N A O
National Audit Office
MALTA

Information Technology Audit
The Effective Use of Tablets in State, Church and Independent Primary Schools

October 2019

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List of Abbreviations

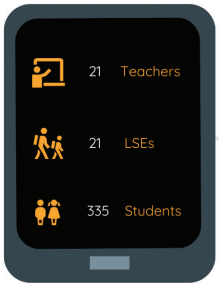
CA	Contracting Authority
CoPe	Community of Professional Education
DDLTS	Directorate for Digital Literacy and Transversal Skills
DeL	Department of eLearning
ESF	European Social Fund
EU	European Union
ICT	Information and Communications Technology
IT	Information Technology
LSE	Learning Support Educators
MEDE	Ministry for Education and Employment
MITA	Malta Information Technology Agency
MUT	Malta Union of Teachers
NAO	National Audit Office
OTA	Over the Air
OTPC	One Tablet Per Child
SLA	Service Level Agreement
SMT	School Management Team

Key Facts - The Effective Use of Tablets

2014
Pilot Project Launched

13
Applicants from the Private Suppliers showed interest in Pilot Study

Participation in Pilot Study



State Primary Schools 14
Church Primary Schools 3
Independent Primary Schools 3

National Roll-out of Tablets

Scholastic year 2016/2017
- 6,000 Tablets were distributed to all Year 4 students and educators

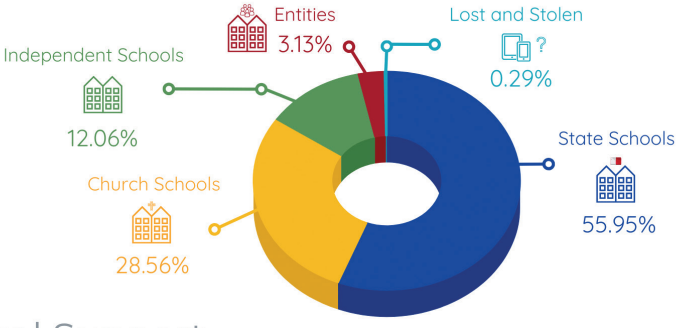
Scholastic year 2017/2018
- 500 Tablets were distributed to all Year 5 educators
- 4,500 Tablets were distributed to new cohorts of year 4 students

Since 2016
12 million
80% EU Funds — European Social Fund ESF.03.059
20% National Funds

96 State and Non-State Primary Schools

15,000

Distribution of Tablets

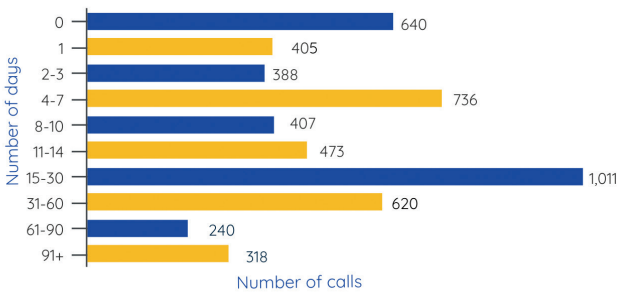


Technical Support

Support Calls 6,198

- All support calls were being logged and a full track was being kept for each call.
- Most of the support calls were triggered by issues related to power, tablet accessories and breakages.
- Between November 2017 and April 2019 the number of calls pending resolution was 960.

Time taken to service support calls:



Under-utilisation of Tablets

Use of tablets by teachers and students:

19.5% Students who do not take their tablet to school everyday.

18.5% Students who use the tablets at school everyday.

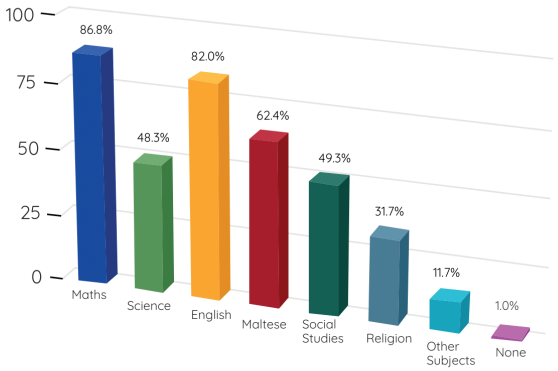
83.7% Students who do not make use of these tablets on family outings.

13.2% Students who are frequently using the tablets for home use mainly for homework, reading or studying. 21.3% of students are not.

20% Teachers who use the tablet only when an activity is planned.

61.5% Teachers who are not using these tablets on educational outings.

Tablets are mostly used for:



Digital Content

Mathematics and English applications were rated highly by both teachers and parents.

Applications for the remaining subjects namely Maltese, Science, Social Studies and Religion obtained lower ratings.

Tablet Related Issues

Main issues highlighted by educators when attempting or planning to use tablets:

82.9% Students not charging their tablets at home

68.8% Students not bringing their tablets to school

62.4% Tablet Issues/Faults

56.1% School Network/Wi-Fi connectivity issues

Main issues/faults encountered with tablets:

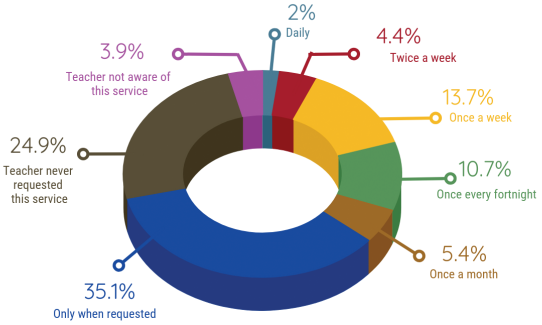
73.2% Wi-Fi connectivity

70.7% Battery not charging/not holding charge

43.9% Slow performance (limited processor/memory)

Support Service by Digital Literacy Support Staff

Availability and frequency of visits:



Teachers rated the support received from the Department. The majority of the respondents were positive about this. 47.3% said it was good and 37.7% said it was excellent. In contrast another 10.3% rated the support as average.

* Each percentage quoted above is the ratio between the number of respondents who opted for a particular item in a survey question and the total number of respondents to that question.

Executive Summary

Introduction

The scope of this Information Technology (IT) audit is to analyse the effective use of tablets in State, Church and Independent Primary Schools across the Maltese islands. This audit report sought to determine how the One Tablet Per Child (OTPC) project was implemented in these schools between the scholastic year 2016/2017 and 2018/2019, the use of tablets by the students in class and at home, the digital content available for the tablets, the level of training offered to educators and the level of support provided by the Directorate for Digital Literacy and Transversal Skills (DDLTS) within the Ministry for Education and Employment (MEDE) and the contractor. The audit report also sought to determine any issues that the educators and students might have encountered since the project was launched.

To achieve the above objectives, an extensive review of literature on digital literacy and tablets in education was undertaken. In particular, the '*Digital Malta – the National Digital Strategy for 2014-2020*' report (24th March 2014), the '*National Literacy Strategy for all in Malta and Gozo 2014-2019*' report (MEDE, June 2014) and the '*Digital Education Action Plan*' (EU Commission, January 2018) were of particular interest to the National Audit Office (NAO). In addition, the NAO carried out a number of interviews with Heads of Primary Schools and key stakeholders within MEDE and designed two separate online surveys which were disseminated to all the educators and parents of students in Years 4, 5 and 6.

Key Findings and Recommendations

The National roll-out of tablets in State and non-State Primary Schools was reviewed by the NAO, focusing mainly how the OTPC project is being maintained in terms of service levels, training and support, and the use of digital content (Chapter 2 refers). The main findings and corresponding recommendations are listed below:

a. The NAO observed some inconsistencies in tablet inventories which were provided by MEDE for the purpose of this IT audit.

   Whilst the NAO understands that an inventory of tablets is not static, it is recommended that an effort is made to keep the inventory updated continuously to reflect any changes in terms of new tablets, change of location, and replacements amongst others.

b. MEDE provided the NAO with a breakdown of support call statistics for the period November 2017 and April 2019 and noted that 6,198 support calls were logged in the system, of which 5,238 support calls were resolved whilst 960 calls were still pending resolution.

The NAO acknowledges the fact that a substantial number of calls were resolved, however, this Office suggests that MEDE verifies which of these 960 calls are still pending and the reason/s why these calls have not yet been resolved.

c. In terms of online support, a dedicated website, the Malta Digital Education portal, was created, which included a number of educational resources, such as videos and instruction manuals, to cater for teachers, parents and students.

Whilst on one hand the NAO acknowledges the wide and varied online support resources available for parents, educators and students, the NAO recommends that MEDE should monitors the usage of these tools and continue to raise awareness of such resources.

The NAO designed and disseminated two separate surveys, one for educators and the other for parents to gather the respective opinions on various aspects of this scheme, from the two different perspectives (Chapter 3 refers). Both surveys sought to analyse various aspects concerned with the adoption and use of tablets in the education system as well as outside the school environment. The main findings and corresponding recommendations are listed below:

a. The NAO observed that the list of asset numbers provided by MEDE was incomplete. This resulted when comparing asset numbers in the list provided by MEDE with asset numbers collected from the survey responses. Similar discrepancies were also corroborated in other inventory lists which were provided by MEDE (Chapter 2 refers) and thus the NAO was unable to wholly rely on the lists provided by MEDE for audit purposes.

It is recommended that an updated list of tablet asset numbers is maintained, which takes into consideration the device location, movements, returns or retired items.

b. The initial results of the survey analysis revealed that the tablets are under-utilised by a proportion of users as highlighted in Section 3.4.2.

The NAO recommends that MEDE looks into the outcomes of the survey conducted by this Office and widens the scope of its internal Quality Assurance Digital Technology reviews currently being undertaken, to investigate and monitor the utilisation of tablets (and the related apps), identify possible causes for under-utilisation and implement corrective action to address any issues identified.

c. In terms of digital content, the results of the survey showed that the Maths and English apps were rated highly by both teachers and parents, whilst the apps for the remaining subjects, namely Maltese, Science, Social Studies and Religion, obtained lower ratings.

In this regard, the NAO opines that the reasons for the lower ratings given to the above-mentioned subjects are unclear and require further detailed investigation. However, the NAO recommends that MEDE should review the usage of the available apps with a view to:

- establish whether there are enough apps to cover all sub-topics of the subjects;
- identify any apps which require enhancements, revamp or replacements; and
- establish any other possible reasons for underutilisation, assuming there are sufficient and suitable apps available.

d. The results of the survey highlighted some of the issues which the participating educators have encountered when using the tablets, such as students not bringing their tablet to school, students not charging the tablets at home, and hardware issues related to Wi-Fi connectivity, battery not charging and slow performance.

Whilst some of the issues highlighted above indicate the need for greater collaboration from students and their parents/guardians to ensure that tablets are always available and charged to make best use of such devices, the hardware issues mentioned above seem to indicate that a portion of devices are problematic.

In this regard, the NAO recommends that MEDE seeks to establish how widespread and frequent these problems are. The objectives of such a study should determine possible causes for the faults, and any trends which may indicate particular groups of tablets (example by age of device). When analysing the issue related to Wi-Fi connectivity, MEDE should look into it from both the device and the school infrastructure aspect.

e. The NAO observed that a substantial portion of teachers who had requested the services of DDLTS, claimed that support was available only when requested, once a month or once every fortnight. This may indicate that there are insufficient human resources to ensure the availability of a more frequent service.

In this context, the NAO suggests that MEDE identifies the schools where support from DDLTS is not frequently available and consider allocating additional resources as required.

Overall Conclusions and Observations

When considering the outcomes of the surveys conducted by the NAO amongst teachers and parents, the overall view of the scheme was a positive one since over 70% of all respondents considered the tablets to have helped the students in their learning journey. Additionally, the tablets provided educators with more engaging and innovative ways for delivering lesson content as well as an alternative to the half yearly examinations, for continuous student assessment.

The OTPC scheme covered the staggered rollout of tablets over a 3-year period as outlined below:

- Year 1 – scholastic year Sept 2016 – June 2017
- Year 2 – scholastic year Sept 2017 – June 2018
- Year 3 – scholastic year Sept 2018 – June 2019

As can be seen above, the scheme comes to an end this scholastic year and therefore the NAO recommends that, subject that the OTPC scheme continues, MEDE defines the short-term and long-term objectives to be achieved by such a scheme and draw up the related strategic implementation plan outlining how the objectives will be achieved over the coming scholastic years 2019/2020 and 2020/2021.

In view of the above, the NAO requested MEDE to provide an implementation plan for the various recommendations in this report. A copy of the plan submitted by MEDE is included in Chapter 4.

Chapter 1

Introduction

In this day and age, the nature of teaching and learning has been completely revolutionised with the integration of technologies and digital resources as tools in the learning process. Whilst teachers must adapt and evolve new pedagogies in which present curricula are integrated seamlessly with these tools, students are being brought up with the latest technologies and are capable of using digital media fluently. The introduction of tablets in State and non-State Primary schools has given the opportunity to teachers and students to bridge the technological gap that exists between the home and school environments.

In this context, the introductory Chapter gives a brief overview on the subject under review, namely digital literacy[1] in education with the use of tablets in State and non-State Primary Schools across the Maltese Islands. The audit scope and objectives, the methodology adopted throughout the IT audit process and the structure of the report are listed hereunder.

1.1 Setting the Context

1.1.1 Digital Malta – The National Digital Strategy for 2014-2020

In March 2014, the Government of Malta launched the '*Digital Malta – the National Digital Strategy for 2014-2020*'[2]. This seven-year strategy puts forward a set of guiding principles and policy actions of how Information and Communications Technology (ICT) can be used for socio-economic development. It sets out a path how ICT can be applied to different sectors of the economy and society, and how citizens and business can benefit from its application. Furthermore, it encourages everyone to reap the benefits that ICT can bring: better education, stronger businesses, efficient Government, sustainable economic growth and much more.

The '*Digital Malta – the National Digital Strategy for 2014-2020*', states that "although the ICT footprint is increasing, not all homes, schools, or businesses have taken it up or are using it as they could. Compared to other European Union (EU) countries, Malta fell behind in numbers using the Internet, uploading self-created content, using Internet banking, taking online courses, and looking for a job or sending a job application."

[1] The ability to use digital technology, communication tools or networks, to locate, evaluate, use and create information.
[2] https://digitalmalta.org.mt/en/Documents/Digital%20Malta%202014%20-%202020.pdf

However, over the past decade, ICT became integrated in schools whereby students have access to computers and the Internet. Yet, building capacity in education remains a challenge. In this context, the National Digital Strategy highlights that teachers must have the skills to harness eLearning materials, the teaching methods used must be updated and nonetheless, there must be sufficient digital content for students to gain full advantage of the benefits of ICT.

1.1.2 The Directorate for Digital Literacy and Transversal Skills

The DDLTS, which falls under the responsibility of the Curriculum, Life Long Learning and Employability department, was originally set-up in October 2013 as the Department of eLearning (DeL) within the Directorate for Quality and Standards in Education in the MEDE. Back then, the DeL was tasked with the implementation of the OTPC initiative in line with the '*National Literacy Strategy for all in Malta and Gozo*'[3].

The overall purpose of the '*National Literacy Strategy for all in Malta and Gozo*' is to "*promote and enhance lifelong and lifewide, high quality literacy practices among children, youths, adults, third-country nationals and persons with learning difficulties*." It also seeks to "*promote the use of new technologies in the teaching and learning of literacy*."

Even though technology is the enabler, it is the pedagogy that is the driving force. Through this notion, the DDLTS strives towards empowerment of learners by equipping them with 21st century competencies, though not just the knowledge but also the skills and attitudes. In this context, the DDLTS bases its mission on seven competencies, namely: collaboration, communication, creativity, critical thinking, citizenship, character education and computational thinking.

The DDLTS mission is based on the '*Digital Education Action Plan*'[4], which the EU Commission has adopted across member states. The action plan has three priorities, setting out measures to help EU member states meet the challenges and opportunities of education in the digital age:

1. Making better use of digital technology for teaching and learning.

2. Developing digital competencies and skills.

3. Improving education through better data analysis and foresight.

[3] https://education.gov.mt/en/Documents/Literacy/ENGLISH.pdf
[4] https://ec.europa.eu/education/education-in-the-eu/digital-education-action-plan_en

To reach the above objectives, the DDLTS has set a number of goals, which include amongst others:

- Supporting educational establishments in the implementation of e-Learning and Digital Literacy.
- Promoting technology-enhanced learning as an effective tool in developing the attainment of core competencies in literacy and numeracy for all learners.
- Leading, promoting and assisting schools in sharing best practices in e-Learning and Digital Literacy.
- Keeping abreast with the international pedagogical and technological development in e-Learning and Digital Literacy.
- Organising and delivering training related to e-Learning and Digital Literacy and offering support to teachers when applicable.

In this context, the DDLTS played a pivotal role in the OTPC pilot project and subsequently with the National roll-out of tablets to Year 4, 5 and 6 students and educators in all State and non-State Primary schools. In fact, the eLearning support teachers from within the DDLTS delivered service training and professional development sessions to class teachers[5]. They also recommended a number of software applications/websites which can be used on the tablet and uploaded a number of numeracy and literacy lesson ideas on the *iLearn* platform[6].

In addition, the DDLTS are also involved in educational events, which are organised at a National level throughout the year, including '*Hour of Code*', '*EU Robotics Week*', '*Malta Junior Lego League*' and the '*Malta Robotic Olympiad*'. Meanwhile, the NAO was informed that lately a number of organisations have joined forces to organize '*Theatre in Education*' on the theme of Cyber Security and Safety for all Year 4 (State and non-State) students. This event, which is organised by Malta Information Technology Agency (MITA) under the direction of the National Cyber Security Strategy Steering Committee within the remit of the Parliamentary Secretariat for Financial Services, Digital Economy and Innovation, together with the Malta Communications Authority, Esplora Interactive Science Centre, the DDLTS and the Drama Unit within MEDE, offers students the opportunity to participate in an interactive drama session and illustration activity addressing Cyber Security and Safety topics through the use of tablets.

[5] The DDLTS also offers training (even 1:1 class training) to educators who are not directly involved in the OTPC project.

[6] *iLearn* provides teachers with tools to work more efficiently and teach in ways that are more engaging for students. It also enables parents to be more involved in their children's educational progress whilst students can learn in more creative and innovative ways.

1.1.3 Pilot Project – The Introduction of Tablets in Schools

The '*Digital Malta – the National Digital Strategy for 2014-2020*' highlights that every citizen, irrespective of age, gender, sexual orientation, disability, race, economic means and employment should have the opportunity to access and make use of ICT for their daily needs. In this context, Digital Malta states that "*portable devices will be provided for children, their teachers and Learning Support Educators (LSEs) as part of the Government's vision of transforming formal education through the use of digital technologies*".

The OTPC pilot project for the introduction of computer tablets in primary schools was launched in January of 2014. An expression of interest was published for interested parties from the private sector to offer their solutions for evaluation in this pilot project, with the aim to test different types of hardware and software, and make the necessary evaluations based upon the feedback from educators and students.

In total, there were 13 applicants from the private sector who submitted their interests in this pilot study. In turn, these applicants had to provide at least one class with up to 30 tablets and bear all the costs related to the provision of tablets, implement them in schools and provide technical support and training to the educators. All the hardware and resources deployed during the course of this pilot project were returned to the respective applicants at the end of the pilot study in March 2015.

The pilot project was divided into two phases, whereby in March 2014, the educators[7] were given the opportunity to try out different tablets in schools. Then in October 2014, a number of students from a selected number of State and non-State Primary schools were also given the opportunity to utilise the tablets in class. In total, 22 class teachers, 21 LSEs and 335 students coming from 14 State and six non-State Primary schools (as depicted in Table 1) participated in this pilot study. Most of the participating classes were from Year 4, although a few Year 3 and Year 5 classes were also involved to widen the scope for evaluation. In this context, the Government ensured that all the schools involved were well-equipped to meet infrastructural needs, such as having a good Internet connection and electrical charging points.

This pilot project, and eventually the full implementation of the OTPC in all State and non-State Primary schools was carried out in close collaboration with the Malta Union of Teachers (MUT). The latter was consulted during the preparations for the call for pilot projects and agreed in principle with the implementation of such projects in schools.

[7] In this pilot project, the term "educators" refers to teachers from the selected number of State and non-State Primary schools and the support teachers from the DDLTS. In this regard, some Teachers of Year 3, 4 and 5 were involved in this study, however, preference was given to Year 4 teachers since the National implementation of the OTPC scheme will cater for Year 4 as the entry point for the use of tablets in schools.

State Primary Schools			
1	St Ignatius College - Siggiewi Primary School	8	St Margaret College - Cospicua Primary School
2	St Theresa College - Msida Primary School	9	St George Preca College - Pietà Primary School
3	St Clare College - Gzira Primary School	10	St George Preca College - Paola 'B' Primary School
4	St Thomas More College - M'Scala Primary School	11	Maria Regina College - Mellieħa Primary School
5	Gozo College - Għajnsielem Primary School	12	Maria Regina College - Dun Manwel Attard Young Adult Education Resource Centre"
6	Gozo College - Sannat Primary School	13	St Benedict College - Żurrieq Primary School
7	Gozo College - Victoria Primary School	14	St. Nicholas College - Baħrija Primary School
Non-State Primary Schools			
1	Church School - St Joseph Mater Boni Consilii	4	Independent School - San Anton School
2	Church School - De La Salle College	5	Independent School - Thi Lakin School
3	Church School - St Albert the Great College	6	Independent School - Chiswick House School

Table 1 - State and non-State Primary Schools participating in the OTPC Pilot Project - Source: MEDE

The outcome of this pilot project provided a clear picture of what works best in the Maltese context, and allowed MEDE to be better prepared for the procurement of tablets for the OTPC proposal on a National level.

1.1.4 National Roll-out of Tablets in State and Non-State Primary Schools

The OTPC project was one of the outcomes of the '*National Literacy Strategy for all in Malta and Gozo*', to ensure that all the children, irrespective of who they are or the background they come from, are given a fair and equal opportunity to be closer to technology. Thus, tablets will be used to promote more and better reading, writing, numeracy and digital literacy skills.

In this context, the OTPC project aims to provide a technical and pedagogical framework for the tablet to be effectively used in a teaching and learning environment. The project was expected to cost around €12 million, part-financed by the EU European Social Fund (ESF.03.059) with a co-financing rate of 80% EU funds and 20% of National funds, under the Operational Programme II – European Structural and Investment Funds 2014-2020. The aims of this project were to support Malta's efforts to reach the EU 2020 goals in '*Early School Leaving and Further and Higher Education*', which were identified as areas in need of a significant effort in order to reach the EU-wide benchmarks, with the intention to reach 50% of teaching time in schools using digital technologies.

Apart from the procurement of tablets, some of the funds were also used for specialised training for teachers within the DDLTS, who would then be in a position to offer technical support and deliver training sessions to educators of all State and non-State Primary schools, focusing mainly on the pedagogy of using the tablet as a learning tool.

The National roll-out of the OTPC kicked off in the 2016/2017 scholastic year, whereby tablets were handed to all the educators and students of Year 4 in all State and non-State Primary schools in Malta and Gozo. The National roll-out of tablets is explained in more detail in the next Chapter.

1.2 Audit Scope and Objectives

The scope of this IT audit was to analyse the effective use of tablets in State and non-State Primary schools. In this context, this audit reviewed the implementation of the OTPC project in these schools between the scholastic years 2016/2017 and 2018/2019, the use of tablets by the students in class and at home, the digital content available for the tablets, the level of training offered to educators and the support provided by the DDLTS and the contractor. The audit scope also covered any issues that the teachers/students might have encountered since the project was launched. In this context, the audit identified various findings and made the necessary recommendations to mitigate these risks.

The IT audit was divided into five different stages:

1. Initially, an informal meeting was carried with the Director General for the Department for Curriculum, Lifelong Learning and Employability and key stakeholders involved in the OTPC project, in order to gain a better understanding of how the project evolved throughout these past three years.

2. Consequently, the NAO held another meeting at the DDLTS to understand the role of the DDLTS within MEDE, the implementation of the OTPC project in State and non-State Primary schools and the pedagogical use of digital technologies to support and enhance learning and teaching.

3. A number of meetings were then scheduled with some Heads of Primary schools to gain further insight how the tablets are being used in their respective schools. The outcomes of these meetings assisted the NAO in designing the teacher's and parent's survey. These meetings were held in five State, three Church and two Independent Primary schools.

4. The NAO created two separate online surveys (for parents and teachers), which were sent to the Director General for the Department for Curriculum, Lifelong Learning and Employability. In turn, the Director General issued an internal memo to all Heads of State and non-State Primary schools to disseminate these two online surveys to all the educators (teachers and LSEs) and parents of students in Years 4, 5 and 6.

5. Finally, the NAO gathered all the responses received from both surveys and analysed the results thoroughly, before proceeding with the drafting of the audit report.

In this regard, the main objectives of this audit report were to:

- To provide an outline of the key points of the literature review conducted.
- Document all the information gathered during the site visits and meetings held with key stakeholders within MEDE and a selected number of Heads of Primary schools.
- Analyse all the results gathered from the feedback received from both the teachers and parents surveys.
- Summarise all the above information and elicit the area/s of concern.
- List all the findings and limitations on the OTPC project.
- List all the recommendations to mitigate the risks associated with the findings and limitations.

1.3 Audit Methodology

The realisation of the IT audit's objectives included an extensive review of literature on digital literacy and tablets in education. In addition, and as already highlighted above, the NAO carried out a number of interviews with Heads of Primary schools and key stakeholders within MEDE, and designed two separate online surveys, which were sent to all the educators (teachers and LSEs) and parents of students in Years 4, 5 and 6. All the feedback received from both surveys was then analysed carefully and conclusions derived before the drafting of the report commenced.

1.4 Structure of the Report

Following this introductory Chapter, the audit report includes three further Chapters, each documenting the information collected and highlighted the findings and recommendations:

1. Chapter 2 – One Tablet per Child Scheme

   Chapter 2 reviews the roll-out of tablets in State and non-State Primary Schools and how the OTPC project is being maintained in terms of service levels, training and support and the use of digital content.

2. Chapter 3 – Analysis of Surveys on the One Tablet per Child Scheme from the Teachers' and Parents' Perspective

   Chapter 3 presents a detailed analysis of responses of both the teachers and parents surveys which were submitted online during the course of this IT audit. The outcome of these surveys has highlighted both the benefits and limitations on the use of tablets in State and non-State Primary schools.

3. Chapter 4 – Management Comments

The final Chapter presents all the management comments that were submitted by MEDE.

1.5 Acknowledgements

The NAO would like to express its appreciation to all the key stakeholders within MEDE who were involved in this IT audit, including the Director General for the Department for Curriculum, Lifelong Learning and Employability, key officials from within the Directorate for International Affairs Strategy and Programme Implementation and the DDLTS, Heads of Primary schools, and the Years 4, 5 and 6 educators and parents of students who participated in the surveys, for their time and assistance.

Chapter 2

One Tablet per Child Scheme

2.1 Roll-out of Tablets in State, Church and Independent Primary Schools

As highlighted earlier in Section 1.1.4, the National roll-out of tablets in State, Church and Independent Primary schools kicked off in the 2016/2017 scholastic year whereby around 6,000 tablets were distributed to all the Year 4 students, their educators, technical staff and support teachers, as well as peripatetic teachers, education officers and senior management teams in schools.

In the 2017/2018 scholastic year, around 500 tablets were distributed to the Year 5 educators whilst around 4,500 tablets were distributed to the new cohort of Year 4 students. In the meantime, the Year 4 students who were promoted to Year 5 in the 2017/2018 scholastic year, were advised to retain the tablet that was given to them in the previous scholastic year.

The same process was repeated in the 2018/2019 scholastic year for the new cohort of Year 4 students and Year 6 educators. At the end of the 2018/2019 scholastic year, the Year 6 students (who were the first students that benefited from the OTPC scheme) were advised by MEDE to return all the tablets and accessories to their respective School's administration.

Furthermore, MEDE distributed a form to be signed by parents confirming receipt of the tablet provided, whilst also showing the device unique asset number. The signature on the receipt form commits the parents to charge their tablets regularly and take good care of this device.

2.1.1 Distribution of Tablets in State and Non-State Primary Schools

Since the inception of the OTPC scheme, the number of tablets that were distributed amounted to around 15,000. The chart below depicts the distribution of such tablets amongst the schools and other educational entities.

The NAO asked MEDE for a complete list of the number of tablets distributed in each school. During subsequent on-site school visits, the NAO noted that this list was not quite complete, as the number of tablets in one of the schools visited was actually higher than that shown in the list provided by MEDE. The school explained that this could arise from the fact that some tablet registration forms were not collected by MEDE and were still at the school. This finding was confirmed by another school.

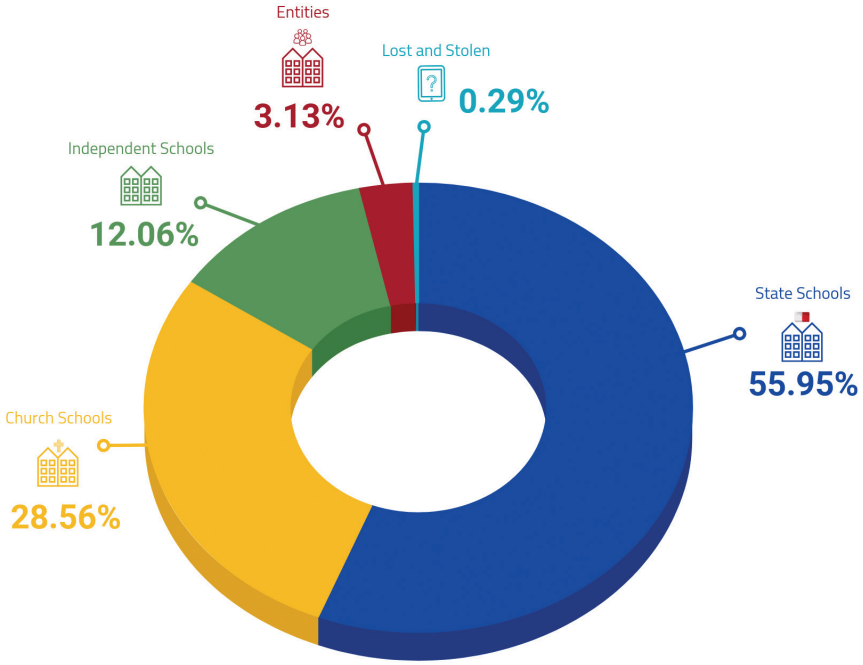


Figure 1 - Total number of tablets distributed to date since the OTPC scheme was launched in 2016 – Source: MEDE

Subsequently, the NAO also asked for a list of tablet asset numbers in each school. The NAO reviewed this new list and noted that the number of tablets registered at the school in question was closer to the quantity reported by the school. However, this list did not include the tablets given to entities which on the original list amounted to 489.

	Tablet Count per School	Tablet Inventory Count
State Schools	8,738	8,585
Church Schools	4,461	4,409
Independent Schools	1,884	1,849
Entities	489	N/A*
Lost & Stolen	46	N/A*
	15,618	**14,843**

Table 2 - Tablet Count per School vs Tablet Inventory Count - Source: MEDE[8]

[8] The Tablet Inventory Count did not include the tablets which were lost or stolen and those that were distributed to a number of Entities as they were not included in the list provided by MEDE.

2.1.2 Service Level Agreement

The NAO noted that in 2016, MEDE signed an agreement with the contractor of such tablets which included a Service Level Agreement (SLA).

The NAO was provided with an extract of the above-mentioned contract, which included the articles relative to the SLA. The contract defines hardware and software support as follows:

1. Hardware Support

- "*Hardware repairs and replacements/components replacements of the Tablet Computer in order to keep the tablet in a good working order. Where tablets require repairs, a temporary replacement tablet is to be provided to the user with its latest saved profile*."

2. Software Support

- "*Error fixing, debugging, testing and corrective maintenance of all installed components including all software in order to keep the Solution in a good working order*";
- "*Daily verification of software and tablet profile backups and periodic restores. In the eventuality that a tablet is faulty/damaged, the contractor must restore (or provide the CA*[9] *with a straight forward process to do so with minimal classroom disruption) the new/repaired tablet with its latest saved profile*";
- "*Changes to the software as a result from any amendments or changes in any legislation that may have an effect thereon*";
- "*The provision of technical advice to resolve the Customer's difficulties and queries in using the installed Solution*";
- "*The provision of software patches and/or updated that may be required in order to ensure the continuity in operations of the installed Solution*".

Further to the above, MEDE remarked that with respect to the use of tablets, the related images and documents may be stored on the SD card and/or the cloud, at the discretion of the user. Additionally, every 60 minutes, the devices verify that software and tablet profile backups are stored in both these locations. MEDE also stated that software patches are provided by the contractor by an over-the-air (OTA) patch to the firmware and are logged in the ClassConnect portal.

[9] CA refers to the Contracting Authority.

The SLA also stated that "*each school must be allocated 5% of the number of tablets deployed which will be used as reserve tablets. The priority is to ensure that students and educators experience the least possible downtime due to faults. Teachers and students must be provided with a replacement tablet when their issued tablet becomes unavailable as a result of faults, damage or theft. The configuration of the reserve tablets must be simple and straight forward in such a way that it can be easily performed by the school's non-technical staff*."

The NAO noted that this agreement states that the contractor has to provide reports as directed by the Contracting Authority. Upon enquiry, the NAO was informed that the contractor, provides the information requested on demand, at no extra cost, through the ClassConnect system. This information may include lesson plans, resources and uploads on ClassCloud. Meanwhile, from an administrative aspect, information may also include users, devices, user accounts and software licences.

The SLA also states that the contractor "*…must set up and configure through the Solution all classrooms of the Primary Years 4, 5, and 6 and consequent movement and transfers during the five-year period which includes EOY and SOY." The above was also confirmed by MEDE*.

The NAO noted that the SLA states that "*for incidents that are not covered by the warranty, the contractor must clearly specify any costs associated with the repair*". The MEDE confirmed that there were a number of such incidents that included, amongst others, damaged display, main board, buttons, and carry cases.

2.1.3 Technical Support

MEDE provided the NAO with a breakdown of support call statistics for the period November 2017 and April 2019. In this context, the NAO is pleased to note that all requests for support were being logged and a full track was being kept for each call. In fact, the SLA provides the following definitions for first- and second-line support:

- "*1st Line Support: All user requests from schools are logged centrally within MITA Service Call Centre in a Service Management System tool. Details such as, user equipment identifier and reported incident are entered in this system*."

- "*2nd Line Support: Requests that cannot be solved by the Service Call Centre are then escalated from within the Service Management System to the Contractor*."

The NAO analysed the support calls made by parents and educators listed in the above-mentioned report. As can be seen in Figure 2 below, most of the support calls were triggered by issues related to power, tablet accessories and breakages.

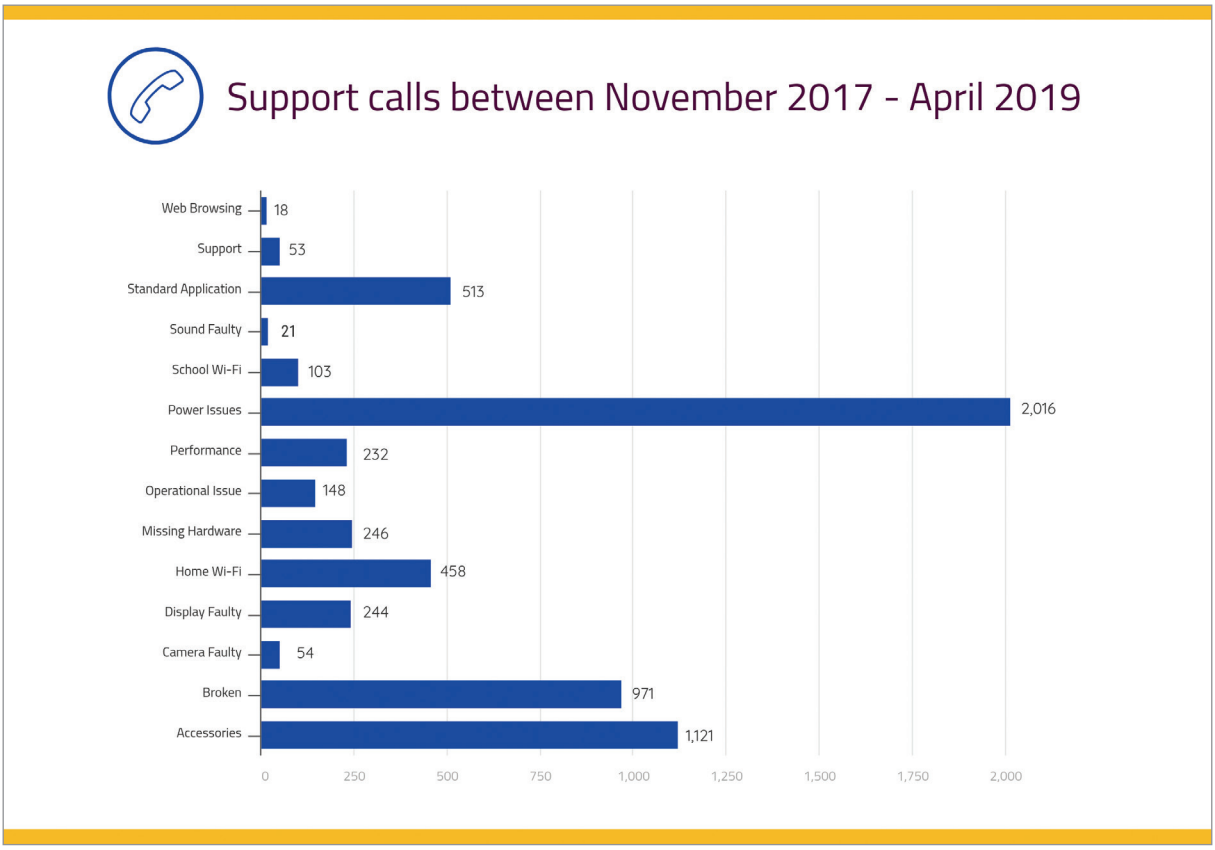


Figure 2 - Support call statistics for the period November 2017 and April 2019 - Source: MEDE

The NAO noted that there were 6,198 support calls logged in the system between November 2017 and April 2019, of which 960 calls were still pending resolution. As depicted in Figure 3, of the remaining 5,238 support calls which were resolved, the NAO observed that:

- 640 were solved within the day;
- 736 were solved between 4-7 days;
- 1,011 took between 15-30 days to be resolved; and
- 620 were solved within 31-60 days.

Furthermore, the NAO analysed the 960 calls that were still open and noted that 15 of these calls were 10 days old, 83 calls were 11-20 days old and 163 calls were outstanding for more than 101 days.

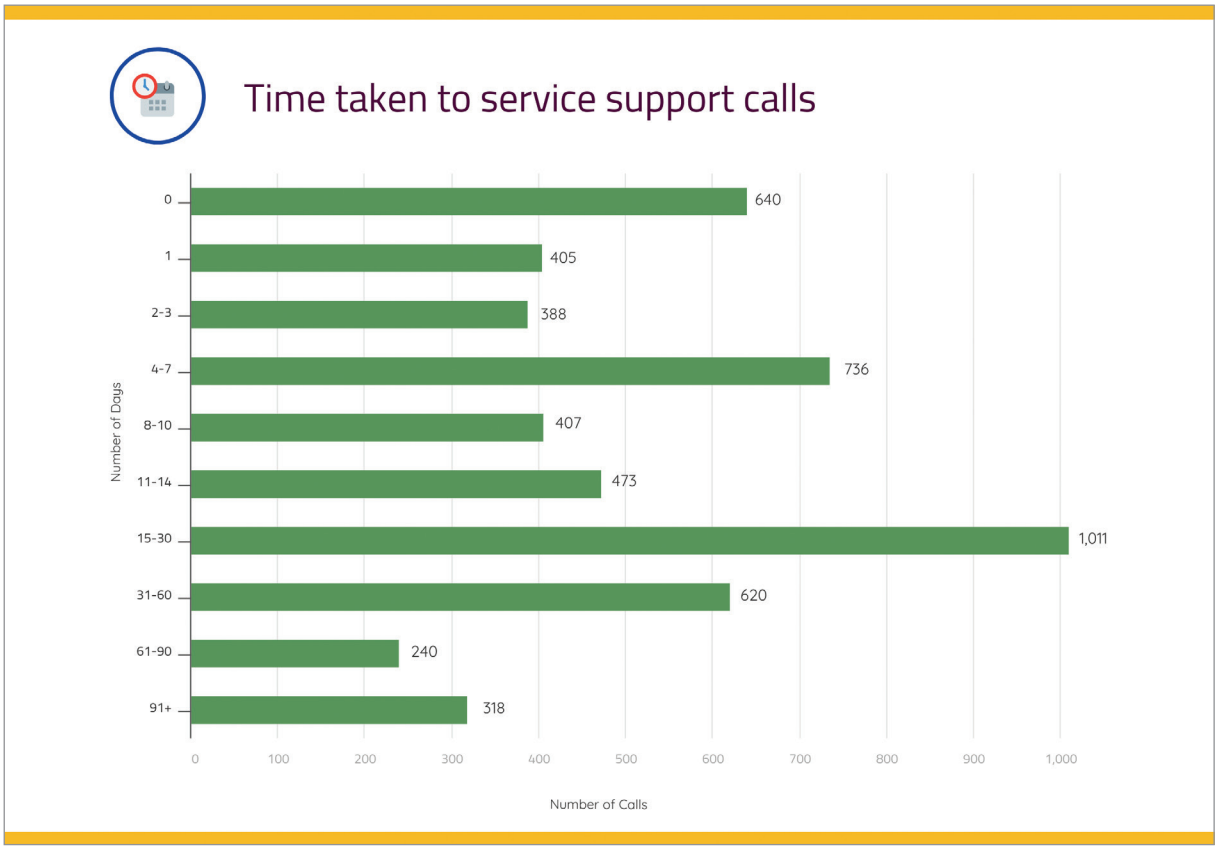


Figure 3 - Time taken to service calls - Source: MEDE

2.1.4 Online Support

In terms of online support, a dedicated website, the Malta Digital Education Portal[10], was created that included the following resources:

1. The Teacher resources page[11] includes videos that instructs teachers on how to:

    - work with files;
    - build lessons;
    - use the ClassConnect dashboard;
    - scan QR codes[12];
    - use the Workspace app;
    - use the ClassCloud app; and
    - use the Author Premium app.

2. The Student resources page[13] includes a downloadable manual and FAQs.

3. The Parent resources page[14] includes a downloadable parent quick start guide and a Wi-Fi QR key generator.

[10] http://www.digital.edu.mt/
[11] http://www.digital.edu.mt/teachers/training-videos/
[12] QR code stands for Quick Response Code, which is the trademark for a type of matrix barcode (or two-dimensional barcode).
[13] http://www.digital.edu.mt/students/
[14] http://www.digital.edu.mt/parents/

The NAO was informed that a number of support teachers from DDLTS offer continuous support to the teachers on site. Furthermore, the DDLTS has also provided teachers with a number of educational resources[15], such as:

- charts on how to use certain applications;
- guidebooks to teachers, parents and students on the use of tablets;
- lesson ideas on how to teach certain subjects through the use of tablets; and
- a number of applications and links that could be used for the pedagogy of certain subjects.

The NAO noted that when the tablets were distributed to students, MEDE provided two separate instruction manuals, to cater for parents and students. These manuals were bi-lingual for both Maltese and English-speaking parents and students. Similarly, a more detailed instruction manual was provided to all educators.

These manuals can be downloaded from the '*Malta Digital Education Portal*' website (*http://www.digital.edu.mt*), which also includes a number of resources for teachers, students and parents.

Additionally, an official Facebook page (Digital Education in Malta) was created depicting activities related to digital literacy that are held throughout the year.

2.1.5 Other Issues

During the on-site visits carried out by the NAO in State, Church and Independent Primary schools, the NAO noted that the Wi-Fi connectivity issues tend to vary between the above-mentioned three school sectors. Similarly, the NAO also noted that the level of support given to educators in State, Church and Independent Primary schools varies between the three school sectors. Furthermore, the on-site visits also indicated that the issues concerning tablet batteries and tablet carry cases/bags were related to particular batches of tablets and not with all the tablets.

2.1.6 Training

Apart from the training provided to teachers when first receiving the tablet, the NAO was informed that training is also offered throughout the scholastic year. The latter is either provided on a one-to-one basis in the teacher's classroom, or to a number of teachers grouped by class year within the same school. This type of training is usually provided by the DDLTS eLearning Support Teacher whenever he/she visits the school. The eLearning Support Teacher also offers technical support to teachers on the use of tablets as well as specific applications (ex. *Literacy pro*), and other equipment (ex. interactive whiteboard/*iLearn* online platform) during curriculum time[16].

[15] http://www.digital.edu.mt/downloadable-resources

[16] In order to receive training provided during curriculum time, a group of teachers may be relieved from their teaching duties for 45 minutes, whilst the children are with the PE teacher in the school grounds. During this allocated time, the teacher may be involved in development planning sessions or receive individual/group training by the DDLTS eLearning Support Teacher.

The NAO was informed that teachers and LSEs can also register for in-house online training, which includes sessions on "*Teaching with tablets*" and "*The use of applications on tablets*". Educators may also register for career development educational courses with the Institute for Education[17] or other online courses, which are accessible from the *iLearn* online platform.

In the meantime, the NAO was informed that in agreement with the Government of Malta and the MUT, educators are participating in Community of Professional Education (CoPE) sessions, which comprises of a maximum of 40 hours of related sessions. These sessions are offered free of charge during normal working hours and are organised by management, such as the School Management Team (SMT) or directly from MEDE as outlined in the Agreement. CoPE sessions include all initiatives that facilitate professional discussion and growth amongst community members, such as school development planning sessions, continuous professional development and links with the internal and external community.

2.1.7 Digital Content - The Use of Applications on Tablets

In terms of digital content, the NAO was informed that every classroom has access to the *iLearn* platform, where teachers can easily upload any material they may need to share with their students. *iLearn* also serves as a virtual location where students can communicate in a safe environment, provides teachers with tools to work more efficiently and teach in ways that are more engaging for students. It also enables parents to be more involved in their children's educational progress, whilst students can learn in more creative and innovative ways.

The NAO was provided with two lists showing the apps which are preinstalled on all tablets and the apps which are available for downloading. The NAO was informed that it is up to the teacher to decide which apps are downloaded and installed on the tablets in a particular year. In terms of the usage of apps, the NAO asked whether the DDLTS have any statistical reports on which apps are mostly used[18] in State and non-State Primary schools. In turn, the DDLTS stated that such reports can be generated by the local supplier and other suppliers who own/created specific apps.

Some of the apps currently being used by students on the tablets help them brainstorm any topic and think creatively. A case in point is the *Mind maps* app, which is particularly useful in the writing process and provides students with a natural way of thinking and building thoughts on a story plot or theme. To encourage reading amongst students, the NAO was informed that a number of reading apps, such as *Oxford Owl*, *Study ladder*, *LiteracyPro* are installed on tablets, as studies show that certain students would prefer reading a book on a tablet.

Meanwhile, the DDLTS, in collaboration with the National Literacy Agency, created a number of Maltese eBooks (*ex. Rożarja u Nikola, Ċetta Tagħmel Ħbieb Ġodda, Pinu Jżomm Ruħu Nadif, etc.*) that could easily be downloaded and installed on the tablets. The NAO was informed that the National Literacy Agency wrote the scripts/stories, whilst the DDLTS created pictures, animation, eBooks based upon the script/stories.

[17] https://instituteforeducation.gov.mt

[18] How many times the app was downloaded and installed.

The NAO was informed that another application, which is commonly used on the tablets is *Workspace*, which in concept looks very similar to an interactive whiteboard, whereby students can create pages with drawings, text (short sentences/stories) or pictures to create digital resources or eBooks of their own. This opens up great opportunities for interactive activities. Similarly, the *Comic Strip It*! app offers a meaningful context whereby students could practice dialogue writing in a more creative manner.

The DDLTS also pointed out that the tablet is being used for continuous assessments of students (instead of the half-yearly examinations) through the use of specific applications installed on tablets, such as *Studyladder* (online English literacy and Maths learning tool), *Quizziz*, *Kahoot* (multiple choice quizzes), *Nearpod* and other applications whereby students' work is then uploaded in *ClassCloud* and saved for assessment purposes.

As part of computational thinking, the NAO was informed that the tablet is also used for coding purposes using digital devices such as *WeDo* and also a number of applications such as *Scratch Jr*, *Logo* and *J2Code*. For instance, through *Scratch Jr*, apart from exposing students to basic block programming, the app also promotes the development of creativity since learners create digital animated stories.

Quite often, the tablet is also used by the students to present what they have learnt about a particular theme by creating digital books through specific applications, for instance, students can write clear and detailed instructions using a logical sequence to explain the steps of a process, ex. how to prepare a meal.

The NAO was informed that the tablet is sometimes used to promote learning outside the classroom. Tablets may be used to identify and take photos of objects or places of interest during fieldwork organised by the school, or to carry out an egg hunt and find the related QR codes. The tablets are also used for Erasmus-related projects or on school outings, such as, at the Esplora Interactive Science Centre.

The NAO was also informed that during parents day or open days organised by the school, parents are often given demonstrations on the interactive whiteboards on what's been done in terms of school/classroom projects with the use of tablets.

2.2 Observations, Conclusions and Recommendations

2.2.1 Inventory

As mentioned in Section 2.1.1 of this report, the NAO observed some inconsistencies in tablet inventories provided by MEDE. Given the above, although this Office understands that an inventory of tablets is not static, it is recommended that an effort is to be made to keep the inventory updated continuously to reflect any changes in terms of new tablets, change of location, and replacements amongst others.

2.2.2 Technical Support

In Section 2.1.3, the NAO had identified 960 calls which were still pending resolution. Whilst the NAO acknowledges that a substantial number of calls were resolved, this Office suggests that MEDE verifies which of these 960 calls are still pending and the reason/s why these calls haven't been resolved yet.

2.2.3 Online Support

Whilst on one hand the NAO acknowledges the wide and varied online support resources available for parents, educators and students, as shown in Section 2.1.4, it is recommended that MEDE should monitor the usage of these tools and continue to raise awareness of such resources amongst all users.

Chapter 3

Analysis of Surveys on the One Tablet per Child Scheme from the Teachers' and Parents' Perspective

3.1 Background

For the purpose of this audit, the NAO designed and disseminated two separate surveys, one for educators and the other for parents, with the aim of gathering the respective opinions on various aspects of this scheme, from the two different perspectives.

3.1.1 Research Methodology

Taking into consideration the logistical and time constraints in gathering information from educators and parents in State, Church and Independent Primary schools, the NAO opted for a combination of quantitative and qualitative research methods and conducted the surveys with a set of close-ended questions. This approach was selected to obtain the necessary data and make it easier to analyse the results accordingly. Additionally, the surveys were prepared in an online format, using a third-party tool, to facilitate the data collection process, and achieve an adequate response rate.

3.1.2 Target Population

The surveys were distributed to all 96 Primary schools in Malta and Gozo where Years 4, 5, and 6 students are taught, thus covering the whole spectrum through State, Church and Independent Primary schools.

3.1.3 Survey Design

As already outlined above, two separate surveys were created to cater for educators and parents separately. Whilst both the teachers' and parents' survey were fairly extensive and designed to have a similar number of questions, the teachers' survey offered an additional number of questions, which delved into further detail. Both surveys were divided into three sections:

1 In the first section, the respondents were required to input their tablet's asset (inventory) number. These were cross-checked with the list of asset numbers provided by MEDE, to avoid duplicate responses and ensure a degree of reliability[20].

[20] No personal identifiable data was collected, and this data was only collected for audit purposes. This information was communicated to all respondents upon opting to take the survey.

2 In the second section, respondents were instructed to indicate the type of school (State, Church or Independent), the actual school name and the year which they teach or which their children attend (Year 4, 5 or 6). To facilitate inputting, drop down lists were designed separately.

3 Finally, the third section, which was the central focus of this survey, consisted of a mix of multiple-choice questions and a Likert scale range question. All the questions were mandatory, with some having logic applied depending on the feedback given.

The parents' survey was offered in multilingual format, whereby the respondents could choose between Maltese and English. On the other hand, the teachers' survey was offered solely in English.

This Chapter aims to review, analyse and address the responses from both surveys concurrently, wherever possible, whilst dealing with specific responses applicable to one survey or the other independently, as necessary.

3.2 Survey Respondents and Participation Spread

Both survey links were forwarded to the Director General for the Department for Curriculum, Lifelong Learning and Employability. The surveys were then introduced to each school by means of circular issued by MEDE[21] to all participating Heads of school, who were instructed to distribute the surveys to teachers and parents and encourage participation. Furthermore, reminders were also sent by the NAO to several schools during the last week of the survey. Both surveys were open for responses for a two-week period following the 2019 scholastic year's Easter break.

Following the two-week period during which surveys were open for responses, the surveys were closed. The survey data was downloaded, and the data cleaning process commenced. This mainly included the removal of incomplete responses, elimination of duplicate asset numbers and validation of asset numbers.

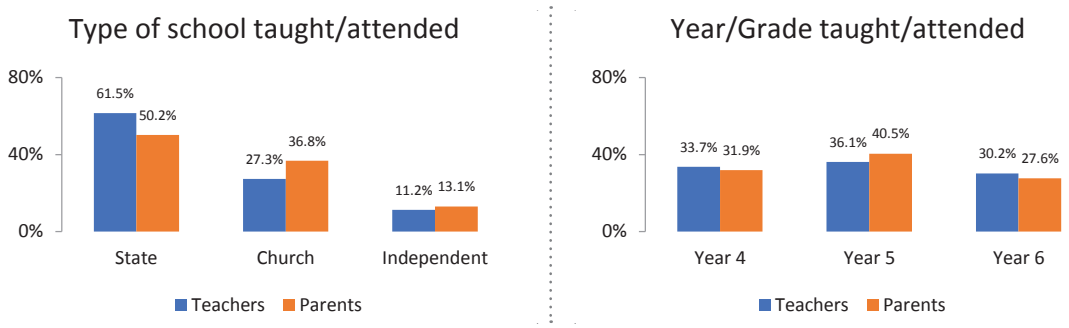


Figure 4 - Teachers' and Parents' Surveys - respondents and participation spread

[21] MEDE Letter Circular DCLE 05/2019, dated 26th April 2019.

Responses from both surveys were largely indicative of the islands' school population, i.e. the majority of responses were from State schools (61.5% and 50.2%)[22], followed by Church schools (27.3% and 36.8%)[22], and Independent schools (11.2% and 13.1%)[22].

Moreover, responses from both surveys were distributed throughout all the participating schools. In fact, delving into the teachers' survey revealed that, educators from 73 schools (76.0%) chose to submit their feedback out of the 96 participating schools. On the other hand, responses to the parents' survey were even more spread out, with parents/guardians from 92 schools (95.8%) opting to respond to this survey.

With reference to the school year/grade taught, participating educators were almost equally split between Year/Grade 4 (33.7%), Year/Grade 5 (36.1%) and Year/Grade 6 (30.2%). Meanwhile, participating parents/guardians' representation of their children was not as evenly spread between Year/Grade 4 (31.9%), Year/Grade 5 (40.5%), and Year/Grade 6 (27.6%).

3.3 Analysis of Survey – Adoption and Use of Tablets

Both surveys sought to analyse various aspects concerned with the adoption and use of the tablets in the educational system as well as outside the school environment. Hence the survey, and consequently this section, provide a high level view at how often the tablets are taken to school, the frequency of usage during lessons or educational outings, usage at home and outside the school, the level of training given to educators, the adequacy and availability of educational apps, the quality of support being provided, and any issues that are being encountered. This section concludes with the overall views and opinion of the respondents who participated in these surveys.

It should be noted that each percentage mentioned in Sections 3.2 till 3.5 is the ratio between the number of respondents who opted for a particular item in a survey question and the total number of respondents to that question.

3.3.1 Taking the Tablet to School

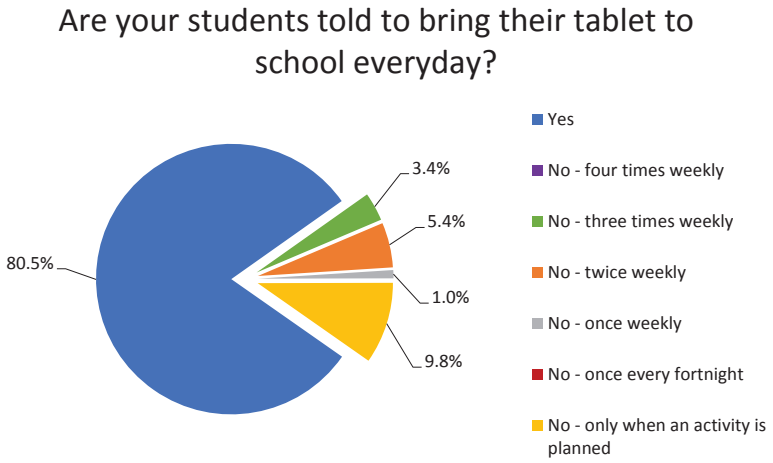


Figure 5 - Teachers' Survey

[22] Applicable to the teachers' survey and parents' survey respectively.

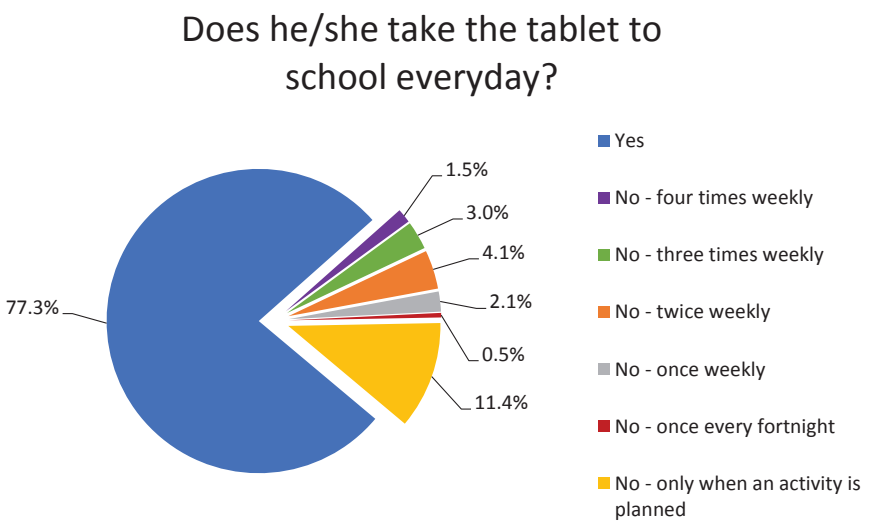


Figure 6 - Parents' Survey

The first part of the teachers' survey asked whether the students were told to bring their tablets to school everyday, with 80.5% of educators responding Yes. This aligns with 77.3% of parents/guardians who also responded Yes when asked if their child/ren take their tablet to school everyday. Further analysing the feedback gathered, in both surveys, of the remaining educators and parents/guardians, 9.8% and 11.4% respectively stated that tablets are brought to school only when an activity is planned, whilst 5.4% and 4.1% respectively claimed that devices are brought to school twice weekly.

3.3.2 Using the Tablet in a Lesson or an Educational Outing

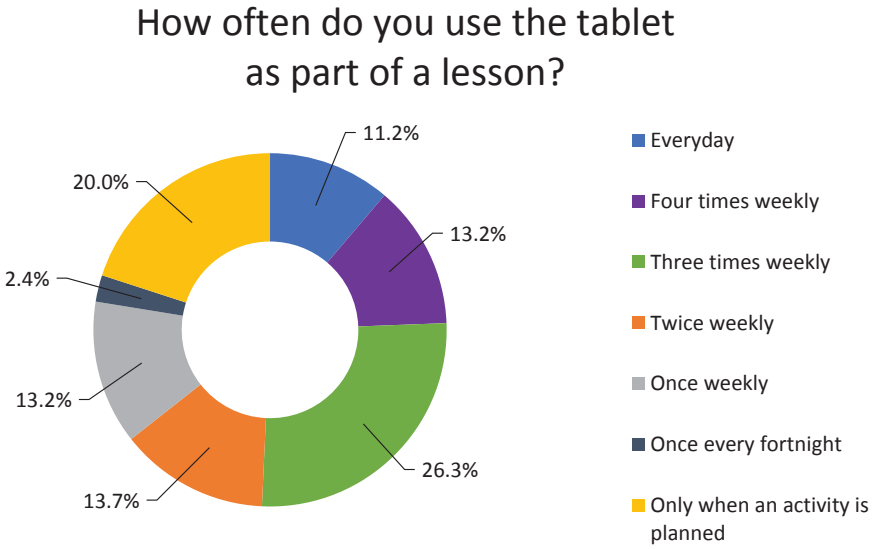


Figure 7 - Teachers' Survey

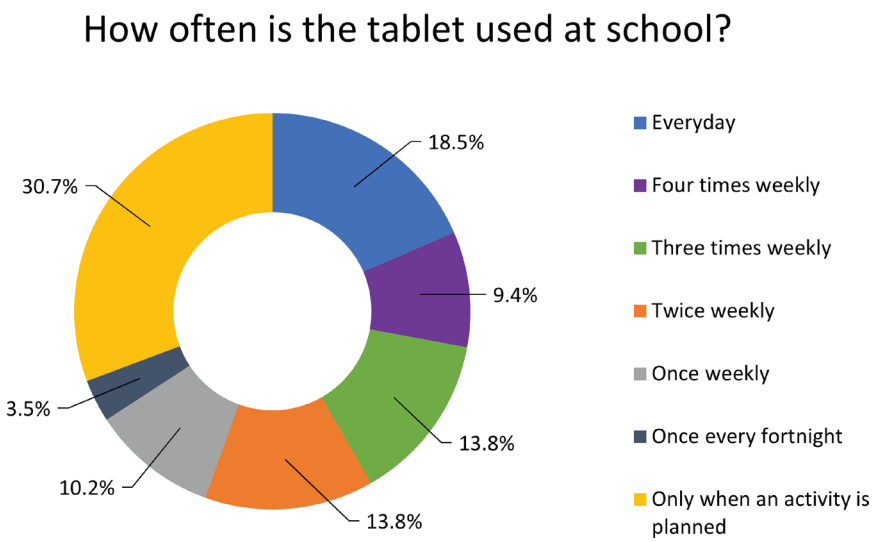


Figure 8 - Parents' Survey

Subsequently, the survey asked educators how often the tablet is being used as part of a lesson. Responses were varied; 26.3% stated that tablets were used three times weekly and 20.0% admitted that devices are only used when an activity is planned. From the rest of the respondents, the educators replied that the tablet were used four times (13.2%), twice (13.7%) and only once (13.2%) weekly, whilst only 11.2% of teachers are using the tablets everyday.

Similarly, the parents/guardians' survey enquired how often the tablet is being used at school. Here, it transpired that tablets are only used when an activity is planned according to the majority of respondents (30.7%), whilst, in contrast, another 18.5% claimed that devices are used everyday. Of the rest of the parents/guardians, it was claimed that the tablet is used three times or twice weekly by 13.8% each of respondents.

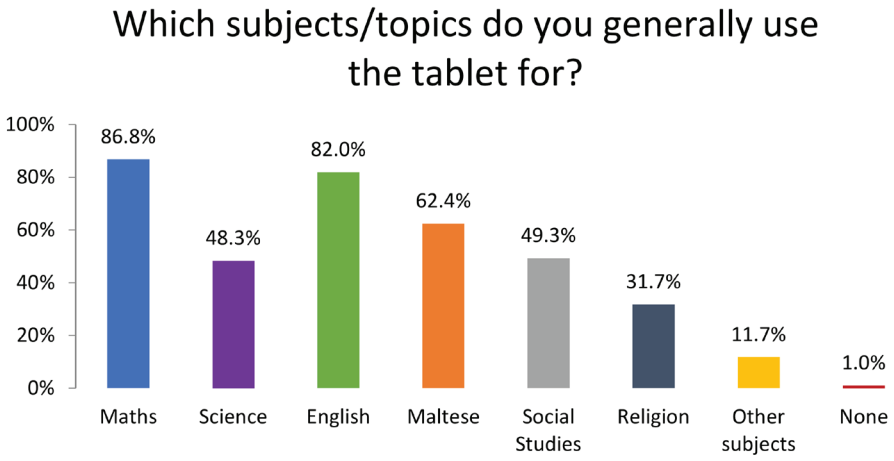


Figure 9 - Teachers' Survey

The teachers' survey sought to establish the subjects the educators are using these tablets for. In this regard, it transpired that, by far, the most common subjects were Maths (86.8%) and English (82%). Next in line was Maltese, where the tablets appear to be used by 62.4% of teachers, closely followed by Social Studies (49.3%) and Science (48.3%). In contrast, respondents have revealed that only 31.7% are using tablets to teach Religion. Another 11.7% added that they are using these devices in relation to other subjects, whilst 1% still disclosed that tablets are not being used in any of the subjects or topics taught.

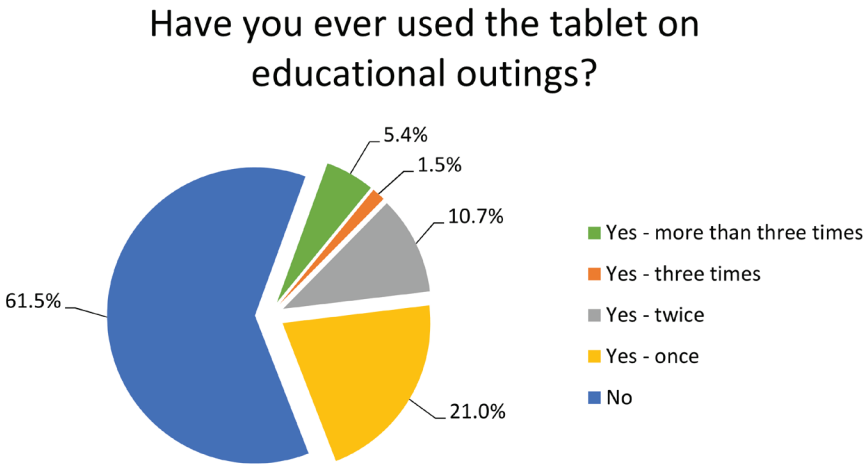


Figure 10 - Teachers' Survey

Furthermore, the survey than sought to elucidate whether teachers have ever used the tablets on educational outings organised by the school. The analysis revealed that the majority (61.5%) have never used these devices on such outings. Meanwhile, just 21.0% of respondents have used these tablets on such activities, albeit, only once, whilst only 10.7% of educators have used these devices during educational outings on two separate instances.

3.3.3 Using the Tablet at Home and on Family Outings

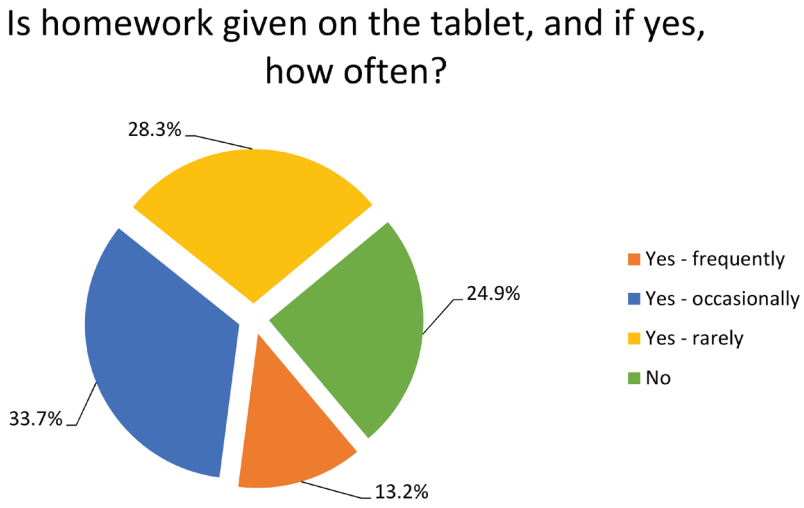


Figure 11 - Teachers' Survey

The survey then asked the teachers how often homework is given on the tablets, if at all. Whilst most teachers (75.1%) stated that students are given homework on these devices, responses on the usage frequency were varied. In fact, only 13.2% stated that this is frequent, another 33.7% specified that this is occasional, whilst 28.3% indicated that this is rarely the case. Meanwhile, the remaining 24.9% of educators revealed that no homework using these tablets is being given to their students.

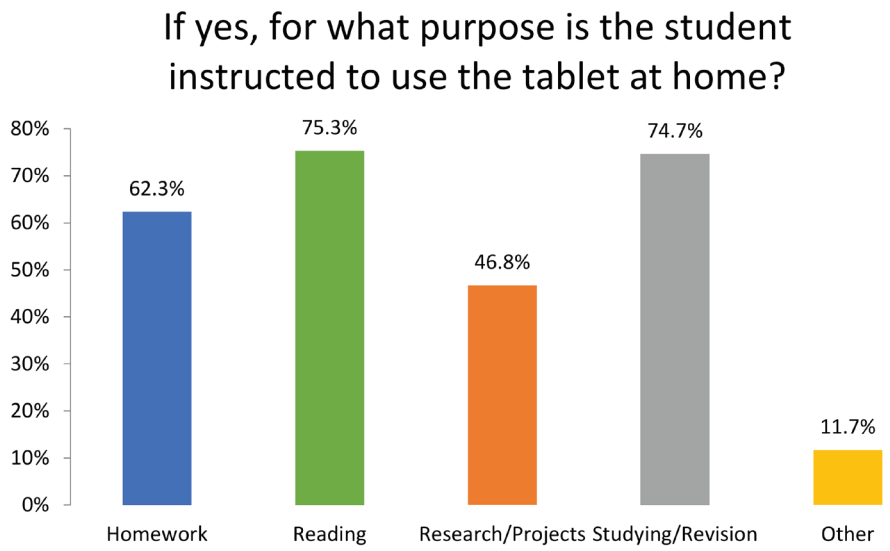


Figure 12 - Teachers' Survey

Pursuant to the above, the teachers who had given students homework on the tablet, were asked to define the type of work requested. It emerged that Reading and Studying/Revision are the most common at 75.3% and 74.7% respectively, whilst 62.3% are using the device for Homework. Less common was the use of tablets for Research/Projects, at 46.8%, whilst yet another 11.7% of respondents added that these devices are used for Other purposes at home.

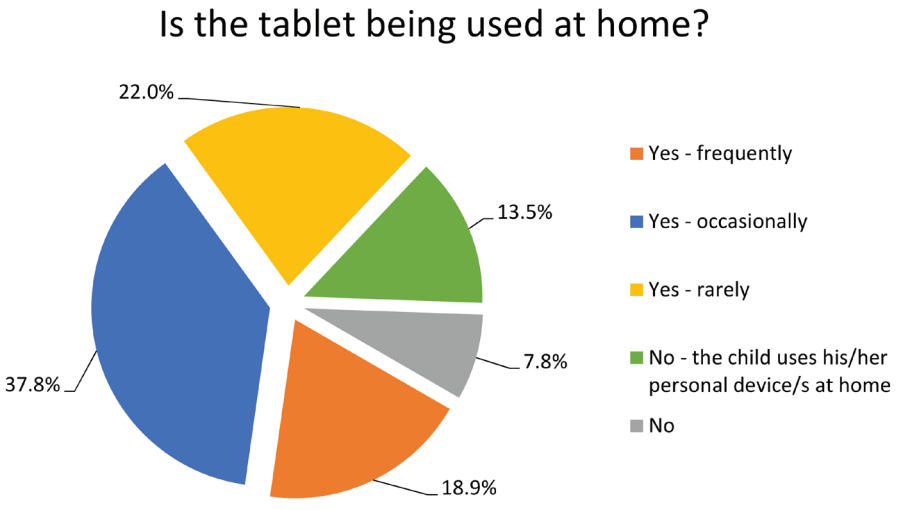


Figure 13 - Parents' Survey

Similarly, parents were also asked whether these tablets are being used at home. Like the educators (as shown in Figure 11), most parents/guardians agreed that the tablets are used at home at different levels. In this regard, 18.9% indicated that this is used frequently, 37.8% stated that it is used occasionally, and the other 22.0% claimed that the tablet is rarely used. Meanwhile, 13.5% of respondents said that their child/ren use their personal device/s at home, whilst the other 7.8% said that these devices are not being used at home at all. The replies of the last two groups were in line with the related teachers' responses.

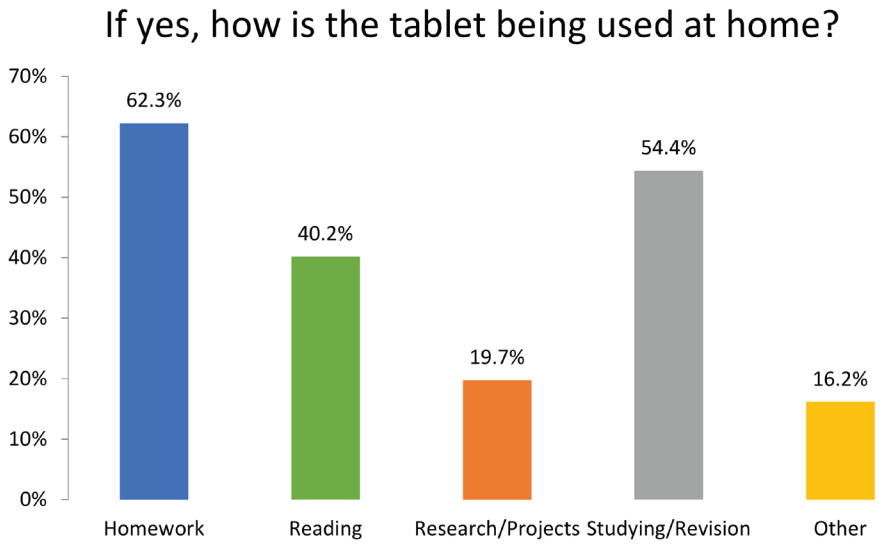


Figure 14 - Parents' Survey

Following from the above, the parents who stated that these devices were used at home, were asked to define the type of work done with these tablets at home. The vast majority of parents/guardians 62.3% agreed that these devices were mostly used for Homework, 54.4% said that tablets were used for Studying/Revision, and another 40.2% replied that these devices were used for Reading. Finally, 19.7% and 16.2% of respondents remarked that these tablets are used for Research/Projects and for Other purposes, respectively.

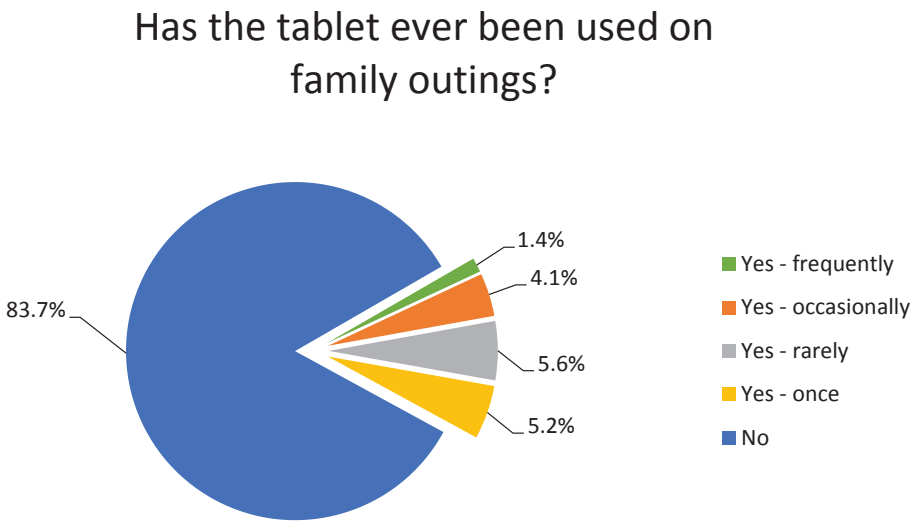


Figure 15 - Parents' Survey

The survey than asked parents/guardians whether their children had ever used these tablets on family outings, specifically, educational ones[23]. This analysis showed that the absolute majority (83.7%) have never used these devices on family outings. In fact, only a small minority responded Yes, with 5.6% saying that these tablets were rarely used in such a scenario, and 5.2% replied that these devices were used only once on family outings.

3.3.4 Training Educators

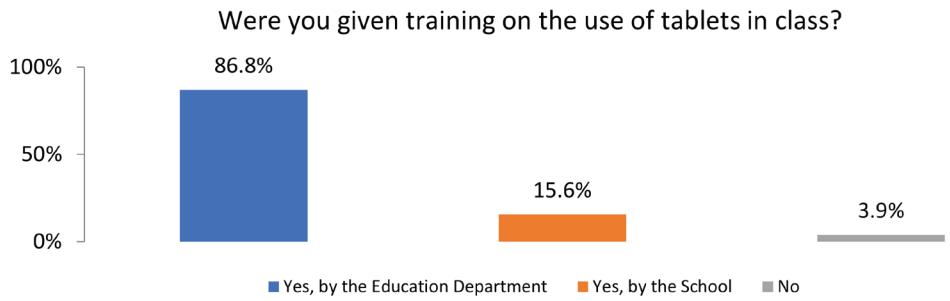


Figure 16 - Teachers' Survey

The NAO's survey then enquired about the training provided to educators regarding the use of these devices. The survey first asked whether teachers/educators had been given any such training on the use of tablets in class. 86.8% of respondents stated that they were provided training by the Education Department, whilst 15.6% claimed that they had been provided training by their School. Further analysis showed that there was an overlap of 6.3% of participants who indicated that they had been provided with training from both entities. In the meantime, the remaining 3.9% declared that they had not been given any training whatsoever on the use of tablets in class.

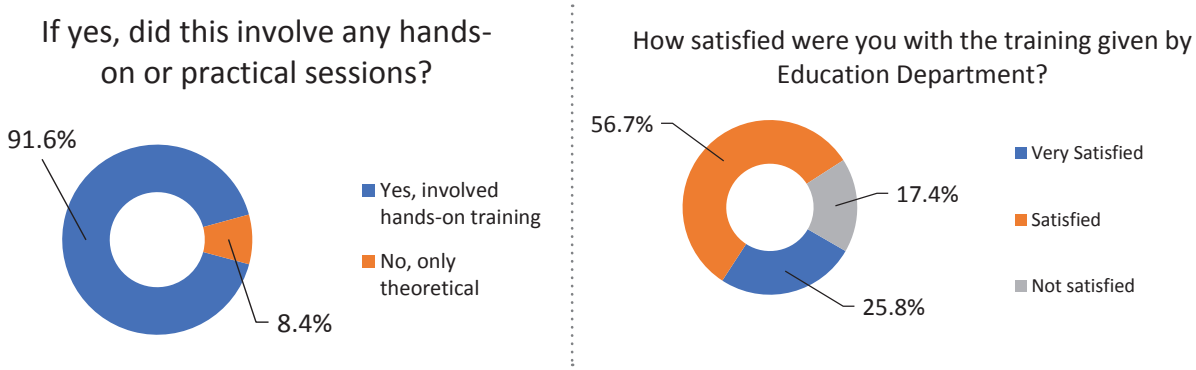


Figure 17 - Teachers' Survey - Training by the Education Department - type of training and satisfaction rating

[23] Participants/respondents (parents/guardians) were given suggested educational use examples, namely, at Esplora, Heritage Malta sites, etc. in the applicable survey question.

Teachers who stated that they had been given training by the Education Department were subsequently asked whether this involved hands-on training or just theory. Here, the majority of teachers (91.6%) responded that their training had involved a hands-on practical session/s, with only the remaining 8.4% of participants saying that their training was only theoretical. The above-mentioned respondents were also asked to rate the level of satisfaction with the training provided. Here, 56.7% of educators claimed that they were Satisfied with the training that they had been given by the Education Department. The remaining respondents were split between a 25.8% who were Very Satisfied and 17.4% who were Not Satisfied with the training provided.

3.3.5 Educational Apps

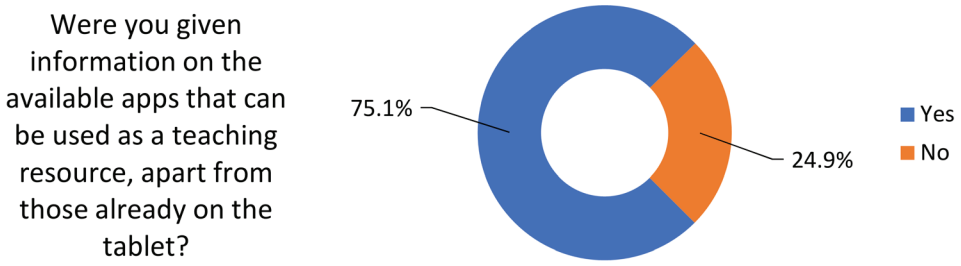


Figure 18 - Teachers' Survey

Educators were asked whether they had been given enough information on the available apps that can be used as a teaching resource, apart from the preinstalled apps. As the above chart shows, over three quarters (75.1%) of teachers said Yes, whilst almost a quarter (24.9%) of educators responded No.

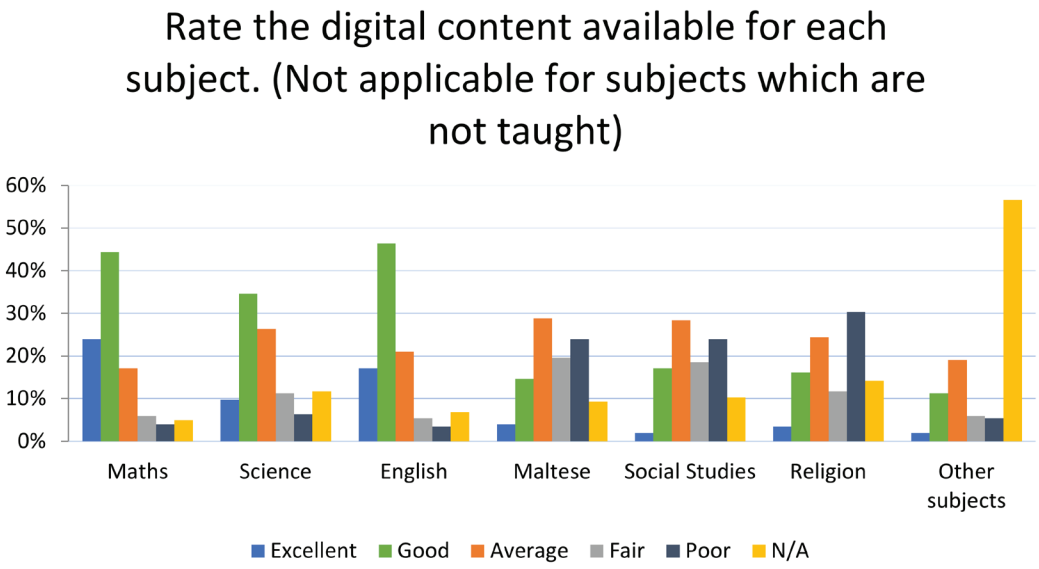


Figure 19 - Teachers' Survey

The survey then sought to establish whether there is enough digital content to assist educators with the subjects/topics they teach. In line with the above, the teachers were requested to rate the digital content available for each subject[24].

Data analysis showed that both the Maths and English apps achieved similar results, as they were rated Good by 44.4% and 46.3% of educators respectively, whilst Science apps were similarly rated as being Good by 34.6% of educators.

According to survey results, apps for both Maltese and Social Studies also achieved similar ratings. In fact, apps for both subjects were rated as Average by 28.8% and 28.3% of respondents respectively. Meanwhile, almost a third, 30.2%, of teachers opined that apps for Religion are Poor.

Finally, the survey also revealed that overall 43.4% of respondents are also using the tablets and apps to teach Other subjects/topics, with 19.0% of the total survey participants rating the applicable apps as Average.

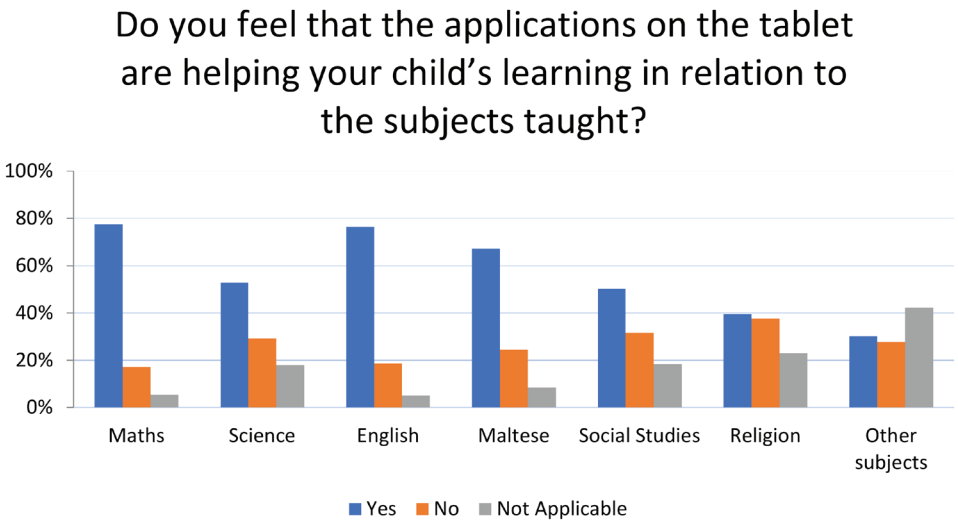


Figure 20 - Parents' Survey

Similarly, parents were also asked whether the apps provided are helping their child/ren in relation to the subjects taught at school. Overall, the results provided correspond to the conclusions drawn from the teachers' survey.

Parents/guardians were mostly satisfied with the Maths and English apps available. In fact, over three quarters of respondents, 77.5% and 76.3% respectively, submitted a Yes response. The available Maltese apps also achieved a relatively high Yes response, amounting to 67.2%, from parents/guardians.

[24] Participants/respondents (teachers/educators) were also instructed to select 'Not Applicable' for subjects/topics which they do not teach themselves.

Meanwhile, apps for both Science and Social Studies fared quite similarly to each other, with 52.9% and 50.2% of respondents selecting Yes. Furthermore, apps relating to Religion obtained almost the same amount of Yes and No results from parents/guardians, with 39.5% selecting Yes and 37.5% opting for a No response.

Finally, from the survey it also transpired that 57.8% of respondents' child/ren are using the tablets and apps for Other subjects/topics. Analysis shows that out of the total survey participants, 30.1% selected Yes, whilst the other 27.7% chose No, when answering whether or not these apps are helping their child/ren's learning.

3.3.6 Tablet Maintenance and Support

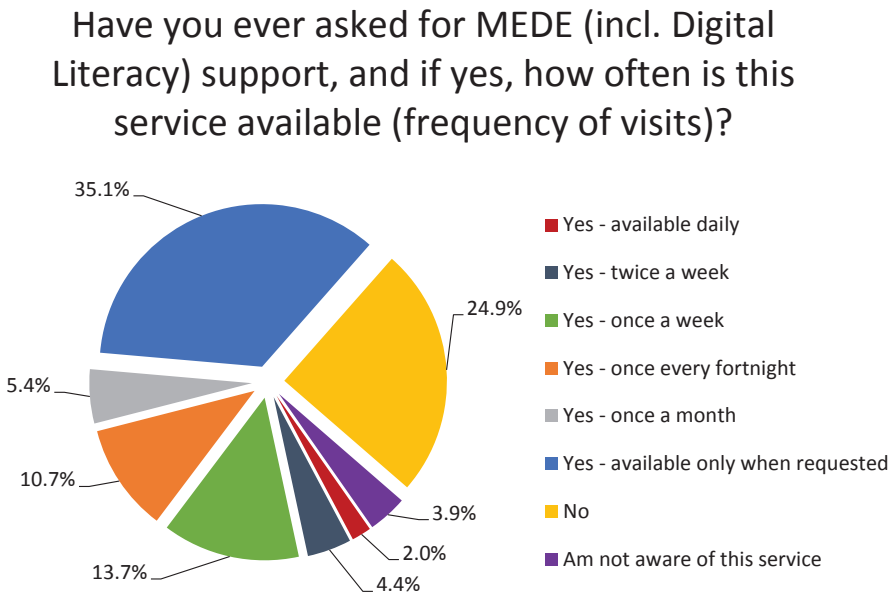


Figure 21 - Teachers' Survey

Educators where asked a two-part question on whether they ever requested assistance from Digital Literacy Support staff when using the tablet or an app. In the second part of the question, respondents who had asked for this support, were also requested to indicate the availability and frequency of such visits by the Digital Literacy Support staff.

The analysis shows that a minority of 3.9% of participants claimed that they were not aware of this support service, whilst almost a quarter, 24.9%, of respondents stated that they had never requested for this support service. On the other hand, it is shown that, whilst 71.2% of teachers asked for MEDE's support, however, the availability of this service and frequency of visits is rather fragmented. In this regard, most of those saying Yes, 35.1%, indicated that this service is only available when requested, 13.7% of respondents specified that this service is available once a week, and another 10.7% of participants stipulated that this service is only available once every fortnight.

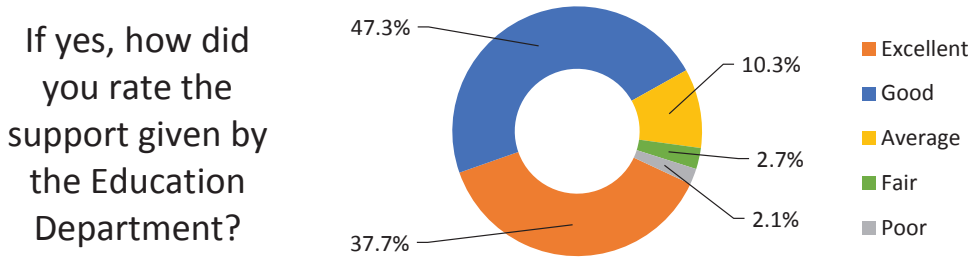


Figure 22 - Teachers' Survey

Furthermore, teachers who claimed that they requested assistance from Digital Literacy Support staff when using the tablet or an app, were then asked to rate the support received. The majority of respondents were positive about this, with 47.3% saying that it was Good and 37.7% saying that this was Excellent. In contrast, another 10.3% of participants rated the support as Average.

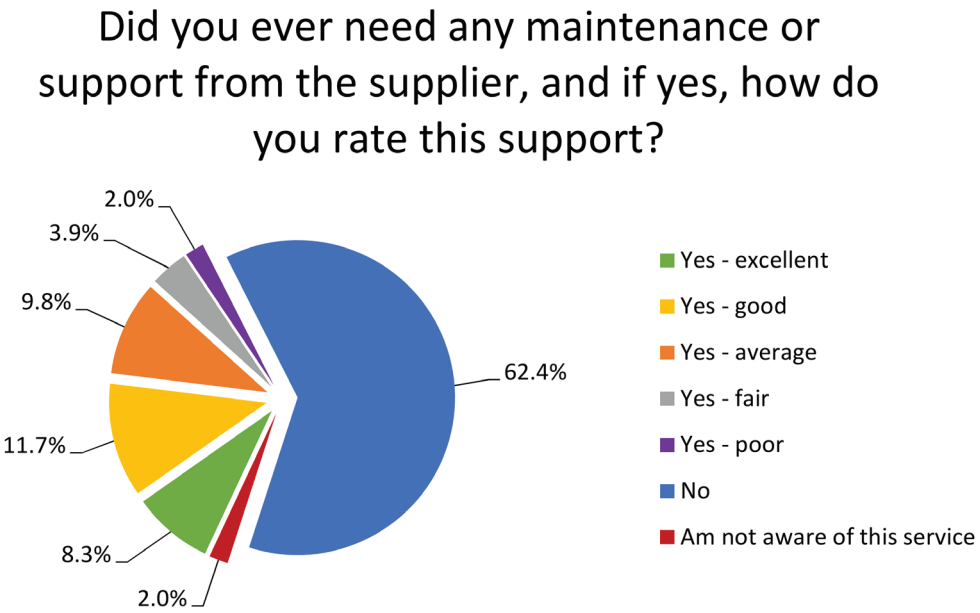


Figure 23 - Teachers' Survey

Similarly, in the next part of the survey, educators were given another two-part question, asking them if they ever requested any maintenance or support from the tablet supplier. Respondents who had made use of this service were also asked to rate the support they were given.

It was revealed that, whilst a minority of 2.0% were not even aware of this service, the majority of teachers, 62.4% of participants stated that they had never asked for the supplier's intervention or assistance. In the meantime, the remaining educators who claimed to have requested the support from the tablet supplier gave varying ratings of the service given. In fact, 8.3% of all survey respondents rated this service as Excellent, whilst 11.7% gave it a Good rating, and another 9.8% gave an Average rating.

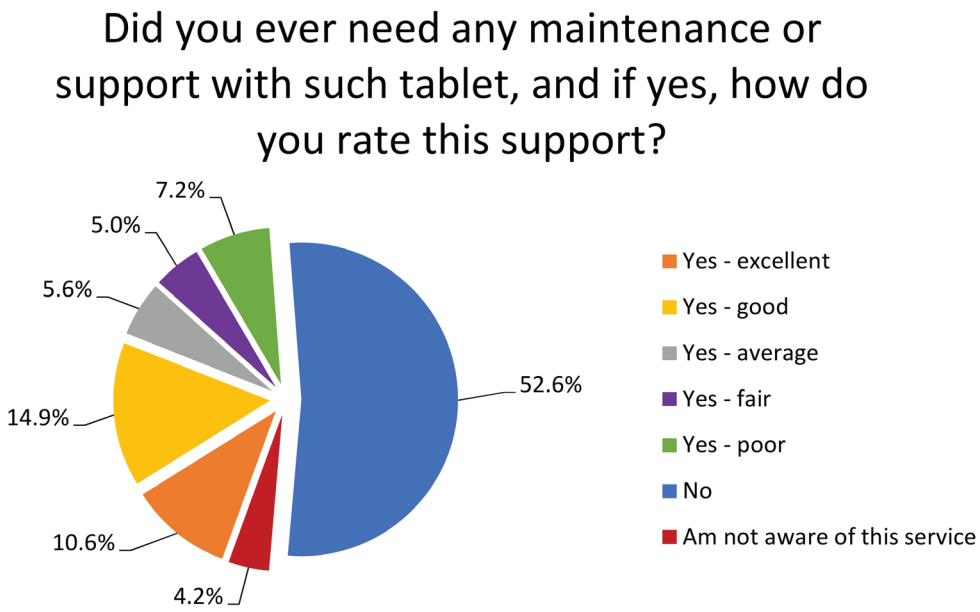


Figure 24 - Parents' Survey

On the same lines, parents/guardians were also asked to state whether they requested maintenance and support[25] from the tablet supplier and to rate the service given.

A number of similarities can be observed, when comparing responses submitted by the parents/guardians with those from educators. In this regard, 4.2% of respondents were not aware of this service, whilst more than half of parents/guardians, 52.6% of participants, never requested such intervention or assistance. On the other hand, 14.9% of the remaining respondents who used this service, rated the support as Good, and 10.6% gave it an Excellent rating. However, these results contrast with responses given by another 7.2% of participants who rated this support as Poor.

[25] The survey question implied support received by parents/guardians and provided by the tablet supplier, since any such requests for assistance are redirected, through MITA, to the supplier. MEDE are not involved in this process.

3.3.7 Issues related with the use of Tablets

The next part of the survey sought to gather data concerning the issues that were encountered by the tablet users when using these devices.

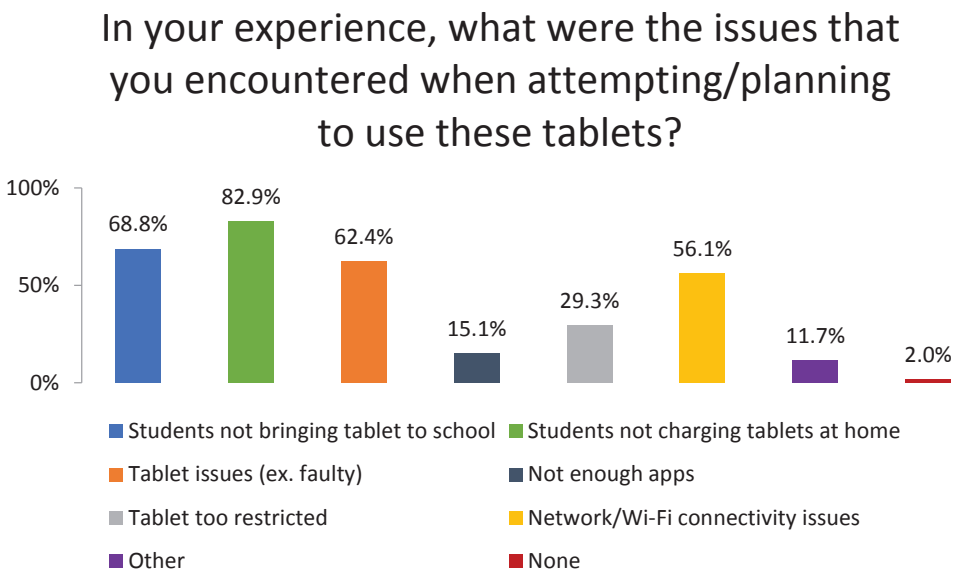


Figure 25 - Teachers' Survey

Educators were asked to identify issues that they personally encountered when attempting or planning to use these tablets.

The analysis depicted that more than half of the participating teachers identified with the following four specific concerns:

1. Students not charging their tablets at home, at 82.9%.
2. Students not bringing their tablet to school, at 68.8%.
3. Tablet issues (example faulty), at 62.4%.
4. Network or Wi-Fi connectivity issues, in relation to the school's infrastructure, at 56.1%.

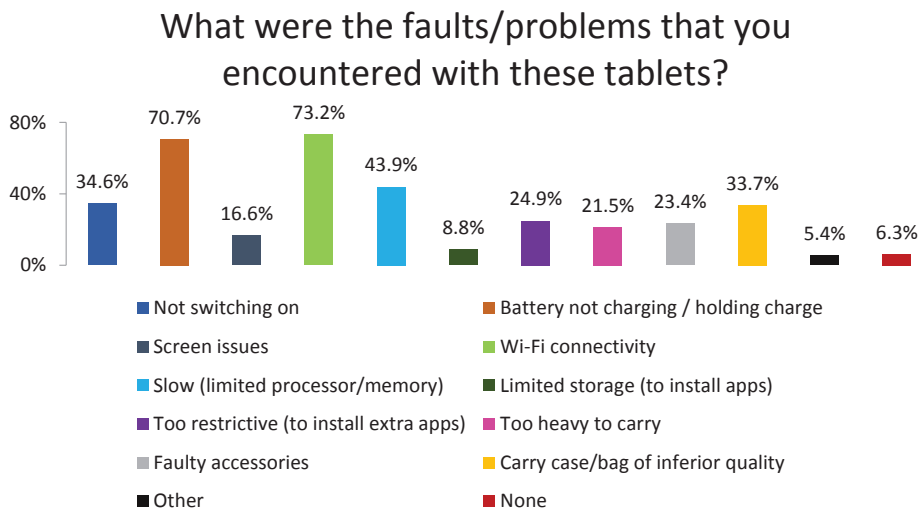


Figure 26 - Teachers' Survey

This section of the survey sought to examine in greater detail some of the concerns identified in the previous question. Teachers were asked to pinpoint which were those faults/issues they had personally experienced with these tablets.

From this analysis, it transpired that the majority of educators faced two specific concerns when using these devices; Wi-Fi connectivity (73.2%) and battery not charging or not holding a charge (70.7%). Moreover, over a third of teachers stated that the tablet was too slow, having a limited processor or memory (43.9%), the tablet was not switching on (34.6%), and it's carry case/bag was of inferior quality (33.7%).

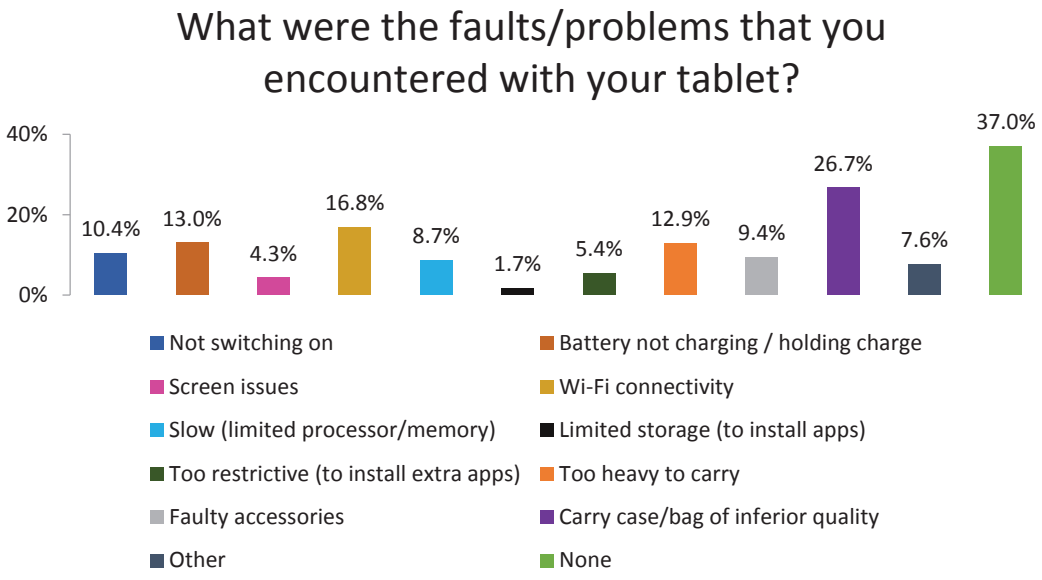


Figure 27 - Parents' Survey

Similarly, parents/guardians were also asked to select the applicable faults/issues that they had encountered with their child/ren's tablet.

The analysis revealed that parents/guardians highlighted less issues with their devices than teachers/ educators reported. In addition, parents/guardians appear to have a slightly differing perspective as to what the issues were with their devices, and in fact, the main concern reported was related to the inferior quality of the carry case/bag (26.7%). This was followed by issues relating to Wi-Fi connectivity (16.8%), battery not charging or not holding a charge (13.0%), and the tablet being too heavy to carry around (12.9%).

3.3.8 Overall Views and Perceptions

The final part of the survey presented two high level questions which sought to gather respondent opinions and their perceptions on the introduction of tablets in the educational system.

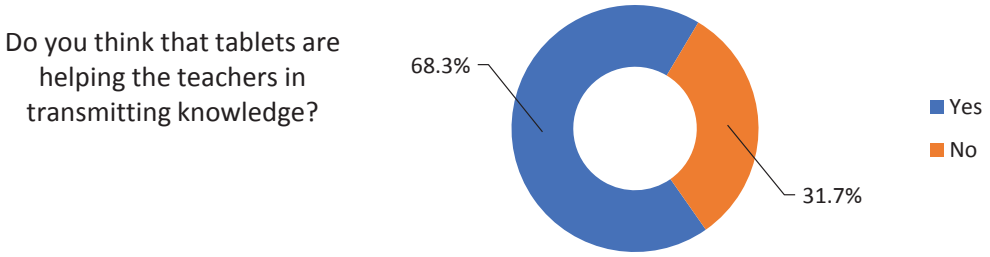


Figure 28 - Teachers' Survey

In this regard, educators were asked whether the tablets helped them in transmitting knowledge. Teacher responses were optimistic with 68.3% responding Yes as opposed to 31.7% who said No.

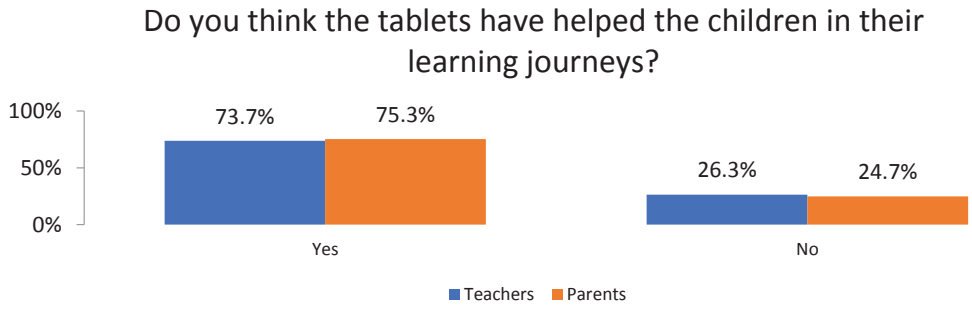


Figure 29 - Teachers' and Parents' Surveys

In relation to the above, both teachers and parents/guardians were asked if they thought that the tablets were helping the children in their learning journeys. Responses from both educators and parents/guardians were almost identical and positive with 73.7% and 75.3% of teachers and parents/guardians respectively saying Yes, which contrasts with the 26.3% and 24.7% respectively who opted for No.

3.4 Observations, Conclusions and Recommendations

3.4.1 Incomplete List of Asset Numbers

The NAO observed that the list of asset numbers provided by MEDE was incomplete. This was deduced when comparing asset numbers in the list provided by MEDE with asset numbers collected from the survey responses. Furthermore, similar discrepancies were also corroborated as already highlighted in Section 2.1.1 of this report. Subsequently, the NAO was unable to wholly rely on the lists provided by MEDE for audit purposes.

It is recommended that an updated list of tablet asset numbers is maintained, which takes into consideration device location, movements, returns or retired items.

3.4.2 Under-Utilisation of Tablets

The results of the survey analysis based on participating educators and parents/guradians responses reveal that the tablets are under-utilised by a proportion of users as shown by the survey outcomes described below:

- Just under a quarter of replies from parents and educators indicated that the students do not take their tablets to school on a daily basis, as can be seen in Figure 5 and Figure 6.

- The NAO acknowledges the fact that, as shown in Figure 8, 18.5% of participating parents indicated that the students are using the tablets at school on a daily basis. However, Figure 7 of the survey shows that 20% of participating teachers who responded, use the tablet only when an activity is planned.

- As shown in Figure 9, participating teachers said that tablets are mostly used for the main subjects, Maths, English and Maltese, however, these devices were used to a lesser extent for Science, Social Studies and Religion.

- Figure 10 shows that 61.5% of participating educators are not using these devices on educational outings organised by the school. On the same lines, as shown in Figure 15, 83.7% of parents who responded indicated that the students do not make use of these tablets on family outings.

- Whilst the survey shows that almost half of the replies from parents and teachers indicated that students are using the tablets for home use (mainly for homework, reading or studying, as shown in Figure 12 and Figure 14). However, almost another quarter of replies from parents and teachers indicated that the students are not using the tablets for home use (Figure 11 and Figure 13 refer).

[26] Quality Assurance Digital Technology reviews are conducted annually by the Directorate for Quality and Standards in Education.

In view of the above, MEDE should look into the outcomes of the survey conducted by the NAO and widen the scope of its internal Quality Assurance Digital Technology reviews[26] currently being undertaken, to investigate and monitor the utilisation of tablets (and the related apps), identify possible causes for under-utilisation and implement corrective action to address any issues identified.

3.4.3 Digital Content

From the results of the survey, the NAO observed that the Maths and English apps were rated highly by both participating teachers and parents (as shown in Figure 19 and Figure 20). However, apps for the remaining subjects, namely Maltese, Science, Social Studies and Religion, obtained lower ratings. The reasons for the lower ratings given to the above-mentioned subjects are unclear and require further detailed investigation.

In this context, MEDE should review the usage of the available apps with a view to:

- establish whether there are enough apps to cover all sub-topics of the subjects;
- identify any apps which require enhancements, revamp or replacements; and
- establish any other possible reasons for underutilisation, assuming there are sufficient and suitable apps available.

3.4.4 Tablet Related Issues

As shown in Figure 25 and Figure 26, the main issues when using tablets, highlighted by the participating educators included:

1. Students not bringing their tablet to school.

2. Students not charging the tablets at home.

3. Networks or Wi-Fi connectivity issues, in relation to the school's infrastructure.

4. Faults/problems encountered when using tablets, such as:

    - Wi-Fi connectivity.

    - Battery not charging/not holding charge.

    - Slow performance (limited processors/memory).

The above indicates the need for greater collaboration from students and their parents/guardians to ensure that tablets are always available and charged to make best use of such devices.

[26] Quality Assurance Digital Technology reviews are conducted annually by the Directorate for Quality and Standards in Education.

Further to the issues corroborated in Section 2.1.3, the faults mentioned above seem to indicate that a portion of devices are problematic, and MEDE should seek to establish how widespread and frequent these problems are. The objectives of such a study should determine possible causes for the faults, and any trends which may indicate particular groups of tablets (example by age of device). When analysing the issue related to Wi-Fi connectivity, MEDE should look into it from both the device and the school infrastructure aspect.

3.4.5 Support

The NAO observed that a substantial portion of participating teachers who had requested the services of the DDLTS, claimed that support was available only when requested, once a month or once every fortnight (Figure 21 refers). This may indicate that there are insufficient human resources to ensure the availability of a more frequent service.

In this context, the NAO suggests that MEDE should identify the schools where support from the DDLTS is not frequently available and consider allocating additional resources as required.

Chapter 4

Management Comments

Key Findings and Recommendations.

a. The NAO observed some inconsistencies in tablet inventories which were provided by MEDE for the purpose of this IT audit.

Whilst the NAO understands that an inventory of tablets is not static, it is recommended that an effort is made to keep the inventory updated continuously to reflect any changes in terms of new tablets, change of location, and replacements amongst others.

Management response: **MEDE takes note of the observation and recommendation and confirms that all efforts are in place to ensure that a robust inventory system is sustained. It is to be noted that this project has 15,750 assets distributed among 96 schools with the possibility of frequent changes to the inventory. Regular students' movements from one school to another inevitably occur in any educational system, thus imposing repeated changes to the inventory. The current control system operates on a school-based inventory, running in parallel with a centrally managed system which manages assets remotely through the ClassConnect device management system. ClassConnect is a live automated system which records the tablet's asset number and the school/entity which the tablet has been assigned to. ClassConnect limits possible human errors in terms of recording tablet movements and does not require individual school reconciliation. MEDE will look to further strengthen the structure of schools to keep inventory regularly updated.**

b. MEDE provided the NAO with a breakdown of support call statistics for the period November 2017 and April 2019 and noted that 6,198 support calls were logged in the system, of which 5,238 support calls were resolved, whilst 960 calls were still pending resolution.

The NAO acknowledges the fact that a substantial number of calls were resolved, however, this Office suggests that MEDE verifies which of these 960 calls are still pending and the reason/s why these calls have not been resolved yet.

Management response: **MEDE continuously liaises with MITA and the contractor to ensure resolution of support calls. As noted by NAO, the vast majority of support calls were resolved. An analysis of the pending calls indicate that the majority of the calls are not related to the functionality of tablet itself. In this respect, 485 calls are related to damaged carry cases, hence not having a direct impact on the core functioning of the tablet. MEDE will ensure that these calls will be resolved during the first term of the coming scholastic year.**

Similarly, 97 calls regarded peripherals including lost or broken chargers, broken headphones and stylus pens. The remainder are related to hardware or software support issues. In all cases, students were never left without the use of a tablet device and replacements were given as per procedure adopted for this project and as outlined in the contract document. MEDE is also committed to continue working with MITA and contractor to address pending support calls.

c. In terms of online support, a dedicated website, the *Malta Digital Education Portal*, was created, which included a number of educational resources, such as videos and instruction manuals, to cater for teachers, parents and students.

Whilst on one hand the NAO acknowledges the wide and varied online support resources available for parents, educators and students, the NAO recommends that MEDE should monitor the usage of these tools and continue to raise awareness of such resources.

Management response: **MEDE monitors the analytics of usage of the resources that are available through this portal. Between 25th December 2018 and 15th July 2019, 19,426 visit sessions were registered on the website of which 18,966 sessions originated from Malta. MEDE will continue to promote awareness among students, educators and parents through various communication channels including regular circulars to all schools and continuous updates and information on MEDE social-media platforms.**

The NAO designed and disseminated two separate surveys, one for educators and the other for parents to gather the respective opinions on various aspects of this scheme, from two different perspectives (Chapter 3 refers). Both surveys sought to analyse various aspects concerned with the adoption and use of tablets in the education system as well as outside the school environment. The main findings and corresponding recommendations are listed below:

a. The NAO observed that the list of asset numbers provided by MEDE was incomplete. This resulted when comparing asset numbers in the list provided by MEDE with asset numbers collected from the survey responses. Similar discrepancies were also corroborated in other inventory lists which were provided by MEDE (Chapter 2 refers) and thus, the NAO was unable to wholly rely on the lists provided by MEDE for audit purposes.

Management response: **MEDE hereby confirms that the inventory per school was provided to NAO upon request on the 28th of February 2019. The circular informing schools about the NAO survey among teachers and parents was disseminated on the 26th of April 2019. The survey thus started after this date, that is 2 months after MEDE had submitted the list of asset numbers per school.**

In order for the students to experience a smooth digital education experience with the tablets, the contract envisages that when a tablet is reported faulty or damaged, this is replaced immediately with a fully functioning device. It is therefore understandable that

in two months, a number of devices would have moved/been removed from the school system and replaced by these replacement tablets, meaning that changes to the relevant inventory are made.

MEDE notes that the ClassConnect system continuously reflects changes of tablets being enrolled or un-enrolled and also captures when a change in location takes place. MEDE will keep ensuring that an up-to-date inventory is always available, as and when necessary.

b. The initial results of the survey analysis revealed that the tablets are under-utilised by a proportion of users as highlighted in Section 3.4.2.

The NAO recommends that MEDE looks into the outcomes of the survey conducted by this Office and widens the scope of its internal Quality Assurance Digital Technology reviews currently being undertaken, to investigate and monitor the utilisation of the tablets (and the related apps), identify possible causes for under-utilisation and implement corrective action to address any issues identified.

Management response: **MEDE notes that, according to the NAO survey, over 70% of both teachers and parents think that tablets helped the students in their learning journeys. MEDE will continue to build on this positive feedback to develop this project further. Furthermore, tablet usage in schools needs to be placed within an educational perspective. DDLTS continuously emphasises two main points with educators, which are:**

a. **Every activity and/or lesson with tablets need to be well planned**
b. **The quality of the activity as well as the student's engagement and learning are far more important than the quantity of the time in which the tablet is used.**

With this in mind, Figure 7 of the same report shows that:

- **11.2% of teachers use the tablet everyday**
- **13.2% Four times weekly**
- **26.3% Three times weekly**
- **13.7% Twice weekly**
- **13.2% Once weekly**

This means that 50.7% of teachers use the tablet at least 3 times a week. This is an encouraging statistic which does not indicate underutilisation but rather indicates that the project is on the right track after the first three years of its implementation. MEDE will build upon this to improve utilisation further, particularly through additional training and support for educators. MEDE will also strengthen its use of ClassConnect data monitor utilisation and implement corrective action in specific schools as necessary. MEDE will continue to work with the Directorate of Quality Assurance to further use the external review process to monitor the use of digital technology in the classroom.

c. In terms of digital content, the results of the survey showed that the Maths and English apps were rated highly by both teachers and parents, whilst the apps for the remaining subjects, namely Maltese, Science, Social Studies and Religion, obtained lower ratings.

In this regard, the NAO opines that the reasons for the lower ratings given to the above-mentioned subjects are unclear and require further detailed investigation. However, the NAO recommends that MEDE should review the usage of the available apps with a view to:

- establish whether there are enough apps to cover all sub-topics of the subjects;
- identify any apps which require enhancements, revamp or replacements; and
- establish any other possible reasons for underutilisation, assuming there are sufficient and suitable apps available.

Management response: **The majority of apps available on the tablet are not subject-based and hence these can be used across all subjects where students have the opportunity to create digital content, using apps such as WorkSpace, Author Premium, PicSay, SimpleMind, Animator, StoryVisualizer and Comic Strip It. A good number of apps instigate students towards self-assessment such as Kahoot, Quizizz and Quizlet. Other apps promote coding such as J2Code, Scratch Junior and WeDo 2.0 and these can also be used across subjects.**

MEDE notes that in the survey, a parent/guardian was asked to gauge the tablets utilisation in relation to a given subject. The respondent might therefore have not been knowledgeable on whether that particular application is contributing towards the learning of a particular subject and this may have influenced the response given.

A number of apps are subject-based, for example BrainPop, Literacy Pro, Studyladder, Octavo, Maltese ebooks, Time Tables Mountain, Mental Maths Train and Bible.

MEDE is monitoring the usage of the available apps and will take up the recommendations of this report. As regards the recommendation: "establish whether there are enough apps to cover all sub-topics of the subjects", MEDE already adopts a standard operating procedure whereby any educator who comes across any educational valid app may forward the suggestion to DDLTS to be evaluated accordingly both by the Directorate and the Education Officer of the respective subject. If positively evaluated, such app is made available to all educators.

Another factor which may have influenced the result was the fact that mathematics support teachers further supported the use of tablets for mathematics within the State primary schools.

Additionally, different software packages were introduced in a staggered manner which meant that students and teachers were exposed to software for certain subjects for a longer period.

d. The results of the survey highlighted some of the issues which the participating educators have encountered when using the tablets, such as students not bringing their tablet to school, students not charging the tablets at home, and hardware issues related to Wi-Fi connectivity, battery not charging and slow performance.

Whilst some of the issues highlighted above indicates the need for greater collaboration from students and their parents/guardians to ensure that tablets are always available and charged to make best use of such devices, the hardware issues mentioned above seem to indicate that a portion of devices are problematic.

In this regard, the NAO recommends that MEDE seeks to establish how widespread and frequent these problems are. The objectives of such a study should determine possible causes for the faults, and any trends which may indicate particular groups of tablets (example by age of device). When analysing the issue related to Wi-Fi connectivity, MEDE should look into it from both the device and the school infrastructure aspect.

Management response: **The main hardware issue indicated refers to power/battery issues. MEDE will analyse the log in reports from MITA to seek to establish how widespread and frequent these problems are and take the necessary action. MEDE would like to point out that in all cases a replacement tablet is provided to allow the user to continue working as per contract conditions.**

With regard to Wi-Fi connectivity issues, MEDE has just launched an investment of €5.2 million to improve Internet connection in State schools as from 2020.

e. The NAO observed that a substantial portion of teachers who had requested the services of the DDLTS, claimed that support was available only when requested, once a month or once every fortnight. This may indicate that there are insufficient human resources to ensure the availability of a more frequent service.

In this context, the NAO suggests that MEDE should identify the schools where support from DDLTS is not frequently available and consider allocating additional resources as required.

Management response: **Support provided to schools needs to be specified according to the different contexts in State, Church and Independent sectors. Church and Independent schools have specific set ups which are run by the sectors themselves. In the case of State schools, there are 16 Digital Literacy support teachers and 5 Heads of Department who form part of the DDLTS and visit schools once a week to support all educators from Kinder 1 to Year 6 in all aspects of digital literacy. They support also non-State schools for professional development on request. These Heads of departments/support teachers also offer a wider range of services in relation to digital literacy beyond the OTPC project.**

Due to the high demand for support, MEDE will continue to work on the capacity building process to fill vacant positions.

Overall Conclusions and Observations

MEDE notes with satisfaction the final conclusions and observations, which indicate that the overall view of the scheme was a positive one. MEDE will work to implement the agreed measures to improve the project further.

In the meantime, MEDE compiled the implementation plan for the key recommendations mentioned in this report, which gives a rough indication when MEDE will implement the various key recommendations.

Category of Recommendation	Description	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020
Objectives	New plan with revised objectives and funding model	Submit plan for continuation of project for 2019/2020. Liaise with MEDE finance department and IMU to secure funding for 2020/2021.	Implement roll out of tablets for new year 4 cohort of 2019/2020. Submit plan for continuation of project for 2020/2021.	Initiate procurement procedure for new phase in 2020/2021 in primary schools.	Conclude procurement procedure for new phase in 2020/2021 in primary schools.	Implement roll out for new phase 2020/2021.	Continue implementation of roll out and related professional development.
Inventory	Updating of inventory	Stock-take of current inventories.	School-based inventories to be updated according to the latest changes.	Verify the school-based inventory against the ClassConnect inventories.	Ongoing updating of inventories and recording of the movements of tablets.	Stock take and reconciliation of inventories.	School-based inventories to be updated according to the latest changes.

Utilisation of tablets and digital content	Actions to increase further usage of tablets and related apps	Updating the portal http://www.digital.edu.mt/ with latest resources.	Additional training and support for educators. Communicate and implement the policy that establish the minimum use of tablets.	Additional training and support for educators. Initiatives at school level and on national level to promote the use of tablets for educational purposes. Continuous assessment and self-assessment using the tablets.	Additional training and support for educators. Enhance the network of tablet users through eTwinning and other educational programmes.	Additional training and support for educators. Increase promotional material to promote the use of tablets and use of various communication channels for support.	Additional training and support for educators. Celebrate good practices of the use of tablets and reward the educators and students who are standing out in the use of tablets.
Tablet related issues	Review and resolution of the 960 open support calls mentioned in Section 2.1.3	Conclude pending calls related to carry cases. Liaise with MITA and contractor to clarify exact nature of open support calls.	Conclude clarification exercise with MITA and contractor re 960 pending calls and take appropriate action.	Set up a SOP with MITA to monitor logged calls and any back logs which may arise.			
Support	Allocation of additional DDLTS support staff	Liaise with MEDE HR to identify capacity building possibilities to fill DDLTS vacancies.	Recruit Assistant director for DDLTS. Conclude capacity building with MEDE HR.	Initiate recruitment process.		Conclude recruitment process and recruit new staff members.	

Appendix 1

Teachers' Survey

*1. Please input the six-digit asset number of your tablet (located on the back of the tablet).

This information is being collected to avoid duplicate responses and ensure a degree of reliability - The NAO does not have any personal data and will not be able to identify the owner of such tablet from the asset number. The information collected is strictly for audit purposes and the NAO will only divulge the cumulative results of this survey.

*2. What type of school do you teach at?

- State School
- Church School
- Independent School

*3. Which school do you teach at?

[list of Primary level State Schools]

*4. Which school do you teach at?

[list of Primary level Church Schools]

*5. Which school do you teach at?

[list of Primary level Independent Schools]

*6. Which year/grade do you teach?

- Year 4
- Year 5
- Year 6

*7. Are your students told to bring their tablet to school every day?

- Yes
- No - told to get it four times weekly
- No - told to get it three times weekly

- No - told to get it twice weekly
- No - told to get it once weekly
- No - told to get it once every fortnight
- No - told to get it only when an activity is planned

*8. How often do you use the tablet as part of a lesson?

- Everyday
- Four times weekly
- Three times weekly
- Twice weekly
- Once weekly
- Once every fortnight
- Only when an activity is planned

*9. Which subjects/topics do you generally use the tablet for? (Please tick as many as applicable)

- Maths
- Science
- English
- Maltese
- Social Studies
- Religion
- Other subjects
- None

*10. Have you ever used the tablet on educational outings?

- Yes - more than three times
- Yes - three times
- Yes - twice
- Yes - once
- No

*11. Is homework given on the tablet, and if yes, how often?

- Yes - frequently
- Yes - occasionally
- Yes - rarely
- No

*12. If yes, for what purpose is the student instructed to use the tablet at home? (Please tick as many as applicable)

- Homework
- Reading
- Research/Projects
- Studying/Revision
- Other

*13. Were you given training on the use of tablets in class?

- Yes, by the Education Department
- Yes, by the School
- No

*14. If yes, did this involve any hands-on or practical sessions?

- Yes, involved hands-on training
- No, only theoretical

*15. Rate how satisfied you were with the training that you were given by the Education Department?

- Very Satisfied
- Satisfied
- Not satisfied

*16. Were you given information on the available apps that can be used as a teaching resource, apart from those already installed on the tablet?

- Yes
- No

*17. Is there enough digital content to assist teachers with these subjects/topics? (Please rate the digital content available for each subject. Tick not applicable for subjects which you do not teach.)

	Excellent	Good	Average	Fair	Poor	N/A
Maths						
Science						
English						
Maltese						
Social Studies						
Religion						
Other subjects						

*18. Have you ever asked for the support of the Education Department, including Digital Literacy Support staff, to help you in using the tablet or an app, and if yes, how often is this service available (frequency of visits)?

- Yes - available daily
- Yes - twice a week
- Yes - once a week
- Yes - once every fortnight
- Yes - once a month
- Yes - available only when requested
- No
- Am not aware of this service

*19. If yes, how did you rate the support given by the Education Department?

- Excellent
- Good
- Average
- Fair
- Poor

*20. Did you ever need any maintenance or support from the supplier (Avantis) with such tablet, and if yes, how do you rate this support?

- Yes - excellent
- Yes - good
- Yes - average
- Yes - fair
- Yes - poor
- No
- Am not aware of this service

*21. In your experience, what were the issues that you encountered when attempting/planning to use these tablets? (Please tick as many as applicable)

- Students leaving their tablet at home/not bringing their tablet to school
- Students not charging their tablets at home
- Tablet issues (ex. faulty)
- Not enough apps
- Tablet too restricted
- School infrastructure – Network/Wi-Fi connectivity issues
- Other
- None

*22. In your experience, what were the faults/problems that you encountered with these tablets? (Please tick as many as applicable)

- Not switching on
- Battery not charging / does not hold charge
- Screen issues
- Wi-Fi connectivity
- Slow (limited processor/memory)
- Limited storage (to install apps)
- Accessibility – too restrictive (to install extra apps)
- Too heavy to carry
- Faulty accessories
- Carry case/bag of inferior quality
- Other
- None

*23. Do you think that tablets are helping the teachers in transmitting knowledge?

- Yes
- No

*24. Do you think the tablets have helped the children in their learning journeys?

- Yes
- No

Appendix 2

Teachers' Survey

*1. Please input the six-digit asset number of your tablet (located on the back of the tablet).

This information is being collected to avoid duplicate responses and ensure a degree of reliability - The NAO does not have any personal data and will not be able to identify the owner of such tablet from the asset number. The information collected is strictly for audit purposes and the NAO will only divulge the cumulative results of this survey.

*2. What type of school does your son/daughter attend?

- State School
- Church School
- Independent School

*3. Which school does your son/daughter attend?

[list of Primary level State Schools]

*4. Which school does your son/daughter attend?

[list of Primary level Church Schools]

*5. Which school does your son/daughter attend?

[list of Primary level Independent Schools]

*6. Which year/grade is he/she in?

- Year 4
- Year 5
- Year 6

*7. Does he/she take the tablet to school everyday?

- Yes
- No - four times weekly
- No - three times weekly
- No - twice weekly
- No - once weekly
- No - once every fortnight
- No - only when an activity is planned

*8. How often is the tablet used at school?

- Everyday
- Four times weekly
- Three times weekly
- Twice weekly
- Once weekly
- Once every fortnight
- Only when an activity is planned

*9. Is the tablet being used at home?

- Yes - frequently
- Yes - occasionally
- Yes - rarely
- No - the child uses his/her personal device/s at home
- No

*10. If yes, how is the tablet being used at home? (Please tick as many as applicable)

- Homework
- Reading
- Research/Projects
- Studying/Revision
- Other

*11. Do you feel that the applications on the tablet are helping your child's learning in relation to the below subjects? (Please mark for each subject)

	Yes	No	Not Applicable
Maths			
Science			
English			
Maltese			
Social Studies			
Religion			
Other subjects			

*12. Has the tablet ever been used on family outings? (ex. The tablet may also be used at Esplora, Heritage Malta sites, etc.)

- Yes - frequently
- Yes - occasionally
- Yes - rarely
- Yes - once
- No

*13. Did you ever need any maintenance or support with such tablet, and if yes, how do you rate this support?

- Yes - excellent
- Yes - good
- Yes - average
- Yes - fair
- Yes - poor
- No
- Am not aware of this service

*14. What were the faults/problems that you encountered with your tablet? (Please tick as many as applicable)

- Not switching on
- Battery not charging / does not hold charge
- Screen issues
- Wi-Fi connectivity
- Slow (limited processor/memory)
- Limited storage (to install apps)
- Accessibility – too restrictive (to install extra apps)
- Too heavy to carry
- Faulty accessories
- Carry case/bag of inferior quality
- Other
- None

*15. Do you think the tablets have helped the children in their learning journeys?

- Yes
- No

2018 - 2019 (to date) Reports issued by NAO

NAO Work and Activities Report

April 2019	Annual Report & Financial Statements 2018 - Works and Activities

NAO Audit Reports

October 2018	Performance Audit: An evaluation of Government's deal to design, build and operate the Malta National Aquarium
October 2018	Follow-up Reports by the National Audit Office 2018
November 2018	Performance Audit: A Strategic Overview on the Department of Fisheries and Aquaculture's Inspectorate Function
December 2018	Report by the Auditor General on the Workings of Local Government for year 2017
November 2018	An investigation of matters relating to the contracts awarded to ElectroGas Malta Ltd by Enemalta Corporation
November 2018	An investigation of matters relating to the contracts awarded to ElectroGas Malta Ltd by Enemalta Corporation (Abridged)
December 2018	Report by the Auditor General on the Public Account 2017
December 2018	Performance Audit: An evaluation of the regulatory function of the Office of the Commissioner for Voluntary Organisations
January 2019	An Investigation of Visas issued by the Maltese Consulate in Algiers
March 2019	Performance Audit: A Review on the Contract for Mount Carmel Hospital's Outsourced Clerical Services
June 2019	Joint Audit: An Evaluation of the Community Work Scheme
July 2019	Cooperative audit: Are adequate mechanisms in place for the designation and effective management of Marine Protected Areas (MPAs) within the Mediterranean Sea?