



A SURVEY STUDY ON THE INFLUENCE OF ELECTRONIC DEVICES SUCH AS SMART PHONE, COMPUTER AND TELEVISION ON THE ACADEMIC PERFORMANCE OF TEENAGE STUDENTS

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Abstract: Smart phone, computer and television were introduced as communication devices although with the development of technology these devices have become multi purposed. In the present world due to the affordable price and trend of the society it is easily accessible to teenage students. Thus, it has become a frequently used device among teenage students for various purposes such as communication, knowledge, video, gaming, music etc. this has created a common problem in the present society as students spend too much time on these devices and adults fear that it would affect their studies negatively. This research was conducted in order to find any relationship between these devices and academic performance. Data was collected through distributing a questionnaire among students of grade 10 and 11. Academic performance was evaluated by the results of the students at the previous term test held by the school. Data was analyzed using computer software. More than half of the population used some of these devices for more than two hours per day. But when comparing with the results of their previous term test it did not show any negative effect on their academic performance as almost half of the population had obtained an average result of more than 50% at the examination. Also, most of the students used these devices for the purpose of entertainment and not for education. Most of the students did not think that these devices have any negative effect on them. They think that the school and their teachers should make more effort to help the students. Thus, this survey study implies that there is no clear evidence to confirm that electronic devices have any negative effect on the academic performance of teenage students.

Key words: Academic performance, Electronic devices, Teenage students, Computer, Smart phone, Television.

1. INTRODUCTION

Smart phones, television and computers are the most frequently used electronic devices in household level. The main purpose of introducing these devices is communication. Later these were developed into multi tasked devices. In the present society these devices have become an essential part of the day to day life.

There is no clear limitation as per the use of devices. If we have enough money to afford the price anyone can buy it. The Price is also in an affordable limit. Thus, these devices are freely available for the use of teenagers.

Some sub cultures have been formed among people due to the misuse of these devices. Some mothers switch on the TV or mobile phone for the children to watch so that they can do their work without any disturbance. Some use the device to feed the children or when they want to distract children. These habits have a negative effect on child's health as well as mental growth. Some children get addicted to watch the television or play games in computer or smart phones.

Use of these devices among teenagers has rapidly increased due to various reasons. Some parents think that these devices help their children to gain knowledge. Some think that these are essential for their education where is, in Sri Lankan education system these devices are not essential to pass an exam with distinction. Misuse of these devices is mainly due to ignorance of parents and adults. Adults have less knowledge about how to use these devices, they do not pay attention as to what the children do with these devices and they never doubt the action of their children. These attitudes of the parents lead the children to misuse these devices.

The daily activities of an average student's life are centered on school and home. Whether the activities of the student are school- or non-school-related, they are very much influenced by various technological devices such as computers, TV, hand phones and game consoles. As technology continues to advance, students continue to be bombarded by exposure to various technological media. Much research suggests that there may be significant correlations of media exposure with academic performance. Previous studies have explored areas such as self-esteem, violence and academic achievement when looking at adolescents and media.

All of these areas continue to be revisited as technology continues to expand and change. Research has generally shown a negative relationship between activities related to media exposure and academic performance (Moses, 2008].

It is vital to find out whether these devices have an impact on schoolchildren's academic achievement and if the impact has a negative or positive trait. The findings of the research will be beneficial for teenagers, their parents, psychologists and school staff. To investigate the research, school survey and questionnaires will first be organized and then analyzed to define to what extent internet use effects teenagers' academic achievement (Vijayakumaran and Vinod, 2014).

2. Materials and methods

This was a school-based descriptive cross-sectional design. The study was conducted among school children of Muslim Ladies College, on 4th April, 2019 at the school premises. The study population was school children aged 15-16 years from Grade 10 & 11, and the sample size were 175. The study participants were selected randomly from Grade 10 & 11 by their sectional head.

Problem was first identified and steps of the survey were discussed. Time frame was developed for the survey. An appropriate questionnaire was developed in order to gather information on related areas. The questionnaires were distributed to the corresponding respondents, and collected data were stored in excel sheets and analyzed using Minitab 18 software. Interpretation, discussion and conclusions were developed based on the analysis.

Data were cleaned, entered and coded in the Excel Microsoft Corporation 2007 program and then exported to Minitab version 18 for final analysis. The independent variable in this study was the grade of student, and the dependent variables were average of term test marks and different uses of electronic devices. The results were presented in tables and figures. Descriptive statistics such as frequency and percentage were used to describe and summarize the data.

3. RESULTS

Assessment of usage of electronic devices among students

Table 1. Number of device types used by a single student

| No. of Device types used | Grade 10 | Grade 11 |
|--------------------------|----------|----------|
| 1 device type | 8 | 5 |
| 2 device types | 82 | 38 |
| 3 device types | 20 | 22 |

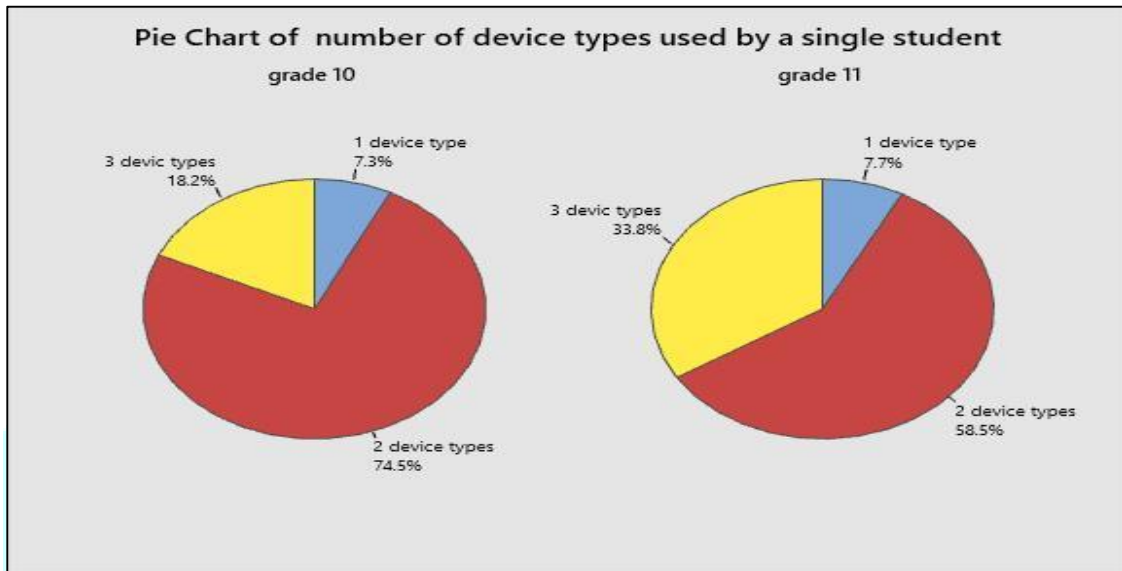


Table 2. Most frequently used device type

| Mostly used Device type | Grade 10 | Grade 11 |
|-------------------------|----------|----------|
| Smartphone | 75 | 55 |
| Computer | 22 | 27 |
| Television | 86 | 51 |

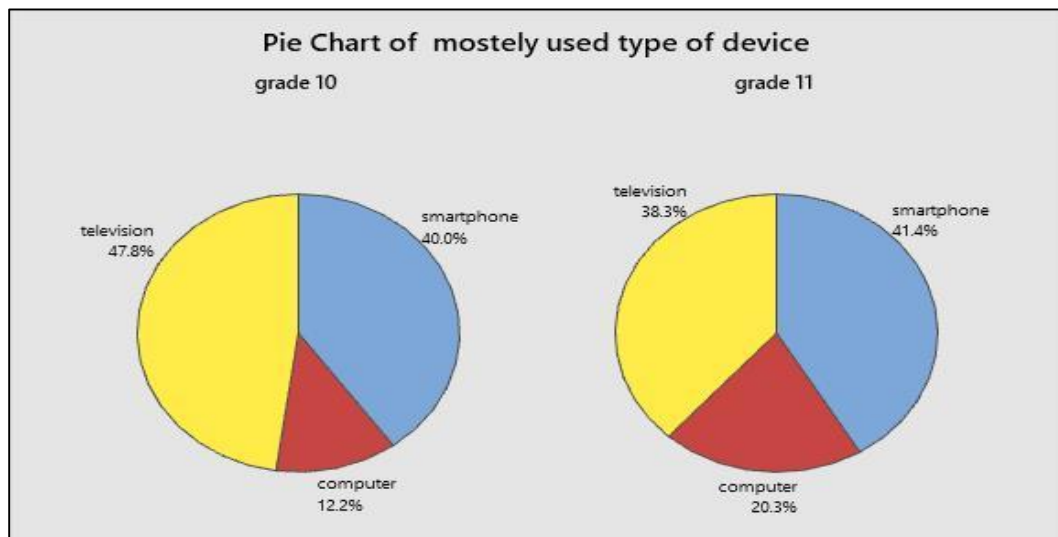


Table 3. Duration of use of some electronic device per day

| Duration of use per day | Grade 10 | Grade 11 |
|-------------------------|----------|----------|
| <30 mins | 7 | 9 |
| 30mins to 2 hours | 43 | 30 |
| >2 hours | 50 | 36 |

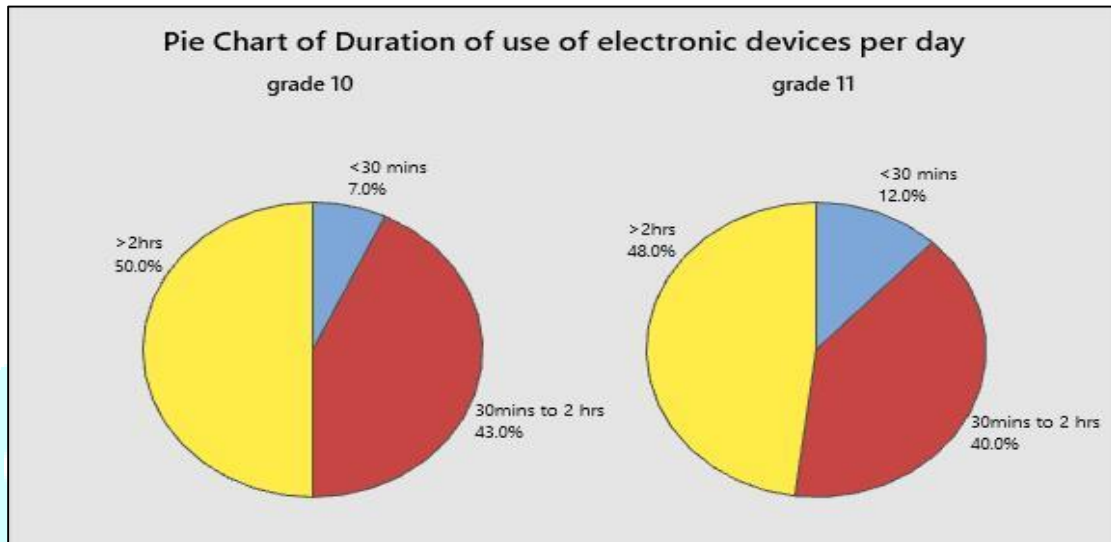


Table 4. Use of television

| Type of program watched | Grade 10 | Grade 11 |
|-------------------------|----------|----------|
| News /documentary | 10 | 15 |
| Cartoon or children | 20 | 10 |
| Drama/ Movie | 73 | 48 |

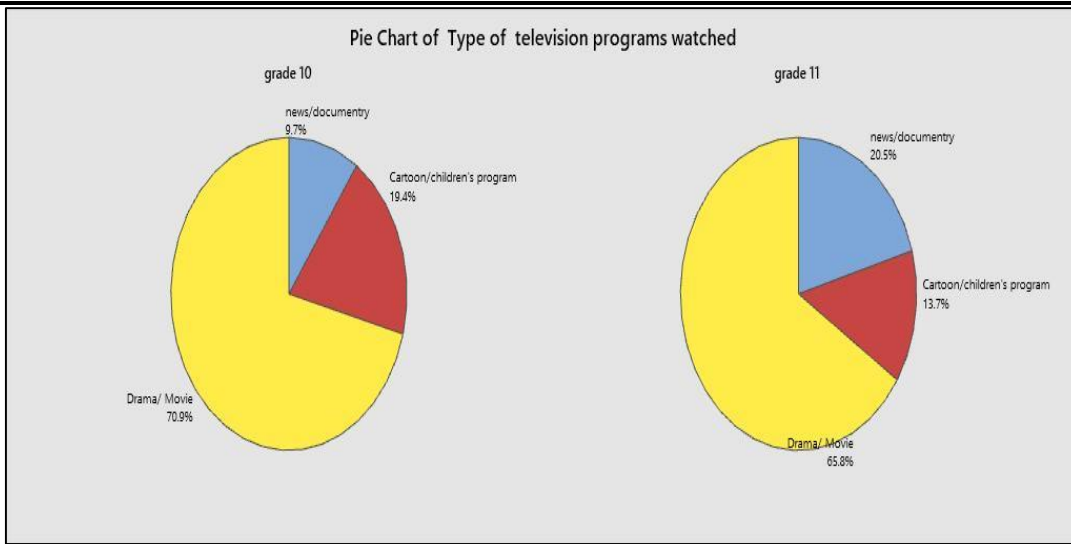


Table 5. Use of smart phone

| Mode of use | Grade 10 | Grade 11 |
|--------------|----------|----------|
| Social media | 62 | 43 |
| Game | 48 | 17 |
| Video | 66 | 35 |
| Other | 00 | 19 |

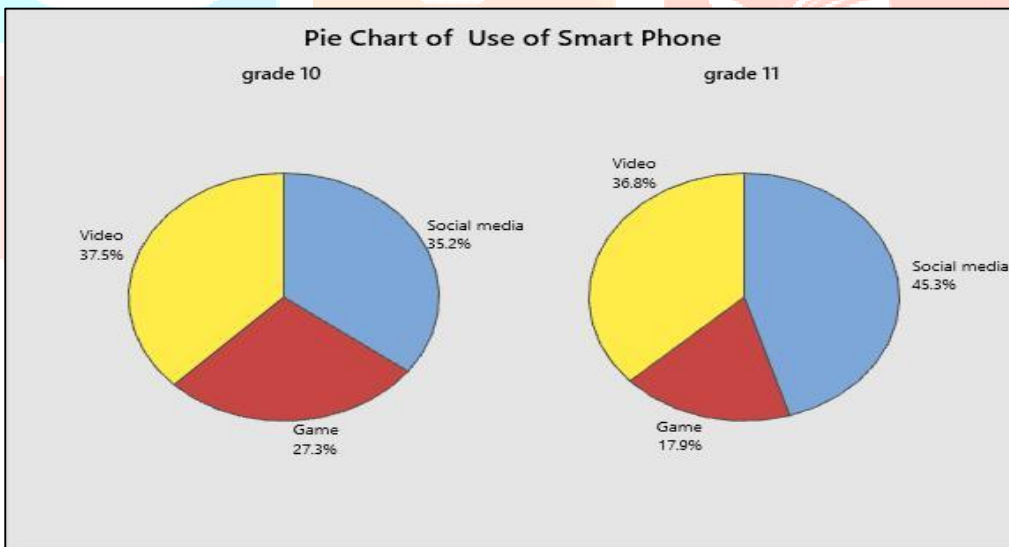


Table 6. Use of Computer

| Mode of use | Grade 10 | Grade 11 |
|--------------|----------|----------|
| Social media | 2 | 4 |
| Game | 28 | 19 |
| Video | 46 | 20 |
| Other | 00 | 00 |

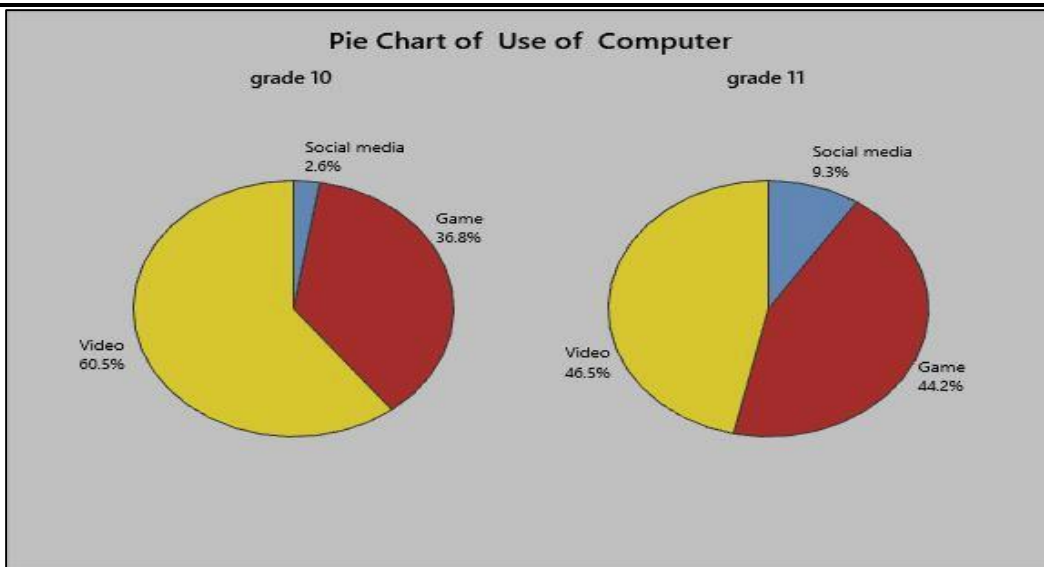
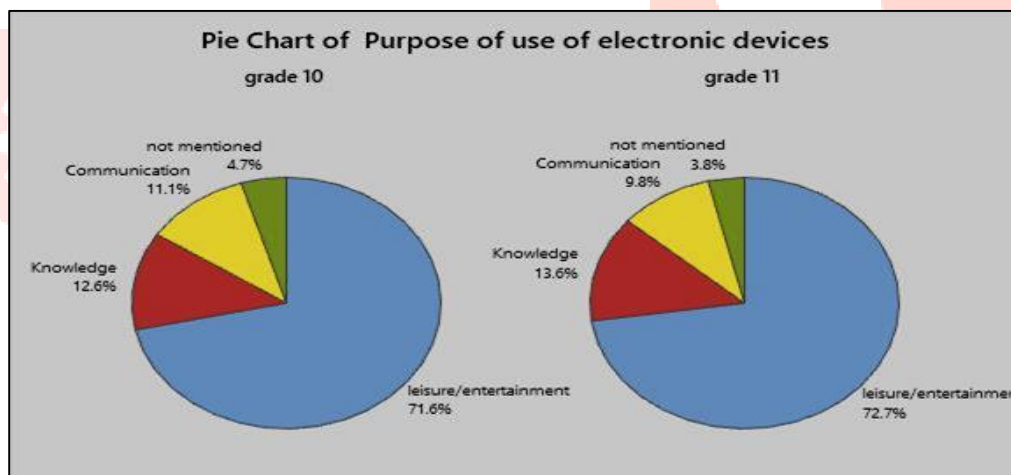


Table 7. Purpose of use

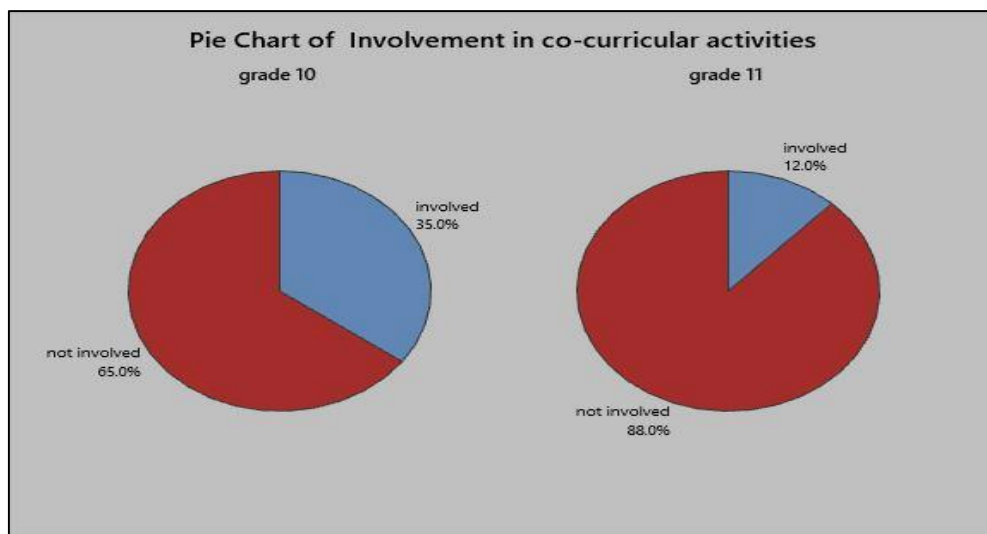
| Purpose of use | Grade 10 | Grade 11 |
|-----------------------|----------|----------|
| leisure/entertainment | 68 | 48 |
| Knowledge | 12 | 9 |
| Communication | 21 | 13 |
| Not mentioned | 9 | 5 |



Assessment of students’ involvement in co-curricular activities

Table 8. Involvement in co-curricular activities

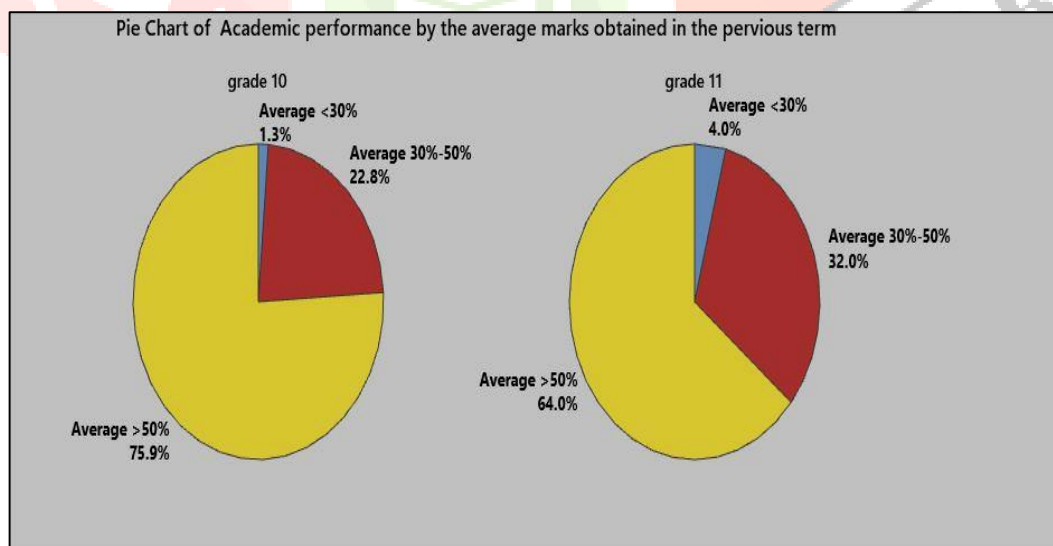
| Type of Program watched | Grade 10 | Grade 11 |
|-------------------------|----------|----------|
| Involved | 35 | 9 |
| Not involved | 65 | 66 |



Assessment of Academic performance of the students

Table 9. Academic performance (Average marks obtained at the previous term test)

| Type of Program watched | Grade 10 | Grade 11 |
|-------------------------|----------|----------|
| Average <30% | 00 | 3 |
| Average 30%-50% | 18 | 24 |
| Average >50% | 60 | 48 |



DISCUSSION

Most of students use two types of devices the smart phone and the television. Comparing grade 10 and 11 students, 74.5% students of grade 10 use two types of devices while 58.5% use two types of devices in grade 11. Percentage of using three types of devices is higher among grade 11 students. Mostly used device type among grad 10 students is the television while it is Smartphone among grade 11 students. Almost 50% of students use electronic devices for more than 2 hours per day. Researches are mostly conducted based on a single electronic device, but this survey has focused on 3 devices simultaneously.

70% of grade 10 and 65.8% of grade 11 students watch drama/movies. 9.7% and 20.5% of students watch news/documentary in grade 10 and 11 respectively. A Malaysian research on television view of high school students mentions that, more than half—56.2%—of the high school students surveyed are considered light viewers of Television. A very small percentage of students, only 12%, are deemed heavy viewers of television, as described by Morgan and Shanahan (2010) as viewing more than 3.5 hours of television a day, and an even smaller percentage are heavy viewers of reality television, a mere 3.6%. Surprisingly, light and moderate viewers of the genre were the most opinionated about reality television and its ability to influence attitudes about education. Additionally, reality television's influence mostly had an impact on this group of students—however, in an indirect way (Amin, 2013).

Percentage of students watching cartoon/children's program is relatively lower. Smart phone is used for the purpose of using social media mostly on both grades. Percentage of Watching video comes second and playing game comes third.

60.5% of grade 10 and 46.5% of grade 11 students use the computer to watch videos while 36.8 of grade 10 and 4.2 of grade 11 students use the computer to play games. Adolescent Computer Use and Academic Achievement, a research in 2005 mentions that, The results of this study did not reveal a significant relationship between time spent on the computer at home and grade point average, nor were there significant relationships between grade point average and the amount of time spent on homework or going out with friends. Interestingly, there was a positive relationship between grade point average and amount of time spent participating in sports or club activities. Conversely, negative relationships were found between grade point average and time spent talking on the telephone, watching television, and playing the stereo. Future qualitative research could investigate the reasons for the relationships between academic achievement and the various non-school-based activities (Hunley et al, 2005).

71.6% of grade 10 and 72.7% of students use electronic devices for the purpose of leisure/entertainment and only a 12.6% and 13.6% of grade 10 and 11 respectively use it to gain knowledge.

Only a 35% of grade 10 and 12% of grade 11 students participate in co-curricular activities in school. The reasons given by the students are, The school does not provide with much opportunities to participate in sports other than during sport meet, some students cannot stay after school to participate in co-curricular activities due to issues in transportation, tuition classes and some students don't have permission from parents to participate. A study of time use and academic achievement among secondary-school students in the state of Kelantan, Malaysia says that, Involvement in school-related sports activity, arts/club activity, cell-phone-related activities and social activity was negatively correlated with CGPA, but they were not significant. Even though not significantly correlated, it seems reasonable to conjecture that the more involved students are in these activities, the lower their CGPA will be. However, involvement in non-school-related sports activity correlates positively and significantly with CGPA. Further research may shed light on the difference in school and non-school contexts in which students engage sports activity (Siew et al, 2019).

75.9% and 64% students of grade 10 and 11 have obtained more than 50% of average at the previous term examination. Percentage of students who scored below 30% in grade 10 are 1.3% while it is 4% in grade 11.

CONCLUSION

All the students in grade 10 and 11 use at least one of the electronic devices mentioned in the research and almost 50% of them use it for more than 2 hours a day. Still more than 50% of the students have obtained an average above 50% at the previous term examination.

Results of this research imply that the use of electronic devices does not have a significant negative affect on the academic performance of the teenage students.

Through the questionnaire we identified some suggestions of the students to improve their academic performance. None of them had mentioned about use of electronic devices affecting their academic performance. Suggestions were only addressed towards teachers and school. Except one student all others think that parents' effort is sufficient.

- ⑩ Teachers should motivate students to study well.
- ⑩ Teachers should be more friendly with students and cooperate to solve their problems and answer their doubts.
- ⑩ Syllabus should be completed early to give enough time for a revision session.
- ⑩ Number of tuition classes should be reduced so that students have enough time for self-study.
- ⑩ Students who perform weak should get more attention from the teacher and teacher should help such students individually to ensure they understand the subject well.
- ⑩ A monthly assessment should be given for each subject so that the students can identify their weaknesses and correct them before it is too late.
- ⑩ Some students expect the school to introduce indoor sport such as chess, carom, table tennis so that they have a leisure activity and can avoid using electronic devices.

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