

# **Investigating the ICT Needs of ‘Digital Natives’ in the Learning of English in a Private University in the Philippines**

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## **Abstract:**

The new generation of learner born in the 1980s to 1990s who Prensky labeled as “digital natives” has been observed to be highly technological savvy, highly imaginative, multi-taskers and fond of playing video games. This led some education stakeholders to assume that there is a need to introduce educational reforms that involved a greater use of technology. However, there is a growing debate on the real characteristics and even scope of “digital natives” and also concern regarding the digital divide between the natives (students) and the immigrants (teachers). In the context of the Philippines, this is a relative new area of investigation; hence, there is a need for further investigation to shed more light in this area and that is the purpose of this study. This is particularly necessary since many public and private institutions in the Phillipines are currently undergoing or contemplating to undergo expensive and extensive educational reforms involving the use of a substantial amount of technology. This study examined the Filipino undergraduates’ patterns of use of technology and their perceptions on the use of technology in learning English. Results revealed a lack of diversity in the ownership and use of technology among the participants across disciplines, and a greater use of technology for recreational than educational purposes. These results are interpreted positively in the light of the digital natives' need for the most advanced, accessible, and flexible e-tools available, as well as the growing pedagogical trend of packaging lessons as games. Perceptions on the use of ICT in the English classroom were found to be favorable, and they were found to regard teachers' ICT competence as quite high.

## **Introduction**

In almost all parts of the world, education has been revolutionized by technological innovations and advancements. Education has definitely evolved from oral tradition to the use of the manuscript, printed books, illustrated textbooks, recorded sounds and photography, and advanced audio-visual technology. This transformation from a standardized to a customized way of education created dynamism not only in the academic sense but also in the cultural aspect (Lalwani, 2012). Students from yesteryears are highly different from today's batch of learners. This may be the reason why some researchers came up with the following labels for this group of learners: Net Generation (Tapscott, 1998; Tapscott, 2009), Millennials or also known as Generation Y (Howe & Strauss, 2000), IM Generation (Lenhart, Rainie, & Lewis, 2001), Digital Natives (Prensky, 2001), and the Gamer Generation (Carstens & Beck, 2005). Most of the proponents of these terms mentioned that students nowadays tend to be high multi-taskers and tech-savvy. They are highly imaginative and enjoy playing video games. Due to their extensive technological exposure and its by-products from a very young age, this may have caused them to have different thinking patterns. Hence, these notions have led to the assumption that they speak a different "language" from their teachers who belonged to the generation classified as "digital immigrants" i.e. those who were born before the digital age, but have at some later point in their lives turned to and use technology (Prensky, 2001).

### *The use of ICT for learning*

The use of ICT to aid learning has grown and increased substantially in recent time due to the rapid advancement in technology and easy accessibility of the affordances of technology. While ICT is definitely not yet a perfect approach to aid learning, its strength in enhancing learning has been recognized and proven in numerous research studies as the digital era is here to stay. As Prensky (2001) puts it, singularity is "the arrival and rapid dissemination of digital technology" in which things change "so fundamentally that there is absolutely no going back" (p.1). Regardless of institution, one cannot go back and stubbornly stick to the old-fashioned system. Way back in 2002, Tinio has already alerted us to revolutionize. He specifically recommended educational institutions to keep up with the technology driven changes in society and economy by ensuring that learners possess the skills needed to effectively use the new information and communication tools. Further, he reiterated the need to equip the learners with "the critical and analytical tools necessary to live and flourish in an information-saturated environment" (p. 3). To date, this has been undertaken in different ways and at different rates in various parts of the world.

Movement towards this direction is mixed. In the United States, Metz (2012) reported that some States have already started piloting a program in which students use tablet computers in their school activities like solving Math problems and recording field trip videos. The use of other tablet computers like the iPod Touch and iPads is also encouraged to better aid students in their studies. In Lebanon, inexpensive tablet computers were provided to Lebanese public school students in partnership between the Lebanese government and Intel Corp (AMEinfo.com, 2012). Countries

like Malaysia and India are already purchasing and producing their very own tablet computers affordable for their citizens. Malaysia has 1Malaysia Pad or 1MPad (Honig, 2012) and India has Aakash 2 that will be known as “the world’s cheapest tablet” (Gardner, 2012, para. 1). Definitely, tablet computers all over the world will soon be very affordable as Keegan (1995) asserted that “the challenge is to design cost-effective and educationally-effective systems for use in the new millennium of new technologies that permit for the first time in history (electronic) teaching of students face-to-face at a distance” (p. 53). Correspondingly, the Pearson Foundation, “an independent 501c3 nonprofit organization that aims to make a difference by promoting literacy, learning, and teaching,” vouched to conduct an annual online survey on college and high school senior students who are using mobile technology (“Pearson Foundation,” 2012, para. 1).

Ideally, these are all strong signs of a less paper and more ICTs - focused way of learning – inside and outside the classroom. However, it is important to remember that “the effective integration of ICTs into the educational system is a complex, multifaceted process that involves not just technology... but also curriculum and pedagogy, institutional readiness, teacher competencies, and long term financing, among others” (Aktaruzzaman et al., 2011, p.114) and this study will present findings to shed further light on this matter.

## **2. Background of the Study**

### *2.1. Digital Natives in the Philippines: Who are they?*

The subject of digital natives and their implications to education are also carefully considered in the Philippine setting. In fact, a number of articles have been published discussing the nature of this new generation as learners (and even as workers and consumers).

As learners, they are defined by Carson-Arenas (2010) as “teens and 20s whose daily existence revolve around technological gadgets voraciously wallowing in myriads of apps” (para. 3). As a distinct consumer group, digital natives are labeled by research firm Nielsen as “Generation C.” They are “between the age of 18 and 34 or anyone born sometime between the launch of the VCR (video cassette recorder) and the commercialization of the Internet. People in Generation C embrace all things digital and technologies permeate all their personal connections” (Buelva, 2012, para. 2).

A possible reservation on the attitudes of the digital natives is their seemingly addicted behavior to media. Digital natives could become so dependent on online media and mobile technology that a day without these tools could be unbearable. In a study done by Carpio-Serrano and Custodio (2012), a challenge of going “media-less” for 24 hours was given to 150 students who were taking up the course Introduction to Mass Media Writing at the University of the Philippines Los Baños. Their reflective essays and blogs reveal that their concepts of time, of relationships, and even of the “real world” are strongly influenced by their constructions of media. This study was prompted

by an earlier research in 2010 conducted by the International Center for Media and Public Agenda at the University of Maryland. This particular study found that most college students had difficulties functioning (while others were just unwilling outright to) without their media links to the world after being disconnected from their digital bases for 24 hours.

So far two particular studies have attempted to profile this new breed of learners: one focused on a particular geographical area such as Metro Manila (Bongco & Oñate, 2010), while the other concentrated on Philippine public high schools (Tinio, 2002). The former study (Bongco & Oñate, 2010) created a preliminary ICT profile of 305 grade school students in 4 randomly chosen schools in Metro Manila. Of particular interest were the participants' characteristics as digital natives (e.g. awareness of new ICTs, access to new ICTs, motivations in using new ICTs, frequency of use, and gratifications obtained in their use of ICTs). These pieces of information were pitted against their socio-demographic characteristics and general lifestyle to draw some possible connections. The main conclusion drawn was a confirmation that the selected students were indeed digital natives. But more interesting findings include: usage of computers is greatly influenced by the Filipino tweens' household income (the higher the income bracket, the more frequent use of computers); access to computers is determined by the income again and the type of school (private schools expectedly provide more opportunities for computer access); they are mostly motivated to use the computers to gain information, next to be entertained, and a close third is to communicate with others; they are all generally satisfied with the use of computers and mobile phones; family plays an integral role in influencing the use of computers among Filipino tweens surveyed and observed; it is difficult to observe ICT use in classrooms because school policy forbade the use of mobile phones and laptops.

## *2.2. Digital Natives in the Philippines: How are their needs addressed?*

In line with Villegas's (2013) reminder that preparation must be made to address the rise of digital natives in the country, there have been a concerted effort in both the private and public school sectors and from the grade school to the tertiary level to gradually adapt to the perceived ICT needs of the local digital natives. For example, Marquez and Domantay (2006) presented in their work the integration of "Text2Teach" classroom method wherein the utilization and implementation of cell phone messaging created a great impact in the educational arena. Eventually, some private schools have also started to promote the use of tablet computers as a learning aid for students in the kindergarten, primary and secondary levels (Dacanay, 2012). In fact, Singapore's Channel News Asia has featured La Salle Green Hills, Philippines (a private secondary school for boys) in an article because their students are already using digital tablets to replace textbooks and notebooks ([channelnewsasia.com](http://channelnewsasia.com), 2012).

Further, the Philippine government was very supportive of such advancements that purchasing of tablet computers became part of the Department of Education's P238.8 billion budget allocation for 2012 (Hachero, 2012). Also, the Department of Science and Technology (DOST) and the government are now developing a low-cost tablet PC that will hopefully modernize the country's

education system. The government believes that the locally-produced tablet will answer the problem of computer shortages and computer literacy in public schools. A budget of US\$120,000 has been allocated for the initial development of the local tablet (Ong, 2012). The Philippine Information Agency (PIA) reported on their site that the local government of Makati City would provide tablet computers to public school students on a pilot basis starting June 2012. The provincial government of Laguna launched what they call the eRizal tablet, a seven-inch touch screen device that could replace books in the classroom. In the initial stages of deployment, some 1,000 units of the eRizal tablet would be distributed for use in 14 schools around the province (Tuazon, 2011). This tablet is preloaded with books and other learning materials (Valdez, 2011).

Meanwhile, the earlier study (Tinio, 2002) explored 100 randomly chosen school-beneficiaries of the 1996 Computerization Program of the Department of Education, Culture and Sports (DECS, later changed to Department of Education or DepEd). Specifically, it examined the history and goals of ICT use in the public high school system, the level of ICT resources available, the types and extent of administrative and educational uses of ICT resources, the ICT competencies of the teachers and the training available for them, and the barriers to the use of ICT in the system. The general conclusion drawn was that progress was not up to expectation primarily because of the fiscal constraints of the DepEd and the lack of a clear strategic plan in fully integrating ICT in the secondary school system. The findings may appear to be a bit inaccurate reflection of today's situation in the Philippines because it is quite dated.

However, before the local educational institutions continue their expensive and extensive curricular and pedagogical reforms to fit the reported homogenous traits of these digital natives, perhaps it might be wise to take a step back and ascertain exactly what the real (versus perceived) ICT needs are of the local digital natives.

### *2.3. Digital Natives in the Philippines: Is there generational difference?*

Contrary to prevalent portrayals (most notable of which is Prensky's 2001 article) of digital natives with a boxed list of traits (e.g. used to receiving information fast, function best when networked, thrive on instant gratification, like to multi-task, and other traits), more recent studies reveal that digital natives actually have diverse digital practices and preferences and it may be too simplistic to lump them altogether in one single generation. Jones et al.'s (2010) survey of first year undergraduates taking up various pure and applied subjects yielded a complex picture of ICT usage. The same result (varied digital engagements) was found in Selwyn's (2009) myth-busting study on digital natives among the youth.

There may seem to be a growing concern over the digital divide between the digital native students and the digital immigrant teachers; efforts to "update" the digital immigrants are likewise being implemented. A key example is the collaboration between the Philippine Normal University (PNU) and Vibal Publishing House Inc. (VPHI) in the establishment of the Center for Digital Learning (CDL) that aims to improve teacher training and enhance educational materials to

incorporate ICT (Padilla, 2013). Computers, tablets, smart classrooms, training programs and online courses for teachers are prepared to address the concern that “children were learning faster than parents or teachers” (para. 8).

Furthermore, Helsper and Eynon (2009) do agree with Prensky that educators must understand learners in order to teach them well and that changes may need to be implemented in the system, but they caution that these “debates about change must be based on empirical evidence and not rhetoric” (p. 19). Through a nationally representative survey in the UK, they discovered that contrary to the argument of generational differences causing the divide between digital natives and immigrants, other factors actually play more important roles in indicating who the real digital natives are: breadth of use of the internet, experience, gender, and educational levels. These findings then imply that adults may become digital natives themselves with greater interaction with ICT, and that the divide between the natives and immigrants that is prompting major pedagogical changes may be resolved.

Prensky’s (2001) popular definition of digital natives was also scrutinized and countered by local studies. Sonido (2011) challenges Prensky’s (2001) temporal or time-bound definition of digital natives, claiming that there are other factors to be considered and paradoxes confronted with such pigeon hole groupings of digital natives versus digital immigrants. One important factor, especially in a third world country like the Philippines, that Sonido highlighted is the individual’s access to technology. This capability is, of course, influenced by one’s financial/economic status. The economic problem was likewise lamented on in the preliminary findings of Tinio’s (2002) survey of ICT utilization in Philippine public high schools, where “less is not more” and certain minimums in technology was recommended for the feasible and effective instructional use of ICT in education (p. 26).

Sonido (2011) thus exposes some dire statistics: out of the 90% of internet users who are active in social media sites belong to only 30% of the population in the Philippines. And the country has only 5% mobile internet penetration rate (Sonido, 2011; Villegas, 2013). Villegas claims that while Filipinos may be proud of living in the “texting capital” of the world, they are not yet fully immersed in the Internet world with only less than 5% of the population participating online (Villegas, 2013, para. 4). Clearly, in the local context, “social mobility and internet mobility seem to be inter-twined” (Sonido, 2011, para. 12). But this so called “digital divide” (para. 12) may soon be narrowed with the gradual reducing of the costs of smart phones and other gadgets and the cheaper rates of mobile internet.

Buelva (2012) likewise critiques Prensky’s age-dependent description of digital natives. She instead classifies this generation as “ageless” and argues that they be deemed “as a psychographic band of people who share a similar state of mind, interests or lifestyle” (para. 7). By giving more importance to the frequency and intensity of the use of technology and online tools instead of a person’s age, this alternative perspective can accommodate even the older generation in the digital natives or Generation C grouping – as long as they “live and breathe technology as much as their younger counterparts” (para. 7).

Given these growing oppositions that question the concept of digital natives, there is truly a need to provide empirical basis to test opposing claims, just like what Helsper and Eynon (2009) did in the UK and what Thang et al. (2011) accomplished in Malaysia. It presented a quantitative breakdown and analysis of selected undergraduates' use of and perception about technology. This current study now attempts to offer an empirical basis that would contribute to the ongoing debate on the issue and give a clearer understanding of the digital natives (i.e. their ICT needs and preferences) in the Philippine setting on the tertiary level. It specifically targets one of the premier private universities that have been a pioneer in incorporating ICT in tertiary education, De La Salle University, Manila.

#### *2.4. Digital Natives in the Philippines: What is the case in De La Salle University (DLSU), Manila?*

Among the schools in the Philippines that have embraced ICT in education is De La Salle University (DLSU), Manila. In fact, it may have been at the forefront of ICT efforts in tertiary education through the years. In 1991, DLSU became the first university in the Philippines to have internet connection (Cruz, 2012, p. 152). In the same year it was ranked by Asiaweek as Southeast Asia's best private university. In 1999, DLSU also launched its joint Digitalization Project with Waseda University, Japan (p. 206). In 2000, it started using the Integrated Virtual Learning Environment (IVLE) (p. 214). It achieves another first in 2001 with the operation of the first "intelligent classroom" in the Philippines. During this same year, the university internet portal My.LaSalle was launched (p. 219). In 2008, the DLSU IT Center won the Digital Filipino award and also partnered with the National Commission for Culture and the Arts for an online Philippine corpus (p. 250). It also offers Technology-Enabled Learning Environment (TELE) classrooms to cater to its students. Each standard TELE classroom is equipped with multimedia projector, thin client computer with various software installed, LCD monitor, monitor speakers, and wireless presenter with laser pointer ("Technology-enabled," 2012).

The teachers are also trained to utilize the innovative equipment and infrastructure by the office of Academic Support for Instructional Services and Technology (ASIST). Every term, ASIST offers trainings aimed at assisting College Deans and faculty in their development, implementation, and evaluation of their programs and curriculum objectives that are in line with the ICT trends in the 21st century and geared towards the mission of the university (ASIST, 2012). One of its learning tracks focuses on the proper and effective use of educational multimedia technologies to facilitate teaching and learning. This track covers module topics such as Digital and Online Learning, Designing a Hybrid Course with IVLE, Online Learning Apps, Mobile Learning, Effective PowerPoint in the Classroom, Digital Imaging (using Adobe Photoshop), Designing Website (using Dreamweaver), and Basic Flash (using Adobe Flash) (ASIST, 2012).

The Department of English and Applied Linguistics (DEAL) adheres to the general ICT thrust of the university. Many of its English courses have been revamped to incorporate multiliteracies, which include visual, media and information literacy. For example, for the English for Communication course, the reading and evaluation of online texts are emphasized. The final

output of the course is in the form of an e-portfolio where students “publish” their best works via social networking sites.

Additionally, the integration of ICT in the English courses are also upheld in varied and customized teacher practices. Some teachers are already using Turnitin software (to check the originality of students’ written outputs), creating facebook groups, google groups, yahoo groups or other online groups (to facilitate discussions and consultations, file sharing, and other academic purposes), and employing PowerPoint, Prezi, or Slideshare e-tools (to supplement their lectures and class discussions). Given all these common practices in the English classrooms in DLSU, teachers and students alike are indeed very much exposed to ICT in their English education.

But despite all these efforts, no formal studies have been undertaken to examine the actual ICT needs and preferences of DLSU students in the learning of English. This lack of consultation with the target market of all these educational innovations may be problematic considering that the notion of digital literacy is still much debated and the findings on them are found to be conflicting in many such studies (Helsper & Eynon, 2009; Jones et al., 2010; Selwyn, 2009).

As mentioned earlier, this lack in tangible data on digital natives was also evident in Malaysia; thus, Thang et al. (2011) undertook a study to investigate the ICT needs of digital natives in learning English at a public university in Malaysia.

Similarly, a study in the Philippines context would be useful to affirm or reject assumptions on ICT and English language education in the Philippines as ICT initiatives undertaken have been carried out without fully understanding the “digital natives” of the Philippines at the tertiary level. This study intends to address this gap in knowledge by undertaking a quantitative study on a group of DLSU undergraduates. The research questions formulated to achieve this purpose are as follows:

1. What are the students’ patterns on their use of technology?
2. What are their perceptions on the use of technology for learning English?

### **3. Research Design**

#### *3.1. Participants*

Six hundred (600) students from three academic disciplines: Sciences, Social Sciences and Economics participated in the study. There were equal number of students (i.e. 200 students) from each discipline. These students were taking at least one English subject at the time of the study.

#### *3.2. Instrument*

This study used the questionnaires designed by Thang et al. (2011) with minor modifications to fit the local context. These were distributed to and collected from the participants of this study. The questionnaire included a basic Respondent's Profile which yielded information about the participants' personal, education, and economic background.

Section I of the questionnaire has three parts. The first part is a survey about the use of technology. The second part contains items asking about the use and applicability of e-tools in the classroom and in the learning of English. The last part of the section asks about the participants' opinion about the use of technology in learning English.

### *3.3. Procedure*

The researchers identified the English Communication (ENGLCOM), Speech Communication (SPEECOM), and English Research (ENGLRES) classes with students coming from the following disciplines: Sciences, Social Sciences and Economics. The researchers administered the survey to the students within their ENGLCOM, SPEECOM, or ENGLRES class schedule. Prior to the distribution of the questionnaires, the researchers gave a brief background of the study. The researchers answered pertinent questions or clarifications about the questionnaire items from the students.

All questionnaires were collected, encoded and analyzed using the Statistical Package for the Social Sciences (SPSS) version 19.

The mean score of each item was calculated and the following statistical procedures were performed: frequency analysis, item analysis, reliability analysis, analysis of variance (ANOVA), and factor analysis.

## **4. Data Analysis**

### *4.1. Patterns of Use of Technology*

To determine the students' patterns of use of technology, (1) ownership and usage of tools, (2) usage of technology in teaching and learning of English, and (3) students' use of tools in English coursework, were explored.

#### *4.1.1. Ownership and usage of tools*

Table 1. *The positioning of the technological tools students own and use based on the survey results*

| No. | Technological Tool    | Percentage |
|-----|-----------------------|------------|
| 1   | Mobile Phone          | 97.3       |
| 2   | Camera Phone          | 91.8       |
| 3   | Music Phone           | 90.8       |
| 4   | Laptop Computer       | 85.0       |
| 5   | 3G Phone              | 83.5       |
| 6   | Portable Media Player | 64.5       |
| 7   | Desktop Computer      | 53.7       |
| 8   | Handheld Computer     | 53.7       |
| 9   | Digital Camera        | 53.7       |
| 10  | Game Console          | 50.2       |
| 11  | Portable Game Console | 41.5       |

The table presents the positioning of the technological tools students own and use based on the survey results. As seen, the top three technological tools students own and use are mobile phone (97.3%), camera phone (91.8%), and music phone (90.8%). This result is not so surprising since the Philippines has been described as the “texting capital” of the world (Villegas, 2013). Prices of some of smart phones are very affordable. Moreover, in these contemporary times, mobile phones typically includes camera and music features, thus the three items that top of the list actually come as a package. Compared to the other tools in the list (e.g. laptop, desktop, and game consoles), these gadgets are also relatively lighter and more portable. On the contrary, desktop computers, game consoles, digital cameras and portable games are the most seldom used items.

#### *4.1.2. Usage of technology in teaching and learning of English according to discipline*

The usage of 24 technological tools was next considered. These tools include Email, blogs, Facebook, Skype, Twitter, Slideshare, YouTube, subject’s website, discussion lists/online forums, learning management system, interactive multimedia, digital videos in lectures, virtual/real time chat facility, video conferencing, online assessment submission, online self-tests/quizzes/practices, MP3 player, digital camera, mobile phones, camera phones, music phones, 3G phones, handheld computers and Dropbox.

#### *4.1.2.1. Students' use of tools in English coursework according to discipline*

*Table 2. The most popular technological tools used in English coursework according to discipline*

| No. | Items                      | Sciences | Social Sciences | Economics |
|-----|----------------------------|----------|-----------------|-----------|
| 1   | Facebook                   | 3.24     | 3.44            | 3.19      |
| 2   | Slideshare                 | 2.93     | 3.19            | 3.13      |
| 3   | Email                      | 2.82     | 2.79            | 2.77      |
| 4   | YouTube                    | 2.76     | 2.83            | 2.52      |
| 5   | Digital videos in lectures | 2.63     | 2.81            | 2.52      |

Rating scale: 1 – never; 2 – seldom; 3 – sometimes; 4 – frequently

Table 2 shows the five technological tools that have the highest mean scores for each discipline. All three disciplines have the same top five technological tools. The mean scores of all tools for the three disciplines are close to 3, which mean that the students sometimes use these tools for their English coursework. These results may imply that these respondents, regardless of the discipline to which they belong, do utilize technological tools in their studies, specifically in their English coursework.

*Table 3. The least popular technological tools used in English coursework according to discipline*

| No. | Items                          | Sciences | Social Sciences | Economics |
|-----|--------------------------------|----------|-----------------|-----------|
| 1   | Blogging                       | 1.60     | 1.91            | 1.71      |
| 2   | Skype                          | 1.47     | 1.64            | 1.35      |
| 3   | Interactive Multimedia CD-ROMs | 1.87     |                 | 1.74      |
| 4   | Video Conferencing             | 1.51     | 1.59            | 1.53      |
| 5   | MP3 Player                     |          | 1.89            |           |
| 6   | Digital Camera                 | 1.80     | 1.84            | 1.67      |

Rating scale: 1 – never; 2 – seldom; 3 – sometimes; 4 – frequently

Table 3 shows the least popular technological tools for each discipline, hence garnering the lowest mean scores. The mean scores are just almost 2 which could suggest that these tools are seldom or never used by the students in their English coursework.

#### *4.1.2.2. The extent to which students use technology for recreation according to discipline*

Table 4. *Items with the highest mean scores for use of technology for recreation according to discipline*

| No. | Items             | Sciences | Social Sciences | Economics |
|-----|-------------------|----------|-----------------|-----------|
| 1   | Facebook          | 3.51     | 3.56            | 3.57      |
| 2   | YouTube           | 3.37     | 3.46            | 3.34      |
| 3   | Mobile phone      | 3.11     | 3.34            | 3.28      |
| 4   | Handheld computer | 3.03     | 3.03            | 3.08      |
| 5   | Music phone       | 2.88     | 3.01            |           |
| 6   | Camera phone      |          |                 | 3.19      |

Rating scale: 1 – never; 2 – seldom; 3 – sometimes; 4 – frequently

As seen in Table 4, technological tools such as Facebook and YouTube are not exclusively used for academic purposes. Across disciplines, the students frequently use these tools for recreation as well. All of them use Facebook most frequently, followed by YouTube and then mobile phones. The mean scores of all other items that are not in Table 4 are close to 2 which suggest that the students seldom use them for recreation purposes.

#### 4.2. *Perceptions of the Use of technology for Learning English*

##### 4.2.1. *Opinions on the use of technology in the learning of English according to discipline*

In order to ascertain the top five and bottom five items, an item analysis of the 24 statements in this section was done. Table 3 shows that the top five items, except one, belong to the Category 1 (Technology makes learning easier) and each of them has mean score above 3 which suggests that the students believed that technology makes learning of English easier. However, unlike the fifth highest for the Sciences and Social Science students, which fall under Category 1, the fifth highest item for the Economics students belongs to Category 3. Its mean score of 3.22 indicate that Economics students agree that English teachers should use PowerPoint to present the lectures. But this difference is not necessarily contradictory since they both point to a favorable opinion on the use of technology in learning English (“I am more motivated to learn English when technology is used” and “English teachers should use PowerPoint to present their lectures.”)

Table 5. *Items with the highest mean scores on opinion on the use of technology for learning*

| No. | Items  | Sciences | Social Sciences | Economics |
|-----|--|----------|-----------------|-----------|
| 1   | Using technology enables me to learn many new things. (Category 1)   | 3.74     | 3.72            | 3.72      |
| 2   | It is easier to search for suitable English materials online than looking for suitable printed texts. (Category 1) | 3.59     | 3.43            | 3.58      |
| 3   | Technology has made learning English easier today. (Category 1)  | 3.57     | 3.61            | 3.60      |
| 4   | I can get my assignments done faster using online services. (Category 1)   | 3.52     | 3.59            | 3.62      |
| 5   | I am more motivated to learn English when technology is used. (Category 1)   | 3.32     | 3.32            |           |
| 6   | English teachers should use PowerPoint to present their lectures. (Category 3)                                     |          |                 | 3.22      |

Rating scale: 1 – Strongly disagree; 2 – Disagree; 3 – Agree; 4 – Strongly Agree

Four items with the lowest mean scores on opinion on the use of technology for learning belong to Category 2 (affective effects of technology) as displayed in Table 5.

The figures below 2.50 reflect the students' disagreement to the negative opinions on the use of technology for learning English.

Moreover, the students across the three disciplines feel quite strongly that English is worth their time and effort (contrary to item number 5) and they believe that their English teachers are competent in the use of technology in the classroom (contrary to item number 2). These generally favorable opinions on learning English may be attributed to the students' awareness of the current global importance of the English language and their appreciation toward the quality and innovative English education offered by DEAL, which has long integrated ICT in the curricula of its various courses (See section 2.3). Furthermore, the generous and technologically advanced teacher trainings offered by ASIST and the world-class equipment and modern e-tools accessible in each of the TELE classrooms in the campus could also be two factors that create an academic culture that promotes and ensures teachers' competence in the use of ICT in teaching. These are some points that may result in DLSU students having relatively little to complain about their English teachers' technological competence.

Table 6. *Items with the lowest mean scores on opinion on the use of technology for learning*

| No. | Items   | Sciences | Social Sciences | Economic |
|-----|---|----------|-----------------|----------|
| 1   | The use of digital technologies in the English course is unfair to the less IT-savvy students. (Category 2) | 2.24     | 2.21            | 2.20     |
| 2   | My English teacher is not competent in the use of technology. (Category 3)                                  | 2.02     | 1.94            | 1.94     |
| 3   | Web 2.0 devices have no place in the English classroom. (Category 2)  | 1.98     | 2.04            | 2.09     |
| 4   | I am not comfortable using the latest digital tools for language learning. (Category 2)                     | 1.98     | 2.03            | 1.97     |
| 5   | The use of digital technologies in learning English is not worth the time and effort. (Category 2)          | 1.96     | 1.94            | 1.93     |

Rating scale: 1 – Strongly disagree; 2 – Disagree; 3 – Agree; 4 – Strongly Agree

A one-way analysis of variance (ANOVA) was further undertaken to compare the mean scores on use of technology according to the following categories: Category 1- Technology makes learning easier; Category 2- Affective effects of technology, and Category 3- Opinion on teachers' use of technology. Before this was undertaken, it was necessary to perform the Cronbach's Alpha reliability test to verify the internal consistency of the items in each category. An internal consistency of above 0.7 implies good reliability. The Cronbach's Alpha values for categories 1 and 2, 0.623 and 0.691, respectively. However when the following items were deleted the reliability values increased substantially:

In view of that both these items were deleted. Regarding Category 3, the Cronbach's Alpha value is 0.399 This is too low hence this category was not included in the ANOVA.

Table 7. *The ANOVA for the three categories*

| Category   | Disciplines     | Mean   | Std. deviation | Df             |               | F     | Sig.  |
|------------|-----------------|--------|----------------|----------------|---------------|-------|-------|
|            |                 |        |                | Between groups | Within groups |       |       |
| Category 1 | Sciences        | 3.3176 | .35010         | 2              | 597           | .350  | .705  |
|            | Social Sciences | 3.3210 | .35836         |                |               |       |       |
|            | Economics       | 3.2946 | .31891         |                |               |       |       |
|            | Total           | 3.3110 | .34245         |                |               |       |       |
| Category 2 | Sciences        | 2.6853 | .41436         | 2              | 597           | 0.879 | .416  |
|            | Social Sciences | 2.6488 | .50350         |                |               |       |       |
|            | Economics       | 2.7065 | .39742         |                |               |       |       |
|            | Total           | 2.6802 | .44077         |                |               |       |       |
| Category 3 | Sciences        | 2.8076 | .33008         | 2              | 597           | 0.518 | 0.596 |
|            | Social Sciences | 2.8427 | .36952         |                |               |       |       |
|            | Economics       | 2.8316 | .35593         |                |               |       |       |
|            | Total           | 2.8273 | .35198         |                |               |       |       |

#### 4.2.2. *Opinion on which technology should be used in teaching and learning of English*

Table 8. *Items with the highest mean scores for opinion on the extent of technology used*

| No. | Items                        | Sciences | Social Sciences | Economics |
|-----|------------------------------|----------|-----------------|-----------|
| 1   | Slideshare                   | 3.49     | 3.54            | 3.54      |
| 2   | A learning management system | 3.11     | 3.15            | 3.08      |
| 3   | Email                        | 3.04     |                 | 2.94      |
| 4   | Digital videos in lectures   | 3.04     | 3.18            | 2.96      |
| 5   | YouTube                      | 2.96     | 3.13            | 2.95      |
| 6   | Facebook                     |          | 3.05            |           |

Rating scale: 1 – never; 2 – seldom; 3 – sometimes; 4 – frequently

Table 8 presents the five technological tools with the highest mean scores for each discipline according to the students' opinion on the extent that technology should be used. The mean score for Slideshare for Social Sciences and Economics are approaching 4; thus, the students from these disciplines agree that this tool should be frequently used to teach and to learn English. Even those in the Sciences follow closely with the mean score of 3.49. The respondents across the three disciplines may have chosen Slideshare because it is free, user-friendly, and the latest web-based tool that offers file sharing (PowerPoint, Keynote, PDS, or OpenOffice). Moreover, it has multi-faceted features like controlling size of viewing windows, creating a picture montage, saving favorites, archiving, sharing, and posting PowerPoint, and entering comments in the slide (Ansorge, public presentation, 2007).

All the rest of the items in Table 8 have mean scores close to 3 which means that the students recommend these technological tools to be utilized in the English language classroom.

On the other hand, the mean scores of the other tools (e.g. ,a subject website, discussion lists/online forum, interactive multimedia CD-Rom, Dropbox) have mean scores approaching 2 which indicates that the students believe that these tools should not be rarely used in teaching and learning English.

## **5. Discussion and Conclusion**

Mobile phone, camera phone, and music phone are the top three owned and used tools by the DLSU college students across the three disciplines as presented in Table 1. The reason could be because they appear handy and affordable. Also, most mobile phones come with camera and music player. While laptop, desktop, and game consoles and others in the list are more expensive; hence, they are less affordable and also much more bulky and this may be the reasons for their less popularity. It can be noticed that these three items possess the opposite characteristics of the top three tools: game consoles tend to be expensive; digital cameras have limited functions; and desktop computers are bulky.

Table 2 shows that the mean scores of all tools for the three disciplines are close to 3, which mean that the students sometimes use these tools for their English coursework. These results may imply that these respondents, regardless of the discipline to which they belong, do utilize technological tools in their studies, specifically in their English coursework. Perhaps, this homogenous result may also be influenced by the standard requirements (essays, speeches, research papers) of the general English courses all students at DLSU undergo. These outputs require file-sharing, online research and presentation tasks. Also, these findings may support Tapscott (2009) descriptions of digital native's learning style: they tend to seek creativity, innovativeness, and collaboration in getting and disseminating information.

A comparison of mean scores between Table 2 and 4 shows that the mean scores for YouTube, phones and handheld computers are much higher in the case of usage for recreation purposes than for English Language learning.

The students' general disagreement to the negative items in Table 5 suggests their general favorable sentiment toward the use of technology for learning. The results support earlier findings that students across disciplines choose to use technology for both academic and recreational purposes.

The low-ranking items of negative opinions in Table 6 (e.g. "The use of digital technologies in learning English is not worth the time and effort" and "I am not comfortable in using the latest digital tools for language learning") are also consistent with the high-ranking items of positive opinions in Table 5 (e.g. "Technology has made learning English easier today" and "I am more motivated to learn English when technology is used"). This consistency shows that students do have positive regard for the use of technology in learning English.

Perhaps, the relatively advanced facilities offered by the university may have helped create a learning atmosphere or culture that includes (if not expects) the use of Web 2.0 devices. Students thus can see that Web 2.0 devices have a definite place in the English classroom, and the use of these tools will be worth their time and effort.

Moreover, since the university and DEAL, specifically encourage their professors to incorporate technology in the English courses; it may have helped boost the image of the teachers as component in the use of technology. Most teachers do opt to use the readily available technological tools in the classroom to facilitate teaching.

There are several interesting patterns and perception on the use of technology that emerged from this study.

First, out of this shortlisted technological tools included in the survey, Facebook and YouTube consistently topped the students' choice for both academic and recreational purposes. The former offers multi-faceted features (e.g. chatting or private messaging, posting texts, pictures, and video clips). Meanwhile the latter, provides video clips, hypertext links, a collaborative network.

Second, there seems to be minimal differences in the use of technology by students from the three disciplines studied. All of the said patterns explained thus far apply across disciplines studied in this paper. This finding may be attributed to the idea that technology is generally open to everyone and not specialized to certain courses. This may be due to the widespread use of the e-tools. Moreover, the respondents' use of the technology was studied in the context of their English course which requires a standard set of requirements to students across disciplines offered in the university. Therefore, the students are bound to use the same tools to compile to the task.

Third, these patterns of use may lead to noteworthy perceptions of the students on the use of technology in the English language classroom. There is a consistency in the list of top technological tools used and top tools recommended for English language classroom. Moreover, they have positive attitudes towards the use of the technology in the English language classroom which makes learning English easier, faster, and more motivating. They even negated the negative

opinions about technology integration in English language learning listed in the survey. Lastly, they have a high regard for their teacher's competence in the use of technology in teaching English. This reflects the teachers' awareness of their technological leanings of their digital native students.

**Reference list and appendix are subject access request.**