

# The iPad and EFL Digital Literacy\*

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**Abstract.** In future, the uses of English by non-native speakers will predominantly be online, using English language digital resources, and in computer-mediated communication with other non-native speakers of English. Thus for Korea to be competitive in the global economy, its EFL should develop L2 Digital Literacy in English. With its fast Internet connections, Korea is the most wired nation on Earth; but ICT facilities in educational institutions need reorganization. Opportunities for computer-mediated second language learning need to be increased, providing multimedia-capable, mobile web solutions that put the Internet into the hands of all students and teachers. Wi-Fi networked campuses allow any campus space to act as a wireless classroom. Every classroom should have a teacher's computer console. All students should be provided with adequate computing facilities, that are available anywhere, anytime. Ubiquitous computing has now become feasible by providing every student on enrollment with a tablet: a Wi-Fi+3G enabled Apple iPad.

**Keywords:** iPad, iPhone, iOS 4, Korea, EFL, ESL, L2, digital literacy, CALL.

## 1 Introduction

Digital resources play an increasing role in Second Language Acquisition (SLA), with more attention being given to intentional instruction in English as a Foreign Language (EFL) Digital Literacy (i.e. digital literacy in students' Second Language (L2) English). This is in part due to growing recognition of three key factors that have been identified in a number of recent papers [1, 2] as impacting contemporary SLA. Firstly, the

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predominant use of English by non-native speakers is increasingly in communication with other non-native speakers, rather than with native speakers as might be expected. Secondly, the emergence of English as a global language has meant that desired online resources and discourse are mainly in English, despite the rapidly growing Internet use of other languages. Thirdly, a critical and profoundly symbolic threshold is fast approaching whereby the majority of interpersonal communications worldwide will have become computer-mediated, rather than face-to-face. (The average Briton spends half their waking life using media and communications, in effect multi-tasking over nine hours a day using TV, mobile phones and surfing the net [3]).

These three factors indicate that the predominant use of English by non-native speakers will in future be firstly in navigating English language digital resources, in locating, editing, and contributing to online content in English; and secondly in computer-mediated communication with other non-native speakers of English [4, 5]. That both of these envisaged predominant uses of English by non-native speakers are computer-mediated has profound implications for SLA, and specifically for Korean learners of English. For Korea to be competitive in the global economy, Korean EFL needs to nurture and develop L2 Digital Literacy in English. But how best to achieve this?

Korea enjoys an enviable status as the most wired nation on the planet, with the fastest Internet connections in the world [6]. But computer facilities in Korean educational institutions are currently in need of revisualization and drastic reorganization. In particular, the opportunities for computer-mediated second language learning need to be increased, particularly for native teacher English classes. Fixed desktop computer labs need to be replaced with the provision of multimedia capable, mobile web solutions that put the Internet firmly into the hands of all students and teachers.

Existing computer labs are mainly designed for class use in learning computer applications, where students do not interact with one another, but focus attention on their individual screen, with attention also paid to the teacher, and her OHP class screen. This arrangement actively interferes with face-to-face collaboration and networking, whether structured or unstructured, as would commonly take place in the workplace, and which is usual in L2 classrooms where pair and small group activities are held, and teacher-student and student-student interactions are often demonstrated.

These existing fixed computer labs should therefore be complemented with a comprehensive ICT solution. This comprises Wi-Fi networked campuses (already being implemented) that would allow just about any campus space to act as a wireless classroom; a teacher's computer console in almost every classroom that allows synching, with high-speed Internet access, OHP, and classroom printer; and the provision of systems that allow all students adequate computing facilities, anywhere, anytime. This latter provision of almost ubiquitous computing, which previously has been impractical, has now become feasible through providing each and every student, on enrollment, with a Wi-Fi+3G enabled Apple iPad (or similar tablet computing device), to be used in tandem with students' privately owned iPhones, or other smartphones.

## 2 Introduction of the iPad

In January 2010, Apple announced the iPad tablet, featuring a 9.7-inch, 1024 x 768 display with 16-, 32-, and 64-GB capacities. The 13.4mm thin 0.68kg iPad is available in either Wi-Fi only, or in Wi-Fi+3G-capable models; and is designed to put the Internet into the hands of its users [7]. The iPad in Figure 1 below, designed for using fingers on a multitouch screen rather than the PC use of physical keyboard and mouse, will in my opinion likely revolutionize education. This will become particularly evident in language education, because of the integrated multimedia and telecommunications features that have particular application to language learning. The iPad is already being embraced by businesses much faster than its iPhone predecessor [8]; its acceptance as a result of the iPhone success may pave the way for a tablet invasion. I address the impact the iPad could have on Second Language Acquisition, through putting L2 English use of the Internet into the hands of Korean EFL learners.



**Fig. 1.** The Apple iPad (courtesy [www.apple.com](http://www.apple.com))

In the US, Warschauer has consistently noted the increasing notion that is being given to mobile computer-mediated language learning, as American schools create one-to-one classroom environments through connecting laptops wirelessly to the Internet [9]. He argues that computers and the Internet are highly disruptive technologies that require extensive organizational restructuring and professional development for successful use [10]. Progressive universities, notably the Abilene Christian

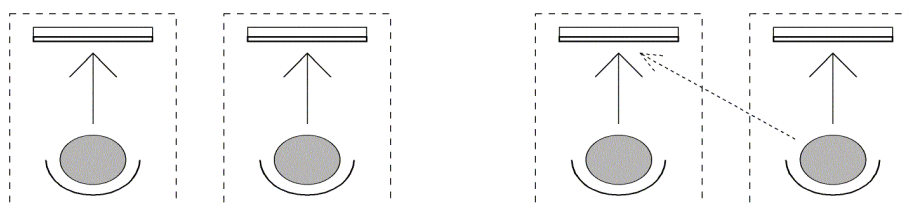
University, have for some years provided students with free iPhones, and integrated them into their curriculum [11]. Web apps are used to turn in homework, look up campus maps, watch lecture podcasts and check class schedules and grades [12]; for classroom participation, polling software allows shy students to make choices without risking embarrassment. In 2008, Oklahoma Christian University made Apple hardware mandatory, providing MacBooks to incoming freshmen and faculty [13]. At Francis Tuttle Technology Center [14], pilot projects using iPhones and Kindle e-readers enabled administrators to save students up to 50 percent on textbook costs by buying them electronically. Computer mobility is regarded as being key and critical to the future, providing ways to get people access to learning content, no matter where they are; iPhones and iPod touches are being evaluated for nursing students to carry medical reference books electronically instead of lugging 5kg books about the clinics. In 2009, all 550 of Aoyama Gakuin University's students, and some staff, received free iPhone 3G's, which also track attendance by taking advantage of their inbuilt GPS [15].

With the release of the iPad, a number of universities and schools in America and worldwide are distributing iPads to students and faculty. The motivation includes *being a recruiting tool* at George Fox University to lure talented freshmen; *for classroom participation* at Abilene Christian to encourage faculty and students to experiment with the tablet as a learning tool; *being a shoulder saver* at Cedars School of Excellence in Scotland to reduce the amount of paper students lug around; and *providing computing with less distraction* at Hawaii Preparatory Academy to protect young students from the unfettered mercy of the World Wide Web [16]. Educators are predicting the iPad will herald a revolution in the classroom, replacing textbooks with a mobile multimedia device to engage students in new innovative ways.

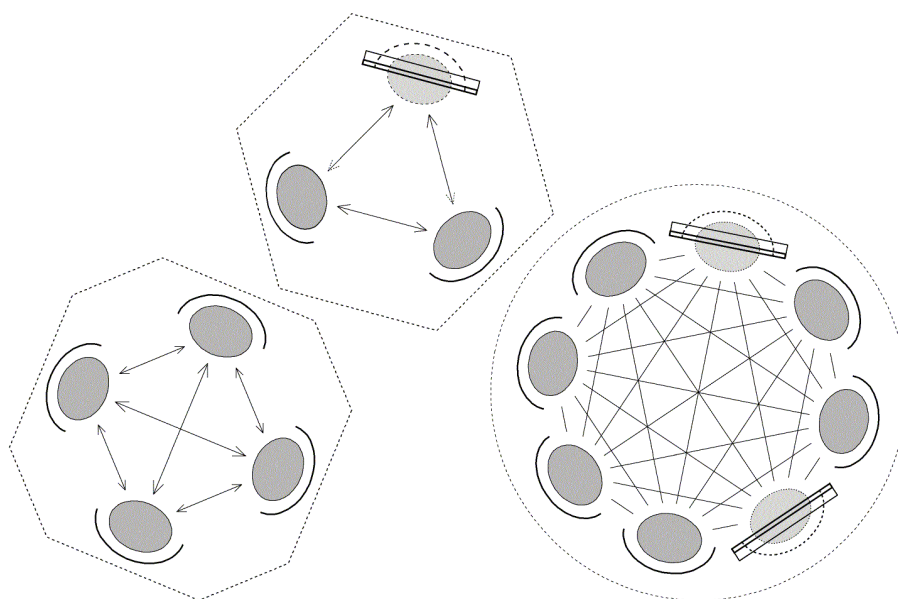
Korea enjoys a high level of broadband Internet penetration, leading the world in household broadband penetration [17]. Extensive 3G coverage and a rapidly growing provision of free Wi-Fi hotspots (Starbucks, Lotteria etc.) are available. While many tertiary institutions already provide Wi-Fi networking, the use of computers in class is constrained: firstly, institutional computer facilities are limited, and demand, notably at exam time, may exceed supply. Secondly, where computer labs are available, these tend to be desktop computers in fixed arrangements as in Figure 2 below, which likely springs from dated administrative perceptions that computing is a special kind of education, separable from general education, that takes place statically, and primarily in individual relationship to a teacher. But fixed computer labs do not enable the flexible groupings of students that typically occur in EFL classes, where students frequently alternate between whole-class activities and diverse individual, paired and group tasks as in Figure 3 below. Educational theorists promote the importance to pedagogy of connection, collaboration and networking, but the architecture of existing Korean educational computer facilities (and of regular language classrooms) discourages face-to-face collaboration and the integration of hybrid online computer-mediated learning with traditional learning that blended learning aims to achieve.

Thirdly, my surveys show that relatively few Korean students own laptop computers that they are willing to bring to class [18]. Fourthly, while smart phone usage in Korea is high, the small screen and keyboard size, limited applications and data

cost limit their intentional use in class. Fifthly, many native English-speaking teachers, faced with administrative wariness towards innovation, tend towards caution in their approach to educational technology, and often lack the skill sets necessary to successfully implement computer-mediated learning in their classrooms. This merely reflects the somewhat commonplace unenlightened and reactionary administrative policies of those who still ignore the realities of Web 2.0+ thinking, as described in [5].



**Fig. 2.** Fixed desktop computer labs inhibit face-to-face pair and small group collaboration, while encouraging cheating in online exams (as per dashed arrow on right)



**Fig. 3.** Language students often alternate between whole-class activities and diverse individual, paired and small group tasks, here shown formalized with and without computer use of online resources and optional videoconferencing

But, as argued elsewhere [19], student adoption of new digital technologies is increasing exponentially and naturally is affecting expectations of how teaching and learning should occur. Simultaneously, EFL textbooks are merging with digital media [20]; with teachers starting to integrate online placement and progress tests, and web-hosted Learning Management Systems into their courses [21]. The relationship to digital media in the classroom is evolving from that of a precious Internet that can only be accessed as a specialized scarce resource, to that of the taken-for-granted Internet as constant companion. The iPad completely fits this new paradigm, as it popularizes it.

### **3 Implementing EFL Digital Literacy**

#### **3.1 Using Existing Facilities to Encourage EFL Digital Literacy**

Elsewhere, working within a cognitive framework of using existing facilities more creatively, I recommend ways to encourage EFL student digital literacy in English [22]. In that paper, I encourage teachers to move from singular use of the traditional classroom to a more blended or hybrid form of education that combines traditional classroom instruction with computer-based language learning. Tasks can be computer-mediated, accomplished by students in their own time on computers in the university, at home, or in PC rooms, and submitted online. Classes can be held intermittently in existing computer labs. Quizzes and exams can then be set online, to be conducted in existing computer labs, using Internet-hosted exam writing and management services such as Cognero, an excellent full-featured online assessment system. About 1 in 4 computer classes is adequate for in-class tasks, quizzes and exams, care being taken to allow for potential server outages, loss of data online, and cheating through instant messaging, email, or cell phone SMS. Students are encouraged to make more intensive use of online resources in the target L2 language, here English (e.g. <http://www.google.com> and <http://wikipedia.org> in English). Teachers are advised to implement a computer-based Learning Management System, such as Moodle (<http://moodle.org> using hosting services such as <http://ninehub.com>) and to force that LMS to use English only [23]. (Moodle's strengths include that it is free and flexible; as open source software, users can freely adapt and modify it). These recommendations will all help develop desired L2 digital literacy skills in English.

#### **3.2 The iPad as a Comprehensive Solution**

But the new Apple iPad and iPhone OS 4.0 (renamed iOS 4) has provided a potential game-changer that will likely revolutionize education, and one particularly well suited to second language learning environments. The key advantage provided is that these developments put computing and the Internet firmly into the hands of their users [7], who in this context are EFL/ESL students and their teachers. The Internet has emerged as a fast-developing powerful educational tool; but it has been regarded as something special, that needs to be accessed indirectly: one locates a computer, makes

sure that it is connected to the Internet and is multimedia-capable, and then rather self-consciously works on the computer on the Internet. However, the advent of mobile computing through smart phones like the iPhone, multitouch input, and increasingly portable laptops such as the MacBook Air, has signaled the transition to a new paradigm that the iPad fully recognizes and exploits: the Internet is already something that is no longer special, but something that is taken for granted, that conceptually is always available anywhere, anytime. The stored experience, knowledge, wisdom, and indeed folly of mankind is becoming immediately accessible, as through computer-mediated telecommunications, the distant is becoming proximal. Students should now be able to access learning content wherever they are, and whenever they want.

### 3.3 Advantages of a Comprehensive Solution

Any classroom space can be used with the iPad; dedicated computer labs are not required. Students have no need for desktop computers, cabling or computer desks. As blended systems develop, textbooks are rapidly evolving from hard copy physical items that must be carried, and become obsolete every 3 to 5 years, to e-texts. This phenomenon needs to be taken into consideration when selecting textbook series [20]. E-texts are adopting the emerging e-Pub standard format, and can be downloaded onto the iPad as Apps and updated frequently. The student only needs to carry to class her iPad, on which has been installed all of her e-texts.

Publishers can create hybridized content that draws from audio, video, interactive graphics in books, magazines and newspapers, whereas paper layouts are static. E-texts link to diverse multimedia digital resources and telecommunication services.

Using the open e-Pub standard, institutions can therefore customize, and even create their own e-texts; these can be integrated into customized institutional, departmental and teacher-implemented learning management systems. Pages now allows export to ePub format; and the iPad is poised to make that format the lingua franca of electronic books, in the same way that the advent of portable digital music players, especially the iPod, made the MP3 format the de facto standard for audio.

Student collaboration can be encouraged with tasks that include online components, to be undertaken both more formally in class and informally by loose groupings of students in libraries, unused classrooms, campus cafes, and off campus.

Multimedia capability together with telecommunications means that students can engage within and outside class in L2 English videoconferencing locally and internationally (Skype video is free). EFL class students complain about the lack of other English speakers with whom to converse, so this may come to be regarded as a normal activity which substitutes for such demand through distance conversation. The iPad is simple to use. Once registered with the iPhones Store, software can be installed in class by running the App Store application, which does not bother the user with choices during the installation process; no DVDs, CDs or serial numbers are needed. User files such as documents are installed via synchronization to those stored on another computer, which for student files would be their teacher's class computer (to which would be connected a classroom printer for controlled student use). Once synchronized, documents simply appear for respective applications.

Apps can be pre-installed by IT departments before giving the iPad to students. iOS 4 (which supports the iPad as well as the iPhone) provides institutions with the ability to manage iPads and distribute applications wirelessly without using iTunes.

The capacity to push applications from a central location via Wi-Fi or 3G means far less work, and less worry about iTunes being up to date (or even installed). Required iPad applications are cheap, so costs could in principle be absorbed by educational institutions. Apple's new productivity software suite iWork for iPad takes advantage of multitouch input: slides in Keynote, columns in Numbers, and text and graphics in Pages can be rearranged by tapping and dragging a finger. An on-screen keyboard appears when text needs to be typed. These apps import iWork '09 and Ms Office documents, and export iWork '09, PDF and ePub formats. iWork documents are synced between a Mac and the iPad using iTunes; the iPad works with a Dock Connector to VGA adapter so the iPad can connect to a projector to display Keynote slides on a screen. These apps cost just US\$10 each. iPad/iPhone apps are sandboxed from one another. Data from an application isn't generally available to other applications, and storage can't be overwritten. The platform is simple, intuitive, and highly usable for tasks that include photos, music and movies, without needing to understand the underlying organization. Security problems common on PC platforms are unlikely to be encountered.

### **3.4 The Significance of iOS 4**

iPhone OS 4 (now iOS 4) focused on seven "tentpole" features: multitasking, folders, Mail, iBooks, Enterprise features, Game Center, and iAd. The appearance of multitasking is achieved through a combination of app-switching features and background processes managed by the operating system itself. This meets student productivity needs to use several apps to perform a task, and to switch rapidly between them, e.g. using Safari to find and download images for a task in Pages. Apps can be frozen, and pick up right where they have been left. They are able to perform tasks in the background: e.g. the push-notification scheme; background audio; VOIP - so that Skype allows conversations to continue when switching to another app and to receive incoming calls; GPS tracking of location; Local Notifications; and task completion. These features satisfy issues of app switching, streaming audio, and location awareness.

### **3.5 Student Use of the iPhone with the iPad**

The initial iPad lacks a camera, but Apple is expected to add a front-facing camera to the next generation iPad to offer FaceTime video conferencing across all their mobile devices. The portability of the iPhone and its popularity in Korea, and the compatibility of iPhone and iPad (which both run iOS 4), mean that the iPhone camera can readily be used to capture photos and video, and upload them to the iPad. A second front-facing camera in the newly released iPhone 4.0 also favors person-to-person videoconferencing, though small groups may prefer to view images together on the larger screen of the iPad, while using an iPhone for video capture.



## 4 Conclusion

The primary uses of English by non-native speakers will increasingly - and in my opinion, predominantly - be computer-mediated. These will be in the use of online resources, and in distance telecommunication with other mainly non-native speakers. Recognizing this, there is a critical need to strongly develop L2 Digital Literacy in English. Advantage should be taken of Korea's high level of broadband penetration by comprehensively upgrading Internet-connected computer facilities, to make them available to all students anywhere, anytime. This is effectively achieved by saturating campuses with Wi-Fi access; ensuring all classrooms have a teacher's computer for synching with high-speed Internet access, OHP and printer; and providing all students on enrollment with a Wi-Fi+3G iPad tablet with Apps and e-texts that are Wi-Fi managed by IT departments. Such a strategy, which would put the immense benefits of the Internet directly into the hands of both students and teachers, would greatly enhance Korea's competitiveness in the digital global community.

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