

THE EXTENT OF DIGITAL DISTRACTION AMONG COLLEGE STUDENTS OF UNIVERSITY OF BATANGAS IN THE PHILIPPINES

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ABSTRACT

The propensity of students to switch between minding their digital devices and paying attention in class, causes performance lags and hampers learning. This study aimed to determine the extent of digital distraction among the college students of the university. The study sought to find out the extent of learning distraction brought about by the use of the digital devices, the relevance of the use of digital devices in classroom activities as perceived by the students, and to establish whether there is a significant relationship between digital distraction and the student users when grouped according to profile. A researcher constructed questionnaire was used to elicit data from the respondents. Questions included the respondents' demographic characteristics, the extent of their use of digital devices even during class and the common use of digital devices for non-classroom purposes. The researchers used descriptive and correlational research designs with 117 respondents enrolled in the English Proficiency course. The data were statistically analyzed using SPSS. The researchers employed Mean, t-test and one-way ANOVA. The findings of the study revealed that respondents spend 5-6 hours a day using digital devices for non-classroom purposes. They commonly use gadgets for downloading online applications and listening to music, dubsampling, creating video logs and communicating with their network of friends. This study found out that using digital devices for non-classroom activities distracts students from learning to a great extent. The respondents considered digital devices relevant only in so far as in creating podcasts and blogs. Lastly, no significant relationship was found between the demographic characteristics of the respondents and the extent of their distraction. The result implied that the respondents are distracted to a great extent. The researchers recommended proper and positive use of digital devices, a more strict monitoring system inside the classroom to deter students from using digital devices for non-classroom activities and integration of technology based lessons in the curriculum to increase students' engagement in the classroom.

Keywords: Digital device, digital distraction, college students, quantitative research, University of Batangas

1.0 Introduction

The present day classroom has significantly evolved from the teacher centered stage to a dynamic environment of digitally wired learners. The students of today, or the Millennials, are practically born into the digital realm that technology is something that comes as second nature to them. Consequently, young people feel stripped off of their necessities in the classroom as soon as the teacher comes in, tells them to put their digital devices away, and starts the classroom discussion. As Campbell (2006) puts it, young people now feel naked when they are cut off from their peer networks. He even goes on to saying that expectations for being accessible to others and to the world of digital content has now, more than ever, become extremely high these days, the result of which is that people in general are glued to their mobile and other portable devices without even being fully conscious of it.

The motivation to conduct this research stemmed from the advent of affordable technology and its increasing use in the academe. This study aims to determine the extent of digital distraction among college students of the University of Batangas, a private higher institution of learning in Batangas City, Philippines. Further, it seeks to describe how the use of digital devices impact the students' learning and how they perceive the relevance of using such devices as aid in learning. The use of digital devices among students has come to be a cause of alarm for teachers as they observe students getting engrossed in digital activities resulting to slacking in classroom tasks. Over the years, technology driven education has been being peddled by higher educational institutions all over the world including the Philippines. However, as the increasing reach of the internet has become inextricably intertwined with classroom activities and the internet becomes more widespread and far-reaching, so do the concerns that educators have over the students' reduced engagement in classroom tasks and their increasing apathy towards course materials. Conducting this study is important as it aims to fill the gap in knowledge in this field as few researches have been conducted in the locality in this area and this is the first of its kind in the university.

The use of digital or electronic devices in the classroom has positive effects to students. For one, the use of digital devices affords the students wider access to information. Also, it allows them to be exposed to the world of creative ideas and research. However, the same can also give rise to distraction making the students lose focus and eventually, take them away from learning. This is the problem currently confronting schools – digital distraction among their students. Although undeniably necessary for many practical uses and applications, the Internet has also opened the floodgates for maladaptive behavior in the classroom. Instead of the promised Internet-enabled learning, practitioner reports suggest that the Internet has become adversarial to learning bringing about what is now known as “loafing” or “slacking” at higher levels in the classroom. This is the problem currently confronting schools – digital distraction among their students.

Digital distraction occurs when the use of modern technologies interferes with learning such as when a student constantly uses his smartphone to check on his messages or watches videos on his laptop. Today's generation tends to succumb to digital overload that is now considered as a defining problem not only of the workplace but the academe as well. As this culture of constant connection takes over a person's personal or professional life, they also waste a good amount of energy, effort and time on relatively unimportant information thereby getting themselves busy but producing results that are of little or no importance at all. As the students check their emails and phones every minute of the day, switching between using their digital devices and paying attention in class, their focus becomes divided which takes a toll on their classroom performance. This manifests as poor performance in school, jobs, and even relationships. For the past few years, psychologists have been examining the recent dramatic changes in humans' relationship to technology. Rosen and Samuel (2008) conducted a study wherein people in three age groups—Baby Boomers, Generation X, and the Net Generation (born in the 1980s)— were given a list of 66 pairs of activities to find out which ones they typically did in tandem. Questions included, for example, “Do you go online and text simultaneously?” and “Do you e-mail and eat at the same time?” Fifty-nine percent of Baby Boomers responded yes on average; Gen Xers, 67% and 75% for the Net Gen. In 2014 the percentages were higher—67% for Baby Boomers, 70% for Gen X, and 81% for the Net Gen. Meanwhile, those born in the 1990s (iGeneration) who were added to the second study, were found to be engaging in an astonishing 87% of the paired activities.

Digital devices such as smart phones, tablets, and laptop computers are important college classroom tools. They support student learning by providing access to information outside classroom walls. However, when used for non-class purposes, digital devices may interfere with classroom learning. Weighing in on this issue, McCoy (2013) reiterates that students' usage of their digital devices has risen to an average of 11.43 times in a typical school day and resulted to 20.9% of students' class time being distracted by a digital device. Furthermore, what is apparent is that students nonchalantly admit that this distraction could hurt their class performance. Dahlstrom and Bischel (2014) support this development in the life of a typical student by underscoring that though many college students use their mobile devices for academic purposes, their potential to distract still looms over very starkly. Meanwhile, Flannigan and Babchuck (2015), in their phenomenological study, suggested that this same temptation and the use of social media had become a remarkable aspect of university students' academic experiences, both in and out of the classroom setting.

The other party involved in the issue of digital distraction are the teachers. Richtel (2012) reported that generally, teachers believe that the constant use of digital technology hampered their students' attention span and their adeptness to more challenging tasks in the classroom. While Purcell (2009) have found out that 70% of teachers in the survey they conducted said that Internet and search engines had “mostly” positive impact on student research skills, the fact remains that 87% of the respondents of the same survey believe that digital technologies were creating “an easily distracted generation with short attention spans,” and 64% said that digital technologies distracted the students more than they helped them in school.

This generation loosely calls its need to be connected to their peer network and to Internet on the whole as multi-tasking. This term has attracted the attraction of many educators so much so that Cognitive Science has focused towards finding out whether or not multi-tasking affects man's abilities to perform tasks, or specifically, if it does have a negative effect. Junco (2012) in his research found out that there is strong argument to support the claim that cognitive resources are finite and overloading students with too much input can impede learning (Mayer & Moreno, 2003). Hembrooke and Gay (2003) strengthened this argument about information overload in their paper “The Laptop and the Lecture” by pointing out that “when this channel is overloaded, such as in dichotic listening experiments, some of the information is filtered out while others are selected for further processing.” This focus on multitasking and laptops came about as the latter have become standard equipment in higher education as the number of universities instituting laptops initiatives continues to rise (Weaver and Nilson as cited by Fried, 2008).

The over use of digital devices among some people has been termed by many as digital addiction. On the surface, it may appear to be so; however, since a defining feature of addiction is that people should derive or gain pleasure from such behavior, this term does not accurately describe partiality to gadgets or devices as addiction. Terms such as FOMO (fear of missing out), FOBO (fear of being offline), and nomophobia (fear of being out of mobile phone contact)—all forms of anxiety that border on obsession or compulsion may more aptly describe such partiality. The need for people to constantly check their laptops, tablets, and phones is borne out of fear of being behind in information or being considered not adept in technology. One study, conducted by developmental pediatrician Jenny Radesky(2014) and published in the journal Pediatrics, had researchers observing interactions between children and adults dining in Boston fast-food restaurants. Of 55 dining groups observed, 40 had mobile devices. Not surprisingly, researchers found there was more “engagement” among groups where there were no mobile devices. In the groups that had the devices, adults were making phone calls, or “typing and swiping.” In local restaurants, the same scenario can be regularly observed where each member of an entire family—adult or kid—is busy on a phone or tablet, texting, phoning, playing games, doing the Internet. Some parents who still observe family protocols get exasperated by this and try to ban their kids from using these mobile devices at the dining table—at home or in restaurants—and when they do encounter families in restaurants that are too busy with their phones, and point out: Why bother eating out if you're not going to be talking to each other?

On a more recent note, McCoy(2015) conducted a study showing that around 97% of college students are said to be using their phones during class for non-educational purposes which is quite alarming. The survey focused on self-reported information from 675 undergraduate and graduate students in 26 states in the US between 18 and 22 years of age. Forty-one percent of the respondents admitted to spending up to 10% of their classroom time using digital devices for non-educational purposes, and another 20% reported spending between 11% and 20% of class time on their devices. Only 3% according to the study disclosed that they do not use a device during class hours for non-class related activities.

The challenge brought about by digital distraction is contextualized into as specific as the classroom and the teacher factor in it. According to Wilson and Piraino (2015), considering cellphones as a superfluous distraction has already been downplayed. In the same research, it was explicitly expressed that schools that went to the extent of banning cellphones in the classroom are missing a point in terms of instructional strategies that motivate students to be engaged and interested in the lessons. More specifically put, students are believed to be positively aided by this technological device that serves as a vital component to effective learning particularly in the reading and writing processes as shown by EFL and ESL studies.

In addition, students may also be allowed to use their cellphones in terms of making academic progress and receiving feedbacks. Moreover, since keeping students engaged traditional lectures still poses a challenge, technology infused pedagogical strategies aided by digital devices are presently highly recommended.

Recent cellphone based projects in the area of collaborative learning projects which have greatly changed how classroom activities and tasks are performed have shown endless possibilities. For example, knowledge, comprehension and analysis level question development is a valuable student- centered activity in which students create, answer and monitor content –related questions (Seol, Sharp,& Kim, 2011). Further, the use of cellphone can also support collaboration learning strategies through collecting student data and monitoring student progress by requiring them to individually answer questions through the use of their phones. (Echevaria, Naussbaum, Calderon, Bravo, Enfante, & Vasquez, 2011).

On account of what researches and concerned institutions all over the world have to say about the phenomenon of digital technology being present in the classroom, the researchers were prompted to conduct this research to examine the extent to which the use of digital devices has affected the students of the University of Batangas where they are teaching. The researchers recognize the need to determine where the college freshmen are as far as the use of digital technology in the classroom is concerned so that intervention procedures may be applied. With the aforementioned, this study anchors itself on the persisting speculation that class distractions may directly or indirectly impede or block the acquisition of knowledge.

The effect of digital device use on the students form part of the challenges faced by the faculty of the University of Batangas. Teachers just have to grapple with this phenomenon on a daily basis, and their only recourse - to cull understanding of this phenomenon and make positive utilization of its presence. The researchers believe that simply “turning off” or banning the use of digital devices is not a tenable solution to the problem. The result of this study may be an additional perspective to the problem on hand that may lead some to considers adopting behavioral principles to help them wean from digital device overuse. It is also the hope of the current research to arm the classroom teachers with the facts to be yielded by this investigation and try to get to the core of the problem that besets many learners of today Despite their objections to the contrary, many students will find the pull of a tweet or a Facebook update too strong to resist, at learning’s expense. Eventually, the researchers also hope to suggest specific methods, strategies and other tools that are technology/web based in order to make learning in the university and in other higher educational institutions more engaging and relevant.

This research has the following for its objectives:

1. describe the profile of Freshmen College students as digital users;
2. find out the extent of use of the digital devices for non-classroom purposes during class hours by the respondents;
3. evaluate the extent of learning distraction caused by the use of digital device/s during class for non-classroom activities to the respondents; and
4. determine the relevance of using digital devices to classroom activities as perceived by the respondents.

Corollary to the above given objectives, the following hypotheses were tested.

Ho2: There is no significant difference in the extent of the digital device usage when respondents are grouped by profile;

Ho3: There is no significant difference in the respondents' learning distraction when they are grouped by profile.

Ho4: There is no significant difference in the respondents' perception of relevance when they are grouped by profile.

2.0 Methodology

This study employed the descriptive-quantitative method of research with the questionnaire as the major data gathering tool. Documentary analysis, direct student observation, and informal interviews were also used to aid the researchers in the formulation of the questions for the data gathering tool and in directing the path of the study.

To enhance the direct students observation method used in the investigation, the researchers subjected the respondents, 117 college students enrolled in the subject English Proficiency, to pertinent questions on whether or not they use their digital devices for non- classroom activities, in the presence of their teachers, on a regular basis, while attending classes. A self-made questionnaire was used as the primary data gathering tool which included questions on the amount of time (on the average) the student respondents spend on their digital devices outside the classroom, the reasons for using their digital device while in class, the extent of distraction to the respondents and the perceived relevance of the use of digital devices to classroom activities by the respondents. The questionnaire was presented for evaluation to research professors considered authority on the subject at hand. It was also sent to external evaluators for validation. To determine the possible difficulties that the respondents may encounter

while answering the instrument, the approved questionnaire was used in a dry run among students who were not part of the respondent population.

The data gathered by the respondents were analyzed and interpreted using SPSS to determine their implication the study. Demographic characteristics used frequency, percentage and ranking. Weighted mean was used to assess the extent of distraction brought about by digital devices and t-test was used to find out the effect of the demographic characteristics to the extent of distraction among the respondents”.

3.0 Results and Discussion

This part of the paper shows the tabulated data that intend to realize the objectives given at the onset of the paper. The data are presented in tables with the appropriate statistical descriptions and analyses followed by interpretation.

Demographic characteristics of the Respondents. Presented in this section is the profile of the participants that includes gender, course, course, family income, and the number of hours spent using digital devices for non-classroom purposes.

Table 1

Distribution of the Respondents by Gender

Gender	Frequency	Percentage
Male	38	32
Female	79	68
Total	117	100

As shown in Table 1, there are more female than male respondents. Female respondents make up 68% survey while the males constitute the remaining 32%. More male students were enrolled in English Proficiency at the time of the survey.

Table 2

Distribution of the Respondents by College

College	Frequency	Percentage
Arts and Sciences	6	5
Education	17	15
Engineering	43	37
Tourism/ HRM	15	12
Business and Accountancy	23	19
Information Technology	7	6
Allied Medical Sciences	1	1
Nursing and Midwifery	2	2
Criminology	3	3
Total	117	100

The data in Table 2 present the distribution of the respondents in terms of the college where they belong. Most of the students who enrolled in English Proficiency are from the College of Engineering with 43 respondents followed by the College of Business and Accountancy with the frequency count of 23. These two courses are the flagship courses of the University of Batangas; hence, they also have the biggest number of enrollees in English Proficiency.

Table 3

Economic Status of the Respondents

Monthly income	Frequency	Percentage
Less than PHP 7,890	16	14
Between PHP 7,890 to PHP 15,780	8	7
Between PHP 15,780 to PHP 31,560	34	30
Between PHP 31,560 to PHP 78,900	30	26

Between PHP78,900 to PHP 118,350	20	17
Between PHP 118,350 to PHP 157,800	1	1
At least PHP 157,800	6	5
Total	117	100

Table 3 shows the economic status of the respondents based on the combined monthly income of the members of the family. As shown in the table, most of the respondents have a combined family income ranging from Php 15,780 to Php 118,350. Therefore, the University of Batangas is a private higher educational institution and its clients usually belong to the middle to upper middle class earners. The data given in the table imply the capability of the respondents to own a digital device or devices.

Table 4
Number of Hours Spent by the Respondents on Digital Devices
for Non-Classroom Purposes

Digital Devices	More than 6 hours	5 -6 hours	3-4 hours	1-2 hours	Total
Laptop		26 (27)	50 (53)	19 (20)	95
Mobile Phones		9 (8)	29 (25)	78 (67)	116
Tablet, Ipad		21 (28)	42 (56)	12 (16)	75
Ipods		25 (45)	26 (46)	5 (9)	56
Headphones		23 (24)	56 (60)	15 (16)	94
Digital camera		44 (60)	24 (33)	5 (7)	73
Media Players		23 (29)	44 (56)	11 (15)	78
Pocket wifi		16 (22)	22 (30)	36 (48)	74
Smartwatch		28 (62)	9 (20)	8 (18)	45

*number in parentheses correspond to percentages

Statistically, the respondents spent from five to six hours a day using their digital camera (60%) for non-classroom purposes. Three to four hours are spent by the respondents using headphones (60%), media players (56%) and Ipad (56%) while one to two hours are spent by the respondents on mobile phones (67%) everyday for non-classroom purposes. Results revealed that mobile phones, laptops, media player, table and/or Ipad, pocket wifi and digital camera were devices commonly used by respondents.

In the same study by McCoy, it was reported that 70% of Millennials said they used their mobile devices from the moment they wake up to when they go to bed. In the same vein, a Gallup (2015) survey found more than seven in 10 smart phone owners with ages 18-29 check their device a few times an hour or more often, including 22% who admit to checking it every few minutes. Interesting to note in this research is that these device users do not seem to regard their use of the device to be excessive and maintain that the people around them use devices more than they do.

In contrast to the aforementioned research, the respondents in this study projected a more limited number of hours of use of their digital devices. While the Millennials surveyed admitted to using cellphones from the moment they wake up, the respondents in this study indicated that they use cellphones for an average of 6-7 hours a day. This may be attributed to the fact that the teachers in the University of Batangas do not usually give their expressed approval on the use of the said gadgets inside the classroom for fear of having inattentive students. On top of this, the university has placed restrictions on the sites that can be visited by the students and on video streaming. Nevertheless, the data show that students are actually using digital devices while class is going on.

Extent of Use of the Digital Devices for Non-Classroom Purposes During Class Hours by the Respondents.

As shown in Table 5, the respondents admitted tousing dubsplash or similar music applications during class hours (WM=3.59) interpreted as “used to a very great extent,”. The respondents also engaged in video blogging even during class hours (WM=3.58) interpreted, very great extent. Respondents also engaged in online communications using digital devices while the class is ongoing. The composite mean for the extent of use of digital devices by the respondents during class hours is 2.79 interpreted, to a great extent. The data revealed that respondents were engaged in multi-tasking using digital devices and trying to focus in the ongoing classes.

Numerous studies support this diagnosis of the problem. In a study conducted by Cheever, Rosen, Carrier, and Chavez (2014), 163 students were brought into a lecture hall, and were asked to sit without talking, doing work, or using their phones. Their anxiety level was assessed over the next hour. Although light smartphone users showed no change, moderate users experienced initial alarm that leveled off, and those accustomed to checking their phones all day long felt their anxiety spike immediately and

continue to increase. The research concluded that many people, regardless of age, check their smartphones every 15 minutes or less and become anxious if they are not allowed to do so.

Connectivity is the main reason why students use their gadgets even during class hours which eventually leads them to a problem situation. What is alarming though is that students turn to using their electronic device apparently to relieve boredom in the classroom. In an attempt to relieve the feeling of boredom, they tend to be glued to their digital device without being fully conscious that they actually are being distracted.

Table 5
Extent of Use of Digital Devices by the Respondents
for Non-Classroom Activities During Class Hours

Use of Digital Device	Mean	Verbal Interpretation	Rank
Reading and sending email	2.89	Great Extent	10
Reading online news	2.48	Less extent	14.5
Reading and texting messages	1.89	Less extent	21
Playing games	2.78	Great extent	13
Listening to music	2	Less extent	20
Chatting online	1.96	Less extent	23.5
Voice messaging	3.01	Great extent	8
Using facetime apps	3.24	Great extent	3
Downloading online applications (Google apps)	2.89	Great extent	10
Reading Wattpad stories	3.19	Great extent	6.5
Writing Wattpad stories, poem,	2.42	Less extent	17
Using dubsplash, music applications	3.59	Very great extent	1
Using snap chats	3.21	Great extent	4
Using Facebook	2.48	Less extent	14.5
Uploading pictures and videos	3.19	Great extent	6.5
Tweeting messages online	2.89	Great extent	10
Surfing the internet for pleasure	2.4	Less extent	18
Watching saved videos	2.35	Less extent	19
Taking pictures (selfies, groupies)	2.47	Less extent	16
Online shopping	3.2	Great extent	5
Creating Video logs	3.58	Very great extent	2
Composite Mean	2.78	Great Extent	

The researchers also tested the possible relationship between the profile of the respondents and the extent of use of digital devices for non-classroom purposes during class hours. Table 6 shows the result of the statistical test conducted to determine the existing relationship between gender and extent of digital device use by the respondents

Table 6
Relationship between Gender and the Extent of the Respondents' Use of Digital Device for Non-Classroom Activities During Class Hours

Items	Gender		Mean	Std. Deviation	t-value	p-value*	Verbal Interpretation																												
Reading and sending e-mails	Male	34	2.7059	.87141	1.53600	0.128	not significant																												
	Female	71	2.9718	.81015				Reading and texting messages	Male	34	2.7647	.92307	1.38800	0.14	not significant	Female	69	3.0000	.74755	Reading online news	Male	35	1.8571	.87927	-3.0100	0.764	not significant	Female	77	1.9091	.83006	Playing online games	Male	36	1.8333
Reading and texting messages	Male	34	2.7647	.92307	1.38800	0.14	not significant																												
	Female	69	3.0000	.74755				Reading online news	Male	35	1.8571	.87927	-3.0100	0.764	not significant	Female	77	1.9091	.83006	Playing online games	Male	36	1.8333	.94112	-4.547	.000	significant								
Reading online news	Male	35	1.8571	.87927	-3.0100	0.764	not significant																												
	Female	77	1.9091	.83006				Playing online games	Male	36	1.8333	.94112	-4.547	.000	significant																				
Playing online games	Male	36	1.8333	.94112	-4.547	.000	significant																												

	Female	77	2.0130	.92471			
Listening to music	Male	35	2.3429	.96841	-2.681	.008	significant
	Female	72	2.5417	.94850			
Chatting online	Male	35	2.1429	1.06116	-.957	.341	not Significant
	Female	72	3.0833	.97504			
Voice messaging	Male	35	1.6286	.84316	-1.010	.315	not Significant
	female	76	2.1711	1.05056			
Using facetime application	Male	34	1.9412	.95159	-.168	.867	not significant
	female	77	1.9740	.94554			
Downloading online applications	Male	34	3.0000	.85280	-.068	.946	not significant
	female	69	3.0145	1.07775			
Reading wattpad stories	Male	33	3.1818	.88227	-.398	.692	not significant
	female	69	3.2609	.96486			
Writing blogs and/or stories	Male	34	2.7941	.97792	-.679	.499	not significant
	female	71	2.9296	.94603			
Using dubsplash and other music apps	Male	30	3.5000	.86103	1.904	.060	not significant
	female	68	3.0588	1.13140			
Using snapchat	Male	30	3.4333	1.00630	.087	.931	not significant
	female	65	3.4154	.89952			
Using facebook	Male	32	3.4375	.87759	-1.411	.161	not significant
	female	66	3.6667	.68687			
Uploading pictures and/or videos	Male	31	3.2903	.90161	.592	.556	not significant
	female	66	3.1667	.98580			
Using Twitter	Male	35	1.6000	.84714	-1.868	.064	not significant
	female	76	1.9605	.98578			
Surfing the internet for pleasure	Male	34	2.5882	1.15778	-2.788	.006	significant
	female	74	2.4324	.99424			
Watching saved videos	Male	34	2.7353	1.10943	-3.264	.001	significant
	female	71	2.3803	1.01933			
taking pictures (selfies, groupies)	Male	33	3.2121	1.11124	.173	.863	not significant
	female	69	3.1739	1.01397			
Online shopping	Male	33	3.0303	1.18545	.804	.423	not significant
	female	67	2.8209	1.24225			
Creating video logs	Male	33	1.9697	.98377	.718	.475	not Significant
	female	66	2.6212	1.14711			
	female	73	2.3836	1.11343			

The data shown in Table 6 indicate that the extent of use of digital devices during classroom hours generally has no significant relationship to the demographic characteristics particularly to gender except in the four indicators (playing games, listening to music, surfing the internet for pleasure, watching saved videos) interpreted as significant.

Male students tend to play video games and surf the net for pleasure more than female students. On the other hand, female students were inclined to watch movies and videos or use music applications more than the male students. Additionally, males and females spent more or less the same amount of time in using the various applications presented and cited almost the same reasons for using digital device for non-classroom purposes.

On the other hand, Thompson and Lougheed (2012) found that women are more likely than men to turn Facebook into an unhealthy habit. Seventy-seven percent of women confessed that they often spend more time on Facebook than they intend to, whereas only 50 percent of the surveyed men had this problem. Likewise, while 48 percent of the female participants believed they were addicted to Facebook, only about half as many males felt the same way.

Further, researches also found that men visit a wider variety of websites than women do, in part because females usually devote more time to Facebook. Wasserman and Richmond-Abbott(2005) also found differences in how, specifically, the genders use the Internet. Males express more confidence in their ability to conduct research online. Their greater confidence may also explain why they are more likely to brave complicated banking and governmental websites.

The specific ways in which males and females spend their time on Facebook also varies, as other studies reveal. Men are more likely than women to use the website to find and chat with new friends. On the other hand, women are more likely than men to maintain old relationships through the site. Psychologists explain that this difference goes hand-in-hand with how women usually view online relationships with greater skepticism than men do. This means that real-world communication is more strongly valued among women, particularly when getting to know new people.

Online communications, incidentally, is not dictated solely by gender. Barak and Gluck-Ofri (2007) revealed that the only notable difference in self-disclosure online is that women are more easily affected by the rule of reciprocity than men are. For example, if a man tells a woman what he does, then the woman will more likely to feel the implicit pressure to share the same information about her in return. Although Barak and Gluck-Ofri made the observation of self-disclosure in forums, they concluded that these findings most likely occur during interactions on Facebook as well.

In further analysis, the researchers also tried to establish whether the course or discipline of the respondents has a significant effect to the extent of their use of digital devices for non-classroom purposes as presented in Table 7. The respondents came from the nine collegiate departments of the University of Batangas, e.g. Engineering, Business and Accountancy, Tourism and Hospitality Management, Nursing and Midwifery, Allied Medical Sciences, Arts and Sciences, Criminal Justice, Education, Information Technology and Technical Education.

Table 7
Effect of Course on the Extent of the Respondents' Use of Digital Device for Non-Classroom Activities during Class Hours

Indicators	F – Value	p – Value	Verbal Interpretation
Reading and sending e-mails	1.094	0.373	not significant
Reading and texting messages	0.993	0.446	not significant
Reading online news	0.918	0.505	not significant
Playing online games	0.511	0.846	not significant
Listening to music	1.736	0.099	not significant
Chatting online	0.752	0.645	not significant
Voice messaging	1.642	0.122	not significant
Using facetime application	1.2	0.306	not significant
Downloading online applications	0.86	0.553	not significant
Reading wattpad stories	0.972	0.462	not significant
Writing blogs and/or stories	0.657	0.728	not significant
Using dubsplash and other music apps	0.37	0.918	not significant
Using snapchat	0.481	0.846	not significant
Using facebook	0.92	0.504	not significant
Uploading pictures and/or videos	0.641	0.742	not significant
Using Twitter	0.294	0.966	not significant
Surfing the internet for pleasure	0.509	0.847	not significant
Watching saved videos	0.634	0.747	not significant
Taking pictures (selfies/groupies)	0.522	0.838	not significant
Online shopping	0.782	0.62	not significant
Creating video logs	0.945	0.483	not significant

As shown above, no significant relationship has been established between the course of study of the respondents and their reason for using their digital devices for non-classroom purposes. This result goes to imply that the use of digital devices during class for non-classroom purposes is an occurrence that is common to students regardless of their course or discipline.

While it is true that this generation has been born and raised in the digital age and may favor digital forms of communication, they are still not a homogeneous group when it comes to their use of technology for learning. Smith and Caruso (2010) reported that almost 98% of the students in the United States own a computer with the vast majority owning a laptop. The amount of time spent online for school, work or recreational activities varies among students. According to the report, the amount of time spent online by students is based on the students' major with those studying Engineering and Physical Science spending the most number of time online.

The study conducted by Rosen, Carrier and Cheever (2013) among 263 middle school, high school and college students determined the impact of technological distractions on academic learning. The results revealed that the respondents were able to stay on a task for an average of six minutes only before they switch to another. This was attributed to the distractions caused by technological devices or gadgets and the networking sites and social media that allow them to connect with peers. Those who have positive dispositions toward technology often are not affected by technology when on study tasks. On the other hand, those who tend to switch tasks have more distracting technologies and more likely to be off task. Also, those who accessed Facebook had lower GPAs than those who avoided it. Relative to this, students who have high study strategies were more likely to stay on-task than other students. Therefore, it may be concluded that course or discipline is not the determining factor in the task switching or engagement in technology of students but their study habits and strategies. The implication of this to education is that students need to be given technology Sabbath or breaks so that distractions maybe curbed or lessened. Also, metacognitive conditioning needs to be done when it becomes obvious that engagement in technology disrupts learning.

Table 8
Effect of Income on the Extent of Use of Digital Devices for Non-Classroom
Activities by the Respondents During Class Hours.

Indicators	F – Value	p - Value	Verbal Interpretation
Reading and sending e-mails	0.838	0.543	not significant
Reading and texting messages	1.396	0.224	not significant
Reading online news	0.951	0.462	not significant
Playing online games	0.227	0.978	not significant
Listening to music	1.76	0.104	not significant
Chatting online	1.61	0.142	not significant
Voice messaging	0.955	0.468	not significant
Using facetime application	3.646	0.002	Significant
Downloading online applications	2.2820	0.011	Significant
Reading wattpad stories	.639	0.722	not significant
Writing blogs and/or stories	0.442	0.873	not significant
Using dubsplash and other music apps	0.868	0.535	not significant
Using snapchat	0.697	0.674	not significant
Using facebook	0.41	0.894	not significant
Uploading pictures and/or videos	1.764	0.105	not significant
Using Twitter	0.202	0.984	not significant
Surfing the internet for pleasure	0.254	0.97	not significant
Watching saved videos	0.551	0.793	not significant
Taking pictures (selfies/groupies)	0.435	0.878	not significant
Online shopping	1.447	0.196	not significant
Creating video logs	0.92	0.495	not significant

Table 8 presents that when the respondents were grouped according to family income, two indicators posted relevant values which are using facetime applications and downloading different online applications which may or may not necessarily be related to their class activities or requirements. It should be noted that majority of the indicators presented to the respondents did not bear any significance.

McKenzie, Pizzica, Gosper, Malfroy, and Rowe (2014) found through their research on Socio-economic status and students' experiences of technologies entitled "Is there a digital divide?" that in general, there were few differences in access to equipment. The research revealed that 96% of respondents have access to a desktop or laptop at home; 47% have access to a

tablet (iPad, Galaxy or similar), 44% have their own laptop on campus and 81% have a smartphone (iPhone, Android, Blackberry). Overall, 32% have access to a laptop or desktop at work. Relative to this, it is implied that those who are on grants and those who belong to the lower rung of the socio-economic status are less likely to own a tablet and are more likely to access technology thru the facilities provided by the school in the computer laboratory or in the library. Students from low and medium SES backgrounds tend to have another device such as a game console with internet access instead of a laptop or tablet.

Downloading applications may be done with or without payment. Nevertheless, the process cannot be done without internet connection. Students who belong to the middle to upper middle segments of the society usually have not just mobile phones or laptops but pocket wi-fi as well. Despite the fact that the school discourages students from using restricted sites, they are still able to do so on account of having their own internet connection. Facetime applications are mostly useful for college students who live away from home and who want to constantly reach out to their families. It can be surmised then that those who have more to spend will tend to spend more time on their gadget than those on a tight budget.

Extent of Distraction Caused by the Use of Digital Devices to the Respondents. It is quite possible that the students themselves are not fully aware of the full impact or repercussion of using their digital device inside the classroom for non-classroom activities. Multi-tasking is one skill that most millennials of today are proud of being able to do.

Table 9 shows the impact of using digital devices to the respondents and ability to interact relevantly in class activities. The composite mean for this section is 2.64 which implies that the respondents are greatly distracted in most of the aspects or indicators of learning given in the table.

Table 9
Extent by which Learning is Distracted when the Respondents Use Digital Device/s
During Class for Non-Classroom Activities

Learning Indicators	Weighted Mean	Verbal Interpretation	Rank
Participate in meaningful course-related interactions in class	2.72	Great distraction	3.5
Pay attention in class	2.67	Great distraction	7.5
Understand complex or abstract concepts	2.56	Great distraction	18.5
Collaborate with classmates	2.57	Great distraction	15.5
Effectively communicate with the professor	2.6	Great distraction	13
Increase interest in the subject matter	2.56	Great distraction	18.5
Improve presentation of work	2.65	Great distraction	9
Focus on real world tasks	2.48	Less distraction	20
Respond to questions posed by the teacher and/or peers.	2.61	Great distraction	12
Participate in multiple ways to show mastery of new knowledge or content	2.57	Great distraction	15.5
Demonstrate enthusiasm and excitement about lesson content	2.71	Great distraction	5.5
React to a classroom material on a personal level	2.72	Great distraction	3.5
Verbalize the connections discovered in lessons	2.62	Great distraction	11
Exhibit acceptable student behavior	2.57	Great distraction	15.5
Ask probing questions about the lesson	2.71	Great distraction	5.5
Volunteer for classroom tasks	2.74	Great distraction	2
Motivate oneself to work hard	2.57	Great distraction	15.5
Follow directions given	2.67	Great distraction	7.5
Verbalize the objective of the lesson	2.63	Great distraction	10
Articulate connections to own life to provide a context for relevance of the lesson	2.79	Great distraction	1
Composite Mean	2.64	Great distraction	

The data in Table 9 shows that the use of digital devices distracts the students from engaging in meaningful interaction during class as evidenced by the computed composite mean ($M = 2.64$) interpreted as great distraction. The articulation of connections to own life to provide a context relevance of the lesson ($WM = 2.79$) interpreted, great distraction, ranked first. This suggests that since the students are distracted greatly, they only get to absorb the fundamentals of the lesson but find it quite perplexing to practically apply the same to the context of the real world.

Dr. David Meyer, (as cited by Howard, 2015) a psychology professor at the University of Michigan said that “under most conditions, the brain simply cannot do two complex tasks at the same time. Listening to a lecture while texting, or doing homework and being on Facebook—each of these tasks is very demanding, and each of them uses the same area of the brain, the prefrontal cortex.” Most students incorrectly believe that they can perform two challenging tasks at the same time, according to

Meyer. They may like to do it, they may even be addicted to it, but there's no getting around the fact that it's far better to focus on one task from start to finish."

Having their attention divided due to the presence and use of digital devices, the respondents indicated that they are greatly distracted from articulating the relevance of the lessons, volunteering for classroom tasks, giving reaction to classroom materials and participating actively in meaningful discussions, among others. Further, the table also shows that there is a very small point difference between the indicators when it comes to the level of distraction giving rise to the interpretation that having a digital device and using it during class does more harm than good when it comes to participation and interaction.

Although there are specific instances when smart phones and other digital devices may be invaluable to the students, such as in the case of research, the surreptitious and unnecessary use of the same could result to detriment rather than development of student learning. Kuznekoff, Munz and Titsworth (2013) assert that learning and note taking are negatively impacted by the sending/receiving of text messages unrelated to class content. Based on previous researches, just the presence of a phone is enough to make people less attentive and less trusting that students who are distracted by technology while studying require a longer time to absorb the lesson and feel less comfortable. Since it has been pointed out earlier that multi-tasking is inherent in a lot of people, and that cognitive science has a deep interest in finding out if multi-tasking has negative effects, this has been the subject of many investigations. Meanwhile, psychological and media communication researchers indicate that despite the ability of some people to multi-task, this ability is still limited.

The researchers tested the effect of gender on the extent of distraction caused by the use of digital device to the respondents Table 10 shows the result of the correlation test between gender and the extent of digital distraction to the users where it is shown that no significant effect was found when the indicators were tested against the gender of the respondents.

Table 10
Effect of Gender on the Extent of Digital Distraction Among the Respondents

	Gender	N	Mean	Std. Deviation	t- Value	p - Value	Verbal Interpretation
Participate in meaningful course-related interactions in class	Male	37	2.5946	1.06613	-0.847	0.399	not significant
	Female	73	2.7671	0.97924			
Pay attention in class	Male	36	2.5	1	-1.348	0.18	not significant
	Female	74	2.7432	0.82861			
Understand complex or abstract concepts	Male	35	2.5714	0.9167	0.011	0.991	not significant
	Female	72	2.5694	0.80187			
Collaborate with classmates	Male	37	2.6216	0.98182	0.383	0.702	not significant
	Female	76	2.5526	0.85471			
Effectively communicate with the professor		35	2.4286	0.81478	-1.331	0.186	not significant
	Female	70	2.6857	0.98603			
Increase interest in the subject matter	Male	34	2.4118	0.98835	-1.208	0.23	not significant
	Female	71	2.6479	0.9118			
Improve work presentation	Male	36	2.7222	0.97427	0.487	0.627	not significant
	Female	73	2.6301	0.90534			
Focus on real world tasks	Male	36	2.3889	1.04957	-0.795	0.428	not significant
	Female	71	2.5493	0.95302			
Respond to questions posed by the teacher and/or peers.	Male	34	2.6176	0.85333	-0.06	0.952	not significant
	Female	70	2.6286	0.87097			
Participate in multiple ways to show mastery of new knowledge or content	Male	35	2.5429	0.85209	-0.363	0.717	not significant
	Female	73	2.6027	0.7771			
Demonstrate enthusiasm and excitement about lesson content	Male	35	2.6286	0.87735	-0.728	0.468	not significant
	Female	73	2.7534	0.81276			

React to a classroom material on a personal level	Male	35	2.7429	0.88593	0.095	0.925	not significant
	Female	73	2.726	0.85408			
Verbalize the connections discovered in lessons	Male	35	2.6	0.7746	-0.266	0.791	not significant
	Female	70	2.6429	0.78085		0	
Exhibit acceptable student behaviour	Male	35	2.5143	0.78108	-0.593	0.554	not significant
	Female	72	2.6111	0.7971			
Ask probing questions about the lesson	Male	35	2.7143	0.82503	-0.025	0.98	not significant
	Female	71	2.7183	0.75938			
Volunteer for classroom tasks	Male	34	2.8235	0.93649	0.606	0.546	not significant
	Female	73	2.7123	0.85764			
Motivate oneself to work hard	Male	35	2.5714	0.81478	0.022	0.983	not significant
	Female	74	2.5676	0.87712			
Follow directions given	Male	33	2.6061	0.9981	-0.455	0.65	not significant
	Female	69	2.6957	0.89614			
Verbalize the objective of the lesson	Male	34	2.5882	1.01854	-0.387	0.7	not significant
	Female	71	2.662	0.86096			
Articulate connections to own life to provide a context for relevance of the lesson	Male	33	2.8182	0.88227	0.133	0.894	not significant
	Female	68	2.7941	0.8386			

The data presented in the preceding table runs parallel with the findings of a study conducted by Nalliah and Allareddy (2014) on the level of electronic device distraction on Dentistry students. Results of the multivariable linear regression examining the effects of different types of distractions and gender on test scores of the respondents yielded that there were no statistically significant differences in test scores for the different types of distractions: checking email (estimate is -0.88 , $p = 0.476$), sending email (estimate is 2.40 , $p = 0.166$), checking Facebook (estimate is -2.16 , $p = 0.293$), or sending text (estimate is 3.66 , $p = 0.199$) after adjusting for the effects of gender (estimate is 2.44 , $p = 0.007$). In this model, gender and different types of distractions explained 32% of variance in test scores.

The results in the table imply that the level or extent of distraction caused by digital devices do not actually vary between sexes. It is not a matter of being a male or a female for distraction to be more or less severe since the computed values are not significant. This further suggests that both sexes are distracted by the digital devices that they use. The null hypothesis is rejected.

On the contrary, gender differences are present in the ways teens use the Internet and social media, although usage patterns have shifted over time. Gross (2004) found that the most common activity among American middle- and high-school students was chatting via instant messaging. In 2007, teenage girls in the US were more active bloggers than boys. Boys, meanwhile, were more likely to upload online videos and use video sharing applications. Boys spend more time using computers, especially playing video games and visiting video websites such as YouTube. However, girls create and share more video links, and also are more likely to video chat, in keeping with their more active texting and mobile communication behaviors. Regardless of gender, most teens in the US today spend part of their leisure time online visiting social media sites.

Current generations of students are very comfortable with technology and often have their electronic device near them. However, these digital devices pose a serious repercussion when used inside the classroom for non-class activities as they have the tendency to distract students from learning.

Table 11
Effect of Course on the Extent of Digital Distraction Among the Respondents

Distraction	F - Value	p - Value	Verbal Interpretation
Participate in meaningful course-related interactions in class	1.543	0.152	not significant
Pay attention in class	2.27	0.028	Significant
Understand complex or abstract concepts	2.171	0.036	Significant
Collaborate with classmates	1.397	0.206	not significant
Effectively communicate with the professor	1.576	0.142	not significant
Increase interest in the subject matter	1.251	0.278	not significant
Improve work presentation	1.266	0.27	not significant
Focus on real world tasks	1.056	0.4	not significant
Respond to questions posed by the teacher and/or peers.	0.477	0.87	not significant
Participate in multiple ways to show mastery of new knowledge or content	0.74	0.656	not significant
Demonstrate enthusiasm and excitement about lesson content	1.169	0.325	not significant
React to a classroom material on a personal level	1.272	0.267	not significant
Verbalize the connections discovered in lessons	0.304	0.963	not significant
Exhibit acceptable student behaviour	1.206	0.304	not significant
Ask probing questions about the lesson	0.651	0.733	not significant
Volunteer for classroom tasks	0.408	0.914	not significant
Motivate oneself to work hard	0.341	0.948	not significant
Motivate oneself to work hard d18	1.128	0.352	not significant
Verbalize the objective of the lesson	0.67	0.717	not significant
Articulate connections to own life to provide a context for relevance of the lesson	0.817	0.589	not significant

Based on the results, two indicators were found to be affected by course which are paying attention in class ($p=0.028$) and understanding complex and abstract concepts ($p=0.036$). Some courses have more subjects that require focus and concentration like those in the field of Engineering or Accountancy. Abstract concepts in Mathematics also need the students' undivided attention for them to fully understand the processes involved. It may be inferred, thus, that some students were more differentially affected by distractions, digital or otherwise, compared to others. These distractions may directly impede or block the students' acquisition of information or learning. In general, there is no significant effect of course to the extent of distraction of the respondents; thus, the null hypothesis is accepted

Perception on the Relevance of Using Digital Device to Classroom Activities. Table 12 presents the perception of the student respondents on the relevance of using digital devices in relation to classroom activities. With the composite mean of 2.32, the respondents disclosed that the use of digital devices is irrelevant in most of the activities done and in relation to the class.

The most common use of the digital devices among students still remains to be in taking down notes. Since millennial learners hardly bring a notebook to class now, they just save the lesson in their device be it a laptop, a tablet, or even their phone ($WM=2.88$) which means that the respondents find the use of their digital device most helpful in school tasks. In relation, taking pictures of the notes or the lessons came in second as this also relates to the learners' not having a notebook or anything to copy their notes on because they find it more convenient to store their lesson in their device which is handy and can be lagged wherever they go. The respondents also consider the use of their digital device relevant in reading online sources, creating graphics/presentations and editing them, as well as in creating podcasts and blogs.

On the other hand, majority of the indicators turned out an irrelevant verbal interpretation like in the use word and spreadsheet applications since the subject used as springboard for this research is English Proficiency which hardly requires students to use such applications. Also, students probably consider the inconsistent internet connection in school as a deterrent to their utilization of the other applications e.g. the Google classroom which is being encouraged by the teachers. Although teachers post assignments and lectures online, many students wait for their classmates to download the items and just have them reproduced. Lastly, there is a standing policy in the university with regard to limited use of digital devices during class hours and access to internet (blocked sites) which may explain the limited access and interest of both students and teachers to maximize the use of the digital devices during and for class activities.

Goleman (2013) notes that sustained concentration is necessary specifically in reading texts, understanding and listening to the teacher's discourse to be mentally equipped and be considered well-educated. He moves for a digital time-out every day or some time for students to keep from using digital devices and not be distracted. He also hopes for the integration of attention strengthening exercises into the curriculum of schools that will help students keep their distraction at bay.

Many college students use mobile devices for academic purposes. It is a great concern, however, that the students are getting somewhat too dependent on their gadgets which may hamper their ability to persevere in the face of challenging tasks. In interviews, teachers described what might be called a "Wikipedia problem," in which students have grown so accustomed to getting quick answers with a few keystrokes that they are more likely to give up when an easy answer eludes them. The teachers believed students had been conditioned by the Internet to find quick answers. When the students were asked how digital devices aid them in their studies the replies were mostly that they find the answers in Wikipedia. Similarly, they revealed that they did not usually practice critical thinking or deep analysis as the answers are almost always available in the web.

Table 12
Perception of the Respondents on the Relevance of Using
Digital Device to Classroom activities

Indicators	Weighted Mean	Verbal Interpretation	Rank
Read class materials online	1.86	Irrelevant	19
Take down class notes using digital devices	2.88	Relevant	1
Use of resources in the phone (pictures, videos, dictionary, etc..)	2.55	Relevant	6
take picture of notes and lectures	2.77	Relevant	2
Use online reading sources and links other than text-based materials	2.76	Relevant	3
Use online discussion platform (posting comments)	2.11	Irrelevant	15.5
Create and respond to emails	2.2	Irrelevant	12
Create blogs	2.42	Irrelevant	8
Create videos and podcasts	2.54	Relevant	7
Edit videos and/or audio presentations	2.59	Relevant	5
Write word documents	1.82	Irrelevant	20
Utilize spread sheets	1.99	Irrelevant	18
Create graphics and presentations	2.7	Relevant	4
Turn in/post assignments online	2.1	Irrelevant	17
Have Access to virtual learning environment/classroom	1.91	Irrelevant	13
Post lectures online	2.2	Irrelevant	12
Upload videotaped lectures/discussions	2.2	Irrelevant	12
Create online forums/discussions	2.11	Irrelevant	15.5
Create online examinations/quiz	2.33	Irrelevant	10
Utilize internet games as springboard for lesson	2.39	Irrelevant	9
Composite Mean	2.32	Irrelevant	

Nworie and Houghton (2000) asserted that technology is meant to aid in classroom instructions and in facilitating learning among the students. Nevertheless, students find use for technology other than in learning which creates distraction and causes disruption of classes. Students play video games or text and chat their friends even if the class is in session. They also surf the net, watch videos and even shop online. Sadly, the teacher is often not capable of monitoring what each student is doing specially in large sized classes. Being distracted, students do not receive the full benefits they could derive from the lessons and may even be faced with hampered learning (Blumenfeld, Fishman, Krajin & Marx, 2000).

The study of Oye, Ilahad, Madar, and Ab Rahim (2016) looked into the application of e-learning model to explain the acceptance of e-learning technology in academic setting. The focus of the study was the relationship between the use of e-learning and the students' academic performance. The study revealed that academic performance is boosted by e-learning; that is, proper utilization of e-learning coupled with the students' positive attitude towards its use may actually foster improved academic performance. Incidentally, the study was conducted in Malaysia which is close to the Philippines but the conclusions particularly delved into e-learning perception, attitude and performance and did not specifically address the concerns on the unintended consequences of e-learning nor the mechanism to improve it.

4.0 Conclusions and Direction for Future Use

The following conclusions were derived from the results of the study:

The respondents of the study are mostly females and from middle or upper middle class families who use digital devices for up to 6 hours a day for non-classroom activities. Headphones, media player and ipad are the most common digital devices that the respondents use.

The use of digital devices distracts the students from engaging in meaningful interaction during class to a great extent which implies that learning may be hampered and that the students do not receive the full benefits of the instructions given to them.

For the respondents, digital devices are relevant only in terms of note taking, video presentations, and listing down activities or assignments thru the use of their smartphone camera. The limited internet access and the restriction on internet sites imposed by the school prevent both students and teachers from full utilization of digital devices for pedagogical purposes.

In terms of the relationship between the extent of distraction and the demographic characteristics of the respondents, no significant relationship was found. Males and females tend to spend more or less the same amount of time in using various applications. In the same manner, regardless of the discipline the students are in, they have almost the same reasons for using their devices for non-classroom activities.

Given the aforementioned findings, the researchers advance the following recommendations:

Students should be re-educated in the proper and positive use of digital devices. A more strict monitoring system should be enforced inside the classroom to deter students from using digital devices for non-classroom activities.

Teachers should establish clear guidelines for technology use inside the classroom. There should be a clear boundary setting for using digital devices so that said devices may be used to maximize and not hamper the students' learning. The school administration, for its part, should revisit its policy on the use of technology inside the classroom for the students to fully take advantage of the positive effects of using digital devices and realize its goal of delivering quality and innovative education to its clients.

Teachers should devise technology integrated lessons that would spark the interest of the students making them more focused on the lessons and for the students to find more academically related use for digital devices aside from taking pictures of the lecture. The integration of the use of digital devices into the curriculum should be given ample consideration particularly those that could prove to be helpful in the students' independent learning.

Regardless of demographic characteristics, students should be equally restrained from using digital devices for longer than what is necessary. The re-enforcement of teaching methodologies may help retain or increase students' lesson engagement regardless of the course or discipline they are in.

Future researches should be directed toward replicating these findings with other samples and further examining relationships between the distractions and learning styles of students.

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