

## Digital Inclusion to support diverse academic needs of learners: Investigating leadership preparedness and challenges in implementing ICT in teaching slow learners in the extended stream of State Secondary Schools in Mauritius.

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### Abstract

Plethora of researches have claimed the effectiveness of ICT as a support learning tool alongside traditional teaching approaches to help optimise learning gains of slow learners. With the emergence of the extended stream section in state secondary schools in Mauritius some years back, in view of an inclusive education, it is important to ensure that ICT is well embedded to capitalise on learning through the use of ICT with slow learners in the extended stream. The purpose of this case study is to: investigate how the leadership factor of a school affects the use of ICT in that stream; and to identify the challenges involved in using ICT in teaching extended stream students. A qualitative approach was used and data was collected through semi-structured interviews with six rectors of state secondary schools. Data was transcribed and processed using content analysis that located patterns in interview responses to build logical sequences of information. Analysis results were reinforced by additional data gathered from interviews with teachers of the extended stream as a means of triangulation. Results identified teacher-related and system-related barriers but also highlighted the importance of a school leader with tailored technology vision and plan that can curb the barriers identified.

### 1.0 BACKGROUND & LITERATURE REVIEW

#### Education System in Mauritius

Education, from pre-primary to tertiary levels, is free in Mauritius and since 2005, education has become compulsory for all up to the age of 16 years. Secondary Education is a 7-year cycle starting from Grade 7 to Grade 13. Grades 7 to 9 correspond to the last 3 years of the nine-year continuous basic education cycle, after completion of which, children pursue their upper secondary education.

Grade	Level of Education	
Grades 1 - 6	<b>Primary</b> At end of Grade 6: Primary School Achievement Certificate (PSAC) Examinations	Nine Year Continuous Basic Education
Grades 7 - 9	<b>Lower Secondary</b> At end of Grade 9: National Certificate of Education (NCE) Examinations	
Grades 10 - 11	<b>Upper Secondary</b>	Cambridge School Certificate/ General Certificate of Education O Level
Grades 12 - 13		Cambridge Higher School Certificate General Certificate of Education A Level

*Table 1: Résumé of Primary and Secondary Schooling in Mauritius*

#### The Extended Stream

The Nine Year Compulsory Basic Education reform was initiated in 2016 to provide more flexibility in the curriculum at secondary level to allow learners with various capabilities to learn at their own pace. At the end of Grade 6, students take part in Primary School Achievement Certificate (PSAC) examinations; after which they leave their primary school and shift to a regional secondary school.

Grounded on the underlying philosophy of an inclusive and equitable education for all, the Extended Programme has been specially designed for children who have not attained the required standard for the PSAC examinations at the end of Grade 6. These students join Grade 7 of the extended stream of the secondary school. They undertake the same curriculum as mainstream students of Grade 7 and they take part in the NCE exams at the end of Grade 9. However, the curriculum in the Extended Stream is specifically adapted for the students (termed as slow learners) so that content is spanned over four years instead of three years (as is the case for the mainstream as seen in Table 1) to cater for their slower learning pace.

These students are in reduced class size to support learning and individual attention. The first year is the Foundation Year meant to improve literacy and numeracy and to restore their self-esteem, self-confidence and their interest in studies. Also, for each extended class, one educator is designated as the facilitator, with a reduced work load, in charge of guiding, mentoring, monitoring both the behaviour and academic progress.

### **Literature Review**

Plethora of researches have claimed the effectiveness of ICT as a support learning tool alongside traditional teaching approaches to help optimise learning gains of slow learners. Several countries including Singapore have espoused ICT as a central plank in their schools to enhance the learning curriculum to support slow learners (Wettasinghe & Hasan, 2007). Hennessy *et al.* (2010) state that ICT must be used to support pedagogical goals such as problem solving, communication and developing skills while preparing students for the knowledge based society. In short, ICT enhances both the teaching and the learning process (Hernandez, 2017). Research further shows that students are motivated when learning activities are multi-sensorial and multi-disciplinary. Dzidonu (2010) argues that learners are more motivated and show better academic accomplishment as a result of ICT use in their course. Along the same vein, it is debated that greater use of ICT could further address the challenge of high school dropout rates experienced in Sub-Sahara Africa (Aguyo, 2010). Thus, schools that work out effective ways to incorporate technology in their systems provide opportunities for both the teachers and the learners alike to evolve in an environment that caters for 21st century needs and thus help the learners to develop the skills required to succeed in this fast evolving digital era (Schleicher, 2015).

In Mauritius, The National Curriculum Framework (2015) set its foundation on “*inclusive and equitable quality education and lifelong learning opportunities*” as expressed in Sustainable Development Goal 4 (UNESCO 2016). It was developed to provide greater quality of teaching and learning to cater for the evolving requirements of different learners. It is intended to meet different abilities, multiple intelligences and levels of maturity of the students (UNESCO, 2015). In this context, the National Curriculum Framework (2015) states that the use of ICT is fundamental in an education system to help the future generation acquire skills to operate in a technological and information-based economy. It suggests that it is essential for teachers to use ICT to enhance the teaching-learning process, to support curricular goals and to encourage an attitude leading to lifelong learning among learners.

Several incentives have been undertaken by the Government of Mauritius to keep pace with the international technological progress in the educational field during the past decade. A considerable share of the budget has been allocated for technological investments in public educational institutions across the country since 2011 (Subrun & Subrun, 2015). Nearly all public primary schools have well-equipped digital classrooms (Bahadur & Oogarah, 2013) and a few years back, tablets have been provided to students and educators in public primary schools in view of enhancing the teaching and learning process and to have a positive impact on the performance of pupils.

School leadership is considered the most determining factor to effectively implement ICT in schools (Anderson & Dexter, 2010) as it is strongly associated with the implementation and pedagogical use of technology in the classroom (Ottestad, 2013). School leadership is also highly important to nurture digitally competent students, by providing necessary infrastructure, adequate professional development and support staff during its implementation and creating a healthy working environment, along with explicit plans and visions on pedagogical use of ICT (Dexter, 2008).

The purpose of this case study is to: investigate how the leadership factor of a school affects the use of ICT in that stream; and to identify the challenges involved in using ICT in teaching extended stream students. The research questions addressed in this study are 1) What secondary school leaders perceive as the barriers to the use of ICT in teaching of the extended stream? And 2) How can secondary school leaders contribute in promoting the use of ICT in the teaching of the extended stream?

There is a dearth of research on how leadership factors affect use of ICT in the extended stream of secondary schools in Mauritius. Therefore, this research also aims to gain preliminary insight on this matter that can provide the stepping stones for further research in this field.

## 2.0 METHODOLOGY AND ANALYSIS OF DATA

A qualitative approach was used. Data was gathered through semi-structured interviews consisting of 10 open ended questions with 6 rectors (representing 10% population of rectors in Mauritius) of state secondary schools (that all have an extended stream) who showed much readiness to participate voluntarily. Given the prevailing COVID-19 situation, individual interviews were conducted via ZOOM with each school leader to acquire information.

A consent letter, with all details of the study, was issued to all participants guaranteeing them of their anonymity and confidentiality and that data would be used exclusively for research purposes.

The interview data was transcribed and processed using content analysis that involved locating patterns in the interview responses to build a logical sequence of information. The categories that emerged from the coded transcripts were analysed and discussed using an interpretive approach, that is, they were interpreted in connection with research objectives.

As a means of triangulation, the analysis results were reinforced by additional data gathered from interviews (via Zoom and/or WhatsApp) with teachers of the extended stream of the same schools as the rectors to ensure validity of the information obtained from heads of school.

### 2.1 Analysis of Data

In order to maintain anonymity and confidentiality, the school leaders and their school are described as participant 01, school 01 etc.

The main categories that emanated from the data collected from the interviews are:

#### a) Importance of ICT in Teaching

Based on responses, it was evident that all participants are well versed with the term and meaning of ICT. All school leaders claimed to master the basic ICT skills which are used for routine tasks such as sending emails and doing replacements. They also affirmed to have used ICT when they were in the teaching profession.

Interview with Rectors	Response regarding ICT in Teaching
Rector 04 believed that ICT helps teachers to be more effective in lesson preparation.	<i>ICT reduces the workload of educators in the long term as it facilitates organisation and advance preparation of learning materials. This is quite motivating for teachers to adopt ICT in their lessons.</i>
Rectors 05& 06 pointed out the role of ICT in stimulating interest of slow learners.	
Rector 05	<i>Learners show interest in ICT related teaching as they are able to visualise the concepts taught. This is particularly relevant for the extended stream learners who are generally slow to grasp concepts.</i>
Rector 06	<i>Low achieving students benefit a lot when their teachers use ICT to explain a concept. They are interested to follow. As a result, their attention span increases and eventually their performance in assessments may also improve.</i>

Table 2: Response regarding ICT in teaching

Respondents unanimously recognise ICT as a powerful tool to support teaching and learning and inclusiveness of slow learners. Same views were expressed by teachers during the triangulation process. They all opined on more meaningful learning that can occur when ICT is used properly.

<b>Triangulation - Teachers' Responses on Importance of ICT in Teaching</b>
ICT allows the learners to create meaning based upon their own experiences with the ICT interface rather than acquiring meaning from the teachers
importance of ICT in helping students reach their learning goals quicker
class environment can be transformed from teacher-centered to student-centered to trigger active learning for learners with low abilities
ICT can help slow learners to engage more with content and learning in general as technology helps to cater for a wider range of learning styles with visuals, audio and text.

*Table 3: Triangulation – Teachers' Response on Importance of ICT in Teaching*

It cannot be denied that with the ubiquity of ICT, the classroom scenario is changing with pedagogical tools like videos, music, stimulation, mind-mapping, guided discovery, brainstorming, and www (Ghavifekr & Rosdy, 2015) that help teachers design their lessons in more creative, interesting and effective ways to stimulate learners' interest and motivation to trigger active and meaningful learning.

#### **b) Engagement of teachers to integrate ICT in teaching**

The responses were quite diverse. Only rectors 01 and 03 acknowledge that many of their teachers, if not all, were well involved with the use of ICT in teaching. They recognised the efforts made by the teachers to vary their teaching methods by incorporating ICT in their lessons. The other four respondents revealed that teachers are not actively involved with ICT in teaching for various reasons including (i) it is more time consuming to prepare lessons with ICT (ii) traditional methods are already working well, especially in the extended stream (iii) lack of skills or training to prepare ICT lessons (iv) teachers of the extended stream have other priorities like managing discipline in the classroom.

Interview with Rectors	Response regarding Engagement of Teachers in integrating ICT
Rector 01	<i>....many teachers from the mainstream and a few from the extended stream section use ICT in their teaching. During my class visits, it's a pleasure to find teachers and students making the best of these resources.</i>
Rector 03	<i>Many teachers in the school are comfortable with new technology tools and try new ways of integrating technology into the curriculum, including extended stream teachers. Some teachers bring their own laptops and have requested to install projectors in their extended stream classroom so that they do not have to borrow from administration every day. This shows that they are deeply engaged with frequent use of ICT in their classes.</i>
Rectors 02 and 04 stated that extended stream teachers in their school barely used ICT in teaching despite having a well-established system to promote use of ICT.	
Rectors 05 and 06 mentioned that their school is well-equipped (even with a multimedia room) to provide the necessary resources for all teachers to integrate ICT in teaching.	
Rector 05	<i>Teachers in my school tend to use traditional methods more. I believe they are not willing to invest their time to prepare ICT based lessons and rather go with what is more convenient for them. I also understand that some are not fully conversant with ICT and need to be trained. Teachers of the extended stream are less involved with ICT use as compared to mainstream teachers. I believe it's because it's already challenging to cope with low ability students. They also already have a lot to do in terms of classroom management as discipline problems are common in extended stream classes.</i>
Rector 06	<i>Many teachers do not realise that use of ICT comprises long term benefits as it can reduce their workloads by a significant amount. They are not willing to shift from the traditional teaching method because it's already working fine. This is particularly true for the extended stream where teachers mostly favour traditional teaching.</i>

Table 4: Response regarding Engagement of Teachers in integrating ICT

During triangulation, it was found that there was no systematic and constant use of ICT in the extended stream. Teachers incorporated ICT in their lessons only where they deemed it possible and appropriate, depending on their ICT skills and the time frame. These correlate with the reasons mentioned by the school leaders. Research also shows that teachers require sufficient ICT skills, time and pedagogical insights to use technology confidently and meaningfully in their classrooms.

ICT has the potential to equip students for the digital era and teachers are regarded as key players (Ghavifekr *et al.*, 2014) as they are responsible to bring significant changes to the school by using ICT in their daily teaching. For all respondents, it remains a personal incentive for teachers to incorporate ICT in their teaching despite the school being fully equipped to support this venture. This clearly shows some discrepancy between the existence, on paper, of a technology plan and actually implementing and putting in practice what has been laid out to include the appropriate pedagogical use of technology to enhance daily classroom interaction.

### c) Barriers to the use of ICT in the Extended Stream

This category was extensively discussed during the interview. There was a general perception that advancements in technology occurred very fast and that it was difficult to keep up the pace. All respondents cited lack of skills and confidence; lack of appropriate infrastructure and technical support; and resistance to change as three major barriers to the use of ICT in school settings.

Regarding ICT skills and teachers' confidence, respondents suggested that there is a need for ongoing professional development not only for teachers to integrate ICT meaningfully in their classroom but also for school leaders to role model and monitor such use.



<b>Interview with Rectors</b>	<b>Response regarding Use of ICT in Extended Stream - Lack of Skills &amp; Confidence</b>
Rector 01 stipulated that extended stream teachers need adequate training that focuses on their pedagogical practices.	<i>Extended stream teachers need training that is customized to their pedagogical objectives. It is not sufficient to be computer literate only. They will need to develop skills that help them use the computer to design specific learning tasks for low achievers.</i>
Rector 02	<i>I see varying ICT skills among teachers. Some are very conversant while some know just the basics. Those who are conversant may not be fully comfortable to use ICT in classroom settings. I believe there must be a standard set of ICT skills required of all teachers and training must be provided regularly as required to build up on that standard. This is also true for school leaders. We need to be competent ourselves to be able to monitor properly and to set the example.</i>
Rector 04 observed that teachers were very reluctant to use ICT in teaching because they had limited knowledge to handle technical issues.	<i>ICT skills should not be limited to lesson preparation only. Other technical knowledge related to ICT tools is also important. Many teachers find it complicated to connect projectors and loudspeakers and this hinders their motivation to adopt ICT tools. They do not feel confident enough.</i>
Rector 05 also recognized that it was important for teachers to have relevant ICT skills to cope with the imminent changes in education due to technology.	<i>With rapid changes in technology, students who are digital natives know more than their teachers who are digital immigrants. Use of ICT will certainly appeal to this new generation of students and we need to develop and upgrade our skills to keep up with these changes. Progress in education will depend a lot on the technology expertise of teachers and school leaders. This applies to the extended stream as well. I think teachers will be more engaged if they have the skills and competencies.</i>

Table 5: Response regarding Use of ICT in Extended Stream (a)

Some school leaders repeatedly expressed concerns on shortage of ICT equipment. Rectors 02, 05 and 06 specified that ICT cannot be fully implemented in the extended stream if there is a lack of infrastructure and insufficient technical support.

<b>Interview with Rectors</b>	<b>Response regarding Use of ICT in Extended Stream - Lack of Infrastructure &amp; Technical Support</b>
Rector 02	<i>Our school already has a shortage of ICT tools and some need repair. The implementation of ICT cannot be envisaged without furnishing the extended stream with appropriate ICT tools. Technical support is another issue that needs to be looked into by the authorities. It's a lengthy procedure before technical assistance is finally provided to solve hardware problems.</i>
Rector 05	<i>Procurement of ICT tools from the store section of the Ministry of Education is a slow and lengthy process. In fact, all the requested ICT tools may not be delivered to school at the same instant. Some equipment may reach school a year later compared to other items. This may nullify the implementation of ICT altogether</i>
Rector 06 had similar views	<i>Proper implementation can only occur if the ministry provides the school with the correct ICT equipment. Teachers are often discouraged to work with technology due to unavailability and unreliability of ICT resources. It is difficult for me as school leader to make provision for immediate intervention in case of malfunctions of ICT devices.</i>

Table 6: Response regarding Use of ICT in Extended Stream (b)

However, the other schools had their own way to deal with problems arising in ICT equipment. Some called upon the computer lab attendant for technical issues while others preferred to pay for such expertise from school funds.

Research also shows that technical difficulties very often become a chief barrier for teachers to adopt technology (Türel & Johnson, 2012). It was evident from both interviews that the poor level of technical support was another major impediment to the implementation of ICT. The importance of having proper resources and clear guidelines to receive timely technical support was highlighted. The rectors suggested a quick response to breakdown by having a formal contract with an ICT supplier providing technical support.

Finally the majority of the rectors further identified resistance to change and negative attitudes of teachers regarding adoption of ICT in teaching.

Interview with Rectors	Response regarding Use of ICT in Extended Stream - Resistance to Change
Rector 03	<i>I observe that teachers, even if they have the required skills, are not always willing to incorporate ICT in their lessons. The motivation to use ICT should first of all be intrinsic, that is teachers must feel positive about it and ready to use it. If teachers do not develop a positive attitude towards adopting ICT, they will always view it as a burden in their work</i>
Rector 06	<i>For teachers to successfully use ICT in their extended stream classes, they must develop a positive attitude towards the use of technology and must welcome change. For this they must be knowledgeable and comfortable with its use.</i>

Table 7: Response regarding Use of ICT in Extended Stream (c)

Teacher attitudes and beliefs towards the usefulness of using ICT are also considered crucial for their effective use in educational settings (Zhao *et al.*, 2001). In contrast to external factors like infrastructure and technical support, internal factors are intrinsic to teachers and include their beliefs about teaching and pedagogical uses of ICT in the classrooms, along with their unwillingness to modify educational practices (Fullan, 2013) that can also include time-based constraints.

Several researches have shown that using technology in classrooms remains somewhat peripheral in most schools (Teo, 2009; Eickelmann & Vennemann, 2017) because resistance to change can often originate from lack of appropriate ICT skills, confidence and adequate training for teachers. Studies perceive teachers as the ‘keystone species’ (Davis *et al.*, 2013) for the infusion of technology into the classroom and therefore, it is not sufficient to be just provided with the technology. Teachers need to be continuously trained and supported technologically and pedagogically to use technology to prepare their content reach their pedagogical goals with slow learners.

#### d) Contribution of School Leaders to Promote Use of ICT

During the interview, the school leaders elaborated on their role as technology leaders and thoroughly discussed their contribution to endorse ICT in the extended stream in their respective school. The common point noted was that all rectors had an ICT mission and vision for their institution. The majority affirmed to have included the use of ICT in the daily running of the institution in their vision. Some inconsistencies can be underlined here as both rectors and teachers interviewed on previous questions have affirmed relatively low adoption of technology for teaching in extended and mainstream of their respective school. It can be deduced that school leaders mainly use ICT for administrative purposes only and there is a loophole with regards to educational use of ICT.

Interview with Rectors	Response regarding their Role in Promoting use of ICT in Teaching & Learning in their School
Rector 01	<p><i>My vision is to make the school administration paperless and more eco-friendly, to have the latest technology in most classes including connectivity via the internet. I am already using ICT in my tasks.</i></p> <p><i>Replacement of absent teachers and communication of any information to staff members are executed using technology. Written order books are history.</i></p>
Rector 02	<p><i>School leaders must be lifelong learners, keeping up to date with the latest technology. We must follow training consistent with software used by the educators so that we are able to evaluate the classroom using ICT during formal visits.</i></p> <p><i>Proposal: Internal professional development of staff members to make them comfortable with ICT. As leaders we need to encourage our staff towards appropriate professional development. We can have in-house training for teachers by teachers. Those who are conversant with ICT tools can share their experience and knowledge with those who wish to learn.</i></p>
Rector 03	<p><i>The school's mission is to prepare the learners for the future where ICT is inevitable and is quickly becoming the norm. Our vision is to expose the teachers and students to ICT.</i></p> <p><i>Proposal: Mobile phones also can be a tool in education. Many teachers are already using them. I want my teachers to receive school correspondences via e-mail and use online teaching tools like Team and Google classroom. I wish my students to benefit from the full spectrum of learning opportunities that ICT can offer. I must first be able to do these tasks myself. Then it will also be easier to monitor ICT related teaching properly.</i></p>
Rector 04	<p><i>In my ICT vision, I mentioned that technology is worth learning as it helps the society to be efficient. It is fundamental that it is well-planned and put to good use. All necessary support will be provided to this effect.</i></p> <p><i>Proposal: I believe that a head of school must ensure that ICT is accessible to all the educators and that the facility is adequately maintained. The rector must also encourage the staff members to use the facilities by setting the example. Leaders must blaze the path for the educators to follow. Some of my colleague school administrators are resistant to technology. They prefer the old way of doing things. But I lead by the example. I use ICT in many of my own administrative duties and advise teachers how to use ICT. Then, I can expect my educators will be motivated to follow.</i></p>
Rector 05	<p><i>In-school development and training can inspire teachers to adopt a mindset to accept the implementation of ICT in the extended stream. We can thus have a customized approach to ICT integration. This internal preparation may have a more effective impact on educators.</i></p> <p><i>Proposal: It is important to motivate teachers to use ICT. It is also important to supervise their teaching and make sure they are using ICT in accordance with the shared vision of the school.</i></p>
Rector 06	<p><i>School leaders must be exposed to regular courses if they are not familiar with the technology used by educators in their classes</i></p>

Table 7: Response regarding Rectors' Role in Promoting Use of ICT in Teaching & Learning

Ensuring availability of required ICT tools, following professional development courses meant for school leaders, providing internal professional training to teachers, motivating staff and monitoring ICT use in teaching are some of the approaches adopted by the rectors interviewed to promote ICT use in the extended stream. In the triangulation process, these views were backed by overall majority of educators who affirmed that in-house training may bring the teacher community together and better motivate them to adopt ICT in their lessons. Several teachers stated that they would prefer to have continuous formal training before using ICT in their extended classes. A couple of teachers also



asserted that they are more motivated to use ICT when the example is set by the rector whom they believe must stay ahead in terms of ICT knowledge and competencies to guide its integration in daily teaching and learning. The pace at which technology is changing the educational environment is calling for more flexible and adaptive leadership where work is performed more effectively since the school leader shows the relevance of the challenges confronted by both school leader and school staff and then appropriately responding to those challenges (Bass *et al.*, 2003).

### 3.0 CONCLUSION AND RECOMMENDATIONS

While there was a general consensus that use of ICT in the teaching of the extended stream was important and had to be promoted, the findings revealed 1) teacher-related barriers that were identified included lack of appropriate ICT skills, lack of adequate training, lack of confidence to use ICT tools in classroom settings and teachers' attitude towards ICT; 2) System-related barriers were shortage of ICT resources and insufficient technical support to address maintenance and breakdown issues.

With regards to investigating on the contribution of school leaders in promoting effective use of ICT in the extended stream of their schools, results showed that all research participants are in favour of endorsing ICT in both the extended and mainstream teaching. But their contribution has not necessarily brought about the pedagogical changes and uses of ICT as an effective tool to support teaching and learning in the classroom settings, was more on an ad hoc basis rather than being a consistent approach.

Leadership is a determining factor in guiding the teaching and learning processes and school leaders, as role models and change catalysts, have the responsibility of not only initiating but also implementing technological changes and sustaining technological infusion and adoption efficiently and effectively to embed an ICT teaching and learning culture within a school.

#### Recommendations

From the findings of the study, the following is recommended:

- A strong and adaptive leadership and a change initiator who should not only develop a clear technology vision for the school but should also implement it within a certain time-frame and quality assurance framework.
- To strengthen professional development programmes and in-service training of teachers in the pedagogical use of ICT to enhance the quality of teaching and learning and to provide teachers and learners with more educational affordances and possibilities. It is important to customise these trainings (both in terms of technological tools and pedagogies) to better support teachers in the extended streams who deal with slow learners. In addition, training must be ongoing for both teachers and school leaders, depending on technological innovations in education. Alternatively, teachers can also embark on paid training to upgrade their qualifications/skills or on OERs relevant to their field to fine-tune their skills and expertise.
- Extended stream classrooms should be well equipped with ICT facilities that are already in place for immediate use by teachers. In addition, at government level, adequate technical support should be provided on a regular basis to schools to assist in the maintenance and repair of ICT equipment to ensure uninterrupted use of ICT by teachers.
- To give loan facilities/grant by government to teachers to buy their laptops to be used for preparation of contents and to conduct daily classes, especially in case IT equipment of school is out of use or is being repaired.

Although several encouraging patterns have been established, it cannot be denied that current findings also have limitations. First, the sample size was quite limited given the time frame and the current covid-19 situation. Data from a larger number of respondents would definitely generate more pertinent findings. But, despite these limitations, this study can provide useful insights to school leaders and policy makers to support mechanisms and strategies to assist schools leaders and teachers when implementing educational use of technology in the extended stream. Findings can also be useful to curriculum developers, teacher training institutions and school leaders to modify and customise their ICT training courses to better equip and support teachers to cater for the specific needs of low achieving students.

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