How virtual training labs compliment eLearning

9 reasons to consider adding hands-on training through virtual training labs

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In a world where most people utilize multiple devices every day, technology has exponentially accelerated how we learn and teach things. From top-tier universities to cutting-edge startups, virtual training platforms have vastly improved our ability to convey difficult concepts and information to a diverse range of learners.

For everyone working in business and technology, online eLearning classes are ubiquitous. Whether it's an afternoon webinar upgrading Excel skills, or a lengthy course covering complex enterprise software, or soft skills and leadership training, ongoing training is crucial for maximizing output.

The current eLearning paradigm has made education and training more accessible than ever before. However, it was born in an earlier era of information technology sophistication and computer literacy, and it comes with its limitations.

Much eLearning curriculum and theory was created with the idea of replicating traditional scholastic procedures — not just in the classroom, but with regards to course registration, grading, and progress tracking — the works. And, while old-school online classes remain excellent for the teaching of soft skills, today, they fall short when training departments need to provide software or tech-related training to students.

eLearning provided a great starting point for online education.

The next step in online education? Virtual training labs.

When you're in charge of deciding which formats to offer online classes in, it can be hard to shift away from established models and to give something new a try. But remember: online video lectures were once new, too.

When it comes to facilitating efficient, effective acquisition of up-to-date technology skills, virtual training labs are the next step.

When eLearning works	When virtual training labs is needed
Soft skills training	Training staff on "front of the house" software systems
Regulatory training	Training staff on "back of the house" software HR, ERP systems and billing systems
Sales training, negotiation skills	Training sales people on how to use your CRMs, the software you are selling, or your payment system

ReadyTech creates virtual, hands-on labs by taking client-provided hardware and software setups and replicating them for training purposes. These setups become replicas of actual working environments and are made available in the cloud for easy access. Once on the cloud, the replicas can be accessed securely trough ReadyTech web portals by entering a unique access code or through an LMS integration.
As with online meeting tools or remote desktop programs, students can use their individual devices to access the virtual training labs.

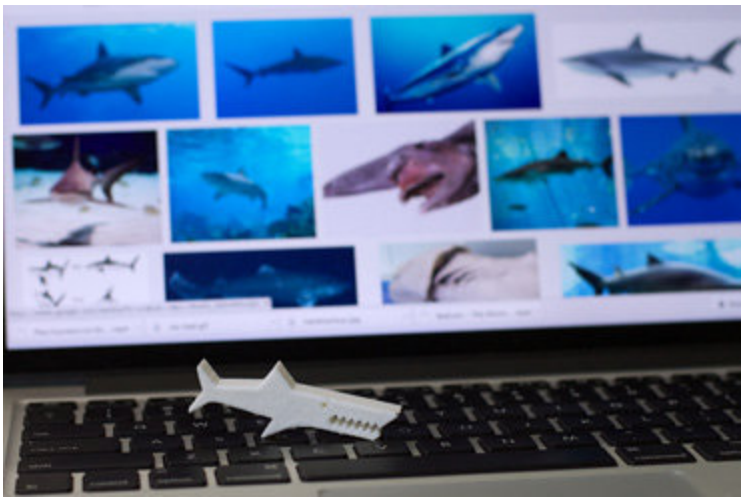
This offers a significant upgrade: virtual training labs completely remove the need to invest in hardware and software setups for training. They also eliminate any risk to live company operations by not running your training activities on a production or development environment and protect your training department's intellectual property.

If you want to improve technical training program output while respecting budgets, here are nine reasons why you should consider hands-on training through virtual training labs.

1) Hands-On Training Converts to Skills Immediately

The method by which we learn about a subject defines our relationship to it. Passive education leads to understanding as an outside, removed observer. Hands-on learning makes us doers; what we've learned moves from an abstract understanding to a tangible skill. Virtual training labs provide an optimal platform to instill practicable skills.

The old saying, "Give a man a fish and you feed him for a day, teach him to fish and you feed him for a lifetime" comes to mind here. No amount of videos, slides, or lectures can close the gap between theoretical and experiential knowledge, fishing or otherwise. An online course without a practical component is always going to provide an incomplete education.



Closest you've ever been to deep sea fishing? You may not be ready to captain your own boat.

A fully-functional lab environment enables students to jump right in using the tools, practicing the skills, and making the mistakes inherent in subject mastery. There's no better place to make mistakes than a cloud-based, contained lab, where the only consequence of failure is new knowledge. By working in a safe and secure space, students are freed to try new things and to push their limits.

With a virtual training lab, the subject being learned seamlessly becomes a performable skill. In a virtual training environment, students begin to immediately perceive themselves as practitioners. The nature of a virtual space inspires self-directed learning and experimentation, continually reinforcing the skills being acquired.

2) Hands-On Labs Sidestep the Theoretical, Tackle Real Day-To-Day Problems

Rote, prepackaged exercises isolate concepts and activities from the real-world contexts they're encountered in. By contrast, virtual training labs recreate the exact conditions in which students will be expected to apply the skills they're learning. Engaging with examples of the day-to-day tasks and problems they'll be dealing with in the real world is critical.

In a virtual training lab, you aren't limited by costs, hardware requirements, or the impracticalities of creating custom training scenarios using real-world, live systems. Yet, in all cases, you can give students a training experience that's practically indistinguishable from the real thing.

Virtual training labs blur the lines between simulation and on-the-job training—and that's a great thing. Students have both the safety and flexibility of the former, along with the practical experience gained through the latter.

Different students can be assigned different real-world simulations in the virtual training lab environment. Students can be trained on common, instructive, or complex tasks, depending on both their expertise level or role and the types of projects they're going to be assigned. There are few constraints on the task parameters available, and students can attend progressively advanced training environments as quickly as their skills will allow.

When students have an endlessly modifiable virtual lab to experiment in, there's little reason to make them work their way through artificial practice exercises designed to be generic. Whether you're making minor adjustments or building a totally custom environment, you're empowered to make this virtual space exactly what you need it to be to get the training results you want for your students.

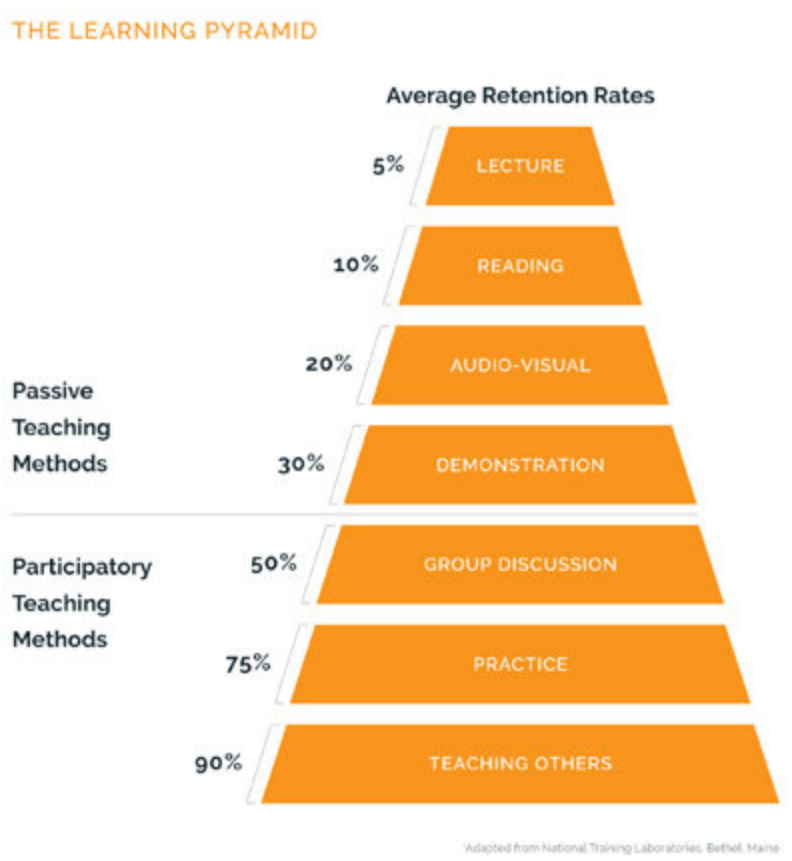
3) Hands-On Learning = Increased Knowledge Retention

Everybody who's gone through higher learning has had the experience of sitting through a lecture for hours. Pay attention, take notes, and leave the classroom feeling like you don't remember a single thing you just heard.

The mere act of absorbing information doesn't actually teach us anything. One way or another, we have to synthesize that information into something our brain understands as concepts, actions, ideas, or skills.

Learning by doing is advantageous because it converts to skills faster. It also deepens our understanding of what we've learned, encoding in our brains a wide range of experiences and stimuli that become far greater than the sum of their informational parts.

A lecture can be forgotten as soon as you step out of a classroom, but the cliché that we never forget how to ride a bike speaks to the persistence of learned skills.



This pyramid says it all. Students retain only 5% of information in lectures, but 75% when they learn through hands-on practice.

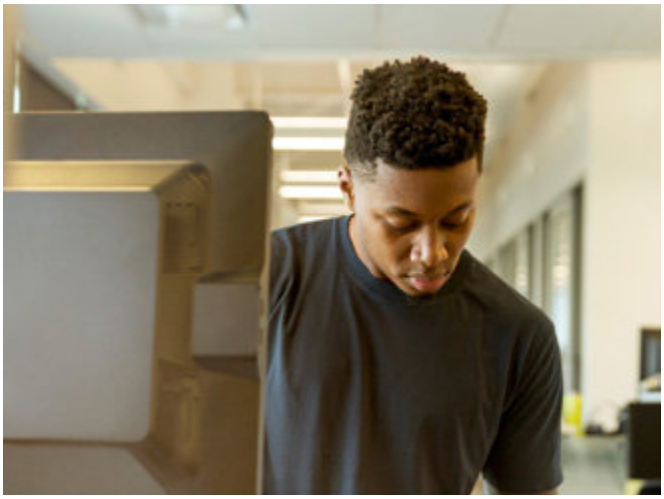
Don't get us wrong – lectures can have an important role to play in education. Some concepts are dense and complex, and require a thorough explanation that provides context, details, and a wide range of perspectives.

Hands-on labs can also help students get more out of traditional classroom learning. When students immediately practice what's being taught to them, they relate better to what's being talked about. Active students ask more insightful questions, because they can relate abstract concepts to real-world experiences.

4) Student Engagement Is Higher

Let's be fair – if you zone out during a lecture, it's not entirely the lecturer's fault, or the fault of lectures as a concept. When we're going somewhere to learn, we have a responsibility to actively listen and engage. We know this as a rule, yet we struggle to stay stimulated through our audio senses alone, especially if we're not naturally interested in the subject matter.

The difference between the lecture that lulls us to sleep and the lecture we're still thinking about days later is our level of engagement. We automatically engage with things we already know we're interested in. But when it comes to subjects we may find tedious (yet which have value), making students active participants instead of just passive information sponges boosts engagement.



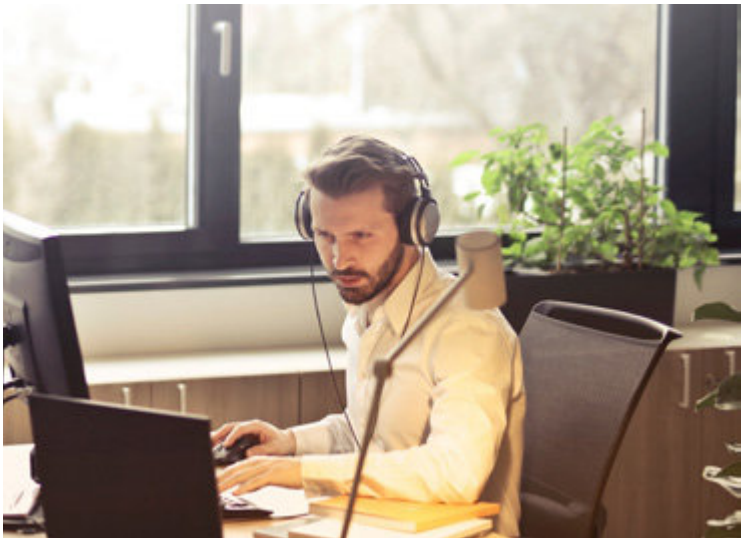
Even when a student is remote and alone, buy-in is easy with engaging hands-on labs.

Instruction is more engaging when students have opportunities to tinker within virtual labs, which empower students to feel they're the driver of their own experimentation and discovery. While letting students get hands-on isn't always feasible when you're limited to real-world labs and materials, virtual environments have fewer limitations, creating different opportunities for increased connection and engagement.

5) Hands-On Labs Complement eLearning

While we're confident that virtual training labs have many significant advantages over traditional online classroom models, it's rarely a binary "either/or" choice between the two.

Online classes offer value, but they're just not the same without a lab portion. No matter how effectively they spark engagement and convey information, students will always be thinking ahead to real-world application and usefulness. By volleying between lectures and labs as students work through courses, they put theory into practice immediately, reinforcing what they've just been taught.



A more integrated approach provides immediate reinforcement.

When labs have to be set up with physical hardware, it's tempting to lean harder on traditional eLearning materials, in order to keep costs down. Some companies have students work through online courses before "graduating" them to a physical lab course, for instance. The benefits of this approach have to be measured against the fact that the student has to contend with a large time gap between learning and doing.

In an ideal world, students would have access to an array of instructional settings to create a well-rounded experience. In any situation where students are learning a practicable, technology-related skill, adding virtual training labs to their curriculum will lead to better outcomes.

6) You Can Keep Using Your Existing eLearning Curriculum

Rest assured, if you've already spent a lot of time and money developing an eLearning curriculum, virtual training labs are not here to supplant that investment. Virtual training labs can be designed to integrate with your existing training curriculum, happily co-existing with the educational resources you're already providing and increasing the value return. You may need to adjust your eLearning curriculum to accommodate the hands-on lab portion (e.g. add lab exercises, timing, transitions, time for lab questions), but a complete curriculum revision shouldn't be required.

So much of how we are taught new skills boils down to four short words: "Now, you try it." We hear something explained, or see it demonstrated, and then we try doing it for ourselves. By combining what has worked in the past with the advanced tools and resources of virtual environments, your students can apply their eLearning training in state-of-the-art, practical scenarios.

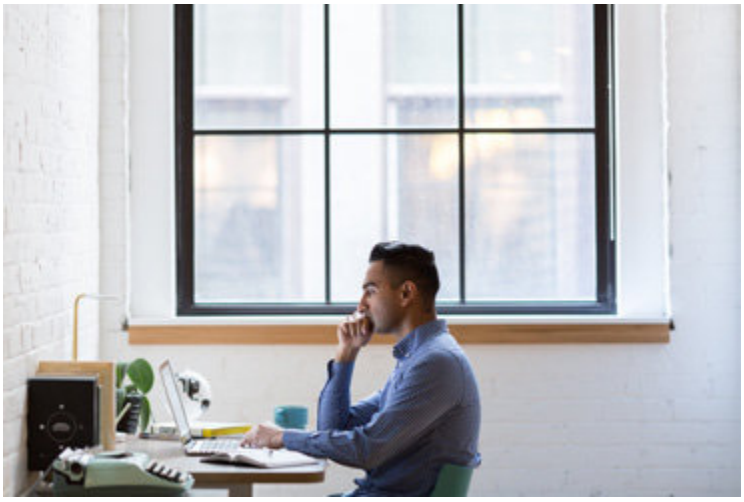
It's hard to walk away from a curriculum that's been carefully developed over time, when you know it gets the job done to a decent extent. It's also valid to worry about friction or knowledge gaps between old-school and new-school students, as those learning methods start to share some crossover.

Change is never easy, but it's essential to evolution. Marrying a time-tested curriculum with a virtual training lab is the next step in ensuring students get the most out of their time and you get the most out of students.

7) Virtual Training Labs Are New and Different

For many tech workers, eLearning is all too familiar. Whether it's satisfying employer mandates or independently reviewing content for professional development, tech professionals don't last long without racking up quite a few online course credits.

Eventually, online classes can become predictable and boring. It gets easier for students to tune out an "talking head" on their monitor, go through the motions, and walk away with a shiny completion certificate from a class they barely remember taking. When eLearning becomes overly familiar, it gets harder for students to focus and retain information.



A more integrated approach provides immediate reinforcement.

Virtual training labs provide students with windows into real-world situations. The virtual environment allows students to operate the types of computers and applications they'll be using on the job. As a bonus to the employer, systems that were previously prohibitively expensive for student use can now be provided for training purposes.

For students accustomed to years of eLearning, virtual training labs are a markedly different experience. When you put students in a learning environment that's virtually indistinguishable from the real thing, where they can practice what was just taught to them, fending off boredom is no longer a problem.

8) Virtual Training Labs Are Safe

Before virtual labs, if you wanted students to have a hands-on experience, with the actual hardware and programs they'd eventually be working on, you were entrenched in risky business.

Hands-on experience meant setting up real computers, licensed software, and perhaps giving students access to production-level data and environments. With data access in particular, you had to choose between granting students access to real enterprise data or setting up servers running copies of it. The latter was dangerous and expensive, and the former was downright irresponsible. Any time you grant access to live systems, there are a number of risks, such as data loss, file corruption, theft, or viral infections.

Perhaps the most significant asset of virtual training lab environments are that they are completely safe. Because you can scale virtual training labs without making large investments in hardware or paying recurring software fees, you can create a perfect, working representation, at a fraction of the cost.

While protecting the company is important, you will also want to be careful not to affect training outcomes. If there is valuable data or equipment to protect, putting constraints on students' activities in a hands-on setting might be necessary, but it also limits them.

Without the experimentation that can lead to deeper learning, student knowledge reaches a finite limit. Further, cluing them in to "off-limits" activities can subtly affect their choices and lead to disengagement, as it reminds them that they're in an artificial environment.

With virtual training labs, there's no trade-off between keeping your systems and data safe, and giving students the freedom to train in a safe, yet production-level environment. And, when you know your data is safe, your entire focus can be on letting students learn.

9) Virtual Training Labs Are Secure

Intellectual property (IP) safety is important, and it's one of the many reasons why virtual training labs are so beneficial for both businesses and the people they're training. No matter the company size, it's important to ensure IP remains secure.

Nobody wants to imagine students stealing from the company, but IP theft happens all the time. Very often, IP is stolen by people granted access to it — not hackers breaking into internal systems from the outside.

In a real-world lab, rigorous security protocols are difficult and costly to maintain. Security cameras, regular software patches, and activity log monitoring are just some of the security measures you might have to deploy, depending on the data at risk.

Even with those safeguards, when sensitive, critical data is copied or shared, you might not be alerted. Technically, it's still in your system, so it may not raise any red flags. That is one way students do present a possibility for leaks to fraudsters and competitors.

Virtual training labs don't just keep your IP safe — they also keep it secure. In a fully-contained virtual environment, there are far fewer points of vulnerability, and the use of company IP is completely unnecessary.

A virtual lab can provide safeguards which prevent IP from being copied, saved, or transmitted outside of the virtual environment. Students can still study and practice with IP in the lab — learning the ins and out of company culture and processes — but, they can't take it outside.

Virtual training labs give students access to the tools and resources they need to learn. At the same time, they eliminate the possibility of students damaging or stealing valuable intellectual property, whether accidentally or otherwise.

Conclusion

While comparing virtual training labs and traditional eLearning is a good way to highlight the benefits and advantages of virtual training labs, it's a mistake to see these two approaches as being in direct competition with one another. As we've seen, eLearning and virtual training labs complement one another very well.

No curriculum can stay the same forever. Add in technological changes, and constant adaptation is vital. The virtual lab environment lends itself well to rounding out many different training programs.

When you want to improve or expand your online education offerings, it's worth taking a hard look at how much hands-on experience you're giving students. If you want to provide students with more opportunities to apply what they are being taught — before getting to work hands-on — virtual training labs provide a secure, cost-effective, and fun way to learn by doing.

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ReadyTech provides sophisticated, yet easy-to-use online training software. Our 25 years in the training business has helped us design the feature-rich solutions that global training organizations are looking for to deliver great training.

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