

A Simple Guide to Smarter People – It's About Time



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**OXYGEN
EDUCATION**



**“Education costs
money, but then so
does ignorance”**

Claus Moser, British Statistician (1859 –)

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*For all my employees,
past and present,
who I promised to educate
but never did because
there was never enough time.*

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Forward

There are a few simple reasons this book was written:

- Education changes lives
- Educated people are better people
- Education leads to understanding
- Understanding makes the world a better place
- Educating a workforce is difficult

As education providers, our job is to help you plan, launch, and maintain your education program. It's what we do every day.

This book is the sum of our collective experiences, both in the workplace and in our personal lives.

We could write volumes on this subject, but, at the end of the day, we chose a few simple steps you can take to ensure a highly educated workforce.

Please let us know how your education programs are doing and share any ideas that will help us to better serve all organizations.

The Oxygen Education Team.

It's About Time...



**“Education is not
preparation for life,
Education is life itself.”**

John Dewey, American Philosopher,
Psychologist, and Educator (1859 – 1952)

It's About Time



The number one killer for education in the workplace is time. There's never enough of it. Each day you barely have enough time to get your primary job done.

Here are some truths I have discovered over the past few years.

Truth #1:

I have never met a manager who did not want to educate his or her employees.



Truth #2:

I have never met a manager who did not understand the benefits of educating his or her employees.

Truth #3:

I have never met a manager whose organization included the time required for employee education into its efficiency and productivity equations.

Let's face it. Staffing is typically focused on hiring a certain number of people who can (based upon some efficiency) get a required task done in a certain amount of time.

Sound familiar?

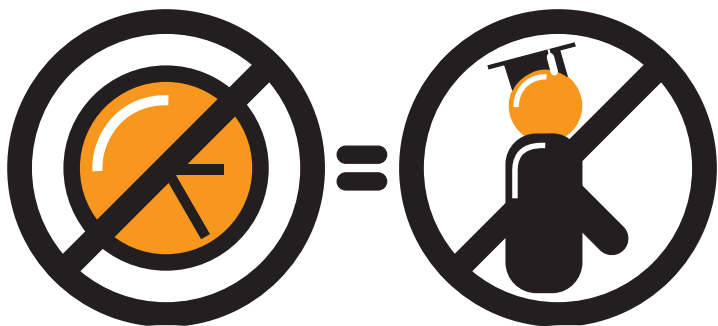
How many organizations, in your experience, truly factor in additional time for employee education? Such organizations are rare indeed.

Time, Part One – How Time Kills Education and the Employee



For most employees, a significant increase in their wages occurs at a point in time when they acquire a new skill. This is how the system works. Get a new skill and you'll probably get a new job classification and an increase in pay. Not a bad system – until you have the responsibility for getting the employee the new skill.

When I was hiring employees, low skills coming in the front door was the norm. There were so few skilled employees that I had to accept the low skilled ones. Because they were low skilled, I couldn't pay them as much as the skilled employees.



However, when I hired them, I would promise them that we could train them, which meant they could make more money.

My promise was well intentioned. My execution on this promise was not so good.

This was my typical scenario: I had a lot of employees, all hired at different times, who all had different skills deficiencies, and they all wanted to increase their standard of living. It created an educational nightmare.

The problem wasn't that I didn't want to educate them and pay them more; it was that I (the organization) didn't have the time or the resources to provide education to these employees when and where they needed it.

Each day was fraught with problems and issues that made producing the products that paid the bills difficult enough. And each day at least one of my employees would approach me and say, “I am ready to learn,” which meant “I want to learn the next level of skill and make more money.”

Inevitably, I would respond that “Today I am really busy with some important problem ... let’s talk tomorrow.”

Multiply this by hundreds of employees and I think you’ll start to understand the “time kills” problem.

So, over time, many of my employees began to doubt my promise to them, and, after waiting for me to educate them,

they gave up on me and went somewhere else in hopes of acquiring new skills and increasing their economic status.

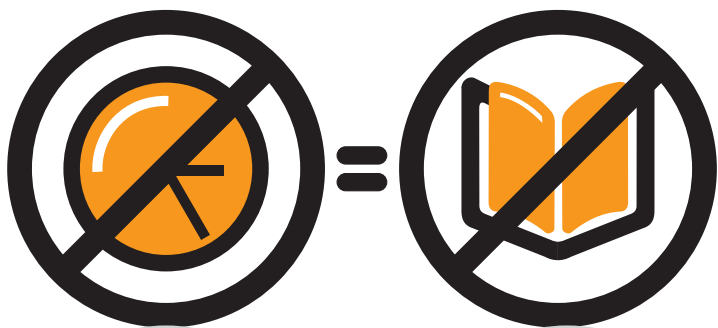
Repeat this scenario one time for every employee in your organization who needs education ... and you'll see that it's about time.

Time, Part Two – Delivering Education



Believe it or not, on many occasions the stars and sun would align, and I would actually deliver education to my employees. These events were few and far between because they required:

- Time to plan the education event
- Time to schedule employees
- Time to find instructors
- Time to find the funding
- Time to take people off the job (and still ship products)



I call this the “hassle of the educating”. Setting up and scheduling education takes a lot of time and effort. All of this planning usually was done by people with other full-time responsibilities.

If the education event required travel, it doubled the amount of hassle. Many of my production employees didn’t have reliable transportation or credit cards.

Plus, technical workers normally aren’t wired for travel.

This meant the company had to get them there and back, and probably get cash advances for them. More time in the education planning event.

But, the day *would* come when we would actually have an education event. The event would come and go, and people probably learned something.

But, as soon as the event was over, I would hire someone new who needed the same education. “Well, maybe next year we can run this class again,” I would tell them.

Repeat this one time for every education event you need to orchestrate ... and you'll see that it's about time.

Time, Part Three – Technical Education Is About Mastery of Skills, Not Time Spent in a Classroom™



To understand this statement, you need to understand the student and how he or she learns in the workplace. It's a different place than the traditional classroom, with different dynamics at play, such as:

- The employee's incumbent skill level
- The employee's perception of himself or herself as a learner
- A coworker's perception of him or her as a learner

I have always been the “dumb student” ... never satisfied until I really get the idea on my terms. I keep asking instructors questions until I get it or I wear them out.

In the workplace, most people don't behave like this. They are worried that their peers (who they have to coexist with every day) will think they are slow or remedial. These are the people who need the help the most: the ones who need more time to learn.

Of course, there are those who already know most of what's being taught before the class begins. They are bored through the majority of the class, maybe learning something toward the end.

In the world of technical education, the most important thing is for the student to “master the skill”. A mastery of 50, 60, or 70 percent is not enough.

The student either has the skill (completely) or doesn't.

A 10, 20, or 30 percent deficiency in mastery could get the student hurt or cause process, equipment, or quality problems that will hurt the organization.

So, I repeat ...

“Technical Education Is About Mastery of Skills, Not Time Spent in a Classroom.TM”

Period.

Sorry for shouting, but this really important concept is too often overlooked.

Education and E-learning



**“Education, therefore, is
a process of living and
not a preparation for
future living.”**

John Dewey, American Philosopher,
Psychologist and Educator (1859 – 1952)

Education and E-learning

What Is Education?

Let's start with a simple definition from the dictionary:

ed•u•ca•tion¹

1. *The act or process of educating or being educated.*
2. *The knowledge or skill obtained or developed by a learning process.*
3. *A program of instruction of a specified kind or level.*
4. *An instructive or enlightening experience.*

¹The American Heritage® Dictionary of the English Language, Fourth Edition copyright ©2000 by Houghton Mifflin Company. Updated in 2003. Published by Houghton Mifflin Company. All rights reserved.



Here's another definition we like a lot:

Education is the learning of knowledge, information, and skills during the course of life.

And one more we like even better:

Education encompasses teaching and learning specific skills, and also something less tangible but more profound: the imparting of knowledge, positive judgment, and well-developed wisdom.

Understanding education is really important to your mission. You're not just teaching skills or tasks, you're changing lives – forever.

It's important to share this with your workforce so your employees understand why you are giving them the opportunity to learn.

You are giving them something they will have for the rest of their lives.

What Is E-learning?

The definition of e-learning is simple:

E-learning is a type of instruction where the medium for delivery is the computer.

E-learning courses are designed to guide the student through specific lessons or tasks.

E-learning is on-demand education. It's available 24 hours per day, 7 days per week. It's always there when you want or need it.



E-learning is consistent education. All students receive the same message in the same format. There is no variation because of instructor style or opinions.

E-learning takes less time. Students typically finish an e-learning course in 30%-50% less time than a traditional classroom course. This saved time can be used for other things, like more education ...

What Is Simulation-Based Education?

Simulation-based education uses real-world, interactive simulations to teach the student.

Simulation-based education engages the student by creating an opportunity to practice concepts, tasks, and equipment operations in a manner that can't be achieved in the classroom.

Simulation-based education does not utilize expensive capital equipment during the learning process.

Simulation-based education allows the student to learn through mistakes. The student can wreck a virtual machine as many times as necessary; it doesn't cost anything to repair.

Simulation-based education enables the student to practice over and over until he or she is comfortable.

Simulation-based education is fun. Learning should always be fun. People like to have fun.

We remember the things we do that are fun.

What Is Self-Paced Education?

Self-paced education is just what it says: It's education absorbed at a pace that's controlled by the student.

The student isn't constrained by the instructor or the clock on the wall. He or she can learn at his or her own speed.

Every student gets the amount of time needed to learn.

The student decides when he or she has mastered the skill.

It's that simple.

What Is Competency-Based Education?

In competency-based education, the student must demonstrate mastery of a concept or skill before he or she can progress to the next concept or skill.

How much mastery is enough? There is only one right answer: 100%.

Repeat this over and over: Technical education is about mastery of skills, not time spent in a classroom.



Competency means
that the light bulb
goes on.

Linear Learning™ – A Better Way to Teach

Learning how to master complicated devices and processes is hard. On-the-job training (OJT) creates information overload.

The student is trying to simultaneously understand and retain:

- What the device or process is
- How it works
- How to master its use

Throwing all this information at the student at once is too much. At best, the student will memorize a sequence of tasks and become a “button pusher”.

It's like trying to learn how to drive a car with no prior knowledge of how a car works. Just jump in, turn the key, and learn as you go. For the student, it's really quite scary. Put yourself in this position once in a while and you'll see what I mean.

On-the-job learning is “circumstance driven”. The student learns as things occur. The more that goes wrong, the more the student will learn. If things go smoothly, the student won't learn as much.

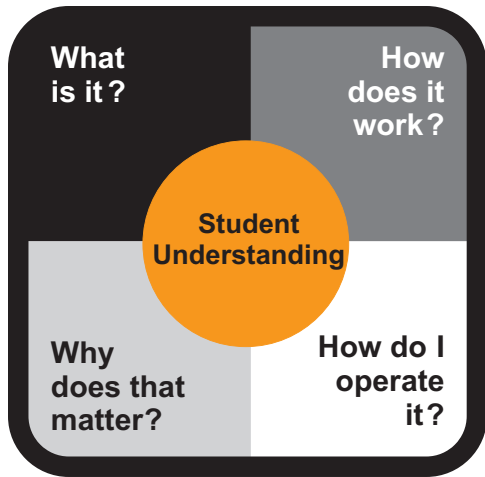
But having things “go wrong” is always costly. OJT is an expensive way to teach an employee.

Having untrained people run million dollar machines is the same as giving the keys to your new Ferrari to a 9th grader. You would never do that, would you?

I understand that most people don't have extra equipment sitting around for education purposes. If you do, consider yourself fortunate.

If you don't, each machine has to continue to produce during the OJT event. This means that the student loses the opportunity to practice important tasks and concepts.

Practice makes perfect – right?



All the student remembers is in the middle of the box.

Linear learning creates a straight-line learning path through a complex topic. Linear learning has two major components.

Part One is what I call “Overview, form, fit, function, and purpose”. In this part, the student learns:

- What the device or process is
- What purpose it serves
 - Why it was created
- All its components and sub-components
 - How they work
 - How they are associated with each other
 - Why this matters

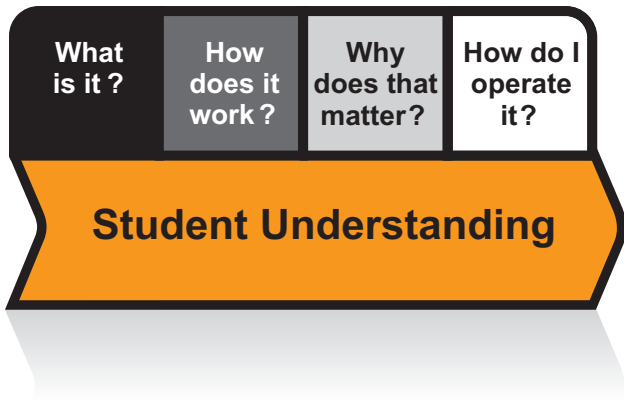
Part Two is all about using the device or process. In this part, the student learns:

- All the tasks the student will be expected to perform
 - Step-by-step task instruction

When the student gets to Part Two, he or she can focus on the purpose and outcome of the tasks. Part Two is about applying the knowledge learned in Part One.

The student isn't trying to learn the device, its components, and how to use them all at the same time.

Separating Part One from Part Two is critical.



Linear learning ensures higher levels of understanding all along the learning path.

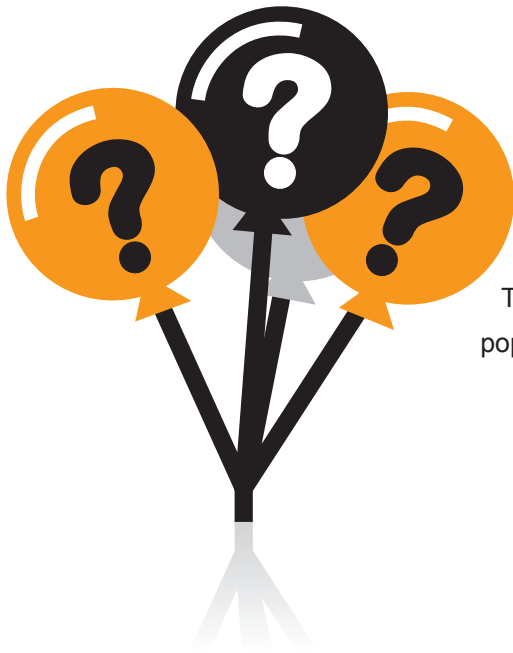
Traditional OJT mixes all this information together and overwhelms the student.

Teaching the “Why”

Understanding processes, procedures, equipment operation, technologies, and other technical concepts is important to an employee’s success.

Teaching an employee *why* a technology matters is seldom done in the classroom or on the job. He or she will probably learn how it works.

But teaching employees why a technology was developed and how it impacts their lives brings the technology home. It allows them to own the technology.



Teaching the “why”
pops all the question
mark balloons.

Increase the Bandwidth of Your Experts

The majority of the technical concepts employees need to learn are what we call *requisite knowledge*. Buttons, switches, dials, machine movements, terminology – all employees need to know these concepts.

It is better to teach requisites with simulation-based e-learning tools. Using a highly skilled instructor to teach requisites isn't a good use of the instructor's time or expertise.

By using simulation-based e-learning, you can get all the requisites out of the way before the employee works with the expert. This makes the face-to-face time with the expert much more meaningful.

It also means that the expert can reach more people, because each employee's face-to-face time is reduced dramatically.



Once again, it's about time.

Bringing It All Together

In the workplace, simulation-based e-learning is a powerful tool, because most of the things people need to learn are technical in nature.

Over 80% of the requisite learning in a technical environment involves:

- Understanding a technology
- Understanding *how and why* the technology works
- Understanding the terms and concepts associated with the technology



The technologies
your employees
must learn are
complicated.

How E-learning Solves Your Problems

Here are a few thoughts on how a simulation-based e-learning education program can solve your time issue and hopefully increase the quality of life in your organization.

E-learning is always there

E-learning is available anytime and anywhere for your employees. If they decide today that they are ready to go to the next level, e-learning is there for them. No longer will they depend upon management to “make education happen.” The conversation is over as soon as it begins. When you’re called upon to provide new skills, you simply point employees to their e-learning course catalog.

E-learning is self-paced

Your employees will get the time they need to master skills. They can be remedial or advanced in private. They feel no pressure from their coworkers or an instructor to get the work done in a predetermined amount of time.

E-learning ensures competency

With the requirement to retain 100% of the tested concepts of the course, all employees who complete a course will have the same level of skills mastery. It doesn't matter if one employee takes 2 hours to finish a course and another takes 2 days. At the end of the education event, their skills will be equal.

Simulations ensure comprehension

Being able to practice in a virtual environment ensures that your employees will understand the purpose of a concept or technical task before they have to perform in the “real world”.

Students like this kind of learning better

The bottom line is that your employees will like taking control of their education and career paths.

Simulation-based e-learning is exciting for them. It keeps their attention and engages them in the learning process.



Remember to celebrate ... your problems are solved!

The Decision to Educate



**“It’s the first time I have
been in training for two
days and haven’t
fallen asleep.”**

Employee of a major U.S. OEM vehicle manufacturer after taking simulation-based courses.

Sounds silly but this speaks volumes
from the student’s perspective.

The Decision to Educate

What Students Say About Technical E-learning

What follows are comments from a few of our students. I hope you see the importance of what they are saying.

“I had to forget what I had been taught wrong by so many different operators.”

“I could not sit through a 40 hour classroom class. I like this because it went much faster.” “One standardized way of learning is great.”

“I like this a lot better.”

“You can’t move at your own pace in a traditional class; this makes the playing field even by allowing each individual to learn at their own pace.”

“Sometimes people are afraid to ask questions because they think it is a ‘stupid’ question. This would help those who are afraid to ask questions by allowing them to go back in the material.”

“This would help supervisors understand how long and what goes into a situation when you have an issue with a machine.”

“Provides the flexibility not only scheduling-wise but allows a learner to move at their own pace. It doesn’t leave anyone out.”

“This type of learning flexibility is needed throughout the company.”

“This should be tied to all the technical training.”

“This would reduce the amount of questions on OJT.”

“The perfect way to give a base to everyone.”

“If I had to read all of the material I would have never finished. The voice, animation and interaction helped me continue.”

“A discovery tool – for those who might be afraid of applying for a machining position or any other position.”

“Operators taught each person different. This creates a base.”

“I have never run a machine before. Now I would bid for the job. Basic knowledge really helped me more than working with an operator.”

Your Decision to Educate Your Employees

Making the decision to provide education to your employees is an important one.

Through this decision, you will make an economic investment in the future of your organization. You will invest a part of yourself in your employees. And you will make a personnel investment in time and resources for the personal growth of your employees.

Making this decision means you're about to make people feel good.

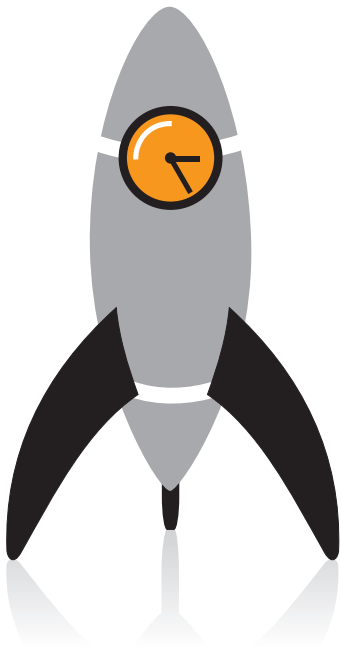
Make People Feel Good

We all like to be involved in good things. Being part of something good makes us feel better about ourselves.

At work, it makes us feel like we are contributing something more than just the requirements of our job description, and this makes us feel good.

It gives us something interesting to talk about at the end of the day.

Education is always a good thing to be part of. Period.



Remember, it's about time ...

“The beautiful thing about learning is nobody can take it away from you.”

B.B King – American Musician (1925 -)



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