



# Learning Wireless LAN Technologies

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For the last 15 years of my life I've been an instructor of networking technology. Yes, I've dabbled a bit in the consulting arena, spending between 20% and 40% off my available time helping others to design, troubleshoot, implement, and maintain with Enterprise Wireless LAN Infrastructure. But basically, I've been a teacher.

I started with the Novell tracks, CNA, CNE, CNI, Master CNE, Master CNI...

Then on to the Microsoft tracks of MCP, MCSE, MCT, MCSE+

The entire CompTIA series from A+, Security+, Network+, Server+, etc.

And of course there was the Cisco tracks of CCNA, CCDA, CCNP, CCDP.

Then about ten years ago I decided to focus on just Wireless Networking, CWNA, CWSP, CWAP, CWNE on the vendor neutral track, as well as the Cisco CCNA Wireless (a couple options there as the programs change) I mention that not because I want to tout my own education, but to set a base of knowledge that many of you have also taken in your careers. Basically, as a lead in for today's podcast topic of "Learning Wireless LAN Technologies"

### Learning Styles

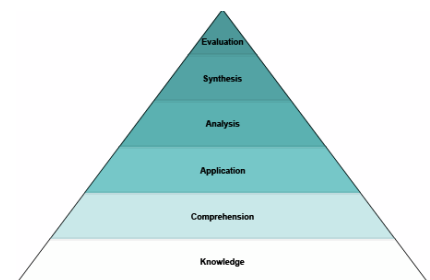
I've taken thousands of hours of instructor-led courses, and even more hours of self-study, and even a couple of online courses. And in that process I've learned about how I learn. That is a fairly iterative statement, but one that makes sense.

How does one learn?

Linking to previous knowledge

Blooms Taxonomy

What is the goal of learning? Just to regurgitate things you've read? Different tasks require different levels of knowledge, thus Bloom defined this 'taxonomy' or pyramid that can help explain how different concepts need to be learned, to accomplish different goals. The more you need the top level in your work, the more education you need to attain. Double-click to view the graphic a bit larger.



Bloom's Taxonomy of learning. Adapted from: Bloom, B.S. (Ed.) (1956) Taxonomy of educational objectives: The classification of educational goals. Handbook I, cognitive domain. New York ; Toronto: Longmans, Green.

Why do you learn? How do you learn?

What is your learning style? Do you learn via visual, auditory, physical,? Take the inventory assessment, but you probably already know what works best for you. Visit <http://www.learning-styles-online.com/inventory/> for more information on your Learning Styles Inventory.



When is the best time to study?

Make a study area.

Get 'permission' for learning from your boss, spouse and even yourself.

“If you only learn by doing, then you’ll only ever know what you’ve done.”

## Learning Options

### Instructor-Led

Like many of you, I enjoy instructor-led training, it's the way I assimilate new information the fastest. Not only because I'm in a room with someone who knows a lot more about the subject than myself, but more importantly, it forces me to sit still in one place and concentrate on a single subject. I don't have the internal discipline to stay focused all the time.

The costs for instructor-led training are fairly high, travel, hotels, food, plus the costs of the class. Oh, and the time away from earning a living. But this is the tried-and-true method that works best for me. Even with the extra costs involved, this allows me time to focus on the learning at hand. For certification training, this is the ONLY way that works for me. I can go and be free to study all day, and then all night without any distractions from work or family responsibilities.



Is instructor-led learning what works best for you? Why?

### Self-Study

I've also done massive amounts of self-study. Via Books, CBTs, White Papers, and Audio Tracks. Personally, I'm very 'addicted' to books. I'll buy a new technical book, if it only has a single chapter of knowledge I can learn from. White papers abound on the internet, get yourself a great PDF reader. I really enjoy GoodReader on my iPad. I can carry hundred of technical

documents with me in a single, easy-to-read, easy-to-search, and 'zoom-able' solution that can be with me all the time.



Where possible, I buy Kindle or e-book versions. If not available in those formats, I'll opt for a PDF, and then finally, if I have to, I'll buy the paper version.

If you find an author that 'speaks' to you, stick with it. If you don't/can't relate to the author, find another book.

Be a good student, ask lots of questions, use the index, Google, searches, and have some discipline.

### **Group-Study**

Some people are social learners. They need the interaction with others to help them form their opinions. They 'process' the information before assimilation. This isn't bad, but it's just not me at all. In MBA school we had group projects, and to me group learning is like managing by a committee, nothing gets done but a waste of time. Each person individually will eventually do their own work. But some folks like this method. If you are one of them, then find groups, even online groups to help assist you in your learning. Attending instructor-led training can usually help with this learner, but be sure to be friendly and find others in the same class where you can spend time together reviewing the materials.

### **Hands-On**

OK, now here is one of the best ways for IT folks to learn. A lot of us learn though the interface. Trying, failing, and trying again. This technique can be quite useful and works wonders when you have the base understanding of the concepts behind what you are doing.

For many many of those I teach and consult with in the wireless world, they have used this to design, install,

and maintain their Wireless LANs. But without the base understanding of how 802.11 works, their networks continue to have problems, and they continually are chasing down troubleshooting issues.

Many of these issues would go away, and stay away if they would only have understood the underlying principles BEFORE they started in on the interface.



## SET RANT = ON

One of my biggest pet peeves in the classroom is when people **HAVE TO** get to the interface, and have questions about **HOW** to do things in a specific pieces of software, but refuse to learn **WHY** you should be in the interface at all. Learn the concepts first, and the interface will be much much easier to understand.

## SET RANT = OFF

### Online Training

How to be a good online training student.

Prepare the online interface before class, test and retest your connections.

Use headphones with a good mic.

#### **Ask lots of questions.**

You are only one click away from doing something you'd like to be doing.

Focus, focus, focus! Be a nice 'neighbor' to other students.

This is much harder on the instructor than a face-to-face instructor-led training session. Lack of feedback, trying to maintain student attention. Help the instructor by providing feedback and asking questions for clarity.

Don't study from you office desk, get rid of distractions, you are NOT working, this is learning. Priorities folks!

## Certification Options

### Different Goals

### Vendor Neutral

**CWTS** – Entry Level, Vocabulary, Technical Sales Oriented

**CWNA** – Base level concepts, generic hands-on, in-depth knowledge

**CWSP** – Specific to Wireless Security, vendor-agnostic solutions, in-depth knowledge

**CWAP** – Very detailed packet-level analysis, multiple vendor solutions, get to know 'Why'

**CWDP** – Best Practices, vendor-agnostic, experience based

**CWNE** – Capstone certification, all encompassing, written exam & practical experience

## Vendor Certifications: Cisco

**CCNA Wireless** – basic understanding of WiFi Technology, heavy emphasis on the Cisco solution

**CCNP Wireless** – detailed understanding of Wi-Fi, but even more emphasis on Cisco Solution

**CCIE Wireless** – experience based, written exam and very difficult practical exam, Cisco Partners

## Other Vendors

AirMagnet, AirDefense, OmniPeek, Aerohive, Wireshark, Etc.

## Conclusions

Be a good student:

Ask lots of questions

Never move on to the next topic without understanding the one you are on.

Ask lots of questions

Study, read, practice, and

Ask lots of questions

See a pattern here?

It is your responsibility for your own learning. Take a bit of control. Find the learning style that works best for you. Dedicate your time and energy into study. Use all available resources in your learning process. Do It!



*Wireless LAN Training/Consulting*

**Keith R. Parsons, CWNE #3**

Managing Director

Institute for Network Professionals

281 South Vineyard Road - #104

Orem, UT 84058-2005

+1 801 223 9444 - office

[keith@inpnet.org](mailto:keith@inpnet.org)

<http://WirelessLANProfessionals.com>

<http://twitter.com/keithrparsons>