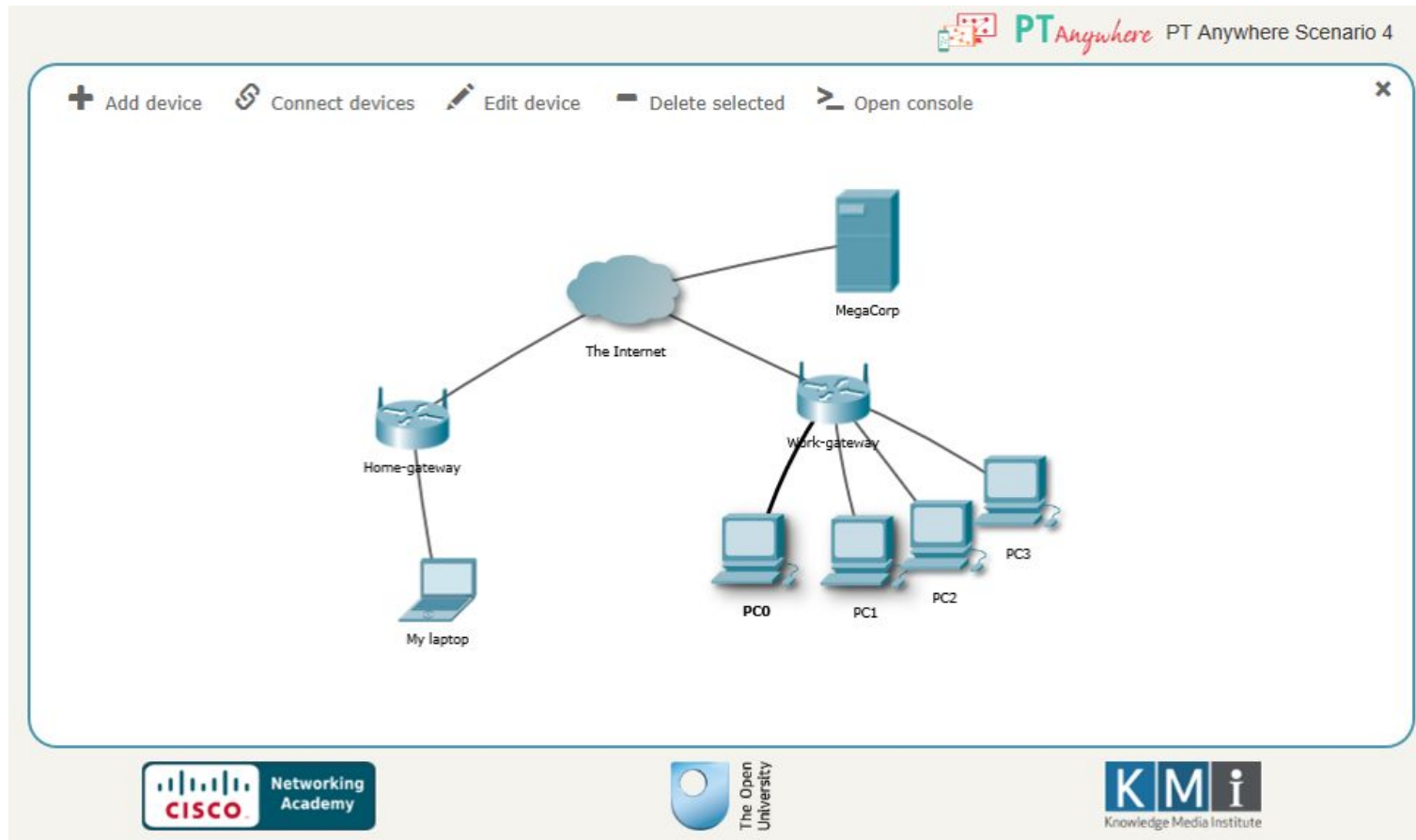
## Commercial Networking

Dipping an intellectual and experiential toe into the wider field of networking.



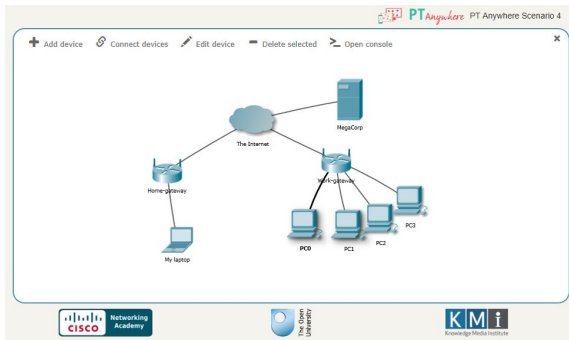
# Structure

## The simulator ...



# Structure

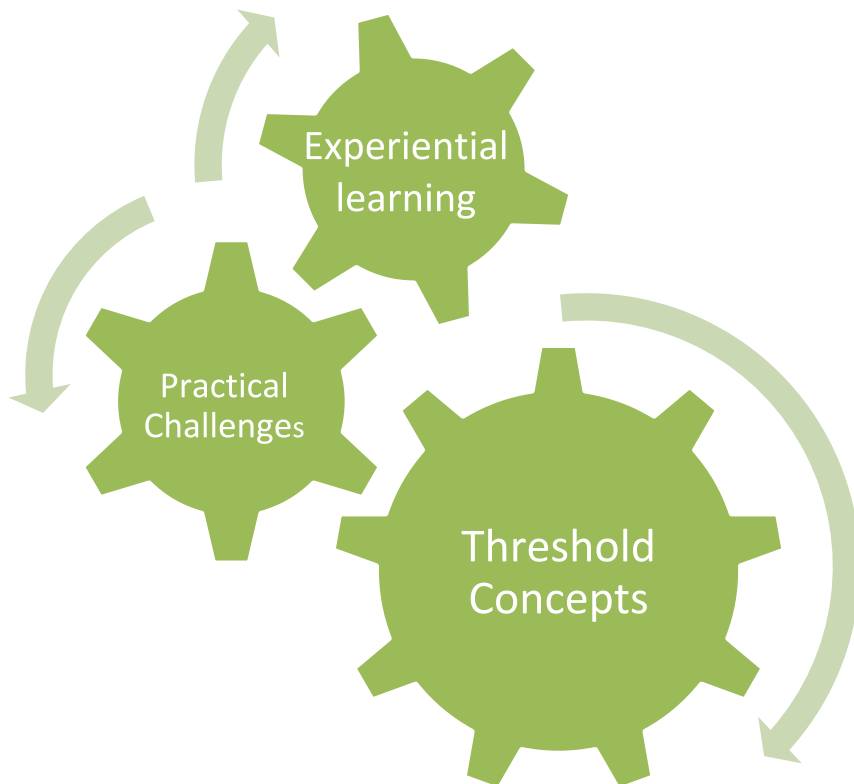
## The simulator, continued ...



- Experiential learning, practice based
- HTML5 - Web browser integration
- A simplified version of the Cisco Packet Tracer network simulator.

# Structure

## Experiential learning?



Kolb'esque!

*Learn it!*  
*Discover it!*  
*Do it!*  
*Get tested on it!*  
**REPEAT**

# Phase 1 - Testing



# Phase 1 - Testing

## FE Colleges

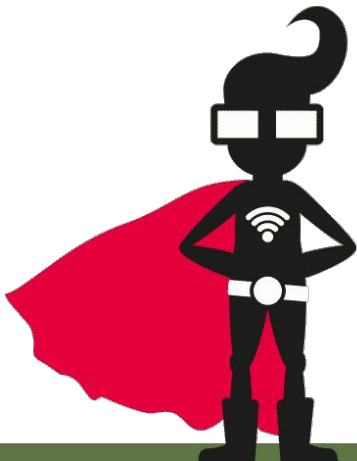


1. During Spring 18, in-class testing with age 16+ & 18+ students
2. Reached 180+ during Phase 1
3. In class sessions based around college timetables

# Phase 1 - Testing

## Teaching practitioners

- Also engaged with OU Cisco teachers community.
- Having a practitioners perspective and mass testing group.
- Mass testing two weeks during August 18
- Over 500 signed up around 200 engaged (115 gave feedback)



# Data

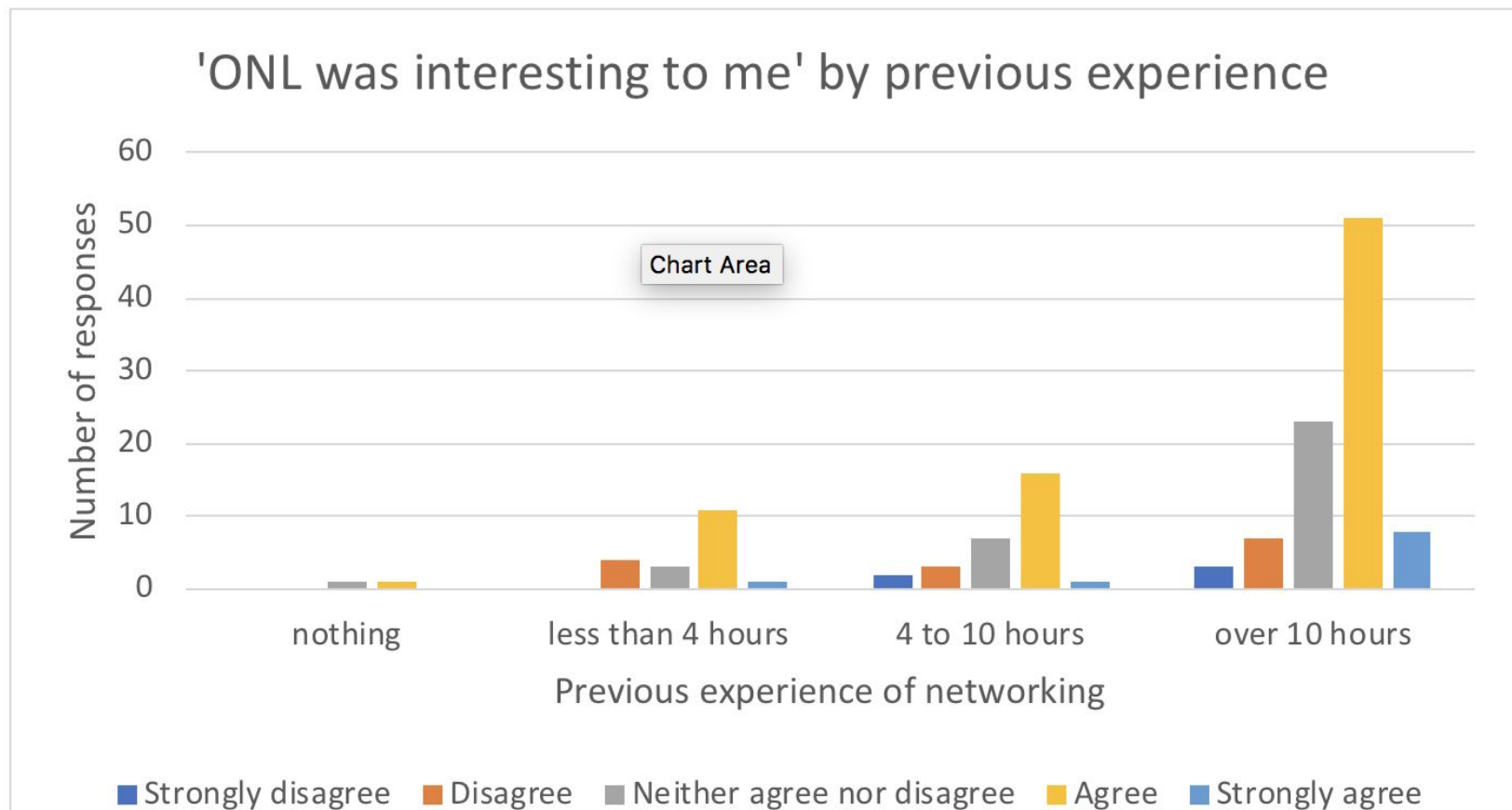
# Data

## Ok, not that Data!

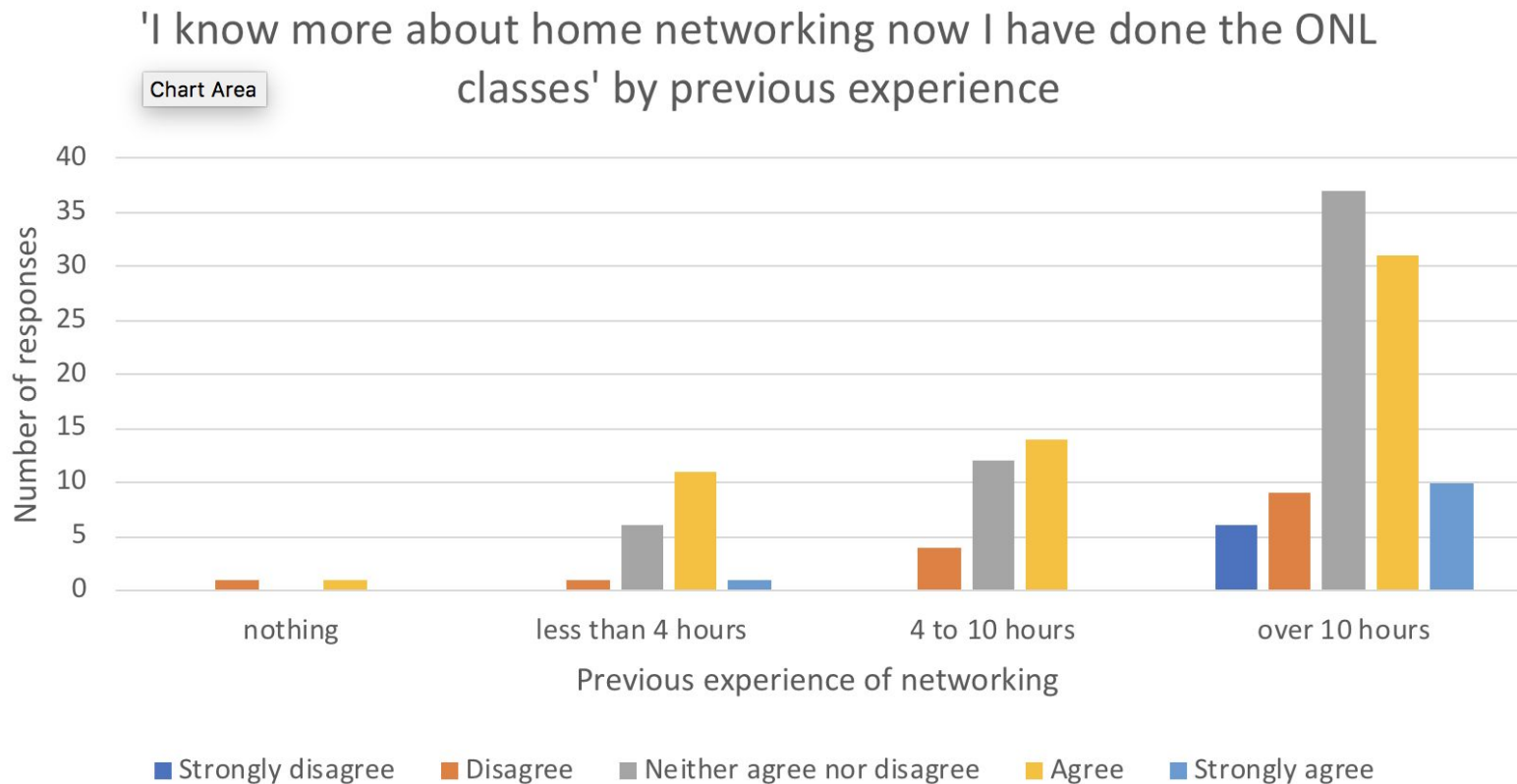


- 150 survey responses from students
- We also tested this later in the year when ‘some’ networking was already delivered
- BTEC, Cambridge Tech, AQA, Apprenticeship students
- We can see that engagement equates to understanding

## Perceived interest and value of the ONL content



## Perceived change in knowledge acquisition based on study commitment



## *“Quotations” selected by ...*

- *"I liked the open University video as they went through a lot of things in depth"*
- *"I understood what was being taught to me and it was a fresh way of learning"*
- *"I found it very welcoming for someone of my experience" (<4 hrs previous study of networking)*
- *"The included Packet Tracer activities were really useful"*
- *"I prefer the combination of short videos and more practical activities in this session."*

**Whats Next?**



# Whats Next

## *And finally*

- Creating a series of short simulated challenges
- Adding future content
- Continue testing and development
- Deploy to Open Learn
- Deploy to the Cisco Netacad global community - allowing other Cisco Academies to use content

***This is the last slide!***