

VR + IMMERSIVE TECH E-BOOK

FROM HANDS-ON TO HEADSET-ON

4 Perspectives From The Next Frontier Of L&D
Technology



**CORPORATE
LEARNING
WEEK**

November 27 - 30, 2018
Orlando, Florida

TABLE OF CONTENTS

Page 3

Virtualization, Globalization and the New World of Work

An Interview with Karmiko Burton, Senior Manager, Global Franchise Training & Capability, Taco Bell

Page 5

Wells Fargo Leveraging Voice Enabled Intelligence Augmentation to Improve Employee Performance

Interview and presentation by Ken Hubbell, Senior Vice President, Instructional Design Strategy & Innovation, Wells Fargo

Page 37

Blending Technology and Learning at Six Flags

By Jayson Maxwell, Corporate Director of Learning & Development, Six Flags

Page 52

How are the New Employee Demographics and Digital-Thinking Workforce Driving the Shift in Technology?

By Jamie Dalferes, VP Learning & Talent Development, Lincoln Property Management



Virtualization, Globalization and the New World of Work

A Glimpse into the Future of L&D with
Karmiko Burton, Senior Manager, Global Franchise Training & Capability, Taco Bell



*Ahead of the **Immersive Technology in L&D** event that took place May 21 - 22, 2018 in Orlando, FL, we sat down with Karmiko Burton, Senior Manager, Global Franchise Training & Capability, Taco Bell to discuss how immersive tech such as VR, mixed-reality and gamification are revolutionizing the L&D industry by enabling improved performance, employee experiences and customer satisfaction.*

First things first, why is it important for companies to start investing in Immersive Tech now?

Immersive technology allows activities within specific industries to improve their speed to market access with practical application based from simulated learning, uplift the creativity needed to influence satisfaction (gamification/ gratification) and elevate innovation within the learning space to support these trends.

How does immersive tech add value to the business? Are there any specific strategic and/or educational challenges that immersive

tech is helping you solve?

Immersive tech enables businesses to expand their global reach exponentially by influencing the brand's ability to convert fast-adopters in learning and technology innovation into high performing leaders. Many connective tech programs (data driven and consumer influencing) used in the QSR industry are not just simply customer facing; these programs shift the relevance of the brand in accelerating the trends we already use remain forward-thinking with our "raving fans." Educationally, creative thinkers in our organization span all departments and when we are able to use solutions which fast-track accessibility to resources and tools, we can open restaurants faster and improve user adoption of new platforms so the initial investment pays for itself rather quickly.

What role does personalized learning play in your L&D organization? Furthermore, how does immersive tech fit into/enable your personalized learning offerings?

Internationally, this space is vibrant for us due to cultural norms and societal opportunities which allow us to work closely with regional and local stakeholders within the business. It is an exciting time because what we are known for isn't just tied to technology. We create experiences! We see expansion in this space happening as our business is growing internationally. We know what works in one country may not work in another. Personalizing the learning experiences for emerging markets provide us with special ways to calibrate learning needs quickly and for legacy markets (over 10 years old), elevating the restaurant learning experiences helps us remain diverse and cutting edge.

Looking forward to the next 5-10 years, how do you see your company's use of immersive tech evolving?

I expect immersive tech to allow us to train outside a restaurant environment with interactive/virtual activities which places the learner in a quick-adoptive learning format. Mastering the basics of serving customers, menu preparation, navigating the restaurant and other activities are essential for generating "category of one" experiences with our employees and customers. These and other learning components improve the accuracy in performing tactical work of a specific function and speeds up the user adoption for critical tasks such as food safety. Accuracy and speed are key performance drivers in the QSR business so performing a task with precision ensures mentally challenging tasks are easy to master – it's essential to replicating the restaurant experience.

Furthermore, how do you see the emergence of immersive tech shaping your organization's L&D strategy in years to come?

Immersive tech will bring together organization, people, and learning processes full circle. These areas no longer remain as

separate operating functions; they are inter-connected and work fluidly to establish "Centers of Excellence." This enables efficiency, adaptive learning models which reduce overall training costs, and add on to the mixed-reality/sensation environments many learners seek. L&D will be able to establish "performance labs" which help to sign-off on primary and secondary performance factors by unifying the virtual and physical environments to add our menu innovation, leadership capability and aid {construction} development teams to design next-gen freestanding locations based on the needs and wants of specific learning spaces. Investing in these strategies are easier to manage and an extreme departure of functioning at a desk results in "learning centers" teams shifting towards environments where muscle memory and gamification exceed static learning.

For those just starting out, what are 3 pearls of wisdom, best practices or lessons learned they take into consideration before they start implementing immersive tech?

1) Design from a future-thinking mindset – consider what will be relevant in 10 years and beyond while supporting the change management required to get there... today. If given the right creative space to design what works; imagine how rapidly the L&D space will evolve. 2) Be an advocate in using what you design. Designing for others is easy – what would happen if the same adoption you seek to apply to others were adapted for you right now? Does it change what you design? Does it force you to consider your own vulnerabilities in managing immersive tech? 3) Do not expect to have all the answers and always seek to learn from others who also do not have the answers. You might be amazed how quickly new ideas and solutions are generated by sharing and not expecting someone to have the answers.

Augmented Intelligence for L&D

AI Tech and the Future of L&D

with Ken Hubbell, SVP, Instructional Design
Strategy & Innovation, **Wells Fargo**



Ahead of the **Immersive Technology in L&D** event that took place May 21-22 2018 in Orlando, FL we sat down with Ken Hubbell, the SVP of Instructional Design Strategy & Innovation at Wells Fargo to discuss how his team is revolutionizing L&D with voice enabled intelligence augmentation (VEIA), AI, virtual reality and other immersive technologies. Furthermore, find out how they overcame key obstacles such as change resistance, HR compliance, communicating the value of immersive tech to the business and more!



To start, what is Voice Enabled Intelligence Augmentation and how is your company currently leveraging it?

Voice enabled intelligence augmentation (VEIA) refers to a voice-based natural language processing interface to an AI system for retrieval of specific knowledge information or step-by-step hands-free performance support. It can also include voice analysis to assist in learning involving dialog like communication or sales training. The advantage of VEIA is that through what the user perceives as natural conversation, a variety of data can be captured and the responses modified without requiring the user to click through multiple menus to possibly achieve the same result. I say possibly because voice often captures location and context information independent of direct user input. While voice interfaces are not new (phone companies have used them for years and Alexa, Google, Siri and Cortana are in vogue for purchasing goods and playing trivia), the applied concept of VEIA has only come about as a viable tool recently. My personal consulting company has been working in this space since the late 1990s, but a truly general purpose framework has only come about with these later technologies.

Wells Fargo is currently piloting an AI driven Chatbots with a voice interface to provide a more “natural” approach to accessing HR related information and for coaching and mentoring. These virtual/A.I. instructors guide new hires, students, and other types of trainees through the HR knowledge base and our online classes or sessions in a more interactive, engaging, and intuitive way than traditional point and click interactions. We are also exploring uses in contact center training and for hands-free performance support.

How does immersive tech and/or VEIA add value to your business? Are there any specific strategic challenges that these solutions are helping you address?

Immersive technology like 360VR and VEIA enable us to engage our team members in new ways. From empathy training by placing the learner in our “customer’s shoes” to natural language responses to scenario based questions in place of traditional multiple choice or point and click interactions. The value is both perception – the “cool factor” – and reality – it is enabling our customers to use our products and services in ways that fit their lifestyle whether in their home, on their mobile device, or anywhere they might be.

When you were initially rolling out the immersive tech program at Wells Fargo, did you encounter any resistance? If so, what were your top 3 change management-related challenges and how did you go about overcoming them?

We faced (and are still facing in some cases) three types of resistance:



1. *IT/Infrastructure* – with over 270,000 team members, many working from home or in low tech areas of the country, the cost to implement 360VR is staggering at best due to the equipment alone. The bandwidth required to transmit the required files is also prohibitive for many locations. This continues to be a constraint for 360VR and will most likely be another year or more before all team members can have equal access to this line of learning solutions.

2. *Security and Soundness* – the platforms AI and VEIA require are cloud-based and due to the security levels required in the banking and finance industry, the vetting process took over a year to determine an effective strategy to make it work. Time and clarity of specifications for our use model finally allowed us to move forward.

3. *HR Regulations* – for any HR related materials, there is a heightened level of scrutiny and protectiveness of team member data. Due to the regulations the bank has to comply with, all chat based transactions must be recorded to meet SEC control standards. Complying with both of these rules presented a huge obstacle for us. One method for overcoming this barrier was recording each session both textually (that was easy) and by voice capture (that one takes a HUGE amount of storage space). Of course it also affects the potential anonymity of the participant and so requires yet another level of vetting and security. Fortunately we have finally passed and are moving forward.

In your opinion, what is the biggest misconception people have about intelligence augmentation, immersive tech, AI, machine learning and other cognitive technologies?

There are three major misconceptions about all of these technologies:

- They are not a silver bullet – they will not fix everything on their own and require a lot of human input and interaction to make them viable
- They are all meant to augment what we as humans do, not replace us as a whole – human roles may change and evolve to allow for the efficiency and scalability of the technology, but at least for the next several decades we will not see wholesale displacement of educators and other jobs
- This technology does not work for all people at all times in all contexts. For example, 360VR only works if you have two functioning eyes. VEIA requires the ability to speak clearly and hear. AI works well for task based operation but is still not truly capable of creativity or empathy.



Looking forward to the next 5-10 years, how do you see your Well Fargo's use of immersive tech evolving both within L&D and beyond?

We are a customer/learner centric business enterprise that must employ innovation to be competitive. Innovation come in the way we interface with our users, the way we communicate knowledge and information, the way we scale to meet our growing global organization, and the way we meet the ever changing regulations in our industry. Using immersive technology allows us to anticipate these changes and explore our options before investing resources to pursue areas of little or no impact.

How do you see the emergence of immersive tech and cognitive technologies changing the workplace over the next 5-10 years? What do L&D leaders need to do now in order to prepare?

The global state of business and the “gig-based” direction of employees both in business and education are progressively transforming a rigid set of rules into a highly flexible and adaptable state. The world used to be a very linear place from K-12, to college, to work and then to retirement. This linearity is being put in a blender, and there are signs that a total transformation is in motion. K-8 is going all digital and flipped as core materials are studied outside of the classroom in preparation for independent and guided discovery-based and project-based learning takes a foothold in our schools. And, while core reading, writing and arithmetic knowledge, skills and behaviors will still be vital, understanding how to do research and ask the right questions will be even more so given the advent of intelligence augmentation and artificial intelligence. The “why” will return to prominence in the quest for knowledge and understanding.

High school is heading in the direction of a career introduction and onboarding platform with corporate backed programs, workshops, micro-internships, and advanced “trade school” preparing students for a multitude of career opportunities with college as just one of many options to a meaningful future. In fact, college becomes less of a point in time and more of a lifelong part of a person's career journey as many roles and requirements for those role don't even exist yet. Programs like AmeriCorps, FEMA corps, STEM camps, and Maker and DYI spaces will become well promoted options post high school so employees can experience life and community contribution before committing to a career direction. All along the way, everything they do will be able to be tracked in their comprehensive curriculum vitae, no longer locked in a university records or corporate learning management system, but rather owned by the individual as a showcase of their capabilities and accomplishments and certified by those who can provide validation – picture Blockchain for learning.

All areas of business, and L&D specifically, need to be aware that a change is already here. We have an opportunity to embrace, adapt and improve on it or wither away into oblivion. There is more than enough need for innovation, we just have to invest the time and energy to make it happen.

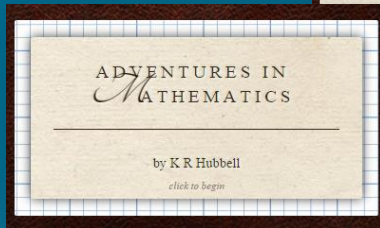
Voice Enabled Intelligence Augmentation

for improved employee performance



Ken Hubbell

SVP and Senior Manager of Instructional Design Strategy & Innovation
Wells Fargo



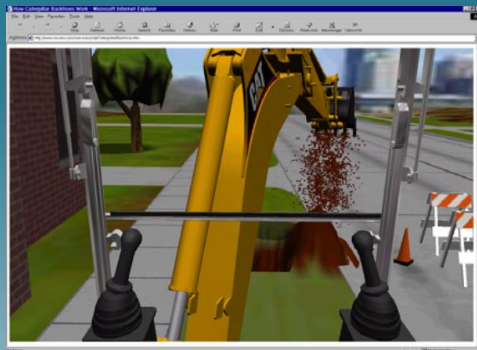
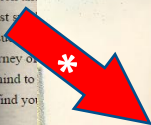
THE QUAD

THE AD

come to t
unction an
in just s
you stu
journey o
ur mind to
you find yo

You look close
script you rea
Simply make choic
advance through th
A set of red button
your eye. In small l

1. The Scribe - understanding
2. The Tallyman



	Earth (Y1)	Earth (Y2)	Mars (Y2)	Earth & Mars (Y2)	Year over Year Incremental
Price (per unit)	\$100	\$100	\$100	\$100	\$100
Volume (# of units)	10,000	10,000	1,000	11,000	1,000
Revenue	\$1,000,000	\$1,000,000	\$100,000	\$1,100,000	\$100,000

*Not a rocket scientist, but has trained them.



Science fiction = science fact



Star Trek
Communicator



Motorola StarTAC



Science fiction = science fact



Star Trek Tricorder



DxtER – SpaceX Prize Winner



Science fiction = science fact



HAL-9000



ALEXA-2



This is not new!

Intelligence
Amplification



=

Cognitive
Augmentation



=

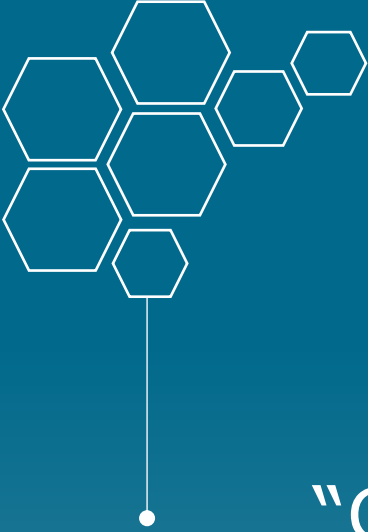
Machine
Augmented
Intelligence



This is!



**Digital Personal Assistant =
AI Subject Matter Expert on Demand**



Yesterday

“Go look it up in the dictionary.”

- Mom (pre-Alexa)



What's changed?

The average person can*...



Type
40
words/minute



Speak
100-150
words/minute



Read
200
words/minute



Listen to
400+
words/minute

* btw, speaking and hearing do not require the ability to read and write

Alexa “on call”



Examples



Car Guru

by Mike Yang

☆☆☆☆☆ 0

Free to Enable

*"Alexa, ask Car Guru to describe
O.B.D. code P zero four five six"*

*"Alexa, ask Car Guru to get
O.B.D. code P zero four five six"*

*"Alexa, ask Car Guru what is
O.B.D. code P zero four five six"*

Get this Skill

Enable

By enabling, this skill can be accessed on all your available Alexa devices.

Description

Car Guru is your car repair assistant. In the current version, you can ask this skill to translate on-board-diagnosis (OBD) code into its corresponding English description. For example, you can say "ask Car Guru to describe OBD code P0456", then Car Guru skill will reply with the corresponding OBD code description.

Skill Details

- This skill contains [dynamic content](#).
- Invocation Name: **car guru**

Examples



wikiHow

by wikiHow

Rated: Guidance Suggested

★★★★☆ 20

Free to Enable

"Alexa Open wiki How"

"Alexa ask wiki How How to Tie
a Tie"

"Alexa ask wiki How How to
Crack Your Back"

Shown in: English (US) [See all supported languages](#)

Manage this Skill

Disable Skill

By enabling, this skill can be accessed on all
your available Alexa devices.

Share    

Description

Easily learn how to do anything from wikiHow, the world's leading how-to guide. Step-by-step instructions on every imaginable topic. Become the DIY master of anything, instantly.

With the wikiHow Alexa skill you have access to over 180,000 wikiHow articles.

Learn how to do anything. Yes, anything:

First aid: Learn how to do CPR, help a choking baby, or recognize a heart attack. Or hundreds of other topics that could save a life.

Cooking: Learn how to poach an egg, fry a turkey, season a steak and thousands of other recipes.



What's next?

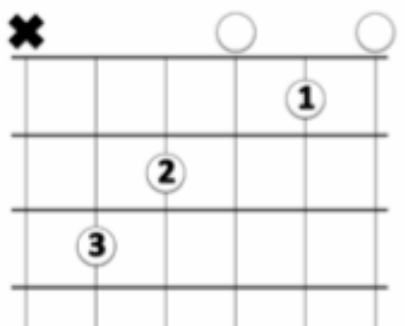
Hands-free Learning, AI Diagnostics and more.

“Guitar Teacher”

≡ Home

Play Chord

Guitar Teacher

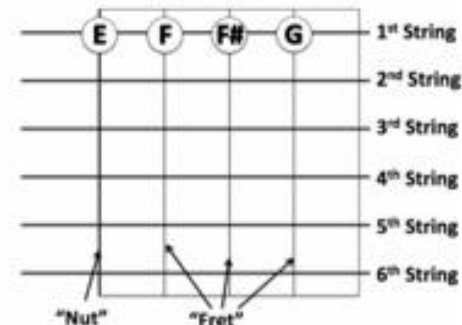


Playing: C major

≡ Home

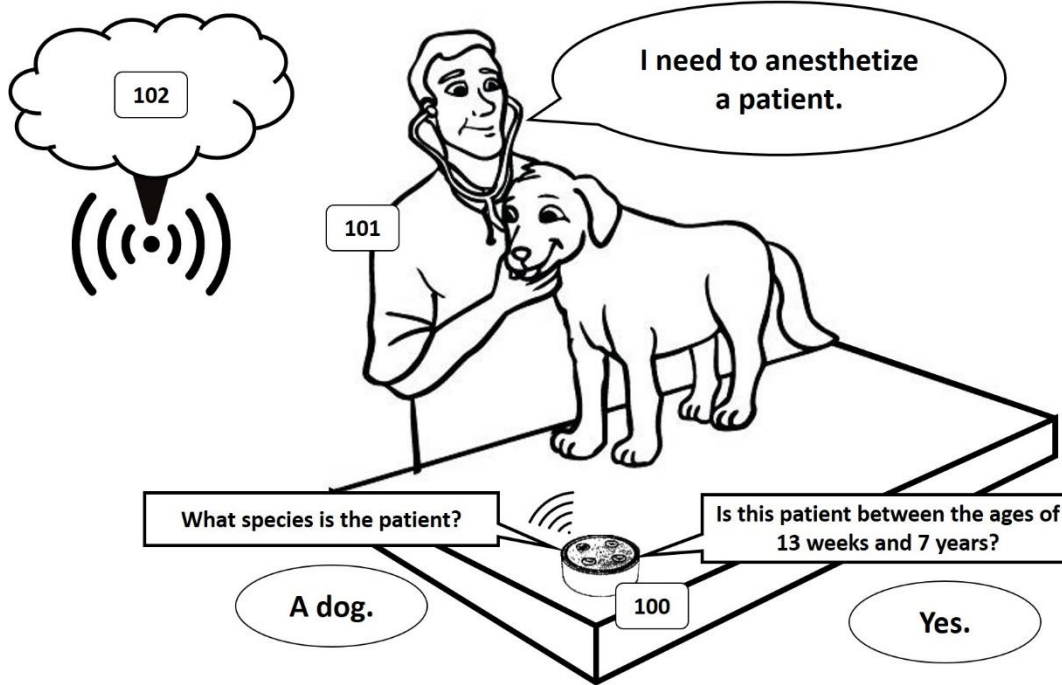
Note Instruction

Guitar Teacher



How to play individual notes.

“Vet Bloom”





VEIA Architecture

Virtual Teacher/Mentor

Alexa
Devices

Alexa Mobile
App(s)

NLP* Expert System framework

Dialog Model

AI/ML

LRS/LMS

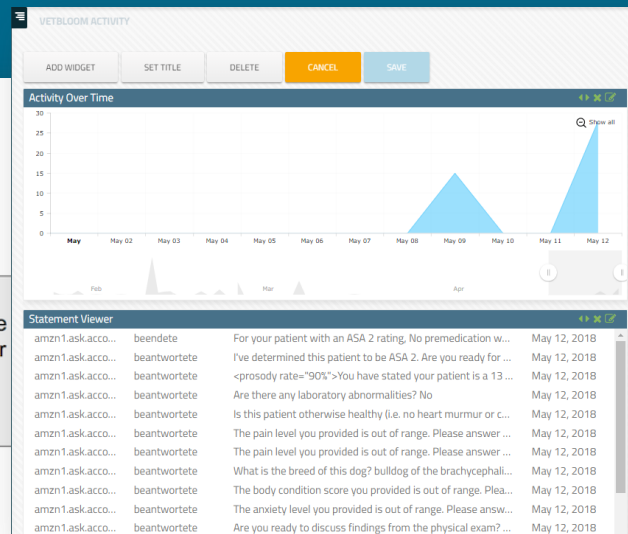
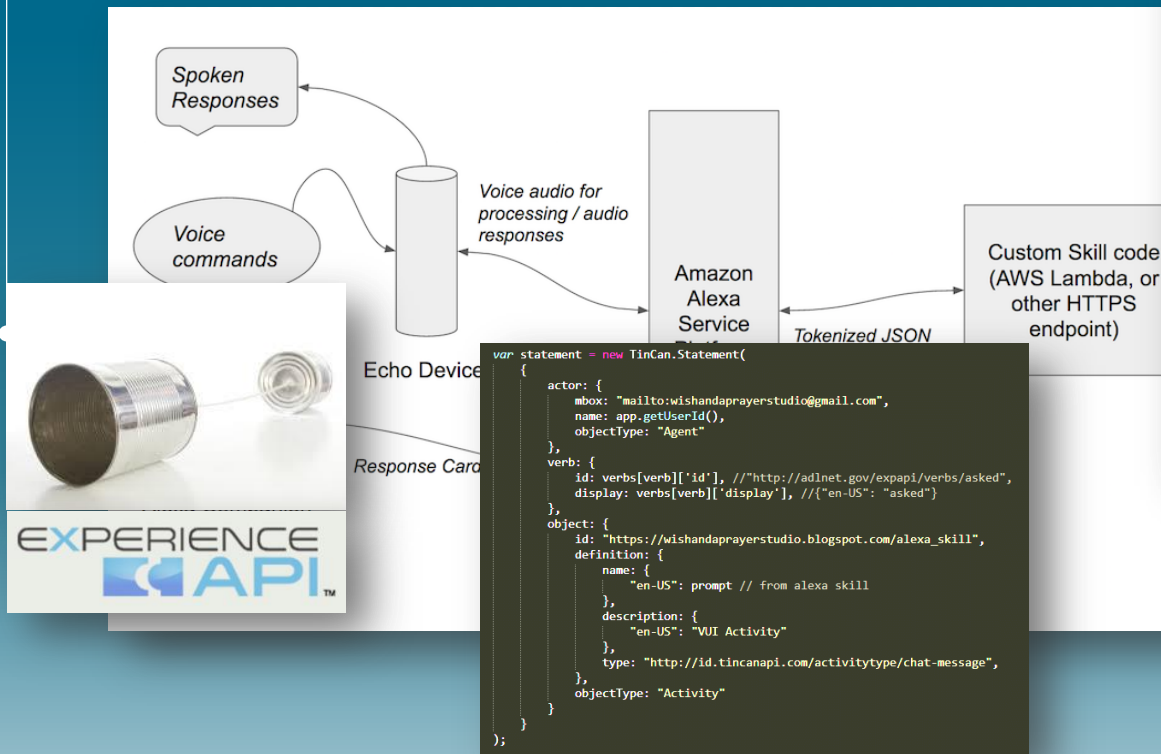
Subject Matter

Custom
Database

Public Online
Data

Logic/Rules

Drop-in with Tin-Can...





Virtual facilitators

Virtual/AI instructors guide new hires, students, and other trainees in online sessions for more interactive, engaging, and intuitive experiences

WFVC Customer Experience

The challenge

Transition approximately **13,000 team members** in Wells Fargo Virtual Channels (WFVC) from vendor customer service training to in-house Customer Experience training with **limited facilitation resources**.



vendor
customer service training

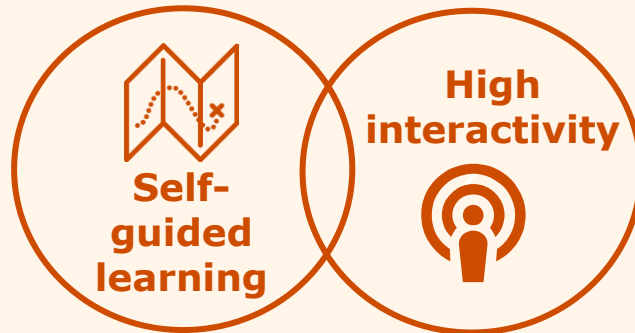


in-house
customer service training

An idea is born

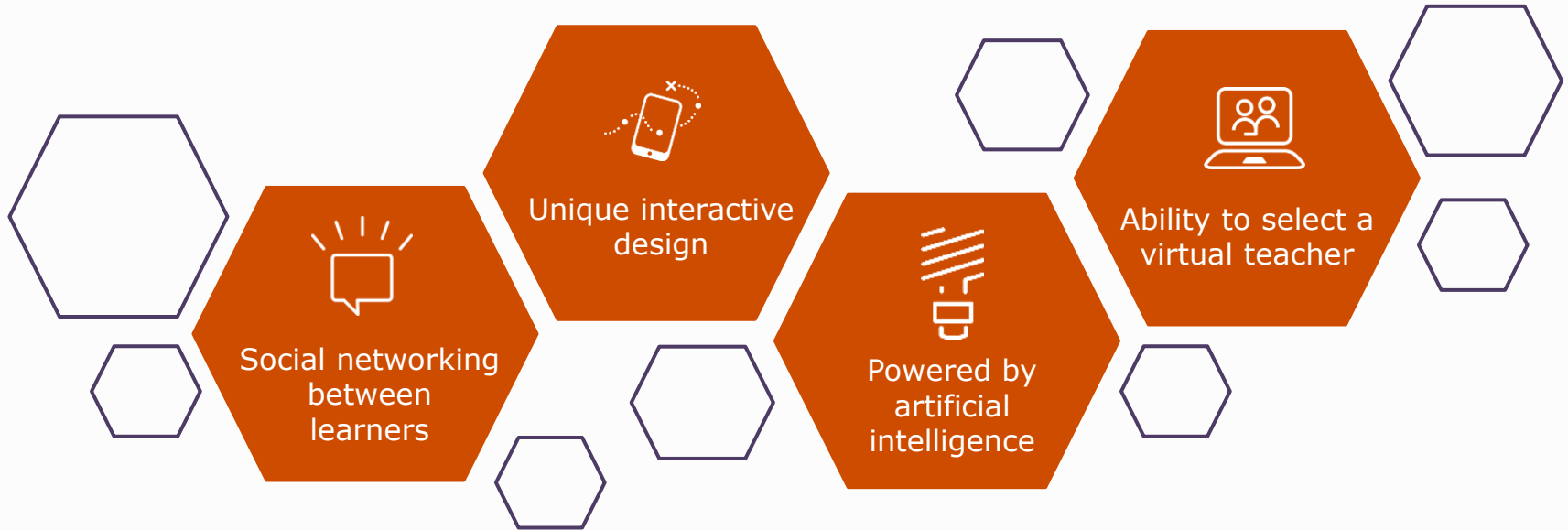
How do we create a desire to apply soft skills to support our *Culture of Caring*SM in a 4 hour self-paced window?

- **Difficult for traditional eLearning solutions** to elicit a strong **emotional movement** to change behaviors as it is typically self-directed and individual
- Explored popular social technology and “blue skied” ideas on how to create a **self-guided learning** with **high interactivity**



A meeting of minds

The solution: We developed a new internal learning system, featuring...



The inventor's vision

An AI virtual trainer



LIVE TRAINERS ON DEMAND

Allows a human trainer when needed to work with learners via chat



SOCIAL NETWORKING

Learners connect with each other while taking the course



FAQs

Learners to correspond creating a bank of frequently asked questions and answers



QUALITIES

Interests, hobbies, and a personality

More Help

[Ask Ray](#)

[Ask a friend](#)

Ask a live facilitator



Choose your virtual facilitator



☐ Beth



☐ John



☐ Jennifer



☐ Eric



☐ Julian



☐ Elena



☐ Demarcus



☐ Asha



☐ Hannah



☐ Jeremy



☐ Paulette



☐ Darius



☐ Nikolas



☐ Maria



☐ Ray



☐ Belle

Name: Ray Vang

Age: 30

Secret identity: Global jetsetter

Proud of: Spirited soccer coaching

AKA: Big picture thinker

Your Facilitator



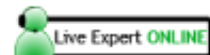
Ray

OK

More Help

-  [Ask Ray](#)
-  [Ask a friend](#)

Ask a live facilitator



Let's take what you have learned and put it to practice. Watch the next series of clips and think about how you would focus on the customer.



SHINE, building rapport, demonstrating a sense of urgency, common courtesy, and testing for reaction are all ways we show our customer that they have our full attention.

Take a moment to read a blog from a customer on what it takes to show a customer that they have your undivided attention.



[Click here to read the blog, May I have your attention please.](#)

Your Facilitator



Ray 

Active Learners



Kourtney Eidam

More Help

[✉ Ask Ray](#)[👤 Ask a friend](#)

Ask a live facilitator

Live Expert **OFFLINE**

How does Mr. Martinez appear to feel by the end of this clip?

- ☒ Irritated
- ☐ Satisfied
- ☐ Pleased



Your Facilitator



Ray

Active Learners



Kourtney Eidam

More Help[✉ Ask Ray](#)[👤 Ask a friend](#)**Ask a live facilitator**Live Expert **ONLINE****How does Mr. Martinez appear to feel by the end of this clip?**

Expert On Demand | Virtual Facilitator...

Save Chatters Refresh Help

1 expert online. You are 1st in the queue.
Kourtney Eidam joined
Ross Goddard joined
Ross Goddard [4:41 PM]
> Hi my name is Ross....how can a facilitate you today?

0 / 1000 max

Disclaimer: Please be advised that the content of this chat is the intellectual property of Wells Fargo. The content and participants will be documented and the content can be shared with other users to assist with similar issues.

**Your Facilitator**

Ray

Active Learners

Kourtney Eidam

The Vision of Wells Fargo:

- 1 Regardless of our growing size, scope, or location, we want to build relationships with our customers together wherever we are, whatever the time or place.
- 2 We want to build relationships with our customers together wherever we are, whatever the time or place.
- 3 The best way to help our customers succeed financially is to understand their financial needs and help them succeed financially.

We want to satisfy our customers' financial needs and help them succeed financially.

The Vision of Wells Fargo



Your Facilitator

Your Facilitator



Ray

Name: Ray Vang
Age: 30
Secret identity: Global jetsetter
Proud of: Spirited soccer coaching
AKA: Big picture thinker



Better virtual instruction



Increased individual access time



Reduce time and money for in-person training



A prototype takes flight

The innovation team successfully communicated and presented a working prototype that represents a truly **unique learning experience**

Prototype tested with WFVC team members and represents an:



Overwhelming positive feedback

concluded prototype warranted exploration of wider use and next steps

Continued development has led to it becoming a **production level technology**



Voice User Interface

currently in development

References

- https://en.wikipedia.org/wiki/Intelligence_amplification
- [Ashby, W.R.](#), *An Introduction to Cybernetics*, Chapman and Hall, London, UK, 1956. Reprinted, Methuen and Company, London, UK, 1964.
- [Licklider, J.C.R.](#), "[Man-Computer Symbiosis](#)", *IRE Transactions on Human Factors in Electronics*, vol. HFE-1, 4-11, Mar 1960.
- [Engelbart, D.C.](#), *Augmenting Human Intellect: A Conceptual Framework*, Summary Report AFOSR-3233, [Stanford Research Institute](#), Menlo Park, CA, October 1962.^[1]
- <https://medium.com/@gsvpioneer/the-augmented-intelligence-explosion-7a8dc6095c21>
- <https://venturebeat.com/2017/02/16/are-we-ready-for-alexa-for-it/>
- https://thenextweb.com/gadgets/2016/06/28/amazon-alexa-voice-command-skills/#.tnw_sDXyXKuM
- <http://cen.acs.org/articles/95/i19/Meet-your-new-lab-assistant.html>
- <http://www.erintegration.com/2016/12/26/amazon-echo-dot-and-alexa-in-the-classroom/>
- <https://medium.freecodecamp.org/who-can-teach-you-the-guitar-better-youtube-or-alexa-96e8cef77470>

Six Flags®



Mobile Tablet Training

***“We strive to be
the leader in
innovation”***

Jim Reid Anderson, CEO

Contents

- **Genesis of Mobile Tablet Training**
- **What Does This Look Like?**
- **Cultural Immersion**
- **Guest Interaction**
- **Park Tour Integration**
- **Gamification**
- **The Results**
- **The Future – Augmented & ‘Mixed Reality’**
- **Summary**

The Beginning

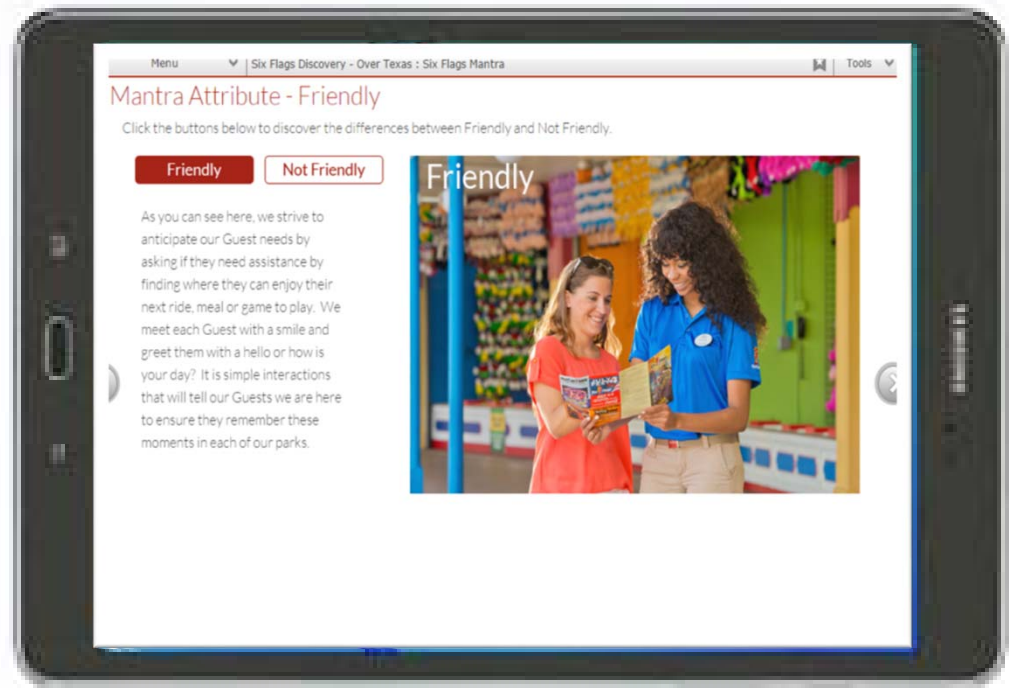


- Team Member Voice – Engagement Survey Comments
- Blended Learning Techniques and Innovations
- Goals to Improve Engagement, Cultural Immersion, Preparedness and Productivity
- 2014 – 2017 Implementation Process

What Does This Look Like?



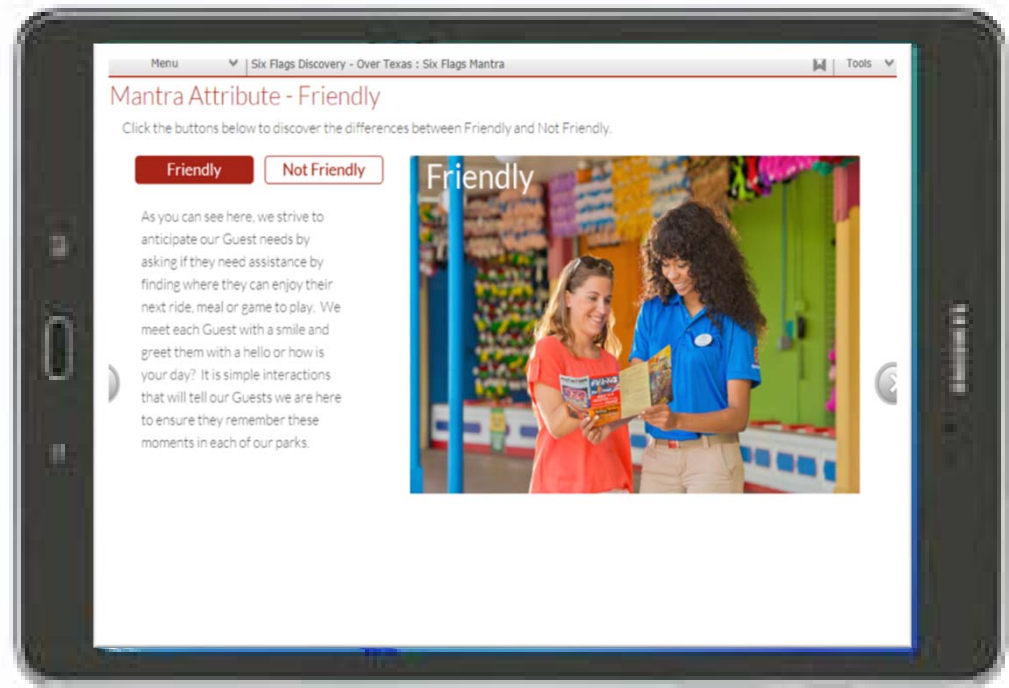
- Samsung 9.7 Inch Tablet
- Mobile Application
- Wifi Enabled (but not used during learning)
- 12.5% of in-class learning takes place on tablet



Cultural Immersion



- Six Flags Mantra is Friendly, Clean, Fast & Safe Service
- Video of Company History
- Guest Satisfaction Goal Attainment
- Good and Bad Examples of Guest Delivery



Guest Interaction



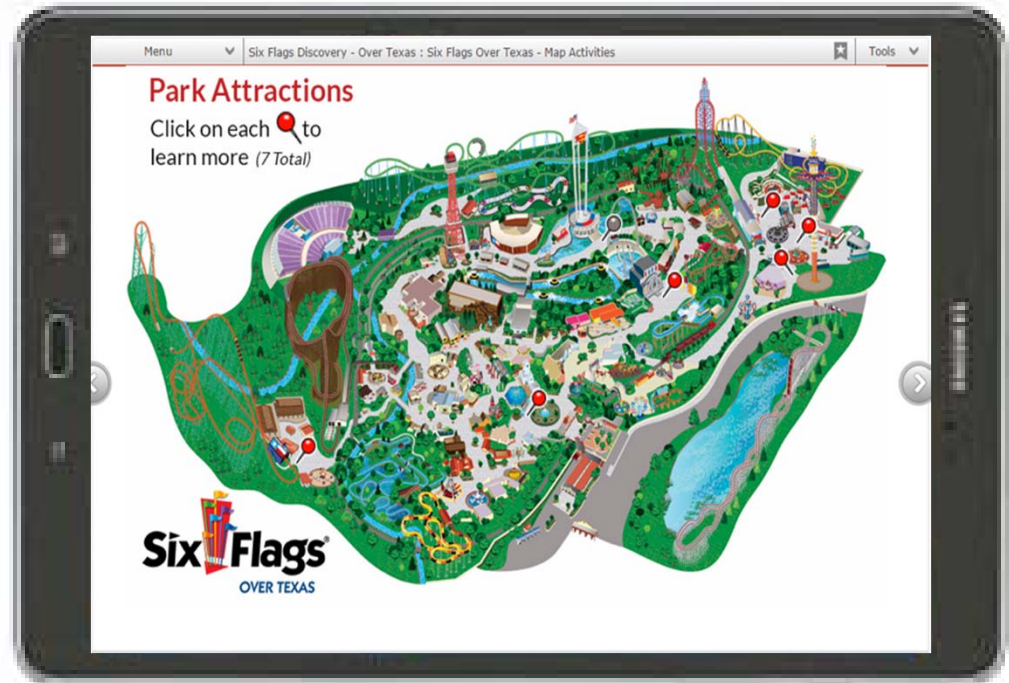
- Short Video Segments
- Real Life Examples
- Increased Engagement
- Increased Understanding



Park Tour Integration



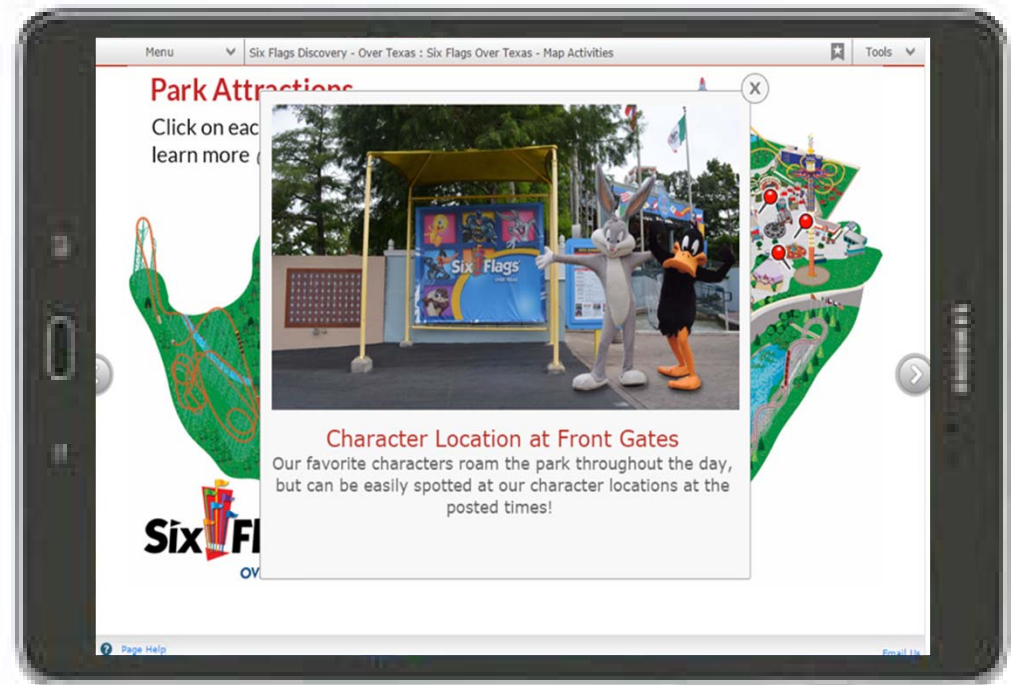
- Interactive Park Map & Guide
- Touch Points that show Park Attractions, Guest Service Points and Employee Areas



Park Tour Integration Cont.



- Short Descriptions
- Supplemental Visual Aids and Descriptors
- Improve Retention and Recall Strategies once On-the-Job



Gamification



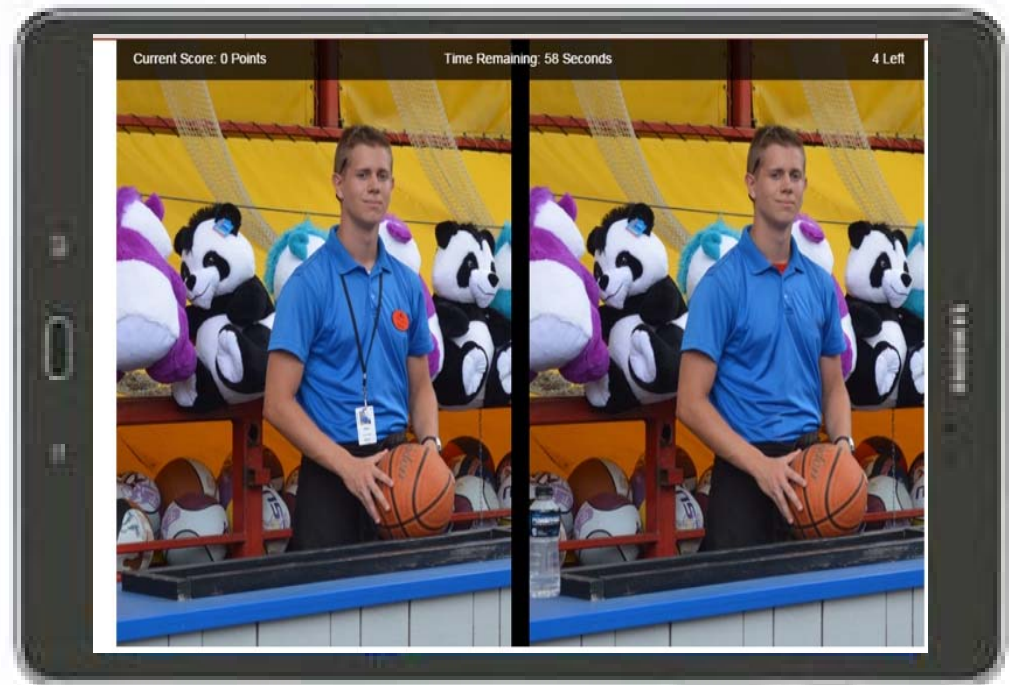
- Interactive Games and Assessments
- Make Learning of Policy and Procedure Fun



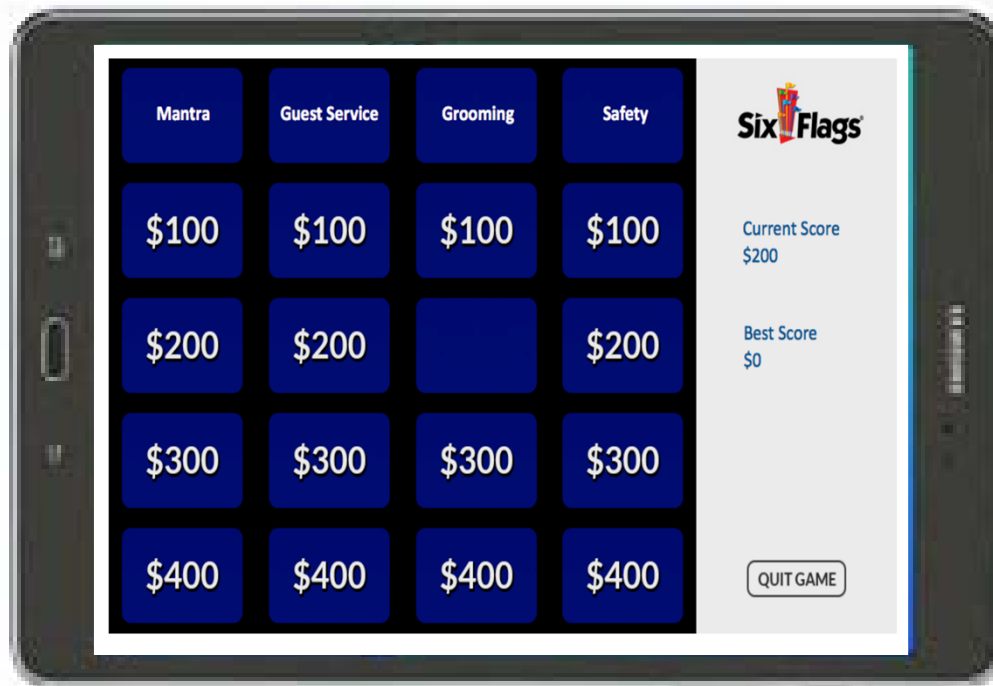
Gamification



- Increased Retention of Learning Content
- Increased Engagement
- Decrease Time In Field Repeating In-class Content



Gamification...Cont.



The Results



- 88% Approval rating from Team Members who felt the blended learning experience improved their understanding of course content
- 93% Approval rating from Team Members who felt they would be able to use what was learned on-the-job

Testimonials



“This was a fun course. The instructor was friendly and energetic. The interactive map was a very useful learning measurement. My knowledge of the park was improved significantly.” *Team Member – Six Flags Fiesta Texas*

“This course helped me learn a lot about the job and I am looking forward and excited to work here at this job.”
Team Member – Six Flags Great Adventure

“The use of the tablets were very effective in this session.” *Team Member – Six Flags New England*

“Keep the innovation going. Good Job!” *Team Member – Six Flags New England*

“I’m very glad that we started using tablets during training this year.” *Team Member – Six Flags Over Texas*

Summary



- Improved experiential learning and engagement
- Increased opportunities for retention and recall of learning content
- Improved preparedness and productivity of Team Members
- Increase efficiencies in follow-through department and on-the-job training
- FUN!

SixFlags®



Thank You

Drivers of Change



Your New Workforce

The Future



Futurist Gerd Leonhard predicts that we'll see more change in the next 20 years than we've experienced in the last 300, and those who are responding now will have a head start.

The Turning Point



We're reaching a turning point in learning, and there will be no going back. The question organizations need to ask themselves isn't, "Why should we be doing this?" but, "Why aren't we doing this?"

What Learning Teams Know...



- The way people work and learn has changed
- Jobs take more skill to complete
- Industries are rapidly changing

Changing Workforce?



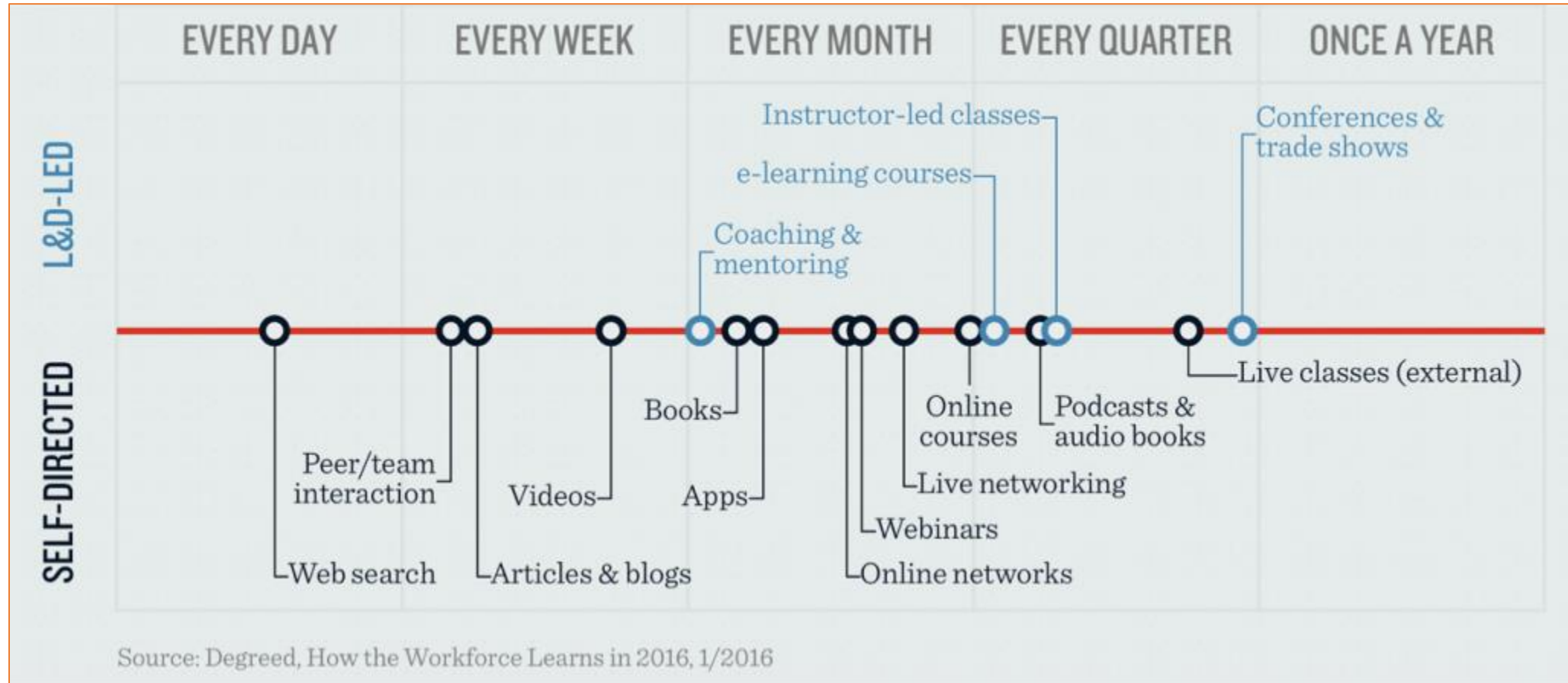
Who is the Audience?



Diverse L&D Solutions



Diverse L&D Solutions



Start the Change?

