**Students’ everyday personal laptop usage in secondary schools in Trinidad and Tobago**

The e-Connect And Learn (eCAL) programme is a Trinidad and Tobago government-led initiative, launched in 2010, that grants personal laptop computers to students entering secondary school. The purpose of this paper is to provide a snapshot of how students are using these government-issued personal laptops three years after the programme’s launch. This paper explores the fissure between what the policy recommends and what is actually enacted in the context of laptop usage in the classroom. Data were drawn from 1451 students, from 32 secondary schools across Trinidad and Tobago. Responses indicate that students are falling short of the expectations for in-class laptop usage and in schools where usage is less often but on a regular basis, laptops are mainly used for technology-related subjects. These findings not only suggest that students’ everyday personal laptop usage in the classroom is not in alignment with the eCAL programme goals, but also highlights some of the issues to be considered by other countries when implementing large-scale laptop programmes.

**Keywords:** education; one-to-one laptops; developing nations; technology; ICT policy

1. **Introduction**

Educational technology in the form of Information and Communication Technology (ICT) is now commonplace in the modern classroom (Lawless and Pellegrino 2007). As the name suggests, ICT involves the use of technology for the basic transfer and communication of information, or to explore and collect information (Mohanty and Vohra 2006). Whilst globally there are a number of ICT initiatives in education, the levels of ICT access and usage in the developing world have until recently been rather low (Agbele, Nyongesa and Adesina 2009) and these countries are only now starting to embrace ICT as a practical tool (Andrade and Urquhart 2010). As a developing nation and developing economy, the drive towards creating a citizenry in Trinidad and Tobago with 21st century skills mandates that in the educational forum, students should have access to a challenging curriculum using modern learning tools. As such, the Ministry of Education (MOE) has worked to introduce ICT into schools via the establishment of computer labs and other initiatives geared towards meeting students’ expectations; enhancing their learning experience, and fulfilling the needs of the wider community (Gaible 2008). Further advancing ICT development in schools, was the initiation of a government-led laptop initiative in May, 2010. The e-Connect And Learn (eCAL) programme, provided every new student entering secondary school (ages11-12) with a government-issued laptop for use both in class and at home. The associated eCAL policy provided an outline of the intended use of the laptops in the classroom, describing the laptop as an instructional tool, a curricular tool and a tool for research and communication. This policy was intended to promote the development of information literacy across the curriculum and, in the digital age, it might be expected that such an approach would be successful. The laptop usage guidelines, as defined in the policy, specifically point to the use of laptops in the classroom for:

1. Computer-assisted instruction (demonstration, drill and practice, tutorials, simulations and interactive activities, graphical representations of math equations, collaborative activities and the like)
2. Resource-based learning (which involves the achievement of both subject and information literacy objectives through exposure to and practice with diverse resources, making students active learners) and
3. Collaborative learning (in which learners communicate and work with their peers both inside the classroom and across classrooms and schools in projects designed to solve real world problems through the application of subject-specific knowledge and skills) anywhere on the school grounds

 MOE (2010, 9.4.2)

In considering the breadth of this policy and the level of suggested integration, where students are instructed to bring their laptop ‘to all classes’ (MOE 2010, 9.2.5), it is clear that the laptops were intended to be a fully embedded everyday learning resource. As its main objective, the policy promotes the use of laptops ‘as a tool to leverage the capacity of ICT to enhance the education system in Trinidad and Tobago’ (MOE 2010, p.1). However, a comprehensive case study done by Ali (2012) indicated that the eCAL programme was a ‘failure thus far’ primarily due to ‘the poor infusion of the technology in classroom practice’ (p. 48). Ali’s research allowed him to conclude that the eCAL goals were not attained in one particular secondary school and that the presence of laptops in the school had not enhanced the classroom learning environment - and these findings caused us to question the programme at a national level. This led us to examine the eCAL policy in relation to the actual experiences of students across a range of secondary schools in Trinidad and Tobago.

Increasing investment in one-to-one initiatives locally and regionally, demands evidence of impact on curriculum integration practices and student learning. However, three years into the programme, the MOE has not provided any information on the nationwide status of the programme either with regard to laptop usage in the classroom; the integration of laptops into the classroom curriculum, or the effect of laptops on student academic achievement. Although information on the technical aspects of the eCAL policy is readily available, reports of any kind on any curriculum-related aspect of the eCAL policy on a nationwide level are not. The lack of available analyses – especially those with a representative sample of the school laptop population, presents a gap in the minds of many parents and concerned citizens on the benefits of these tools in the hands of their children. Further, without any visible structured monitoring or evaluation systems, the worthwhileness of the programme cannot be fully determined.

In an attempt to determine this, we performed a nation-wide snapshot survey of how students in secondary schools across Trinidad and Tobago are using the government-issued personal laptops in the classroom. The aim of this research is not to scrutinise the eCAL policy but to explore the fissure between what the policy recommends and what is actually enacted. In doing so we ask the following question ‘Is there a gap between the eCAL policy’s aims and students’ everyday personal laptop usage in secondary schools in Trinidad and Tobago?’

1. **Laptops in education: a developing world perspective**

The true benefits and advantages of integrated laptop usage in the classroom may only come to pass within a context where relatively flexible usage of laptops is supported. In this regard the way that laptops are conceptualized and used may be different in the developed and developing countries. There is a global ‘digital divide’ where - developing countries have lower technology adoption levels (Dewan and Kraemer 2000) and are additionally faced with issues of reliability of infrastructure and intermittent internet access (Pick and Azari 2008). Students in many developing countries are further hindered by security issues (Mouttet 2004; Taylor 2009) where laptops are more likely to be subject to theft (Swamber 2011).

Such factors might work to reduce the impact of laptops as learning tools in developing countries, since even established institutions have found it difficult to move to ICT-enabled practices (Ganpat, Ragbir and de Freitas, 2009). In developed countries there is an association between educational ICT usage and educational outcomes where learning outcomes and learner satisfaction show a generally positive trend in relation to the increased usage of ICT. Chinn and Fairlie (2006) however, were not able to find such an association in the developing world. The education system of Trinidad and Tobago is still rooted in its colonial past (Brown and Conrad 2007; Jules 2008) and ‘traditional’ pedagogies remain esteemed, and might prove problematic when attempting to introduce technology in a meaningful way. This issue, of incorporating ICT into the ‘traditional’ classrooms of Trinidad and Tobago is described by Waldron (2009, p. 67) as ‘an illusion of progressiveness’.

The integration of laptops into the curriculum as more than a technology tool requires frequent usage and guided interactions in the classroom (Orlando 2009). Such changes also involve teachers learning new skills and overcoming any technological fears they might have (Zhao, Pugh, Sheldon and Byers 2002; Sutherland, Robertson and John 2008). Portable technologies also mandate changes in teaching activities to more in-class learning opportunities. Discussions are also encouraged in an attempt to raise students from simply assembling and recording information to the application and manipulation of findings (Bebell and O’Dwyer 2010). Gaible (2008) found that although teachers in Trinidad and Tobago attained well-developed basic computer skills, they lacked both the training in, and opportunity for, integration of the technology into their teaching practices. Likewise research in the neighbouring islands suggests that a key issue for teachers was a lack of purposive training (Leacock and Warrican 2012). In these cases, laptops were readily utilised for technical purposes (recording data and writing reports) however teachers reported difficulty for in-class usage (Leacock and Warrican 2012).

In launching the eCAL policy the government of Trinidad and Tobago introduced a powerful tool with the potential to improve the quality of education in the secondary classroom. Wolff and de Moura Castro (2000) see the appropriate use of technology as one of the critical areas for increasing the quality of educational activity in secondary education in Latin America and the Caribbean. These one-to-one laptop initiatives can provide flexible and unique learning experiences for students (Mohanty and Vohra 2006; NSW Departmental Report 2009) and can support the development of autonomy and motivation (Mouza, Cavalier and Nadolny 2008). Three years into the programme, Trinidad and Tobago is now serving as a role model (for other Caribbean islands) for the implementation of these one-to-one initiatives, however there needs to be some problematisation of the experiences of those at the centre of new ICT initiatives to allow other developing countries undertaking similar ventures a better understanding of the reality of such initiatives.

By focusing on three key elements relating to the implementation of the eCAL policy – how often students bring their laptops to school, which in-class activities they are used for, and in which subject they tend to be used – we hope to provide valuable insight into the introduction and enactment of the ICT policy by identifying any gaps in classroom usage and alignment to the eCAL policy.

1. **Methodology**

Students involved in the inaugural eCAL programme are presently in their third year (Form 3) of secondary school and are typically 13-14 years old. These students have had maximum exposure to the laptops in the school environment (since September, 2010) compared to their younger counterparts. 152 secondary schools received laptops in 2010, resulting in a population size of approximately 17,000 students. Data were gathered from Form 3 students from 34 secondary schools (representing 23% of the secondary schools across Trinidad and Tobago) while on an organized walking tour of a local university. The sample (n=1451) included both male and female participants, and represents students from a cross-section of all school ‘types’ across the nation, inter alia, geography, size, gender combination, religion, state and age of school. The sample size here is both broad in range and large in number; therefore it is likely to have a high level of representativeness – giving a comprehensive snapshot of everyday laptop usage across the nation’s secondary schools at the time of investigation. Given the proposed number of participants, a survey research design (a questionnaire) was used to collect primarily quantitative data. The use of a questionnaire meant that data could be collected from this large sample in a short period of time. Completion of the questionnaires was designed so as not to be burdensome as lengthy questionnaires can lead to fatigue and this, in turn, can lead to participants making mistakes in their responses (Brace 2008). By focusing on student-generated data we were able to gain an insight into their actual experiences of laptop usage. Students were preferred to staff as sources of data as teaching staff may have felt pressured into giving more ‘padded’ responses in order to avoid appearing in conflict with the eCAL programme.

Data analysis was conducted by analysing three factors. The first involved the use of descriptive statistics to examine the frequency of bringing the laptop to school. The second involved analysis of Likert scale data by grouping the responses to five questions on laptop usage as presented in the questionnaire. For this, a cumulative maximum score of 20 points could be obtained, and the student’s responses would determine their score as a percentage of this total. Finally, we used descriptive statistics to examine the subject specific use of the laptop as a measure of the curriculum integration of this technological device in the classroom. Usage in this regard is represented on a numeric scale and is calculated as a score for each student corresponding to the Likert scale statements on the questionnaire. This research is non-experimental and does not seek to manipulate the key variables (laptop usage, laptop activity and subject usage) but rather to describe the status of laptop usage. The research seeks to determine if the introduction of laptops has led to a move away from the traditionally perceived subject limitations of computers in education. Moreover, the objective here is to determine if students’ everyday personal laptop usage in secondary schools is aligned with the prescribed directives as outlined by the eCAL policy (MOE 2010, 9.4.2). From such an analysis results can be drawn that might benefit the enactment and implementation of similar future policies not only in Trinidad and Tobago but also in other countries across the developing and developed world. This is realised through the analysis of three questions:

1. How often do students bring their laptops to school?
2. For what activities and practices are the laptops used in the classroom?
3. In what subjects are the laptops being utilised?

**4. Data and data analysis**

***4.1. How often do students bring their laptops to school?***

Students were asked to indicate how often they brought their laptops to school. The response options were: never; once per month; once per week; every 2-3 days, and every day. As prescribed by the eCAL policy, the laptop as a tool integrated into the curriculum, should be utilised everyday by students within the classroom, and as such, a high percentage of students should indicate daily usage. From a total of 1451 students who responded to this question, only 10 students (0.7%) selected the response ‘everyday’. In contrast 55.8% of the students surveyed indicated that they ‘never’ take their laptops to school (see Figure 1). These figures strongly suggest a disconnect between the expectations and the actual enactment for the integration of laptops into the curriculum at these schools.

**Figure 1** Frequency with which students bring their laptops to school

 [Figure 1 near here]

***4.2. For what activities and practices are the laptops used in the classroom?***

To further investigate in-class laptop usage and to examine the alignment of usage with that prescribed by the policy that directs it, it was necessary to investigate the ways in which the laptops were being utilised in the classroom. Responses to the Likert statements “I use the laptop to search for information in the classroom”; “I take quizzes or tests using the laptops”; “I use the laptop to create presentations and projects” and “We work in small groups on assignments using the laptops” were used to define and measure laptop usage. These statements are themselves activities that are aligned to specific eCAL objectives for achieving laptop integration in the classroom, and include the use of the laptop to facilitate collaborative activities, group work, and laptop usage in the classroom as a networked and connected technological tool.

For activities requiring networking capacity or a reliable internet connection, the sum total of the responses for the Likert statements: “I use the laptop to search for information in the classroom” and “I take quizzes or tests using the laptops” was used. As indicated in Figure 2, the majority of students reported that they “Never” (47.62%) or only “Rarely” (32.46%) used their laptops in the classroom to perform searches during classes. Collectively this indicates that approximately 80% of the students surveyed are not fully engaging in these types of activities in the classroom. The data also reveals limited usage of the laptops as a tool for taking tests and quizzes in the class, with less than 5% of students surveyed responded “Occasionally” or “Frequently” to indicate their usage of the laptop for these activities. These results, showing extremely low laptop usage for specific classroom activities, might be related to, or indicative of, issues with internet connectivity experienced at most of the schools - a critique that is supported by unprompted student comments reporting, “no Wi-Fi connection” or “no Internet at school” when asked about laptop usage on the questionnaire.

**Figure 2** Frequency of laptop usage for in-class activities reliant on internet connectivity

 [Figure 2 near here]

To examine the in-class laptop usage for activities promoting creativity and collaborative or group work, the sum total of the responses for the following questions: “I use the laptop to create presentations and projects” and “We work in small groups on assignments using the laptops” were used. These responses were also treated as mentioned above, and were represented as a percentage of the total number of students surveyed (n=1451).

As illustrated in Figure 3, almost 70% of respondents indicated that they “Frequently” or “Occasionally” used the laptops for creating projects and presentations. For these same responses, only 45% of students indicated that they used the laptops for group or collaborative work.

**Figure 3** Frequency of laptop usage for in-class activities related to collaborative work

 [Figure 3 near here]

This data is supported by students’ written comments indicating that the laptops were being used *“Mostly just for projects in all areas”, “Used when projects are being presented”*, and *“In all subjects for projects”*.The question of subject usage is investigated below in more detail.

***4.3. In what subjects are the laptops being utilised in the classroom?***

One of the objectives of the eCAL policy was to integrate the laptop as a curriculum tool, implying that its usage should not be limited to any particular subject area. The curriculum-wide usage of the laptop would also suggest a level of integration of the technology into the school culture and pedagogical practices. The question of subject usage was addressed in one of the two close-ended questions on the survey instrument. Students were asked, “In which subject areas are the laptops currently being used in your school?” The responses were recorded, and the total number of students and their responses summarised. The responses are to the question, ‘In which subject areas are laptops currently being used in your school?’ represented as a percentage of the total number of respondents (see Table 1).

**Table 1** Student usage of laptops in the classroom by subject area

 [Table 1 near here]

Results for this question, as highlighted in Table 1, indicate that the laptop is being utilised at relatively low percentages, in several subject areas across the curriculum. There is however a notable preference for usage of the laptops for technology-related subjects. From the raw data collected, it was evident that when the laptops were used with some degree of regularity, only one technology-related subject was identified. We then decided to examine this further to determine if there was a trend in the total data set to support this preliminary observation with regards to this subject selection. To illustrate this, we plotted in Figure 4, the modes for “frequency of bringing laptop to school” against the percentage of students using the laptop for technology-related subjects.

**Figure 4** Frequency of bringing laptop to school in relation to laptop usage within Technology-related subjects

 [Figure 4 near here]

Analysis of the data shows that, for schools where students bring their laptops at least once per month, between 50-100% of the students utilised the laptops for technology-related subjects. Further, a very tight grouping in the 95-100% range corresponds to students who bring their laptops to school at least once per week. This data, in conjunction with that presented in Table 1, suggests that the current laptop usage is either replacing or supplementing primarily technology-related subjects. This practice of taking the computer lab into the classroom strongly contradicts the directives of the eCAL policy which sought to move away from the traditional subject restriction of laptops in the curriculum.

1. **Triangulation of data**

From a total of 1451 students surveyed, only 10 students (0.7%) indicated that they brought the laptop to school every day. For students who brought their laptops to school less frequently (once per month or at least once per week), the in-class usage was almost exclusively for Information Technology or Technology Education. Collaborative learning exercises, and group work, reported the highest in-class usage of the laptops for any of the measured usage activities and was consistent across all schools. The lack of sufficient Wi-Fi connections and networking capacity is reflected in the low percentage of students using their devices for searches and other networking activities in the classroom. Taken as a collective, the data analysis seems to suggest that the laptops are being underutilised by the majority of students in the classroom, and when they are used, are reinforcing the traditional use in technology-related subjects. From this it is evident that students’ everyday personal laptop usage is not in alignment with the goals of the eCAL programme and fall far short of its guidance that laptops should be regularly used in computer-assisted instruction, resource-based learning and collaborative learning (MOE 2010, 9.4.2; 9.2.5).

1. **Discussion**

The overall usage of laptops in the classroom was extremely low, with students generally reporting that the laptops were not being taken to, or used at school. For students who reported using their laptops, the frequency at which they were brought to school was still very low compared to the suggested usage as outlined in the eCAL policy. In cases where laptops were brought to school once per week (the highest scored frequency) there was a strong tendency for use in technology-related education: a finding which contradicts one of the policy’s major goals, that is, the movement towards embedded laptop usage in the classroom. Ali (2012) made similar observations, noting that the laptops had a substantial impact on technology-related subjects but no significant impact on overall students’ performance. His results corroborates the low usage of the laptops by the students found in our study, since he also observed classroom laptop usage of approximately 1-2 lessons per week.

Examination into laptop usage for specific classroom activities also revealed that lower order technology skills (assimilation and information handling) were dominant as demonstrated by the primary use of the laptops for presentations. This pattern was reflected in Figure 4 as ‘group work’, and was commented on by students, with remarks such as “Mostly just for projects in all areas”; “Used in IT and when projects are being presented”, and “In all subjects for projects”. These responses indicate low level, yet subject wide, use of the laptops, and may have skewed responses to the questions of subject usage. As such, the actual in-class, subject-wide usage of the laptops might be even lower than reported here.

This study includes approximately 23% of all laptop-receiving secondary schools across Trinidad and Tobago. A startling statistic from this research was the low overall percentage (0.7%) of students who took their laptops to school every day. This means that 1441 students (99.3%) examined in this study were not taking their laptops to school on a regular basis. Given the sample size used in this study, it is reasonable to assume that this is likely to be general trend across the nation. This figure represents a major barrier to the enactment of eCAL objectives, since not bringing the laptops to school plainly prevents their usage in class. The reasons underlying these low usage numbers may be related to a number of contextual factors. One of these may be related to the security challenges students face when commuting to and from school with the laptops (Mouttet 2004; Taylor 2009; Swamber 2011). To address potential security issues within the schools, the eCAL policy in section 4.3 indicated “the MOE will ensure that each school is provided with the storage capacity”. The fulfilment of this proposed in-school storage facilities and possible security issues outside of the school environment should be investigated to rule these out as influencing factors on low laptop usage in the classroom and the education ministries of other countries wishing to introduce similar laptop initiatives may do well to consider security concerns early in their policy deliberations. Another factor influencing low laptop usage may be related to the training of teachers in technology integration. The majority of teachers in Trinidad and Tobago do not appear to have found successful ways to integrate laptops into the classroom teaching and learning environment (Gaible 2008; Leacock and Warrican 2012). This may be related to the short implementation period of the policy, but there is also scope for problematising whether the established ‘traditional’ pedagogy hampers teachers’ abilities to adopt new approaches – an argument that could be framed as a post-colonial position on the difficulties of establishing new hegemonies.

Another factor that is revealed from this study, and might also contribute to students not bringing the laptops to class, is that of poor internet or networking capacity within the schools. This issue has the potential to negatively impact schools that are genuinely making attempts to integrate the technology for communicative tasks. Higher order tasks such as productive and experiential tasks would require a more robust networking system to facilitate activities in the classroom. Possibly related to the physical limitations of schools in terms of lack of storage space and poor internet connectivity are the actions of some school boards in not allowing students to bring the laptops to school. This possibility was revealed in some student comments such as “We don't get to bring it”; “we don't use laptops in school”, and “we never get to use the laptops in school”. Limited or sporadic computer usage in education is not sufficient to engage students, nor does it allow them to develop sufficient levels of ICT mastery (Kennewell, Parkinson and Tanner 2000). For computers to make a significant difference, students need continued access where the technology is integrated into the school culture (Hayes 2007), a process that involves the incorporation of the computer into the curriculum as a teaching tool (Mohanty and Vohra 2006; Keengwe, Schnellert and Mills 2011).

The data analysis did reveal a few activities in which the laptops were being used; however the percentage usage was very low. This lack of integration of the laptop innovation into the classroom pedagogy and school culture may also be linked to the short adaptation and adoption periods that teachers were given, when handed the technology. The possible unfamiliarity and insecurity of teachers with the technology could be a major barrier to implementation (Zhao et al 2002; Sutherland, Robertson and John 2008), and could also be investigated as a contributing factor to low laptop usage and curriculum integration in the classroom.

There may be specific ‘local’ issues - such as poor ICT infrastructure, security concerns and a lack of adequate training for teachers - that have impacted upon this Caribbean nation’s ability to meet the eCAL programme’s goals; and these are all factors related to timelines for implementation. In examining successful one-to-one initiatives worldwide, one of the most important factors is the element of time in the entire process. Reasonable timelines should be established when planning for such initiatives. Such provision would allow teachers time to learn, understand, and model sound pedagogical practices as well as innovative computer technology integration models (Bebell and O’Dwyer 2010). When given the task of adapting new technology, most schools usually attempt to develop an idea of how that technology could fit into the already established culture of the school, and operationalize specific steps to allow them to work towards that goal. When time is not allowed for the management of the implementation process, success from such initiatives might not be forthcoming.

1. **Conclusion**

Laptops, through their portable nature, can be a flexible and purposive learning tool (Keengwe, Onchwari and Wachira 2008). However, for this to happen, teachers need to ensure a relative frequency of their use by designing activities that allow students to maximize the laptop’s educational potential (Orlando 2009). Although there may be institutional and cultural barriers for moving towards ICT-enabled practice (Ganpat, Ragbir and de Freitas 2009), the guidance of the eCAL policy provided a framework for implementing laptops at the instructional, curricular, research and communicational level. It is hard to criticize the notion of giving a laptop to every secondary school student with the expectancy of increasing students’ information literacy levels and developing them as autonomous learners. However, this research has identified some flaws in the implementation and application of the eCAL policy that would have a severe impact on achievement of the eCAL policy goals.

Secondary schools across Trinidad and Tobago have been tasked with implementing the eCAL programme since 2010, however, after three years of laptop distribution to students, no official report on the implementation process from a curriculum standpoint has been generated. This deficiency in appropriate monitoring of the eCAL programme and its policy is symptomatic of the view of implementation of the laptop innovation, as an event and not a process. As well as a lack of monitoring it seems evident that there was a lack of proactive engagement that sought to coalesce the goals of the eCAL policy with schools’ ability to fulfill them. Perhaps some of this could have been worked through ahead of the policy launch through stakeholder meetings and an independent review of schools’ ability to meet the policy goals. For other countries considering starting similar programmes multi-stakeholder pre-planning discussions and reviews could be used as ways of developing a full picture of the possible barriers to the policy’s success. If such barriers are identified early then measures to address them could be introduced before the policy launch and a more effective approach to policy implementation could be developed.

This research directly addresses a knowledge deficit by recording snapshot data that represents the degree of usage of the laptops in secondary schools across the nation. The effect of the laptop initiative was assessed by drawing on a large number of the key stakeholders – the students themselves. In asking, ‘Is there a gap between the eCAL policy’s aims and students’ everyday laptop usage in secondary schools in Trinidad and Tobago?’ we examined the frequency of students bringing their laptop to school and also examined the activities and subjects in which the laptops were being used. The findings of this study reveal evidence of limited laptop usage in the nation’s schools and, in the few instances where laptops were taken to school, there was a clear tendency for the laptops to be used for technology-related subjects: a finding which points to the lack of integration of these learning tools across the curriculum. There was also little evidence of resource-based learning, but, aside from the issue of the general absence of laptops, this can be mostly attributed to the poor networking capacity experienced by most of the schools in this study. This would be a major barrier to laptop usage for these and similar networking tasks that can facilitate group work and collaborative exercises amongst students and teachers.

This paper set out to determine whether students’ everyday personal laptop usage is aligned to the goals of the eCAL policy. The results demonstrate that the laptop programme, as guided by the eCAL policy in Trinidad and Tobago, has not been effective in meeting its policy objectives which primarily call for the usage and integration of the laptop in the classroom. This study shows that there is a clear fissure between the directives of the eCAL policy and its enactment in the secondary schools of Trinidad and Tobago, with less than 1% of secondary school students are engaged in everyday personal laptop usage. The projected impact of these low usage figures on the important issues of student learning and academic performance, although not investigated here, is quite evident, and remains an important point for future investigations.

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