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Living English Simulation Learning for Non-Native English Speakers

Incorporating Edutainment Methodology

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It is well recognised that English is not an easy language to learn, particularly as a second language. English is considered to be a highly irregular language that presents an array of difficulties for non-native learners, in turn making it very difficult to teach (Helland & Kaasa, 2004). For example, English has more sounds than most other languages (Helland & Kaasa, 2004; Shephard, 1987) with these sounds represented by an ancient 26-letter Latin alphabet. There are multiple ways of spelling some sounds and, similarly, multiple ways to pronounce individual letters (Goswami, Ziegler & Richardson, 2005). More specifically, this has resulted in English becoming an incredibly difficult language to spell, with numerous citations in the literature decrying the confusing state of English spelling (Goswami, Ziegler & Richardson, 2005; Venezky, 2004). Not only do a large proportion of English words contain silent letters, many words that are used with high frequency in speech and writing are considered to be irregular due to their inconsistent phonic representation (Carnine, Silbert & Kameenui 1997; Helland & Kaasa, 2004; Venezky, 2004). This point regarding English spelling can not be over emphasized. Even for native learners of English, spelling presents a major problem as a result of the broad range of rules, exceptions and inconsistencies that exist (Juel & Minden-Cupp, 2000). Perhaps Laubach (1996) put this most succinctly with his statement “English is the world’s worst spelled language.”

Due to the highly non-phonetic nature of English text, various attempts have been made to alter spelling conventions so that they better map the sounds for which they code (Venezky, 2004). However, apart from Webster’s attempts to Americanize spelling in the 1700’s, little or no widespread change on this front has happened. Spelling reformers continue to fight an uphill battle to change spelling conventions, given the huge body of English literature and academic routines already based on it. This paper will introduce a new methodology that acknowledges the instructional limitations of the English language and addresses them through the use of a simple coding system to assimilate English text into a readily recognized phonetic language.

In recognition of the inherent instructional difficulties noted above, the English language would benefit from a universal, or at least widely accepted, system or code by which English can be taught and learnt. Perhaps the most significant attempt to develop such a system can be seen in the advent of the International Phonetic Alphabet (IPA). The IPA is predicated on representing each sound with its own unique symbol, thereby

eliminating any confusion between letters that may be responsible for a number of different sounds. While it is a very effective method of notating sounds, it is nevertheless another alphabet. As such, for it to be effectively used, it simply becomes another code to be learned and then applied to decode the existing letter-to-sound code of normal spelling. For learners of spoken English, who already face the difficulty of differentiating a sometimes totally different alphabet from their native language, there exists a need for a simplified system for teaching and learning English, particularly without resorting to a parallel code such as the IPA. Perhaps the most resounding argument for an alternative to the IPA lies in the absence of any one country or language to wholly adopt it (Venezky, 2004).

Introducing Paech Phonetics

The Paech Phonetics (PP) code is a major breakthrough for the student (and teacher) of English. It allows the student to phonetically encode/decode the English language without the need to learn the difficult IPA. The PP methodology circumvents the added layer of coding required when using the IPA, thus reducing the cognitive demands on the learner. PP employs a simple coding system utilizing the existing English alphabet and spelling conventions, with the addition of logical sound markers. Reminiscent of the IPA, the PP code works on the premise of each sound being represented by a single symbol, however each symbol is the actual letter used to spell the sound. In order to differentiate the varied sounds possible from a single letter, a numerical superscript is used to identify each sound. To this effect, not only does the code simplify pronunciation, it also reinforces the word's normal spelling.

Consider the example below, demonstrating the simplicity evident when using Paech Phonetics as opposed to the IPA to sound code the word *catch*:

IPA	PP
<p style="text-align: center;">kætʃ</p> <ul style="list-style-type: none"> • The student is required to learn a second coding alphabet. • Some symbols very closely resemble letters in the English alphabet, but have different sounds (eg. æ resembles “ae” which makes a different sound). • While the sounds are represented, silent letters are not indicated. 	<p style="text-align: center;">¹ catch</p> <ul style="list-style-type: none"> • The coding is simply an additional layer on the English alphabet (therefore the student does NOT have to learn a second coding alphabet). • The correct spelling is reinforced. • The only additional code needed is for the vowel sound. • Consonant & vowels are clearly indicated. • All letters are shown, even silent letters.

Similar and unnecessary confusion may occur when using the IPA if you consider the reverse process where sounds have to be encoded by symbols (letters), as is the case when asking students to spell words they have heard. While PP is not designed to be a spelling program it provides invaluable spelling cues. The inclusion of spelling information is specifically aimed at enhancing the fluent reading and speaking skills of

the student. The example below demonstrates the ease with which the correct spelling of the word *shape* can be immediately accessed using the PP code.

IPA	PP
<p style="text-align: center;">ʃeɪp → ???</p> <ul style="list-style-type: none"> • IPA sound symbols may prompt unnecessary confusion (eg. the ʃ symbol can be spelled 2 ways when it is at the beginning of a word & 12 different ways if it is in the middle of a word; the eɪ symbol can be spelled in 7 different ways). • No indication of silent letters, therefore students are unlikely to correctly spell the word. 	<p style="text-align: center;">⁶ shape → shape</p> <ul style="list-style-type: none"> • The PP code uses the same symbols (letters) as the English alphabet. • Complete and correct spelling shown in the sound code, even silent letters.

The examples above illustrate an outdated and impractical code, perhaps best explained by the age of the IPA. The IPA was developed in the late 1880's, and has been credited with clearing up confusion over letters that represent multiple sounds, and sounds represented by multiple spellings. However, the sounds in the IPA are representative of many (largely European) languages, thus not always necessarily providing the best match for English pronunciation. To put the relevance of the IPA in the 21st century into perspective, consider that at its inception we did not watch television, we did not have colour photographs or printing and we certainly did not access the internet. Accessing real time images and sounds from around the globe was unimaginable. Consequently, printed material was limited to black and white and classrooms relied on pencil and paper, with class populations located in a single site. The IPA reflects the (very limited) technology of its time, and has undergone little evolution since. Currently, however, we are accustomed to high end technology in multiple facets of daily living, in particular using the internet to communicate through text, speech and video in real time, as well as the pervasive use of mobile phones, PDA's and interactive gaming.

We have also come a long way in terms of instructional applications. Classrooms and whole schools are networked; school newsletters are posted on the internet or emailed to parents; educational software and online resources are replacing text books; and institutions can simultaneously teach students in classrooms across the globe. Paech Phonetics is not simply a new phonetic learning system, it is supported by a comprehensive curriculum embracing innovative technologies in order to provide a highly interactive program of study that is accessible to students in a variety of settings. Institutions can immediately implement the curriculum through their existing e-learning platform, enabling access by students on campus, at home or even abroad. Students benefit from the ability to complete units within the comfort of their home and at a time that is most productive for them, whilst having access to instructors in a less confronting medium. With technology such as that in PP available, using the IPA for spoken English is like using a gramophone when you have a high definition, surround sound stereo system.

While the IPA was good in its time, it doesn't compare with the richness and reach of PP. Admittedly the IPA is now available online to allow wider reach, however it has failed to become richer. It has remained static, its code presented as a black and white image without accompanying sound (which is surprising considering that its purpose is to represent spoken sounds). Meanwhile PP has conquered reach via the internet, at the

same time demonstrating richness through harnessing multimedia technology such as colour, sound, images (both animated and human), interactivity (through the use of webcams and user guided activities), and ongoing tracking by professional instructors to provide assistance, regardless of the location of the student.

In addition to the technological benefits already outlined, the aim of PP is to improve spoken English, and as such utilises genuine human speech to help promote correct pronunciation. While it is one of the most important components of language acquisition for oral intelligibility, pronunciation is one of the most neglected and difficult aspects of teaching English as a second language (Macdonald, 2002; Nagamine, 2002; Zielinski, 2003). A number of unique tools have been developed to use in conjunction with Paech Phonetics to allow students to efficiently learn and monitor their pronunciation. For example, the Sound Panel enables students to hear any given sound, accompanied by a video demonstration of a model pronouncing the sound. This provides students with a positive model from which to learn and ample repetition throughout the program. The 'Mirror Cam' enables students to record audio-video of themselves pronouncing sounds whilst completing lessons or exercises. These recordings can be played back in conjunction with the Sound Panel, allowing students to compare their lip movements with those made by the program's human model.

Paech Phonetics: Practical Applications

Paech Phonetics is supplemented with structured learning modules that provide systematic instruction in fundamental phonic word attack skills, linked with the visual sound codes, resulting in easier phoneme identification and pronunciation. The ability to more rapidly decode English words will in turn reduce the cognitive load required, therefore enabling the student to attend to comprehension and meaning, the purpose of spoken English (Helland & Kaasa, 2004). Further lessons address the pragmatics of spoken English with explicit instruction on aspects of oral competency such as intonation and stress, providing even the most beginning English speaker or reader with the tools to become competent in spoken English. Lessons feature both visual and aural elements in order to highlight correct pronunciation and spelling, and guide students from the simple to the complex to build on previously mastered skills. Lessons are supplemented with a series of structured exercises to test and reinforce the skills and concepts introduced in each lesson. These exercises come in a range of formats to provide valuable reinforcement of newly acquired skills across varied learning contexts.

Lessons may be delivered online, or via a classroom facilitator, or a combination of both. This flexibility allows organisations to select the mode of delivery that best suits the learning environment of their institution. Students progress through lessons at their own pace, thereby accommodating a broad range of learners with varied levels of English competency to be able to complete the course simultaneously. Importantly for teachers and classroom facilitators, PP provides an inbuilt tracking system to view student assessments completed throughout the course. As students complete tasks in the exercise section, their progress is recorded and can be accessed to monitor student performance. Additionally, these records can be adapted to produce final grades and outcomes-based reports.

Advantages for Academic Marketplace Applications:

The Paech Phonetic system offers a number of advantages for institutions requiring English language e-learning content:

- The program provides a ***readily applied curriculum***. This results in a reduction in tutor preparation. The structured lessons, supporting exercises and full Teacher and Student Reference documents provide a complete curriculum.
- ***Flexible delivery platforms***. The program has been developed to be fully SCORM compliant enabling implementation on popular platforms such as NKInteractive, Blackboard or Oracle. The program can also be delivered over an intranet or the internet, and with limited functionality on a CD.
- ***Inbuilt tracking system*** allows tutors to monitor student feedback as well as summarise student performance for final grades and reports.
- ***Flexibility of delivery modes*** reduces the resource load from face-to-face contact.
- When used in the online only delivery mode, the program allows student ***self-paced progress***, the pace and progress dependent upon the varied ability levels of students.
- The program can be run ***in or outside of semester dates***, for example as a summer school to have more students complete the course each year. This can represent an additional revenue stream to the educational institution.
- ***Low resource requirements***. When delivered in a purely on-line mode, no additional teaching resource or real estate allocation is required. In a blended mode only infrequent use of teaching resources are required.
- ***Customisable content for industries or organisations***. The dynamic structure of the lesson templates and unique development tools allow content to be quickly developed with industry or organisation specific content.

The exciting development of Paech Phonetics is now being trialled in both national and international sites. It is intended that the results of these, and further trials, be made available in the form of empirical research to support the efficacy of Paech Phonetics and its place as the premier phonetic system for English language learners. From the original development there has now been quite a lot of work in developing interactive content that is pedagogically sound as well as entertaining and fun to learn from.

So what is Edutainment?

Some times I wonder how much education delivery methodology has really changed. As I remember when I was in school as a child (lets just say 40 years ago) I can remember being in my classroom (just the ones I remember) while the teacher was doing her best

to keep our, the students, attention while she taught us subjects like math, history and English. Today our children's children, study from, Ipods, DVD video projectors, interactive computer games and activities that encourage students to work together and develop what we are calling communities of practice This form of learning is called edutainment. But in reality edutainment was around even when I was sitting in my classroom 40 years ago. For example we went on field trips or the teacher had scheduled visiting speakers etc. One field trip I remember well is a trip to the planetarium. Instead of sitting at a desk and looking at a picture of a planet, galaxies and stars, we went to the planetarium and actually saw the real thing. And I can remember that my classmates and I spoke of the trip for the rest of the year. When we got back to our classroom we remembered the fascinating activity and were eager to discuss it... We were able to interact and observe the real space and we learned while we were having a good time. That is how I define edutainment.

What is Edutainment and how is it Effective?

This does not mean that we as teachers have to be a comedian for our student, performing magic tricks to keep the students entertained while they sit in your class. Edutainment is a way of teaching in a way that entertains and stimulates a student's mind. Edutainment comes in a variety of forms. One that is familiar is television. Edutainment has been used through television for at least the last 36 years, with many educational shows around the world. Games and simulations are another great approach I call these situational learning experiences. And is another form of edutainment. Situational learning activities are a great way to encourage a student to be interactive with the subject being learned. Some interactive programs have a student be a part of the activities as a story unfolds, or even help the story progress by adding to the actual story or events in the activity Being interactive with what is being learned is a good way for the information to stick with the student. Situational learning activities are also a great way to make learning not feel like work. Situational learning activities can help lighten the atmosphere of a busy study session. Using a situational learning approach to learn can also help students learn that mistakes are not something to be embarrassed about. A student can laugh and learn from the mistake and move on. Again, situational learning activities are another way for a student to entertain their brain and learn at the same time. This type of edutainment is becoming more and more popular with students at the university level as well as within the corporate.

It gets the students involved in what they are learning, it lets them jump head first in the subject by being placed in a situation where they can work alone or work in a group. Instead of learning certain subjects one way, edutainment enables a student to learn from many different angles, allowing the student to find the best way to learn. Once a student is excited about what they are doing and having fun doing it learning takes place.

It's important that your students don't become dependant on the entertainment aspect of education. Students need to develop skills to learn for themselves as well. If education gets too monotone, students lose interest. It's important to get feedback from students. Ask what it is they learned. If nothing is learned, try a different medium. It is important to use edutainment as a means to get students to feel involved in what is being taught. In doing so, hopefully the student will learn to find aspects of the course that are

interesting to them , which will encourage them to develop the potential they have when it comes to learning and continue their education.

It is important for us as educators to know what kinds of edutainment are appropriate for an environment. Some edutainment is geared toward adults and some are geared towards young adults or children.

The use of edutainment can be traced back many thousands of years ago. For example many Asian countries used board games and war games over 5000 years ago. In the late 1950s and early 1960s business games started surfacing in the USA. These are great examples of the use of edutainment for learning, but in reality the use of edutainment as a learning tool has still not gained widespread acceptance despite its history the use of the word game as an instructional tool is often viewed with suspicion by many educators. Hopefully with the use of the work Edutainment the old thoughts of who can games teach or games can only be used as filler and real teaching is avoided.

This is starting to change and it was in the late 1970s and early 80s where many educators started to embrace games, simulations and edutainment as an attractive and novel alternative to traditional courseware development. One major reason for this is that experience- based (experiential) models have greater potential to address many of the limitations of the traditional paradigms. Edutainment is said to accommodate more complex and diverse approaches to the learning processes and outcomes allowed for interactivity promoted collaboration and peer learning allowed for addressing cognitive as well as affective learning issues, to foster active learning.

From a report in the Journal titled Training a 2005 survey indicated that 100% of training professionals surveyed indicated that they had used some type/s interactive training simulation or game and 70% indicated they used them in all or most of their educational and training programs. I would suspect that this trend has grown in the last couple years especially with the types of new technologies that have come into the market. Even educators have long used games to enhance the learning processes and engage learners, but most of this has been used in the lower student age group. And again this is starting to change. Universities are starting to develop in house courseware that takes advantage of edutainment pedagogies.

I conduct quite a few workshops in industry and have been asked on several times by the executives as we discuss workshop strategies prior to the delivery of the workshop if I could implement some exciting and fun activities. The value that is recommended by the executives for wanting to provide some fun activity (edutainment) realize the value of play and this concept provides a mental state for the participants that help them be innovative and creative to open up new ideas. Most of us would agree this is what we are wanting to happen both in business and educational environments is for our students and employees to be innovative and creative in generating new ideas and solving problems.

What I would like to Conclude by a Discuss in the Following Concepts

- The pedagogy behind the use of edutainment in teaching and training in both higher education and corporate environments.

- How edutainment methodologies can be used in the delivery of learning and teaching experiences
- Tools and techniques that can help bridge the gap between and edutainment experience (Situational learning) and addressing a learning objective and or outcomes.
- The value of applying edutainment to meet a variety of learning styles.

I have been very encouraged by the learning feedback I have received as a result of my use of edutainment in the development of this program. There is much literature to support to use of edutainment that can help learners to reflect on new information, reinforce what they already know, enhance knowledge transfer, and as both an assessment tool for formative and summative evaluations to support the learner and for reporting on learning outcomes.

The Fundamentals of Edutainment

There are several different terms and definitions used to describe Edutainment such as experiential learning, instructional simulations, and group learning activities. The key concept in a definition for edutainment is the term with a purpose. Many fun activities only look at creating a mood of pleasure for fun but when you add education then you are also adding a purpose for doing or providing some learning experience. The emphasis is on the course and the student objective not the “fun Bits” when determining how to incorporate edutainment into a learning activity.

When and Why to Use Edutainment

I would consider several factors when deciding to use edutainment or not to support learning.

From a courseware design standpoint, effective instructional design in both traditional and open and distance environments is driven on how learners are connected to the content, the teacher, and each other. As a result of this one of the greatest strength in using edutainment for learning is that it is an excellent tool for connecting the learners to knowledge, key concepts, fact, and processes in a way that is fun and exciting for the learner. Because they are often fun, edutainment programs help learners construct meaning and to discover things about a subject area in a more personal way and in a safe environment.

Edutainment could be one of the most powerful ways to immerse the user in a learning environment. The key to this approach is to achieving the imaginative engagement of the learner. The learner may acquire skills and knowledge through edutainment experiences by acting in a simulation environment. The form of the user activity varies with the domain and the learning approach adapted in the edutainment program.

Edutainment can be used to support vicarious experience in real or imagined worlds. they may support observation, exploration are tasked based activity In a passive edutainment program the learner simply observes the operation of a simulated system The program can be designed from a simple low interactive to actually placing the users into the program for full experience activities

If you look at the profile of a current learner and this fits most countries. Today young (y generation)

- Spend over 10,000 hours playing video games
- Receive and send over 200,000 e-mails and instant messages
- Spend over 10,000 hours talking on digital mobile phones and over 20,000 hours watching TV and now on very large screens.

What is even more interesting the students do all this before they even enrol at University so it seems simple to say that learning via Edutainment is a positive approach to teach the digital Students of today?

Today from a technology standpoint, there are a proliferation of new and emerging computer capabilities that enable greater collaboration and interactivity across geographic borders This is not to say that the traditional barriers to entry relative to technology enhancement do not still survive issues such as access, comfort with technology, support infrastructure, etc It is to say, however that the ability to engage with learners through the use of computers as edutainment is increasingly more attractive, based on learner profiles, and possible, based on current technology capability

I find that Edutainment styles of programs promote imaginative engagement. They style of education thus fits naturally into a discussion of simulation and games experience. As electronic Games are a part of the popular culture of a great number of children and adults put an argument that education needs to be responsive to this popular culture, Edutainment program can produce engagement and delight in learning. They then offer a powerful format for educational environments that are attractive and motivating.

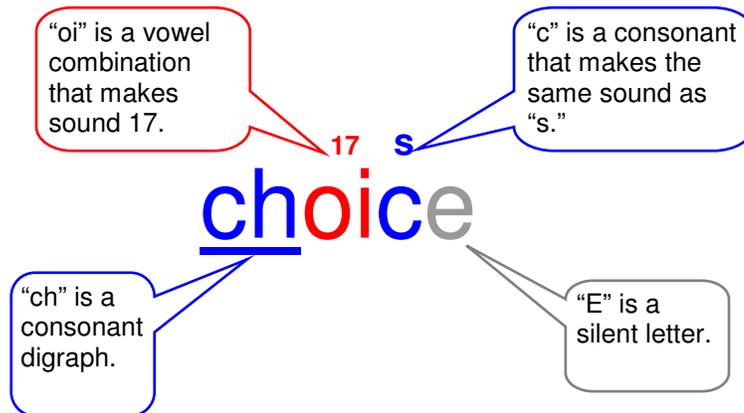
One specific approach that I am interested in is to try and place the student inside the simulation and I call this situational learning experience. This style of edutainment programs creates a unique vantage point for learning. Once you have achieved the level of situational learning experience even though it is not real but the students / users consider it to be real while in the activity you have then achieved a major milestone.

The development of Edutainment program has opened up rich possibilities for learning based on a virtual experience. Situational learning experience can support both exploration case based learning. Situational learning experience is excellent for relating the abstract to the concrete. Formal Linguistics skills can be practiced in the context of use. Abstract theories about navigation or conducting investigations can be grounded in vicarious practice and promoting engagement...

Appendix

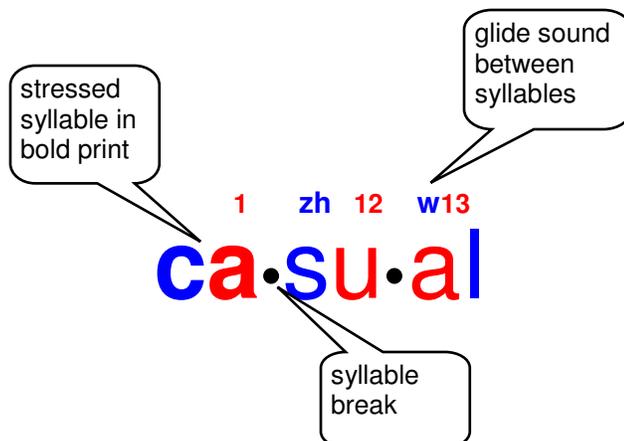
The Paech Phonetics code explained:

- 1) Vowels are coded red with a numerical superscript that sound codes the vowel. These are numbered 1 through 23.
- 2) Consonants are coded blue.
- 3) Non-phonetic consonants are coded blue, with a phonetic superscript.
- 4) Consonant digraphs are coded blue and are underlined, indicating the two letters make only one sound.
- 5) Silent letters are coded gray.



Additional Symbols

Words are divided into syllables, with syllable breaks represented by a black dot. The stressed syllable for each word is represented in bold print. See the example below.



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