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ELECTRONIC GADGET USAGE ON LEARNERS' PHYSICAL, SOCIAL AND COGNITIVE DEVELOPMENT

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***ABSTRACT**: The primary objective of the study was to assess the effects of electronic gadget usage and to determine its relationship towards the physical, social and cognitive development of learners in Candijay District. It employed descriptive- documentary and survey method with aid of standardized questionnaires adapted from Sowmya & Manjuvani (2019), Amirah et. al. (2015), Tantay, R. (2022), Marskole P. et al. (2022), and Ryan & Shim (2008). There were one hundred seventy-nine (179) elementary and secondary teachers and eight hundred and ninety-five (895) elementary and secondary learners, from grades four to twelve, randomly selected in this study. The results revealed sufficient evidence of a significant difference in learners' cognitive development when grouped according to their sex profile. The findings presented indicate a significant difference in the cognitive development of learners based on their grade level profile. The analysis found no significant difference in social development between genders. Further, the analysis found no significant difference in social development when learners were grouped by grade level profile. This study concludes that electronic gadget usage has no effect to the physical and social development of the learners but affects the cognitive development of learners when grouped according to profile. However, even without direct effect, the physical and social development of the learners relies on how well they discipline themselves. Additionally, learners' behavior greatly contributes to improving self-discipline in electronic gadget usage. Peoples' attitude toward something influences how well they develop in a certain way.*

Keywords: *Cognitive development, Electronic Gadget, Usage, Learners, Physical, Social development.*

I. INTRODUCTION

Children are observed to be inseparable from gadgets. Gadgets, with its dominant role in information technology, have unquestionable importance to our daily lives especially in communication. Apart from this positive effect, most children waste their time for social media purposes such as liking photos in Facebook, Instagram and Tiktok instead of utilizing it on academics. Since children spend more time on using gadgets, they tend to not engage in social activities like outdoor games. The excessive use of gadgets may also result to health issues. Moreover, children nowadays are viewed as immature in terms of cognitive aspects.

People worldwide have been raising questions about the effects of gadgets to the physical development of the users. On mental health, children who, at the start of the study, are free of mental health problems but use the internet in an unhealthy way could develop depression consequently (Lam, 2010). As one would also expect, vision related problems are the most risks in excessive use of gadgets. Eye strain after hours of time spent on gadget can result in eye irritation, dryness, fatigue or blurred vision, and such problems are increasingly common. It is evident that gadgets, if it becomes part of our routine, will cause backpain, joint pain and eyestrain (Zain, et. al, 2022).

People who excessively use smartphones, because of their short amounts of human-to-human interaction are likely to feel that the people around them are not supportive and that they are not actively contributing to the happiness and well-being of others (Sarla, 2019). This may change the perception of the children about the

importance of friendship and connectedness. A lot of younger generation seem to start losing self-esteem and self-confidence when one does not get the instant emotional support in the forms of likes and reactions. Opinions and judgments are made without actual human connection and in-depth in person discussions. This may result to loneliness and isolation. In addition, gadget dependent children might face cognitive delays. Cognitive delay is the inability to learn along with their peers.

Nowadays, learners have been greatly influenced by gadgets. Together with the parents, the researcher wants to know if the usage of electronic gadgets would affect the physical, social, and cognitive development of learners. As a parent, the researcher wants to know what better approach can be useful in the future. The researcher believes that not only her family can benefit from this, but it can benefit lots of other families.

Thus, this study would be viable given that it tackles and further studies the relationship of gadgets towards physical, social, and cognitive development of learners. Further, the result of this study would help the researcher in proposing an enhancement program resulting in excellent learning outcomes for learners who will be learning how to regulate the usage of gadget and learn adaptive patterns to manifest better physical, social, and cognitive development.

II. THE THEORY OF CONCEPTUAL FIELDS (TCF)

Society has evolved over time as a result of technology. Cellular technology, computers, and most significantly the internet have dramatically transformed how individuals interact in society and how teachers operate in schools during the past few decades. Due to the fast-paced nature of today's society and the growing demand for tech-savvy staff, technology adoption in schools is essential to students' success after high school. It is crucial that teachers in the twenty-first century adapt to the technological transformation and get their students as well as themselves ready for the digital age. There will never be a return to chalkboards and letter writing since technology has changed how society and the classroom look. A technologically advanced person is required by 21st century civilization, and the 21st century classroom requires the same. (Sutton, 2013)

Electronics and media have unintentionally melded into our daily lives in the current era. In the last five years, the density of mobile phones has grown significantly. Teenagers are using mobile phones more frequently than ever before, in the large part because this technology is considerably more useful at this stage of development than it is at other ones. Using electronic devices has a significant impact on a range of physical and mental health ailments, including obesity, sleep issues, ophthalmic diseases, aggressive behavior, etc., even though it is not the sole factor causing health problems. (Hegde, et. al., 2018)

There are billions of users of technological devices all throughout the world. According to estimates, by the year 2018, there are more than seven billion electronic devices that use the internet constantly. Getting on the internet is a crucial component of modern electronics. Smartphones are now mobile multimedia devices rather than just phones. Devices are identical to laptops and tablets use internet services, multimedia programs, and others. Consumer demand that has resulted in the usage of electronic devices has rapidly increased in recent years. (Mariam, et. al., 2018)

The word "gadget", according to Kumar and Sherkhane (2018), refers to handheld electronic gadgets. Use of gadgets offers benefits and drawbacks. Continuous use of a device has been linked to several health issues, including eye strain, finger discomfort, backache, neck pain, and sleep disruptions. There are negative consequences such as physiological, psychological, social, and emotional implications of gadget use (length and frequency).

According to Nishad and Rana (2016), one of the many devices created because of the quick development of technology is the cell phone. Cell phones are regarded as a required commodity, a vital tool for communication, and linking to friends, family, and employers, as well as being used in emergencies. Our lives would not be the same without cell phones. They give us a way to communicate with significant people in our lives. In addition to serving as a social outlet, cell phones also allow users to partake in engaging activities like internet browsing, gaming, and conducting research, photography, and photo sharing. Compared to house telephones, they give us more flexibility because they let the user stay connected while away from home. Additionally, cell phones allow us to call for assistance in an emergency and give parents the ability to keep an "eye" on their children. On the other hand, cell phone use can cause issues for the user, such as texting behind the wheel or using a phone while walking. There are now some serious issues, specifically as a result of young people's use of cell phones. Sexting and online bullying are examples of these. These days, people use their mobile devices excessively because they are becoming more versatile devices, which is hurting productivity, and the way people connect socially.

Early recognition of technology for kids can have both positive and harmful effects. These are affected by several variables, including parental monitoring, frequency, and duration. Children's creativity and critical thinking skills will increase if technology is used as a primary learning tool. It may occur when parents and kids are rigid

about setting time limits for kids to use technology. A lack of parental monitoring and a determined effort to set time limitations for children's gadget use can have the opposite impact, which is detrimental. The kids could grow into unfavorable personalities such being timid, unconfident, lonesome, and stubborn (Wahyuni et. al., 2019).

According to Suhana (2018), ICT includes gadgets, which are primarily used. Use of gadgets among kids might result in social isolation and poor emotional regulation. Lack of interaction and communication is the outcome. Children who are isolated from nature and their surroundings develop into withdrawn, irritable, and interpersonally challenged individuals.

Every day, the use of technology in schools becomes more prevalent. It has made it possible for teachers to impart proportionally more knowledge in a shorter amount of time than was previously achievable. Although media and electronic devices have given children access to educational resources, taught them how to be independent, and allowed them to learn a great deal, there are some negative influences that go along with the positive ones that shouldn't be ignored. Young children's early exposure to technology can have a negative impact on their future relationships, health, and personal lives. Additionally, it can cause social isolation in kids and contribute to other severe physical and mental conditions including obesity and computer vision syndrome and depression. (Alghamdi, 2016)

III. METHODOLOGY

This study employed descriptive- documentary and survey method, intended to provide the needed data to determine the relationship between effects of electronic gadget usage and physical, social and cognitive development of learners.

This study was conducted in the third congressional district of Bohol, specifically in Candijay District. This location is situated in the eastern part of the province of Bohol.

This research utilized instruments to be used in gathering the data which are adapted from several related studies. The data for the teacher perception towards the learner electronic gadget usage was gathered through a modified tool based on the Sowmya & Manjuvani (2019).

The researcher obtained approval from the Dean of the College of Advanced Studies, as well as the permission from the Schools Division Superintendent of Bohol channeled through the Public Schools District Supervisor, specifically in Candijay District, as well as from each school's principal. In addition, the researcher sought permission from the teacher-respondents and learner-respondents to conduct this study. Questionnaires were distributed and explained personally to the respondents the significance of the study and assisted in answering the questionnaires to clarify the questions to the respondents. Rest assured that safety health protocols will strictly be observed.

After accumulating the data, it was tallied, tabulated, collated, and subjected to descriptive and inferential statistics for evaluation and interpretation in accord to the problems of the study.

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IV. OBJECTIVES OF THE STUDY

The study aims to assess the effects of electronic gadget usage and to determine its relationship towards physical, social and cognitive development of learners in Candijay District for the School Year 2023 – 2024.

Specifically, it seeks to answer the following questions:

1. What is the profile of the learners in terms of:
1.1 sex;
1.2 grade level;
1.3 types of gadgets used; and
1.4 frequency of using gadgets per day?
2. What is the assessment of the respondents on learners' physical development?
3. What is the assessment of the respondents on learners' social development?
4. What is the assessment of the respondents on learners' cognitive development?
5. How do electronic gadget usage influence learners' physical, social, and cognitive development?
6. Is there a significant difference in the cognitive development of learners when grouped according to their profile?
7. Is there a significant difference in the social development of learners when grouped according to their profile?

V. RESULTS AND DISCUSSION

The gathered data were tallied and carried in tabulated and textual form. The data were anatomized through the use of statistical formula and interpreted in conformity to the problems of the study.

1. Profile of the pupil-respondents. The profile includes sex, grade level, types of gadgets used, and frequency of using gadgets per day.

1.1 Sex. Majority of pupils were females with 743 or 83.02% of the whole population compared to only 142 or 16.98% male respondents.

1.2Grade Level. Out of eight hundred ninety-five (895), one hundred forty (15.64%) are great six pupils, one hundred twenty-five (13.97%) who are grade 4 and 5 pupils, ninety (10.06%) grades 11 and 12 students, 85 (9.49%) grade 10 students, and eighty (8.94%) who are in grades 7, 8, and 9.

1.3 Gadgets Used. Out of eight hundred ninety-five (895), eight hundred seventy-one (97.32%) are using cellphone, sixteen (1.79%) who using laptop, and eight (0.89%) are using tablet.

1.4 Frequency of Using Gadgets per Day. Out of eight hundred ninety-five (895), four hundred eighty-seven (54.41%) use gadgets as long as 6-10 hours a day, three hundred two (33.74%) who use gadgets from 0-5 hours a day, and one hundred six (11.84%) use gadgets for more than 10 hours a day.

2. Respondents' assessment on the Learners' Physical Development. Among the statements, it was found out that most of the students do not exercise. They wake up at 6-8AM and sleep at 11-12PM. Most of them spend 6-8 hours with gadgets, less than 8 hours on the internet, and less than 6 hours on social media. They use electronic gadget just before sleep but when not when in touch with phone, they have no reaction at all. The do not get irritated in daily life and mostly do not have difficulty in sleeping. Mostly, the learners have normal weight and do not wear spectacles. Lastly, most learners do not have health problems faced.

3. Respondents' assessment on the Learners' Social Development. Among the statements, the highest response " It is important to me that other kids think I am popular." which garnered the mean of 3.477 which means "strongly agree", followed by " I feel successful when I learn something new about how to get along with other kids." that got a mean of 3.349 which implies "strongly agree". On the other hand, the lowest response includes " It is important to me to be seen as having a lot of friends." that obtained a mean of 2.728 which implies "agree".

4. Respondents' assessment on the Learners' Cognitive Development. The overall composite mean is 3.0938 which signifies "agree".

5. Electronic Gadget Usage influence Learners' Physical, Social, and Cognitive development. Most learners do not have health problems faced. The composite mean in social development was 3.076 which means "agree". The overall composite mean in cognitive development is 3.0938 which signifies "agree".

6. **Test of Difference Between the Learners' Cognitive Development**

When Grouped According to their:

6.1 Sex Profile. The results revealed sufficient evidence of a significant difference in learners' cognitive development when grouped according to their sex profile.

6.2 Grade Level Profile. The findings presented indicate a significant difference in the cognitive development of learners based on their grade level profile.

7. Test of Difference Between the Learners' Social Development When Grouped According to their:

7.1 Sex Profile. The analysis found no significant difference in social development between genders.

7.2 Grade Level Profile. The analysis found no significant difference in social development when learners were grouped by grade level profile.

VI. CONCLUSIONS

This study concludes that electronic gadget usage has no effect to the physical and social development of the learners but affects the cognitive development of learners when grouped according to profile. However, even without direct effect, the physical and social development of the learners relies on how well they discipline themselves. Additionally, learners' behavior greatly contributes to improving self-discipline in electronic gadget usage. Peoples' attitude toward something influences how well they develop in a certain way.

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