

VIDEOGAMES

The Learning Revolution

Implications for EFL



TESOL France Colloquium
November 2009

Ladies and gentlemen, today we'll be taking a look at a fun topic, and show you just how seriously we should be taking it in our common ambition to find more effective ways of learning and teaching.

Our topic today is videogames.

Who are we?



Frederic Tibout



Paul Maglione

Media and videogame experts.
Co-founders of the first fully
entertainment-focused TEFL company

NBC Vivendi Games

Universal Interactive **CNN**

I Play **Apple** Sierra on-line



First of all, a word of introduction.

CNN ... Sierra Online.....Apple.....NBC ... iPlay.....Vivendi Games ...Universal Interactive
.....

We have created and will soon be launching the world's first 100% entertainment-focused TEFL company, and we'd be honored if you would help us beta-test our service when we go live later this year.

Video Games A Planetary Success



So let the games begin. Needless to say, by now you are all aware that videogames are a global success story.

The World's Fastest-Growing Entertainment Segment

- \$55 billion in retail sales
- 100m + games consoles sold every year
- 600m console games will be sold this year
- 55 million people play online games

Let's look at a few numbers.

With \$55 billion in annual retail sales, Videogames are larger than global movie box office, bigger than recorded music sales.

In terms of software, 600 million units will be shipped this year, and that's not counting the millions of mobile phone games bought every year.

55 million people play online games, and of these, World of Warcraft is the market leader, with 13 million paying subscribers.

More importantly, videogames are now...



- dominating the family living room
- becoming the universal entertainment preference for young people
 - (97% of US adolescents play video games)
- ubiquitous
 - games consoles at home
 - PC's at home and at work
 - mobile phones and portable consoles in-between

And games are now colonizing new areas:

- music (Guitar Hero, Rock Band, Singstar)
- self-help (Brain Training; Eye Training)
- fitness (Wii Fitness)

More importantly, Videogames have by now become a fully integrated part of popular culture. They are **dominating the family living room....**

....becoming a **universal entertainment preference for young people.....**
(97% of U.S. adolescents play video games)

Gaming is now **mass-market**: with an equal male/female split; an appeal to all ages; all socio-economic groups.

Gaming is now **ubiquitous**, thanks to games consoles at home, PC's at work and at home, and mobile phones and Gameboys in-between.

And games are **starting to spill over and colonize other areas**, such as Music (Guitar Hero, Rock Band), Self-help (Brain Training), and physical fitness (Wii Fitness – now endorsed by the NHS in the UK)

New trends: social Network Games



A single Facebook game can attract 20m + users/month

Among the more recent gaming phenomena are social network games, on platforms like Facebook.

Popular titles here attract up to 20M unique players per month.

...here you see the social context at work, where you can see your scores ranked alongside those of your friends....

New trends: iPhone Games

20,000 new games titles published in just 16 months



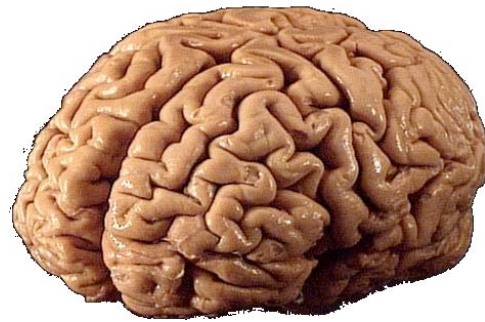
Another recent trend is games on smartphones, like the iPhone, which has seen an explosion in game titles published for the platform since it launched in July of last year.....

Crash Bandicoot Nitro Kart is #1 all-time seller on the iPhone platform with over 1M copies sold.

WHY are videogames so popular?

So a starting point for today's talk is: why are games so popular?

BECAUSE our brains like videogames!



The answer is as straightforward as it is perhaps unexpected: because our brains respond exceptionally well to videogames.

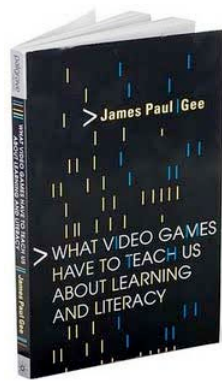
7 things we know about how our brains learn



1. Meaning is more important than information
2. Emotion is the gatekeeper to learning
3. Intelligence is a function of experience
4. The brain is social
5. Learning is enhanced by challenge and inhibited by stress
6. The more stimulation, the more likely long-term memory is created
7. Movement locks in lessons learned

We're not neuroscientists, but fortunately there has been a lot of great work done in the field of brain-based learning in recent years, and the conclusions are pretty universal. Let's take a look at each of these, and see how popular videogames – not educational or learning games specifically – incarnate the principles of brain-based learning.

How do videogames apply this?



Meaning is more important than information



Powerful, level-based scenarios

Assassin's Creed / Ubisoft



Goal-driven

Mario Kart / Nintendo



Immediate feedback

Brain Academy / Nintendo

Early learning theory saw the mind as a calculating device. Rules-driven.

Learning Theory today is that people primarily think and learn through **experiences** they have had.

Videogames offer people experiences in a virtual world, and this **meaningful context** creates conditions for learning far more powerful than artificial situations devoid of real context.

Goals are explicit, but players are mostly free to achieve these goals in their own ways.

Feedback is given moment-by-moment; action-by-action, another condition of effective learning.

Emotion is the gatekeeper to learning



Call of Duty 4 / Activision

- Identification with in-game characters
- Music, graphics, cinematics

We know from brain-based learning studies that Emotion acts as a sort of catalyst for learning experiences, and games obviously provide this condition in a variety of ways. We play as, and empathise with, in-game characters...
Sound.....vibrations.....3D graphics.....cinematics.....

Intelligence is a function of experience



Pattern Recognition
Civilization / 2K Games



Learn by doing
Swat 4 / Vivendi Games

We also know that in many ways, intelligence is a function of experience – the type of experience acquired by extracting lessons learned – pattern recognition, in other words; learning by doing; and by having opportunities to apply previous interpreted experience to similar new situations.

The brain is social



Team-based quest
World of Warcraft / Blizzard



Multiplayer interactions to build social skills
Sims Online / Electronic Arts

Man is, of course, a social animal, and this aspect is perhaps one of the least recognized in traditional educational approaches until very recently. By contrast, multiplayer gaming has rewarded collaboration and communication for some time now, and new forms of social gaming like we saw earlier are expanding the possibilities here.

Learning is enhanced by challenge and inhibited by stress



Challenge for status among friends

Word Challenge (FaceBook) / Playfish



Continuous encouragement

Bejeweled 2 (Web) / PopCap

Another significant break with academic tradition is the recognition that learning is shut off in highly stressful situations, and on the contrary accelerated by motivations such as those generated by a sense of challenge. Games appeal to our healthy instinct for status among peers, problem-solving, and continuous improvement via gameplay conventions that don't punish failure, but rather build failure into the overall game progression logic. Casual games, like Bejewelled or Zuma, take this one step further by providing a steady stream of encouragement and celebration of even the smallest gameplay achievements.

The more stimulation, the more likely long-term memory is created



Assembly model memorization

Tetris Mania (Mobile) / Electronic Arts



Picture / Word association

Brain Academy (WII) / Nintendo

The one area where traditional education and game design seem to agree is in the domain of repetition.

Games, however, incorporate repetition into learning objectives sub-consciously, through level design and tolerance of failure, so that, for example, over time players acquire mastery of the shapes and their possible placement in Tetris without ever realizing that they are doing this through endless repetition of very similar exercises.

Movement locks in lessons learned



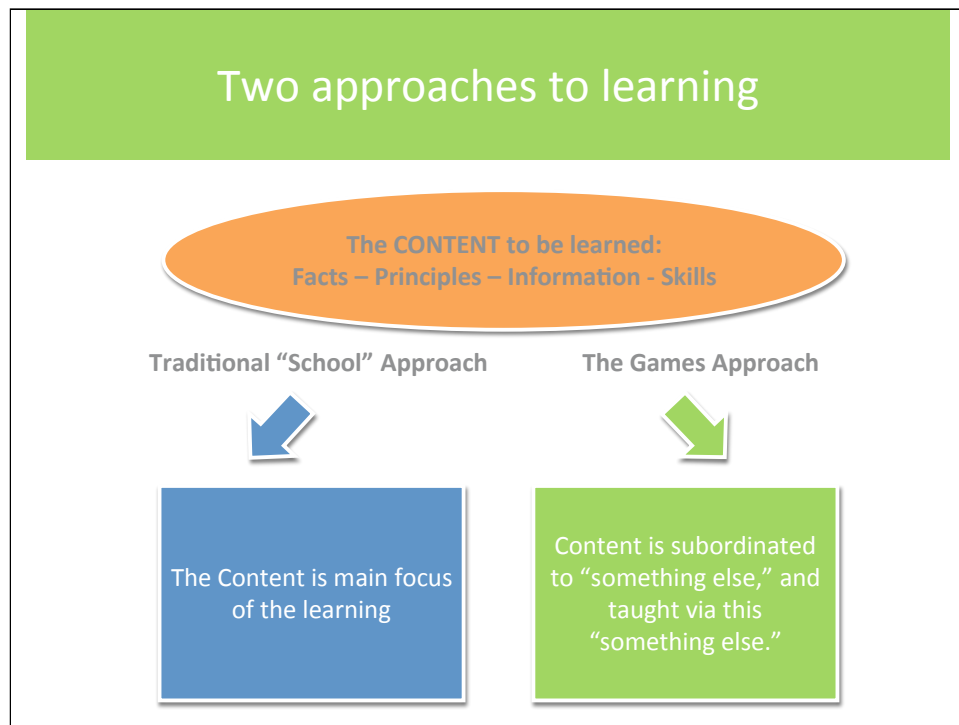
Motion detection
Project Natal / Microsoft



Sensor-based controller
Wii / Nintendo

One unexpected finding of all the Brain Learning research has been the importance of movement in locking in learning. Games are currently integrating movement into gameplay in a variety of new ways, such as the Nintendo Wii motion controller, the iPhone accelerometer, the Sony EyeToy controller, and the motion-detector interface being brought to market by Microsoft.

Two approaches to learning



At this point it's useful to remind ourselves that both education, in the traditional sense of the word, and games have identical objectives: the imparting of knowledge as represented by facts, information, and skills. What is different is how they approach this objective: the traditional "school" approach does it directly; the games approach does it indirectly.

So how do we exploit the learning potential of videogames?

So let's now look at how games theory has been employed towards educational ends.

Earliest computer-aided instruction Drill- and curriculum-based; '60's – '80's

- PLATO
- Wicat



In truth, researchers and educators have been trying to apply information technology to teaching for some time, starting in the early 1960's with platforms like PLATO and Wicat.

The 1970's: a vision of computer-assisted, entertainment-oriented learning



Space Invaders: the first mass-market breakthrough arcade games success



The Apple II: the first truly personal computer

In the late '70's, the Apple II and the popular craze over the Space Invaders arcade game led educators to start experimenting with the new technology and entertainment approach
→ could learning experiences now be made fun, interactive, child-driven, and open-ended?

'80's- '90's: Edutainment becomes a new educational movement and an industry



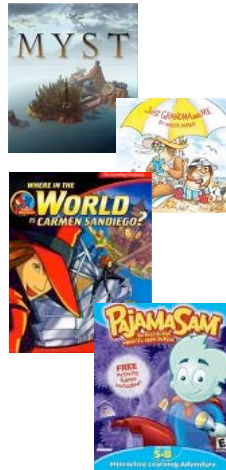
By the '80's and '90's, learning software like "Math Blaster" and its many emulators were seen as a welcome, interactive and educational alternative for children to dumb, passive television. These titles spawned a new industry half-way between entertainment and education. It was called, with a certain lack of imagination, "edu-tainment."

Early “Edutainment” Games

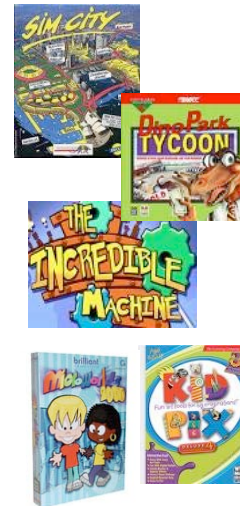
Academic Focus



Entertainment Focus



Construction Focus

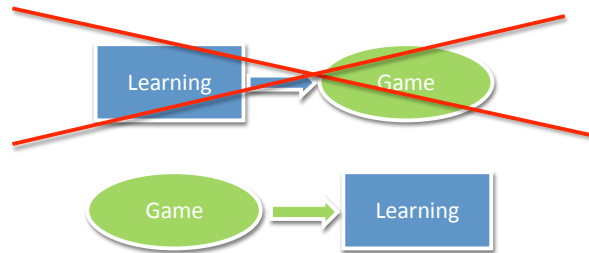


Academic Focus: Reader Rabbit.....Jump Start.....Oregon Trail....Adibou...

Entertainment Focus: Pajama Sam.....Myst.....Where in the World is Carmen SanDiego.....

Construction Focus: Sim City.....Kid Pix.....The Incredible Machine.....

Yet... ultimately, the
“edutainment” approach failed.



Good educational games are first and foremost good games.
The educational aspect should be the end-result of the
gameplay, not the genesis of it.

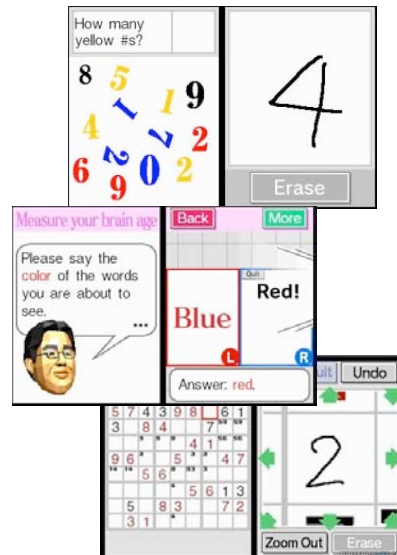
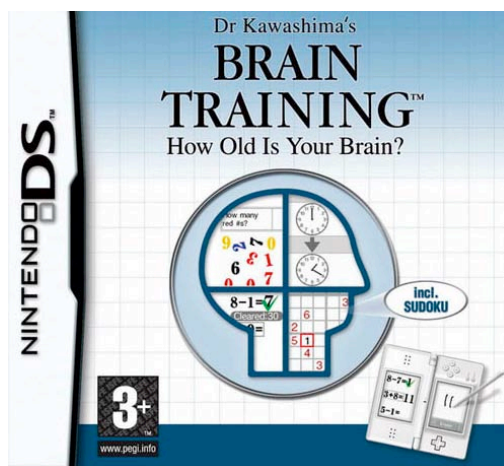
By the late '90's however, the budding edu-tainment movement had already fizzled. Sales slowed down, kids started to discover the internet and a more direct access to free entertainment, and major publishers closed down or sold off their edutainment games lines.

Openly educational games failed, for the same reasons that openly educational television and educational cinema failed: **the more we focus on education as the means, the lower the motivation of users.**

Gradually, the realization grew that gameplay was the dominant requirement, and that learning could only come about if motivation and the fun-factor were kept intact.

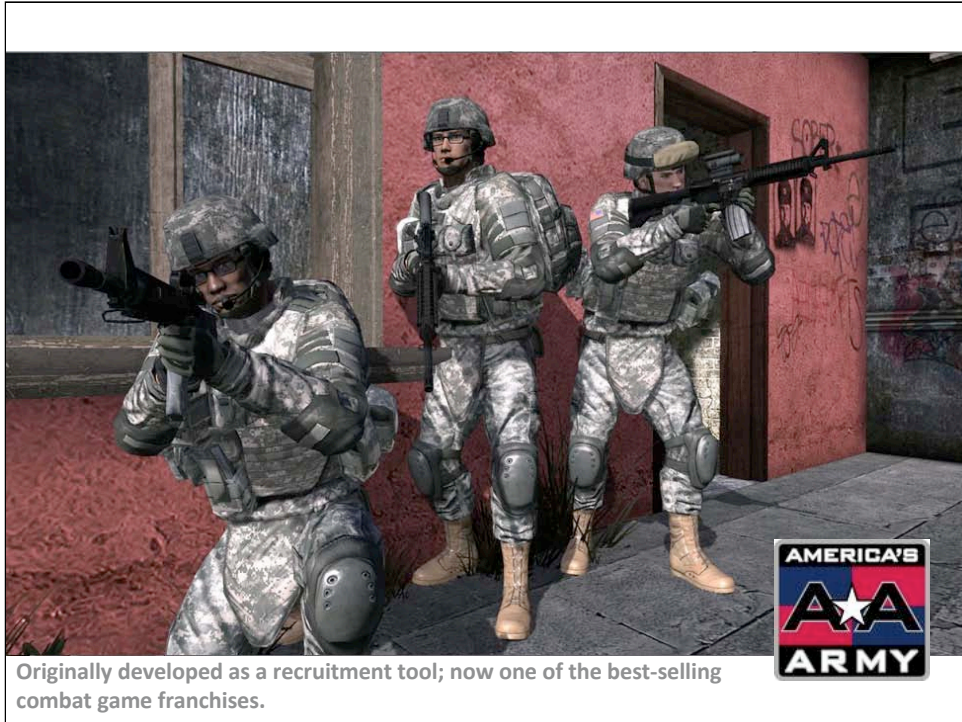
Today's "learning games" are games first;
and the approach is working

The top-selling videogame in Europe of 2007



What we are experiencing now is a Second Wave of learning games, this time with the benefit of being real games first and foremost. And they are definitely resonating with consumers.

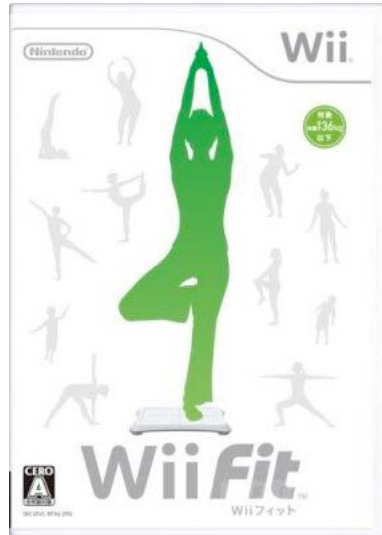
Dr. Kawashima's Brain Training, by Nintendo, was the top-selling videogame in Europe in 2007, and a similar title, Big Brain Academy – also by Nintendo – was in the top 10 sellers. Gameplay is fast-paced and varied, feedback immediate and constant, challenge levels high, failure is part of gameplay, and level design is finely tuned to keep motivation high.



Originally developed as a recruitment tool; now one of the best-selling combat game franchises.

America's Army, originally developed as an educational recruitment tool for civilians, has become one of the best-selling combat game franchises worldwide.

The second-best-selling videogame in both Europe and the U.S. in 2008



And last year Wii Fit, a game which combines full-body movement with learning about balance, yoga, aerobics, and general fitness, was the second best-selling videogame across the United States and Europe.

OK, so the potential for EFL must be limitless. What's being done?



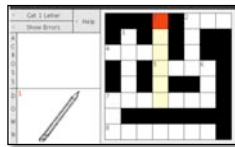
So let's now look at how games theory is being employed towards teaching English as a Foreign or Second language.

What's being done?

EFL Games : Basic Approaches



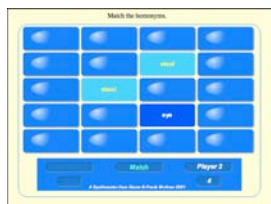
Wordfinders



Crosswords



Hangmans



Memory-type games



Word Scrambles



Wordbuilders

Well, the answer – so far – is not a lot.

There are a few online games circulating, mostly rather basic versions of classic word games. Most are hobbyist executions, lacking in graphics and other attractions, but more importantly they are usually presented outside of any meaningful context. The goal orientation is not obvious, reinforcement and reward are absent, as are emotion and level design, and very few allow for any form of collaboration or communication.

Limitations of basic EFL games

- No meaningful context
- Goal orientation is not obvious
- Very basic graphics, often no sound → lack of emotion
- Reinforcement and reward are absent
- No or very rudimentary level design



There are, however, notable exceptions and real innovation in the field. The virtual community Second Life has seen a number of EFL classrooms, schools and learning spaces set up by various organizations, including the British Council.

WizWorld Online: learn English through fantasy role-playing online gaming (8World, China)



<http://www.wizworldonline.com/Kid/Index.shtml>

This game was created by Videogames celebrity Rick Goodman who developed the best-selling games Age of Empires and Empire Earth.

WizWorld, created by 8World in China, is a massively multiplayer online game and community teaching Chinese to play and communicate in English. It's interesting to note that this game was created by Videogames celebrity Rick Goodman who developed the best-selling games Age of Empires and Empire Earth. WizWorld is a multi-million \$ project.

Carnegie Mellon / Nokia in India



The university has spent the last 6 years designing educational games for mobile phones that are relevant to the culture of rural India, and the study is currently being rolled out to 800 children across 40 villages in the state of Andhra Pradesh.

In India, Carnegie Mellon University has joined forces with mobile telephony giant Nokia to test the effectiveness of mobile phone games for teaching English to students in rural areas. The university has spent the last 6 years designing educational games for mobile phones that are relevant to the culture of rural india, and the study is currently being rolled out to **800 children across 40 villages in the state of Andhra Pradesh.**

Decorate!: vocabulary building via interior decorating commands in English (Sprk, Sweden)



<http://www.ur.se/sprk/engelska/inredning/>

Teachers are experimenting with games not originally created for to nevertheless provide meaningful context and opportunities for purposeful communication. New games identified every week by great EFL bloggers like Russel Stannard, Nik Peachy, and Larry Ferazzo.

And teachers are experimenting with using a number of games not originally created for EFL purposes to nevertheless provide meaningful context and opportunities for purposeful communication for learners of English. Suitable games of this nature are identified every week by great EFL bloggers like Russel Stannard, Nik Peachy, Larry Ferazzo and many others.

So where do we go from here?



Current generation of young people is the first that works, plays, thinks and learns differently than their parents did.




What we call "technology," they call "life."

Let's start with a focus on the learner, and let's start with young learners.

- The current generation of young people - generation Y, also called the Millennials - is the first that works, plays, thinks and learns differently than their parents did.
- They are so familiar with what we call 'technology' that the word is virtually meaningless to them; what we call 'technology', they call 'life.'

- They are highly intelligent but easily bored...
- They are gamers, networkers and communicators...
- They need to understand “the big picture” to be motivated...

...and they LEARN BY DOING



Their attention span is short but they are highly intelligent;

...they are gamers, networkers and communicators,

...they need to understand the big picture in order to be motivated,

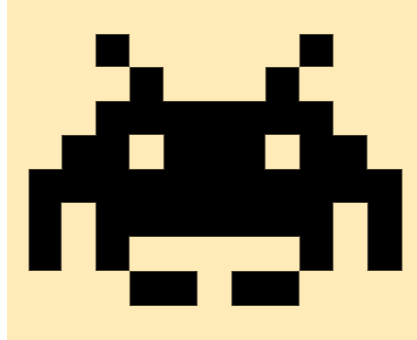
...and they learn by doing.



And for every one of them, more than ever before, English is the international language of opportunity.

Our challenge

Will we just start using new technologies, like videogames, to do what we have always done, just a little different, a little better?



Or can we embrace games, online video, mobile phones and social networks in a way that really changes
how we think about learning?

Our challenge as EFL professionals is, fundamentally, a challenge to our own ability to question our practices every day, to evolve with the world around us.

Can we go beyond using new tools and technologies, like videogames, to keep doing what we have always done, just a little different?

Or can we embrace games, online video, mobile phones and social networks in a way that really **changes how we think about learning?** The blended learning approach is certainly a step in this direction.

Our challenge



Can new technologies change not just the way we teach, but...

- the way we interact with learners?
- how learners interact with each other?
- how learners can start to teach other learners?
- what about self-analysis, self-motivation, self-testing?

Then.....let's think BEYOND the classroom.

How do the new technologies CHANGE not just the way we teach, but the way we interact with learners?

- How learners interact among themselves?
- How learners can start to teach other learners?
- What about self-study; self-motivation; self-testing?

Our challenge



Are we BRAVE ENOUGH to really let go of the content-driven model and use games that are truly ENTERTAINING to teach English, even if they primarily deal with other subjects and experiences?

Do we TRUST OUR LEARNERS enough to leave them to cope with gameplay challenges so that they actually learn by doing, and ONLY by doing?

Can we use games to move from a focus on language system instruction to actual experiences and problem solving in the language?

Our challenge



At the heart of any educational journey is a teacher. And for great teachers, technology is just another tool to unlock a piece of knowledge.

Games can help do this, and, increasingly, they will.

Above all, let's remember that at the heart of any educational journey is a teacher. And for great teachers, technology is just another tool to unlock a piece of knowledge, or impart a new concept. Games can help do this, and, increasingly, they will.



English Attack!
Entertainment Learning



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Coming soon at
www.english-attack.com

Thank you, and at this point we're happy to take questions – in French or English, as you wish.