PHUBBING AMONG HIGHER EDUCATION STUDENTS

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PHUBBING AMONG HIGHER EDUCATION STUDENTS

La presencia de phubbing en estudiantes del nivel superior

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Abstract: In the framework of the so-called fourth industrial revolution, the internet and ICT (Information and Communication Technologies) are essential. In other words, the automation of processes and information management through electronic devices is increasingly present, which implies having workers who are better prepared in terms of competitiveness in their companies. In the case of educational institutions, teachers and students must be aligned with technological evolution and develop competencies and skills to guarantee the teaching-learning process. The objective of this research is to describe the different uses of cell phones by university students throughout a day of classes at a technological educational institution in central Mexico. The main results show that between 50% and 75% of the surveyed students use cell phones in class without the teacher’s consent, that is, to attend to personal matters.

Keywords: Phubbing, industrial revolution, university students, education, educational technology, information technology.

INTRODUCTION

The increased speed of technology in every area, including education, makes it necessary to reach a common ground between teachers,
students and directors, with the aim of suggesting solutions that prepare
the next generation of professionals with capacities, skills, knowledge
and competitions to face the working environment and the “fourth
industrial revolution”. The use of the Internet is intensifying among
new generations, as is process automation in companies, institutions
and public organizations. This entails more specialized labor, which in
turn has economic and social implications, since the phenomenon of
“workers’ displacement or dismissal” (going back to the first revolution)
is unavoidable, millions of computers, robots and machines are capable of
performing multitask more quickly and precisely than humans.

The objective of the research herein is not to analyze the economic
and social repercussions of the fourth industrial revolution in terms of
employment or unemployment, the objective is to steer the effects of
abuse and misuse of technologies in students, which has derived in lack
of sensitivity and decrease in values taking place in the classroom, mostly
with teachers. This phenomenon has also been transferred to the familial
and corporate areas, when people engage in family meetings and social
service.

The aforementioned is known as phubbing, the word is a combination
of phone and snubbing and it means ‘snubbing someone in favor of a
cell phone’, in other words, ignoring a person while focusing on portable
technologies, such as mobile phones or tablets. Today’s students abuse
technology in inadequate moments, i.e., when they must not use it to
concentrate on what the teacher is conveying.

The objective of this study is to describe the different usages of cell
phones by university students, on a day of classes at a technological
educational institution in the center of Mexico.

The main results show that between 50% and 75% of the surveyed
students use their cell phones in class without the teacher’s consent, that
is, to attend to personal matters.

Communication and Technoference

Communication is essential in the teaching-learning process since it
guarantees its objective; it is not enough to transmit knowledge from a
teacher to a student, the act of comprehension that involves two subjects
must be provoked. Every educational institution, private or public, must
comply with the aforementioned process, from pedagogy to curriculum,
boosting knowledge and skills, in diverse scenarios and situations faced
by students, considering necessary materials and technological elements
(Vargas, Fernandez & Bauza, 2016).

It is not a secret that the media’s evolution continues to broaden,
which challenges education and leads to rethinking the phenomenon,
thus implementing teacher strategies mostly aimed at having students
use ICT in adequate and efficient ways; this is based on the high level
of dependence that human beings have developed with technologies
(Hertlein & Blumer, 2014). Consequences include moments of
intrusion or interference (technoference) between participants engaged in conversation (Gonzalez et al., 2017).

Ignoring another person for a digital device (be it a smartphone, computer, tablet or any of the mobile devices that are available nowadays) is known as technoference. This may be paradoxical since “one of the benefits of ICT is that it brings us closer to people who are far, yet it distances us from those who are close to us” (Capilla, 2017, p. 117).

Evidently, in this new emerging social context, the use of digital mobile devices is indispensable, seeing as they are part of education 4.0; for students, devices imply developing new potential and skill to learn in different academic spheres. All of which is plausible and necessary because this generation was born in the era of the Internet. Yet, technology comes with its underlying risks: loss of values (related to the lack of attention) and discourtesy towards people who are present (Delena, 2014).

It is common for undergraduate and postgraduate students to get continuously distracted in the classroom, and even though teachers forbid it, they sneak in their devices to check messages; in classes in which they are allowed to use a tablet or a computer, students open several tabs in the browser to multitask and interact. Additionally, there are different scenarios in which this happens, when students attend a conference or any academic event, the pretext of taking photographs leads to distraction from the main objective of the event.

The Concept of Phubbing and Its Associated Problems

The intention is not to minimize the importance of virtual society, it is known that institutions promote their educational offer in diverse modalities, that frequent renovation of classrooms and learning scenarios calls for the latest technologies, and that teachers need constant education on the use of modern didactic material. Nowadays, a student that fails to interact with classmates and teachers via technological devices will be isolated or marginalized, and will likely have problems adapting to the current educational world. Nevertheless, abuse and misuse of electronic devices causes and addiction that tends to be exaggerated, unleashing a series of negative attitudes that hinder communication. As mentioned before, this situation is recurrent in classrooms, while teachers are teaching or other students are presenting a topic of the class. Although there are several devices that are considered distractors, mobile phones are at the top of the list.

In English, the term phubbing is a combination of the words phone and snubbing (disregarding). Gomez defines this construct as “underestimating the person keeping us company by paying more attention to the mobile phone or other electronic devices” (2013, p. 25). According to several studies, this term was first coined in Australia in 2013, and it was used to refer to the behavior of ignoring a person during a conversation by using cell phones, directly interfering with communication (Barrios et al., 2017).
The structure of phubbing is multidimensional because cell phones have a wide range of functions, despite its core purpose of making phone calls, it also offers services such as the Internet, social networks (WhatsApp, Facebook, e-mail, Twitter, Instagram, etc.), videogames, specific-purpose websites on health, fashion, leisure, and others. When someone has access to that kind of information (in situations when it is not appropriate) the result is a lack of attention or distraction.

Phubbing has a series of consequences, which is why it is important to highlight the problems that cell phone addiction can entail; unfortunately, there are records of events in which this type of distraction led to accidents in the workplace and in transit, between partners or family members, had effects on health (stress, depression, anxiety, aggressive behavior, nervousness, angst, nomophobia, among others).

According to Felix et al. (2017, p. 24), nomophobia is: "the irrational fear of leaving home without the mobile phone... it is a very common psychological disorder, particularly among young people". This concept is broader, it can also refer to the feeling of being disconnected from the world in general. These are some of the sensations experienced by students, knowing their cell phone may run out of battery in the school day, and the temptation of wanting to check their messages or apps while they are in class.

Usage of cell phones in class is key as part of an educational model based on and complemented with virtual spaces, through techniques such as e-learning, m-learning, b-learning, and others, in which learning encompasses diverse dimensions (face-to-face, online and mixed). Schwab (2016) and different authors, suggest the need to currently face the fourth industrial revolution, which stands out for the incorporation of new technologies that merge the physical, digital and biological part, affecting all of the disciplines and fields of study. Students looking for academic concepts or fields in class with the assistance of the teacher is very significant, cell phones become a valuable tool for didactic support and schoolwork solving; but if instead, students use moments of the class to deviate their attention from the academic goal, with time, the result will be failed exams, punishments, topics that are difficult to understand and review, incomplete notes, uncredited subjects, among other aspects.

Evidently, in the era of education 4.0, phubbing has an impact on satisfaction of student-teacher relationships, students' academic performance and mental health. Which is why this study went beyond a theoretical analysis and conducted an initial approach with a concrete reality in higher education students enrolled in a technological university in the center of Mexico.

The objective was to discover the different usages of cell phones by university students in a technological educational institution in the center of Mexico on a day of class. The methodology applied was descriptive and data collection was quantitative. The population included 120 students in the fifth and sixth semesters of the Market Intelligence and Psychology program, who agreed to participate. The sample of 92
subjects was calculated with the formula for finite population, using maximum variability, a level of reliability of 95% and permissible error of 5%.

METHODOLOGY

The instrument applied was a questionnaire designed by the authors of this research, it was based on others that had been developed in similar studies, such as Cisneros and Robles (2017), Capilla and Cubo (2017) and Villafuerte and Vera (2019), among other authors. The first section included overall questions pertaining age, gender, type of student, school average, session, etc. the second section proposed items with diverse questions in a 1 to 5 Likert scale, where 1 = Never, 2 = Almost Never, 3 = Sometimes, 4 = Almost Always and 5 = Always, which were grouped in three dimensions or categories: A. Usage of cell phones (10 questions), B. Problems with the use of cell phones (10 questions), C. Feeling of guilt (5 questions). The instrument’s reliability was calculated with the Cronbach’s alpha, it had a value of 0.81.

Some of the initial sociodemographic questions were used only to correlate each of the instrument’s three dimensions to measure phubbing.

H.: At least 30% of the students participating in the study use cell phones in class without the teacher’s consent, that is, to attend to personal matters.

H.: There is a positive relationship between the dimensions of phubbing and the session in which the students are enrolled in this technological university in the center of Mexico.

H.: The type of student is strongly associated with each of the dimensions of phubbing.

H.: Sentimental relationships between students in this technological university in the center of Mexico are positively associated with each of the dimensions of phubbing.

<table>
<thead>
<tr>
<th>Overall Characteristics</th>
<th>Percentages and Averages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Size = 92 cases</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>82.1% are women (76 cases)</td>
</tr>
<tr>
<td>Age</td>
<td>20 - 22 years of age (53.5% - 49 cases)</td>
</tr>
<tr>
<td>Session</td>
<td>64.3% (59 cases) afternoon session</td>
</tr>
<tr>
<td>Type of Student</td>
<td>85% (78 cases) are regular students</td>
</tr>
<tr>
<td>Number of Subjects Taken</td>
<td>53.6% (49 cases) taking 6 subjects</td>
</tr>
<tr>
<td>GPA</td>
<td>8.2</td>
</tr>
<tr>
<td>Family Relationship</td>
<td>90% (83 cases) have a good relationship</td>
</tr>
<tr>
<td>Sentimental Relationships</td>
<td>42.9% (39 cases) have a good relationship, 25% (23 cases) is average and the others are not in sentimental relationships</td>
</tr>
<tr>
<td>Personal Concerns</td>
<td>62% (75 cases) expressed a type of concern, mostly related to the family, followed by others</td>
</tr>
<tr>
<td>Residence</td>
<td>53.6% (49 cases) don’t live where they study and have to commute</td>
</tr>
</tbody>
</table>

Table 1
Overall characteristics of the university students
Source: compiled by the authors based on research results.
RESULTS

Table 1 includes the overall data collected from the survey, most participants are women, ages range between 20-22 and three quarters of them are enrolled in the afternoon session. It is noteworthy that the female nature leads to the assumption that they tend to engage more in active phone conversations. The session can also facilitate the use of cell phones because it is more common for people to be available in the afternoon. The number average students is initially high, although future research could consider failed subjects or additional exams presented. Finally, the percentage of concern is high, which could be associated with the need to communicate frequently to somehow vanish their concerns. This is the initial overview of some sociodemographic variables, which will allow a first approach and reflection of the data.

Table 2 introduces a series of descriptive statistical data, based on central tendency measurements, in order to break down other important analyses related to the three dimensions of phubbing.

<table>
<thead>
<tr>
<th>Descriptive statistics</th>
<th>Dimensions of Phubbing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Use of cell phones</td>
</tr>
<tr>
<td>Mean</td>
<td>3.20</td>
</tr>
<tr>
<td>Median</td>
<td>3.15</td>
</tr>
<tr>
<td>Mode</td>
<td>2.88</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.01</td>
</tr>
</tbody>
</table>

Table 2

Central tendency measurements of phubbing in university students

Source: compiled by the authors based on research results.

It can be seen that the highest mean scores were obtained by the dimension corresponding to the use of cell phones, with 3.20; while the other two dimensions: problems with the use of cell phones and feeling of guilt, with 1.97 and 1.94, respectively. This means that the frequency with which university students use cell phones is in the options Sometimes and Almost Always, if we consider that option 1 in the Likert scale has a value of 0% and option 5 has a value of 100%, then the obtained values would range between 50 and 75%. Therefore, the hypothesis H.: At least 30% of the students participating in the study use cell phones in class without the teacher’s consent, that is, to attend to personal matters, is accepted.
Table 3

Mean scores of phubbing according to the session
Source: compiled by the authors based on research results.

Table 3 shows that the higher mean scores correspond to the dimension of use of cell phones (mean = 3.3389), with a significance level of 0.020, a fact that may be interpreted as having a positive correlation with the afternoon session in which students are enrolled. However, there correlation with the other dimensions, problems with the use of cell phones and feeling of guilt, is negative. therefore, the hypothesis H.: \textit{there is a positive relationship between the dimensions of phubbing and the session in which the students are enrolled in this technological university in the center of Mexico}, is partially accepted, only the first dimension of phubbing applies.

Table 4 illustrates the data deriving from the correlations obtained between the three dimensions of phubbing and the type of student. The highest mean scores correspond to the dimension of use of cell phones (mean = 3.2074), with a significance level of 0.010; likewise, mean data for the second dimension, problems with the use of cell phones is 1.9889 and p=0.027, while the third dimension, feeling of guilt, was found not to be associated. This means that, according to hypotheses: \textit{H.: the type of student is strongly associated with each of the dimensions of phubbing}, is partially accepted, because the variable of type of student is strongly associated with two out of three dimensions of phubbing.

<table>
<thead>
<tr>
<th>Dimensions of Phubbing / Session</th>
<th>Mean</th>
<th>N</th>
<th>F-test</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of cell phones</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Afternoon</td>
<td>3.3389</td>
<td>59</td>
<td>20.010</td>
<td>0.020</td>
</tr>
<tr>
<td>• Mixed</td>
<td>2.9400</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problems with the use of cell</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>phones</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Afternoon</td>
<td>2.0000</td>
<td>59</td>
<td>0.171</td>
<td>0.822</td>
</tr>
<tr>
<td>• Mixed</td>
<td>1.9300</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feeling of guilt</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Afternoon</td>
<td>2.0333</td>
<td>59</td>
<td>2.210</td>
<td>0.420</td>
</tr>
<tr>
<td>• Mixed</td>
<td>1.7600</td>
<td>33</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4

Mean scores of phubbing according to the type of student
Source: compiled by the authors based on research results.
Finally, Table 5 correlated the dimensions of phubbing with variable called sentimental relationships (or lack thereof) of students participating in the study. Results show that there is a positive association between the use of the phone and (mean = 3.2750 and p = 0.030), problems with the use of cell phones (mean = 2.1833 y p=0.042) and feeling of guilt (mean = 2.0833 and p = 0.001). Hypothesis H.: sentimental relationships between students in this technological university in the center of Mexico are positively associated with each of the dimensions of phubbing, is accepted.

<table>
<thead>
<tr>
<th>Dimensions of Phubbing / Sentimental Relationships</th>
<th>Mean</th>
<th>N</th>
<th>F-test</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of cell phones</td>
<td>3.619</td>
<td>0.030</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Good</td>
<td>3.2750</td>
<td>39</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Average</td>
<td>2.8429</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Not in a relationship</td>
<td>3.3657</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problems with the use of cell phones</td>
<td>1.665</td>
<td>0.042</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Good</td>
<td>2.1833</td>
<td>39</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Average</td>
<td>1.5429</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Not in a relationship</td>
<td>2.0333</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feeling of guilt</td>
<td>0.757</td>
<td>0.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Good</td>
<td>2.0833</td>
<td>39</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Average</td>
<td>1.6000</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Not in a relationship</td>
<td>2.0000</td>
<td>30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5
Mean scores of phubbing according to sentimental relationships
Source: compiled by the authors based on research results.

DISCUSSION

Nowadays, using cell phones in class is indispensable for university students, especially as a learning tool to look for information, operate specialized platforms and software, social networks, among others, all of which focus on strengthening classroom knowledge and must be done with the teacher’s supervision. Capilla (2017) explains that there is a connection between the use of mobile technology and psychological wellbeing; it can be interpreted that students continuously using their cell phones, even in class, may lead to feelings associated with health, relationships with others, academic status, distraction, leisure, among others, in other words, its effect may result in positive or negative psychological wellbeing. Results obtained show that there is an association between the use of cell phones and circumstantial aspects from the student’s present or past, such as being an average student or not, having had problems at school or at home, or pain in the neck or hands, tired vision, etc.

Future studies must delve into an analysis of some variables that need to be tackled longitudinally, such as: university students session, GPA, study habits, gender, among others, seeing as they may provide information on excessive or inadequate use of cell phones in the classroom and in other social scenarios.
CONCLUSIONS

It must be acknowledged that pubbing is a phenomenon that interferes in classroom communication and personally affects university students’ psychological wellbeing; it also entails consequences for the health and social relationships, which is why strategies must be developed to deal with it and teach how to use it responsibly.

Education 4.0 brings new educational challenges that are mainly based on modern technology; nonetheless, we must acknowledge the current social reality experienced by students in every educational level, mostly in university, in order to challenge it (although not forbidding it) but having school and university teachers and directors set up rules for appropriate usage of cell phones and other devices in class; the aim of these rules is to foster university students’ psychological wellbeing, and as mentioned before, the solution is not to ban the devices but to teach responsible usage.

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