



APPLE iPad Programme in R.E.A.L Schools

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July 18, 2019

Dear R.E.A.L Schools Parents,

As part of our School Improvement Plan we are partnering with APPLE to introduce iPads into classrooms as a teaching and learning device. The implementation will take place in the next academic year, in October 2019 for the International School and in February 2020 for the National School.

Why is the school Introducing APPLE iPads into the classroom?

We have made the decision to implement the APPLE iPad programme based on the following:

1. We believe the introduction of technology will significantly raise the academic quality in our school by improving teaching and learning, making it more fun, exciting and engaging for students (kindly refer to the following sections '**How iPads Have Improved Academic Results in Schools Around the World**' and '**Examples of How iPads will be used for Teaching and Learning in Different Subjects**' for more information).
2. The survey conducted among parents and students indicated that technology was one of the main weaknesses of the school and there was an overwhelmingly strong desire expressed to see more up to date and current technology being introduced into our classrooms.
3. As part of our mission to prepare students to succeed in the REAL world that has been shaped by technology through the 4th Industrial Revolution, we believe it is absolutely essential to develop technological competency and digital mindedness among students so that they see technology as a tool for learning, creation and innovation, and not merely a device for entertainment.

How will the APPLE iPad Programme work in our School?

We will be implementing a “**school-owned device**” system which means that the school will purchase and manage the iPads which will be made available for the students to use. Students will not be allowed to bring their own personal devices from home to be used in the school. The reason we have adopted a “**school-owned device**” system is that it allows the school to manage and monitor what the students do with the iPads to ensure they only focus on educational activities and it also enables the school to ensure each iPad is equipped with the correct educational apps at the correct time.

Parents will be required to pay a **Tech fee** each term (refer to details in table below) which will cover the cost of the iPad devices as well as other iPad-related costs including:

- All the educational apps for the iPad
- APPLE TVs to be installed in every classroom which enable teachers to link teacher and student iPads to the projector
- APPLE Pencils to be kept in school for certain classes
- iPad storage and charging trays for Year 1 to 3 classes
- Mobile Device Management (MDM) system that ensures central security, control and monitoring of mobile devices deployed within the school
- Apple School Manager to configure device setting, buy and distribute apps and books
- Enhanced WiFi capability: network infrastructure of all campuses have been upgraded to fibre optic systems which increases the network performance a hundred fold, from 100 Mbps to 10 Gbps that will enable all students and staff to access the Internet at the same time

Students from Primary 1 to 3 will practice an **iPad-sharing system** in which they will have access to iPads for certain classes and will only use iPads under teachers’ supervision. At this level each child will get to use iPads for 1-2 hours a day for relevant class activities but will not bring the iPads home from school.

Students from Primary 4 to Secondary 4 (International Year 4 to 10) will practice a **1-to-1 iPad system**, meaning that all students will be given an individual iPad to use for the entire school year. They will be allowed to take home their iPads after school every day to do assignments or to continue learning. Since the iPads are school property, they will only be allowed to use educational apps decided by the school and will be prevented from downloading any personal or unsanctioned apps.

Details of the APPLE tech fee and iPad package which students will receive for each year level can be found in the table below:

National School Year Level	International School Year Level	APPLE Tech Fees	What equipment students will have access to
Primary 1 to 3	Year 1 to 3	RM380 per annum which will be paid over two instalments of RM190. (RM32 per month)	Shared iPad Programme: A set of 25 iPad minis will be shared between several classes. Students at this level will have access to iPads for 1-2 hours each day during classroom activities. Students will only use iPads under supervision from teachers and iPads will be kept in school.
Primary 4 to 6 Secondary 1 to 4	Year 4 to 10	RM780 per annum which will be paid over two instalments of RM390. (RM65 per month)	1-to-1 iPad programme: Each student will be given use of an iPad 6 (128 GB). Students can take their iPads home after school every day and will only be required to return the iPads to the school at the end of the academic year. Students can take permanent ownership of the iPads after 3 years of use.

Note: Secondary 5 (National) and Year 11 (International) students will not be included in the iPad programme.

How is the school preparing for this iPad Programme?

Past research indicates that the introduction of technology like iPads only enhances learning if it is carefully and meaningfully integrated into the school system and curriculum and is accompanied by sufficient teacher training and preparation.

It is for this reason that we have taken the following planned steps to ensure that our school is fully prepared for the iPad rollout which will take place in October 2019 for the International School and February 2020 for the National School.

1. Engaging with APPLE Team and Special Consultant

- The APPLE Regional Education Team has been partnering with us to advise us on the programme rollout as well as to provide special training sessions for our teachers.
- R.E.A.L Schools has also employed an external consultant for the iPad programme, Craig Kemp (kindly view Craig's biodata in the following sections), a New Zealander who was the head of education technology at the Stamford American International School, Singapore and currently a global education consultant who has many years of experience introducing iPad technology into top international schools around the world. Craig will be training our teachers and helping our school set up education technology (edtech) coaching teams to ensure the rollout is smooth and effective.

2. Preparation and Training for teachers

- All teachers will receive their individual iPads four (4) months before the iPad programme implementation.
- All teachers will receive extensive training on how to use the iPads to enhance their classroom teaching from the APPLE Team and our consultant, Craig Kemp.

3. Establishing EdTech Coaching Teams for our School

- Our school has established an EdTech team of seven (7) teachers who have received specialist training from Craig Kemp to act as technology champions for the school, coaching and guiding teachers on how to use the iPads effectively and meaningfully in their classrooms.

4. Establishing Support Infrastructure

- Enhanced WiFi capability: network infrastructure of all campuses has been upgraded to fibre optic systems which increases the network performance a hundred fold, from 100 Mbps to 10 Gbps.
- APPLE TV installed in all classrooms: this allows real-time sharing and projection of learning activities.
- Projectors installed in every classroom.

5. Establishing Systems and Policies

- To ensure students and staff do not abuse the iPads, the school has drawn up a responsible use of technology policy which forbids students from using the iPads in a negative or destructive way including for cyber bullying and to access inappropriate content from the Internet.
- The school employed a Mobile Device Management (MDM) system that enables IT administrators to ensure central security and to control and monitor iPads deployed within the school (e.g. security access, pushing and disabling of apps, monitoring activities, etc.). No games other than educational apps will be downloaded into the school iPads.
- Use of "Screen Time" system to ensure that both the school and parents can manage and control the iPad time for students to avoid excessive use and any form of addiction to the technology.

6. Parent workshops

- The school will hold special workshops for parents to understand better the role of technology in enhancing learning, online security, and how parents can manage and monitor their children's technological usage.

In Closing

We are all excited to be introducing this important new technological component to our school and we believe this iPad programme will lead to better academic performance and a more enjoyable school experience for your children.

At the same time, we want to assure all parents that this new initiative will in no way distract teachers and students from focusing on the core traditional academic skills like reading and writing. Similarly, students will still have more than enough time away from technology to engage in sports and other physical activities at school. We are committed to ensuring students develop a balanced and responsible approach to the use of technology.

We will be organizing briefing sessions with parents closer to the iPad implementation dates to ensure all parents are clear on the programme and policies.

We have also included some FAQs for further information.

Thank you for taking time to read this circular and please feel free to contact us or the school leadership team should you have any queries or questions.

Yours sincerely,

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Appendix A - FAQs

Can students use their own iPads, Android-based tablets or laptop?

No. Students are not allowed to bring and use their personal devices in school. This is because the school will employ a Mobile Device Management (MDM) system to ensure central security, control and monitoring of iPads deployed within the school. The MDM cannot control and monitor student-owned devices. This will ensure that the school can ensure students are using devices for education rather than inappropriate activities.

How do students make sure the iPads they obtain are in good condition?

There will be a checklist which the IT staff will go through with the students and parents during the distribution day to ensure the device is in good condition and that all accessories are included before parents sign the receipt of acknowledgement.

Will students take their iPads home?

For Year 1-3 : No. The iPads will always remain in school.

For Year 4-10 : Yes. Students are allowed to bring their iPads home.

Will iPads replace school books?

Not completely. While there are some textbooks that are available in e-versions, not all textbooks have this option. Parents and students have the option to purchase e-books if they want as an alternative to hardcopy books.

Do students use their iPads in all classes / lessons?

We estimate that iPads will be used no more than an average of 30% of the school day. We will ensure that students have enough time spent without iPads so that there is a healthy balance of learning modes.

Will students be keeping the iPads over school breaks?

Yes, but only for Year 4 students and above. This is to enable them to complete school projects and assignments.

How can I monitor what my child is doing if I'm not familiar with iPads?

R.E.A.L will organize workshops for parents and rest assured that we will provide a manual to help you. We will help you to learn to manage parental controls which include:

- accessing "Screen Time" to monitor the amount of time your child has spent on different purposes (education, entertainment and productivity, etc.),
- scheduling 'Down Time' like sleep time when apps and notification are blocked,
- setting time limits for certain apps, and
- using passcode to secure settings that you have set.

What if students are experiencing technical issues?

School IT support staff and Ed Tech teachers will be available throughout the day to meet with students to help troubleshoot technical issues. Occasionally, a student may need to drop off the iPad during the day, but since all work is saved to the Cloud and students are taught and required to back-up their work frequently, there should be no disruption to accessing work.

We will also be training a team of student tech coaches who will be trained to help their peers with technical problems or issues in the classroom.

Will the App store be available on the student devices?

No.

Will the iPad be restricted from students downloading and installing their own apps?

Yes.

Do iPads come with any accessories?

The school-assigned iPad comes with protective case, charger and cable.

What applications will be installed on the iPads?

The core educational apps. As students and teachers are getting familiarized, more educational apps will be installed based on teachers' and students' recommendations.

How can students suggest new apps for the school iPads?

Students are encouraged to suggest new apps to their subject teacher. Subject teachers will then review the apps with the Ed Tech teachers before suggesting it to the administrator.

Can students use the downloaded or school-bought applications (apps) in other devices by logging in school Apple ID into personal iPads?

No, students will not be given the school Apple ID and password.

How do you know which student an iPad belongs to?

Students will label their iPads with their names and homerooms on the protective casing.

Who will be responsible for backup of data on an iPad?

Students are responsible for backup of their own data. They will be taught how to backup by the Ed Tech teachers at the beginning of every term.

What happens if the iPads are lost or stolen?

Students are required to notify the school immediately. The iPads have tracking software to help the school locate and recover them. The school will remotely disable a lost or stolen iPad so it can't be used until it is recovered. The screen will say "Property of R.E.A.L" when it's turned on and will not be able to access student data or be used in other ways.

Are the iPads likely to be damaged?

Not in routine use. They are in sturdy cases made of plastic and rubber. Each student should take care of his or her iPad, which is not likely to break through casual bumping or even accidental drops.

What if iPads get damaged?

All efforts will be taken by the school to help students prevent any damage to the iPads and the school iPads are covered under school insurance for damage in the case of accidents. Students will be trained to alert the school of any damage on his/her assigned iPad and should not try to repair the devices on their own. R.E.A.L has support for repairing.

Will students be targets of theft?

A stolen iPad will be of no value to a thief because R.E.A.L can remotely disable it. Students will be trained on how to be responsible for keeping iPads safe and secure.

Can students go to inappropriate websites?

The firewall system will prevent students from using iPads to reach non-educational and inappropriate websites.

How do parents know students will use the iPads appropriately?

This relies on a combination of methods:

- All school-owned iPads are restricted from purchases and access to inappropriate websites.
- Students sign and must observe the Responsible Use Policy.
- Our teachers instruct students in Digital Citizenship: online safety, privacy, anti-bullying, and more.
- Parents can and should monitor their child's online activities. Screen Time is an Apple device feature that allows parents to keep track of the time your child has spent using apps, visiting websites, and being on the device overall. You can get weekly reports or see specific app usage, notifications, and device pickups.



Appendix B

Case Studies of How iPads Improve Academic Performance in Schools Worldwide



Using iPad changes the way teachers teach and students learn.

Students, educators, and institutions around the world are using iPad to inspire creativity and hands-on learning that makes learning more powerful. Since Apple launched iPad in 2010, millions have made their way into education. They continue to show significant promise in teaching and learning, often with impressive results. The examples in this document highlight the amazing success stories institutions worldwide are self-reporting in the areas below across K–12 and higher education:

- Improvement in academic performance
- Increase in engagement and motivation
- Rise in cost savings and resource efficiency
- Integrated focus on content quality and design

This document highlights the results or trends institutions using Apple products have observed, along with studies that demonstrate the positive impact iPad is having on instruction in the classroom. The data shown in this document is self-reported by the institution—Apple was not involved in the gathering or analysis of the data reported, nor has any knowledge of the methodology used.

Academic Performance

Schools report that academic performance—as measured by standardized test scores and other key student outcomes—is improving with iPad use. A number of K–12 schools, districts, and higher education institutions have reported substantial gains when comparing current student test scores with prior-year test scores, pre- and post-test measures, and increases in student performance on state and national assessments.





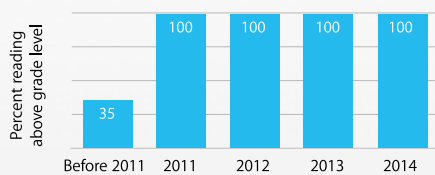
Drayton Hall Elementary School Charleston, South Carolina, United States

Drayton Hall Elementary puts students at the center of its classrooms with iPad that fosters learning through apps, interactive lessons, and teacher-authored Multi-Touch books.

- Before iPad was introduced in Kristi Meeuwse's kindergarten class, about 35 percent of her students entered first grade reading above grade level. Since iPad was introduced, Meeuwse reports 100 percent of her students have been reading above grade level for four years in a row.
- Kristi uses iPad to help teach the Common Core State Standards, which requires presenting nonfiction text to the class. Because of the limited number of nonfiction books available at the kindergarten level, she creates her own books, taking advantage of the Multi-Touch features of iPad to make them engaging for her students.

100%

of kindergarten students reading
above grade level for four consecutive
years after iPad implementation



Kristi Meeuwse, kindergarten teacher

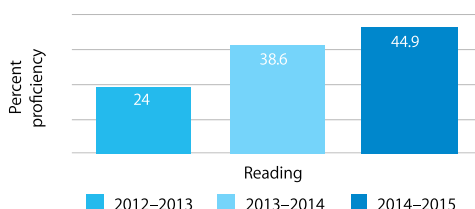


Montlieu Academy of Technology High Point, North Carolina, United States

Five years after implementing their one-to-one iPad program, this Title 1 school reports growth in test scores in all core subjects. The use of iPad has transformed the way the students learn and in the most recent year, their academic achievement has improved by 44.9 percent in reading and over 55 percent in math and science.

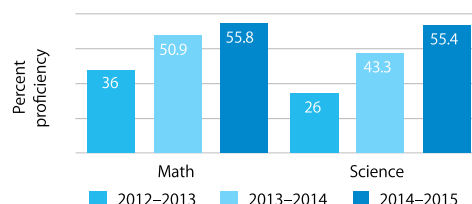
44.9%

increase in reading test scores



55%

increase in math and science test scores





Victoria Department of Education *Victoria, Australia*

In 2012, the government in Victoria completed a trial of 700 iPad devices in primary and secondary schools to test whether education outcomes improved. The results were positive, with 83 percent of primary teachers and 67 percent of special education teachers observing improvement in literacy outcomes. In addition, they reported 85 percent of primary teachers and 90 percent of special education teachers thought that students were more motivated and engaged in learning.

83%

of primary teachers reported improved literacy outcomes

67%

of special education teachers reported improved literacy outcomes

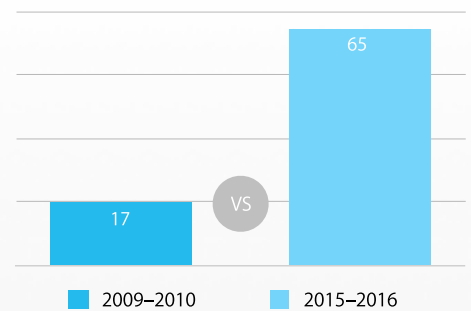


Monsignor John Pereyma Catholic Secondary School *Oshawa, Ontario, Canada*

In 2009, Monsignor John Pereyma's provincial results on the Grade 9 applied mathematics test were at an all-time low. With a focus on improved personalized learning, a growth mindset, and technology-based tasks that supported student achievement in math, they created the Ultimate Potential (U.P.) math program.

In 2016, they reported the program, along with their one-to-one iPad implementation, resulted in 65 percent of Grade 9 students performing at or above the provincial standard in applied math compared with 17 percent before the program. In addition, 70 percent of Grade 9 applied math students at Pereyma reported they like math compared with 35 percent as recorded by the province of Ontario. The program has been so successful, that it's now offered in all seven secondary schools across their district.

Percentage at or above applied math standard



Mater Dei High School *Santa Ana, California, United States*

Mater Dei addressed the individual learning styles of students with a one-to-one iPad initiative launched in 2011. iPad provides the tools they need to shift from traditional pedagogy to classroom instruction, and students take ownership of their learning.

Many classrooms are equipped with Apple TV, and teachers and students use AirPlay to collaborate, project, play, and stream projects created on iPad. The class of 2015, Mater Dei's first class to use iPad for four years, broke the school record for the number of students with a 4.0 Grade Point Average (GPA).

4.0

GPA earned by the highest number of students in the school's history

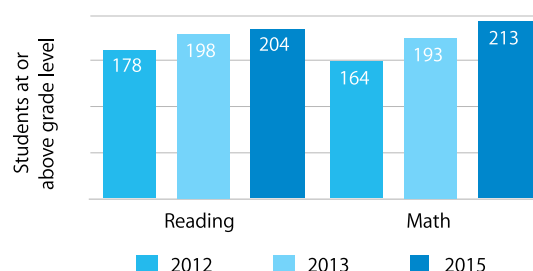


Cathedral School

Portland, Oregon, United States

For three consecutive years, Cathedral School has enhanced teaching and improved learning with iPad by engaging students in the research and critical-thinking skills needed for success in the 21st century. Cathedral continues to see growth. During the 2014–2015 school year, Cathedral School reports that 87 percent of Cathedral School students in grades K through 8 performed at or above grade level in reading and 92 percent of students were at or above grade level in math.

Increases in reading and math proficiency based on assessments

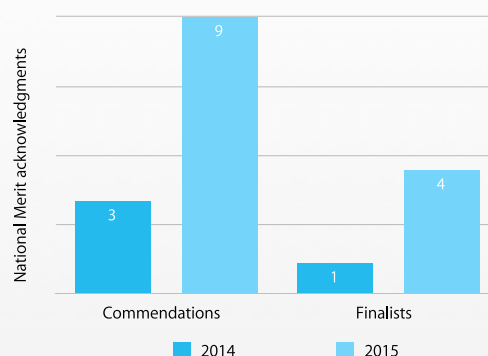


Archbishop Edward A. McCarthy High School

Southwest Ranches, Florida, United States

The academic achievements of students at Archbishop Edward A. McCarthy are evidenced by the number of National Merit acknowledgments, which rose from three to nine commendations and from one to four finalists—an increase of more than 200 percent since the introduction of iPad in the classroom. As a result of the rise in academic achievement, Archbishop reports that their 2015 graduates were accepted to colleges and universities such as Cornell, Princeton, Brown, and Duke, just to name a few.

More than
200%
increase in student academic
achievement evidenced by rise in
National Merit acknowledgment



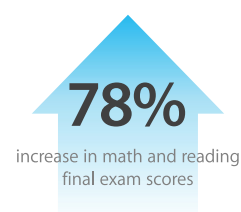
Søndervangskolen

Aarhus, Denmark

Søndervangskolen, a K–10 public school with disciplinary problems, poor student performance, and high student transfer rates, was in danger of closing in 2008. When the school's results declined, Søndervangskolen gained a poor reputation and was considered a failing school.

Following a strong vision that included a one-to-one iPad program, leadership was able to turn the school around in 2012, just four years into the program. With iPad, the school experienced fewer disciplinary problems, decreased student absence rates, and increased academic results.

Søndervangskolen was able to report a 78 percent increase in student test scores on final exams, a decrease of nine days per year in student absences, and an increase from 63 percent to 90 percent in the number of students ready for secondary education.





Bråtenkolan *Karlskoga, Sweden*

In 2012, Bråtenkolan implemented a shared iPad initiative, so all students had access to iPad in the classroom. The school reported 98 percent achievement on national reading and math tests for grades 6 and 9.

These improvements were based on the goals the student must reach by the end of school year 5, including the ability to read and understand simple text, inform others through written messages, and listen to and read literature suitable for their age.

98%

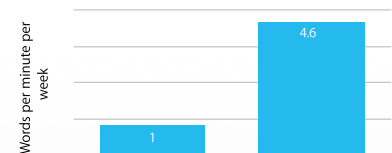
achievement of goals on
national reading and math
tests for grades 6 and 9



Valencia Park Elementary School *Fullerton, California, United States*

All classrooms at Valencia Park have implemented a one-to-one iPad program, and they've been recognized as one of the top elementary schools in the state for using Apple technology to transform teaching, learning, and their community.

For most second graders, the average expected words per minute reading fluency rate increase is one word per week. Yet, over the course of 8.4 weeks, Valencia Park reports that second grade students participating in the Young Scholars Program, where they used iPad in the classroom, increased their reading fluency rate by 4.6 words per week. Because of this success, they have expanded the Young Scholars program to include a VIP take-home-pad-program for fifth and sixth grades.



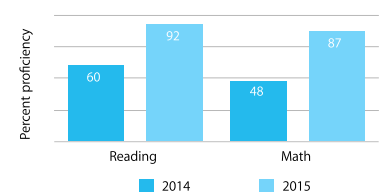
Second grade students increased
their reading fluency rate by 4.6 words
per minute per week from one
word per minute per week



EPiC Elementary School *Liberty, Missouri, United States*

EPiC centers learning on empowering creativity by equipping students with mobile technology. In just one academic year, they have seen great results in student academic achievement using iPad that personalizes instruction and I-Ready, an online tool that measures growth. At the beginning of 2014–2015, 60 percent of students were proficient in reading and by the end of the year, student reading proficiency was at 92 percent. Students also experienced growth in math, with 48 percent math proficiency at the beginning of year, increasing to 87 percent by the end of the year.

Increase in reading and math proficiency
with personalized iPad instruction



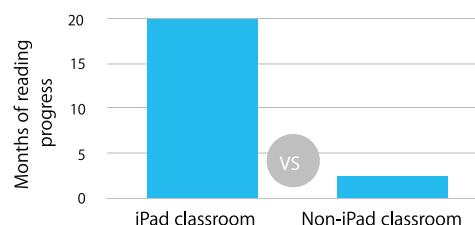


Escondido Union School District *Escondido, California, United States*

For the past eight years, Escondido has documented significant student achievement gains in the area of reading comprehension. With two different iPad implementations across their district—100+ classes with shared iPad and 150+ classrooms with a one-to-one model—Escondido observed that students in the district's first one-to-one mobile device classroom made nearly two years (one year and eight months) of progress in reading comprehension in just six months, while a comparative classroom showed just two and a half months' growth in reading comprehension in six months.

2 years

of progress in reading comprehension
in just six months



Dingtuna skola *Västerås, Sweden*



In 2011, Dingtuna skola reported that their one-to-one iPad pilot program provided a rich learning environment focused on the individual learning needs of students. They selected iPad for its mobility and student preference. It was also easy to deploy and secure.

Based on their experience, they created "Innovative Learning Environments," an educational program that inspired the launch of a one-to-one iPad implementation across the entire municipality of Västerås. After the program launched, students and teachers environment that inspired and engaged students.

Students learned to read faster and handle larger amounts of text, which improved their overall reading comprehension. In 2014, three years after their one-to-one iPad implementation, 98 percent of year 4 students scored with passing rates on the national reading comprehension test.

98%

passing rate on national reading
comprehension test



The de Ferrers Academy *Burton upon Trent, United Kingdom*



The de Ferrers Academy—one of the largest academies in the UK, serving more than 2100 middle and high school students from various backgrounds and abilities—launched their one-to-one iPad program in 2012. Initially deploying iPad to teachers, they expanded the number of devices to students over the course of two years, resulting in 1300 total devices deployed.

To improve student engagement, progress, and exam results, the Academy wanted to offer tools that encouraged creativity and collaboration. With the one-to-one iPad program, they observed greater engagement in lessons, better feedback from teachers, higher grades, and increased passing rates on exams.

In the third year of the iPad implementation, de Ferrers reported a 53 percent increase in the number of students earning A-level grades in physics.

53%

increase in A-level results
in physics



Gurnee School District 56

Gurnee, Illinois, United States

For the past four years, Gurnee reports that the one-to-one iPad program revolutionized the learning experience in Gurnee School District 56 for students, staff, and parents. The program incorporates learning tools that support reflective thinking, match student skill sets, and encourage a free exchange of ideas. The initiative has led to a transformation of student learning through the use of apps, allowing students to demonstrate their learning and open the possibilities to their most creative ideas.

20%

increase in students who met growth projections in math within two years

13%

increase in students who met growth projections in reading within two years



East Hills Girls Technology High School

Sydney, Australia

East Hills Girls Technology High School consistently applies innovative and inspiring learning strategies to enhance and support learning. In 2014, they implemented a one-to-one iPad program for students in years 7, 8, 9, and 10. These students had access to technology and interactive textbooks for learning in the classroom and at home. Two years following the implementation, East Hills reported improvement in student academic achievement on the National Assessment Program Literacy and Numeracy (NAPLAN) exams in reading, numeracy, spelling, and grammar.

32%

increase in year 9 national assessment reading scores

22%

increase in year 9 national assessment numeracy scores

13%

increase in year 9 national assessment spelling scores

9%

increase in year 9 national assessment grammar scores



Villa Wewersbusch

Langenberg, Germany

Students and staff at Villa Wewersbusch were frustrated with outdated machines, time-consuming IT support, and technology solutions that didn't reflect or support the needs of a digital society.

In 2011, the school launched their first iPad-based program on a trial basis, and the following year all teachers and students received their own devices. With iPad, Villa Wewersbusch's students were empowered to take responsibility for their own unique ways of learning. Students were able to use Apple apps like Keynote for creative projects and iBooks Author to develop content alongside teachers.

By 2017, their sixth year of implementation, they reported a 100 percent passing rate on exams as compared with 75 percent in 2016.

100%

exam pass rate in year 6 of 1:1 iPad implementation



Roy B. Kelley Elementary School

Lockport, New York, United States

A three-year longitudinal study performed by Roy B. Kelley in partnership with the University of Buffalo compared the academic achievement of students who used iPad in the classroom with other students in the same grade level who didn't. Roy B. Kelley reported results that showed significant achievement on New York State Assessments in English language arts and math with students who used iPad.

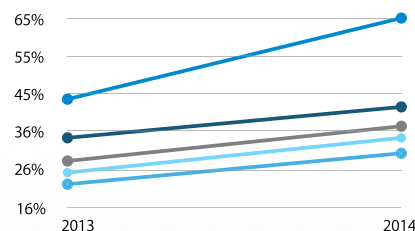
When comparing the 2013 and 2014 test results, a higher percentage of students using iPad scored proficient in English language arts and math (scored a 3 or a 4) than students not using iPad, and this percentage increased greatly year over year.

Key

- iPad-only class
- Other classes in the same building
- Other classes in the same district
- Other classes in the region
- Other classes across the state

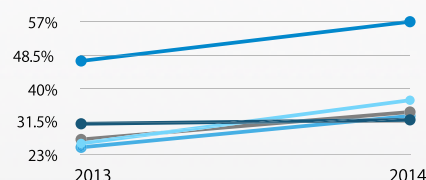
41%

increase in math proficiency
on state assessment



10%

increase in English language arts
proficiency on state assessment



Istituti Edmondo De Amicis

Milan, Italy

In September 2010, Istituti Edmondo De Amicis launched "De Amicis 2.0," a program that facilitated a total restructure of the school and its curriculum. The integration of technology and iPad were at its center. In 2015, five years into the program, they deployed 869 iPad devices to achieve full one-to-one iPad implementation across both of their campuses. The initiative was a success. With its modern use of iPad, the school built a reputation for being visionary, attracting students and leading to a 35 percent increase in enrollment. They experienced record improvement on final exams across many subjects, including English, math, physics, and chemistry.

100%

of students passed final exams

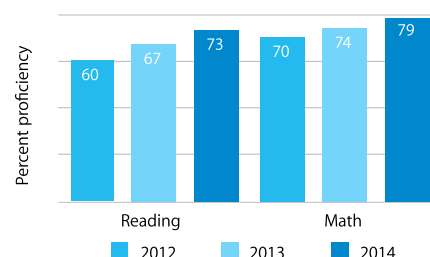


Mineola Middle School

Mineola, New York, United States

For five years in a row, Mineola has used NWEA* student performance data to assess student progress. Since spring 2012, they've measured student performance in reading and math. Mineola reports results that show aggregate proficiency in grades 3 through 7 over a three-year period that coincides with their iPad initiative, which they say allows students to stay engaged, create, explore, and learn in new ways.

Increased reading and math scores
on state assessments



*NWEA = Northwest Evaluation Association



South Belton Middle School

Belton, Texas, United States

State testing results from 2014–2015 show that students at South Belton Middle School are achieving academic success with the 2011 implementation of project-based learning and the integration of a one-to-one iPad environment. For many high schools, Algebra I can become a stop-gap course for students, but with the implementation of iPad, SBMS reports that it's been able to realize academic success with its students.

100%

of students passed the state-mandated assessment in Algebra I



Eastern Howard School Corporation

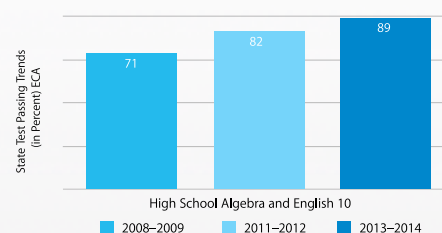
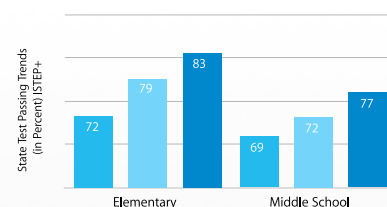
Greentown, Indiana, United States

Serving grades K–12 in a rural area, Eastern's one-to-one iPad program provides a model for districtwide iPad adoption by shaping educational practices with state-of-the-art resources and continuous professional development. Students use apps like iTunes, iMovie, and GarageBand tailored to their grade level and subject, along with digital books created by teachers that students can access through iPad.

For the last six academic years in a row, Eastern has seen growth with all grade levels when comparing passing rates for ISTEP* and ECA** standardized tests in English and math.

*ISTEP+—Indiana Statewide Testing for Educational Progress Plus. **ECA—End of Course Assessment.

Continuous improvement in state test assessment results at all grade levels for the past six years



Dental School, University of Münster

Münster, Germany

In 2011, the University of Münster, one of Germany's largest universities with 44,000 students, launched a one-to-one iPad program in the Department of Orthodontics. They reported a positive impact on the learning environment and student performance during the clinical and testing phases of the program.

During the clinical phase, Münster reports iPad enabled distribution of anonymous patient cases that facilitated problem-based learning; access to scientific papers, textbooks, and student-generated content for flexible learning; and opportunities for communication between students. The clinical phase was key to preparing students for the National Dental Examination (Parts I and II), a test that measures students' abilities to understand biomedical and orthodontic research and apply such information to diagnostic and treatment concepts.

In the end, the university reported that students who participated in the iPad program scored 66 percent higher on the exam than students not using iPad.

66%

increase in National Dental Examination scores after 1:1 iPad implementation

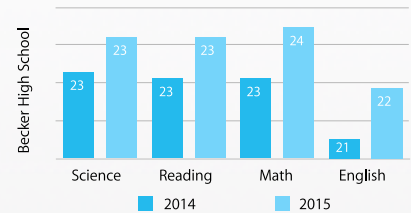


Becker Public Schools *Becker, Minnesota, United States*

Becker Public Schools is considered a K–12 technology leader in the state of Minnesota. In 2012, Becker High School became one of the first area schools to begin deploying one-to-one iPad in the classroom. As the first class of students to be a part of one-to-one iPad implementation from the beginning, Becker's graduating class of 2015 observed gains in composite ACT* scores in science, reading, math, and English.

*ACT—American College Testing

Higher composite ACT scores in science, reading, math, and English when compared with state performance



University of Zagreb School of Medicine *Zagreb, Croatia*

In 2012, professors at the University of Zagreb School of Medicine looked to innovate the learning environment in their anatomy labs. Working with students and professors, they built new labs and changed the learning approach to improve results in the classroom.

Using iBooks Author, they produced new learning materials and made them available on each student's iPad. They also loaded world-class apps, such as the Carl Zeiss app—which allowed students to transform their microscopes and cameras into a Wi-Fi-enabled imaging environment.

After one semester with iPad, student results on anatomy exams—typically the most challenging subject area—improved by 40 percent.

40%

improvement on anatomy exams after one semester of iPad deployment



Saskatchewan Rivers Public School Division *Saskatchewan, Canada*

Rooted in indigenous learning models, the Help Me Tell My Story assessment app on iPad provided a new way for measuring early learning success and real change in the oral language development of children across the Saskatchewan Rivers Public School Division.

During the 2014–2015 school year, four years after they launched the program, the Saskatchewan Rivers Public School Division measured the impact of using the app in the classroom by correlating the data with report cards at the end of the school year. They found significant academic improvements in students who had participated in the Help Me Tell My Story program, compared with those who didn't complete the program.

They reported an increase in reading behaviors and skills, including comprehension, fluency, and listening. The Help Me Tell My Story app has been used in more than 125 schools across Saskatchewan, reaching more than 4000 children.





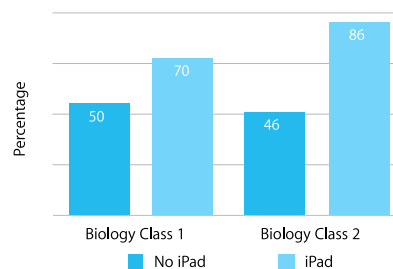
California State University Northridge

Northridge, California, United States

In 2013, Cal State Northridge launched the myCSUNtablet initiative, a one-to-one iPad deployment with the goals of increasing student engagement, improving the quality of teaching materials, and reducing cost. A simple six-step process was developed jointly with CSUN's Centers for Universal Design and Disability Resources toward the goal of making apps easy for faculty to test. The myCSUNtablet initiative has cross-campus commitment of leaders, with a deliberate focus on ADA accessibility.

To address whether iPad has an impact on student learning outcomes, a straightforward "micro-assessment" technique was developed over one academic year, whereby faculty would teach a similar Biology lesson two different ways—once with iPad and once without—and then measure the results of each method.

More than
20%
increase in student assessment
scores in Biology classrooms using iPad as
compared with students not using iPad



Te Akau ki Papamoa Primary School

Papamoa, New Zealand

Te Akau ki Papamoa Primary School introduced its one-to-one iPad pilot program in 2009. Initially, they observed that 70 percent of students were reading under the expected standard.

In the sixth year of the program, the school reported dramatic student achievement, with 90 percent of students reading at or above the expected standard. The Maori population in particular closed the performance gap by almost 100 percent.

90%

of students reading at or above the
expected standard reading level

Engagement and Motivation

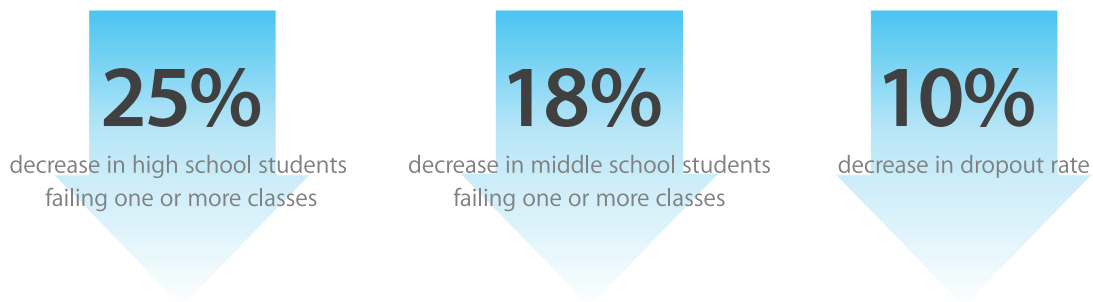
From preschool to college, reports from institutions overwhelmingly indicate that students using iPad find that it increases their engagement in learning and makes them feel more motivated to learn. Other positive outcomes include a decrease in discipline problems and dropout rates.





Goodland USD 352 *Goodland, Kansas, United States*

In a rural county where over half of the students are economically disadvantaged, Goodland USD 352 was previously designated as “needing improvement.” Goodland reports that the most recent year of their one-to-one iPad program resulted in a decrease in classroom failure rates, discipline issues, and dropout rates while attendance and graduation rates increased for middle and high school students.



Wilhelm Ferdinand Schüssler Day School *Düsseldorf, Germany*

In 2013, Wilhelm Ferdinand Schüssler Day School implemented a shared iPad program in two classrooms, and decided quickly that all students should benefit from the continuous, personalized learning that a one-to-one iPad program enables.

With the one-to-one iPad program, it became clear that classroom behavior shifted. Students were more engaged than they'd ever been, appreciated the ability to work when and how they wanted, and had the opportunity to be creative using apps like iMovie and Keynote. As a result, the school reported a 100 percent graduation rate among students who participated in the one-to-one iPad program, which was an increase of more than 20 percent.

Two years later, they purchased an additional 240 new iPad devices to become a complete one-to-one school. Based on the success of the program, the Düsseldorf Council expanded to 10 more schools in the district and now have more than 80 schools participating in a one-to-one iPad program.



100%
graduation rate



Lynn University
Boca Raton, Florida, United States

Ranked #21

in U.S. News & World Report as
Most Innovative School

Since the launch of their iPad program, Lynn continues to see increases on student satisfaction surveys each year—and now as a result, Lynn is receiving accolades by U.S. News & World Report. In spring 2015, Lynn was ranked #21 in U.S. News & World Report's Best College rankings as Most Innovative School for innovative updates in curriculum, faculty, students, campus life, technology, or facilities. In the most recent student satisfaction survey:

- 72 percent of students thought Multi-Touch books were more effective than traditional paper books (up from 65 percent in 2013).
- 90 percent of students felt iPad would allow them to be better able to connect with classmates (up from 79 percent in 2013).
- 96 percent of students felt comfortable using iPad technology.
- 99 percent of students anticipated iPad would contribute to their learning experience.
- 73 percent of students felt the iPad program influenced their decision to attend Lynn University.



VUC Syd
Denmark

VUC Syd, an institution that serves 8000 adult students between the ages of 16 and 60, launched their one-to-one iPad program in 2010. Many of the students transferred from a traditional education system to VUC Syd to experience an approach to learning that supported their unique learning challenges.

This approach was reinforced by VUC Syd's belief in the importance of digital literacy and its crucial role in students' onward success. They introduced the one-to-one iPad program as a way of developing curiosity, building self-confidence, and increasing the engagement of their students.

After six years of implementation, the number of students pursuing higher education increased by 139 percent and student enrollment increased 74 percent above the national average.



74%

increase in
student
enrollment

139%

increase in students
seeking higher education
after graduation



Encinitas Union School District

Encinitas, California, United States

For the past two years of Encinitas' one-to-one iPad program implementation, data reflects an increase in attendance rates at all nine schools. While this data could be attributed to a variety of factors, one possible reason (combined with survey data) is that students are more engaged in learning and have a desire to attend school.

96%

overall attendance rate



Cedar Valley Catholic Schools

Waterloo, Iowa, United States

In 2012, this school's one-to-one iPad program was built around a clear vision for success, student engagement, and ongoing professional development, resulting in gradual improvements across a variety of measures. Cedar Valley reports a 97 percent attendance rate, 100 percent graduation rate, and 70 percent of all grade levels exceeding national scores on state assessments.

96%

of students report being more engaged in the classroom



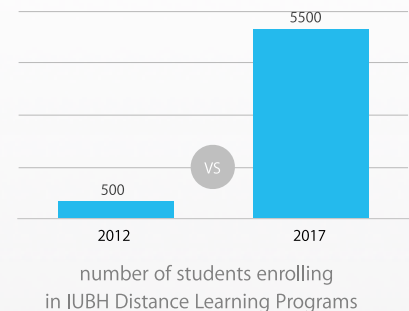
IUBH—International University of Applied Sciences

Bad Honnef, Germany

In 2013, the introduction of the one-to-one iPad program at IUBH Distance Learning enabled students to learn in a more flexible and independent way without dependency on their desktop computer or smartphone.

In 2017, four years into the one-to-one iPad program, IUBH's iTunes U channel had 135,000 subscriptions and more than 650,000 downloads, making it the dominant tool for sharing IUBH's learning materials with the public.

Use of iPad and iTunes U allowed students to adapt their learning process to their personal and professional daily routines, providing the best possible learning experience. IUBH believes this has resulted in a significant increase in student enrollment from 500 in 2012 to 5500 in 2017.



Kindai High School

Osaka, Japan

Kindai High School, a private school serving grades 10–12, began their one-to-one iPad program in 2012. School leaders observed that students were more engaged, took an active role in their learning experiences, and expressed an eagerness to learn. Students were empowered to control their own learning and develop a sense of belonging at school.

During the first two years of implementation, they experienced a steady decrease in new students dropping out of school in the first year. By 2014, Kindai reported an impressive 84 percent decrease in their dropout rate of new students—going from 37 students down to 16 students in the first year.

84%

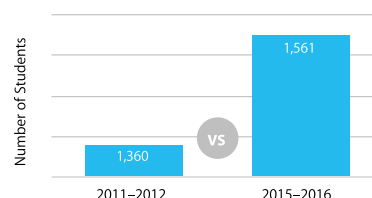
decrease in new students dropping out of school in the first year



Bluffton-Harrison MSD

Bluffton, Indiana, United States

For the last five years, Bluffton has implemented a one-to-one iPad initiative across all grades in the district. To increase the level of engagement students had with iPad, Bluffton expanded its initiative during the 2015–2016 academic year to allow all students to take their devices home rather than only students in grades 5 through 12. During this expansion year, Bluffton reports that many factors, including increased engagement with iPad, contributed to the 15 percent increase in district enrollment—a rise of 200 students.



15%

growth in enrollment due to many factors, including increased engagement with iPad

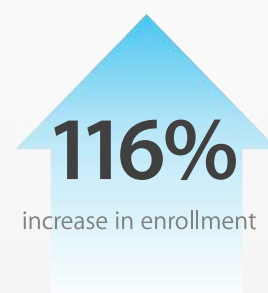


Oberschule Gehrden

Gehrden, Germany

In 2011, Oberschule Gehrden, a secondary public school serving grades 5–10, implemented a one-to-one iPad program that expanded across all grades over the course of six years. iPad became an important tool for students and teachers in their learning and teaching process, enabling students to be more engaged during lessons. The school developed digital STEM curricula that allowed students to explore and discover real-world problems in an intuitive and personal way.

Using iPad in the classroom helped spark curiosity in students and enable much deeper understanding. As a result, Oberschule Gehrden reported a 116 percent growth in enrollment between 2014 and 2017. This also led to recognition as an Apple Distinguished School in 2017.

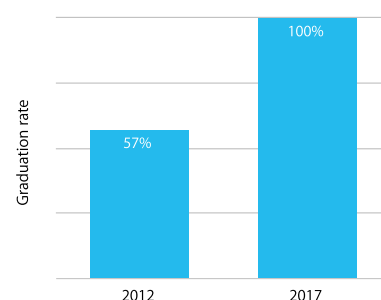


CFER de Bellechasse

Saint-Raphael, Quebec, Canada

CFER de Bellechasse educates students between the ages of 15 and 18 who find regular secondary studies challenging. The school has committed themselves to using technology that meets the requirements of today's students. iPad integrates beautifully to assist CFER students who have difficulties in school and prefer to study outside the traditional classroom.

As a result of their one-to-one iPad program, learning at CFER has become an innovative learning environment that's customized for each student—enabling 100 percent to obtain a high school diploma in 2017, as compared with 57 percent in 2012.





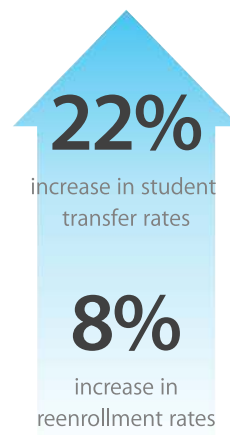
Einaudi Chiodo

La Spezia, Italy

In 2011, Einaudi Chiodo launched a one-to-one iPad program to address a decrease in new and existing student enrollment. With iPad, they felt they could improve student communication and create a learning experience that brought the real world into the classroom.

By 2014, three years after implementation, Einaudi experienced an increase in the student population attributed to an 8 percent increase in student reenrollment, a 22 percent increase in student transfers from other schools, and a 2 percent decrease in dropout rates.

Leaders at Einaudi saw a 6 percent increase in student passing rates on exams, which they believe was a result of increased engagement with students using iPad. This also led to more students pursuing postsecondary studies after graduation.



Hilliard State School

Brisbane, Australia

Hilliard State School began their journey in 2011 when they launched a shared iPad program with a small number of teachers. Their implementation was so successful that by 2016, they moved to a one-to-one iPad program, expanding the program to every student in every class, Prep to Year 6.

Results from two school surveys* showed that 90 percent of students reported having a better learning environment using iPad, while 100 percent of parents also reported overall confidence in the students' classroom learning experience using iPad. In math, 82 percent of parents also observed improved engagement.

*2014 School Opinion Survey and Research Project Survey



82%

of parents report increase in student math engagement

100%

of parents report confidence in students' learning experience

90%

of students report having a better learning environment



Marymount School of New York

New York, New York, United States

Marymount prefers alternative assessment methods to measure students' academic curiosity, creativity, and achievement. In the spirit of the Maker Movement, Marymount embraces the importance of the process over the product and encourages all students to experiment, tinker, and innovate. In the last few years, the school has also seen a marked increase in the number of students applying to colleges and universities across the country—many of them choosing STEM-related majors.



100%

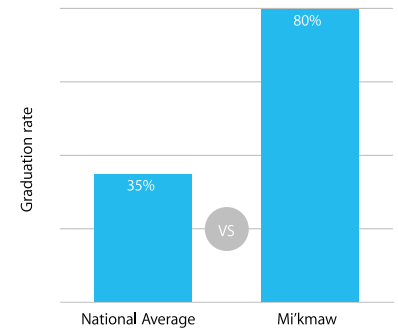
of Marymount seniors graduate on time and go on to college



Mi'kmaw Kina'matnewey (Atlantic First Nations) Nova Scotia, Canada

"Mi'kmaw Kina'matnewey" means "teaching and learning" in the language of the Mi'kmaw First Nation people. Made up of 12 First Nations and 21 schools in Nova Scotia, Mi'kmaw Kina'matnewey was formed in 1997 by an Act of Canada's Parliament, which provides Native self-governance over education. Efforts to implement the one-to-one iPad program began in 2012 with three schools, increased to seven, and grew to fifteen schools with one-to-one or shared classrooms.

A strong focus on language and culture can be seen in the organization's content development. More than 20 apps and a growing library of iBooks textbooks and iTunes U courses are being developed. They created a language assessment tool called "Antle the moose"—a puppet that interviews students, then uses his nose as a pointer to enter the responses on iPad. By 2014, two years into the implementation, their new language revitalization apps and culturally appropriate materials helped increase graduation rates among Mi'kmaw communities to 80 percent, compared with the 35 percent national average for aboriginal communities.

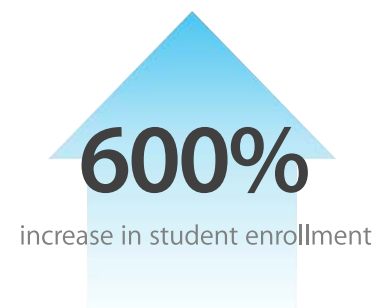


Ajman Academy Ajman, United Arab Emirates

Ajman Academy opened its doors in 2012 with a one-to-one iPad program for all students.

With iPad, Arabic language lessons were more fun and motivated students to develop their skills collaboratively. The learning environment was accessible and allowed all students to enhance their thinking and communication skills, making iPad an essential tool for learning.

In 2017, five years into the implementation, Ajman reported a 600 percent increase in student enrollment, going from just under 100 students to 840 students. They believe this result is due to the students' experience in the one-to-one iPad program.



Resource Efficiencies

It has become more important than ever for districts and schools to manage their financial obligations in order to provide great educational experiences on a limited budget. iPad implementation gives schools the opportunity to create efficiencies and explore cost savings, such as reductions in computer lab maintenance, consumables and textbooks, hardware peripherals, print services, and more.





String Theory Schools

Philadelphia, Pennsylvania, United States

This K–12 school built an Apple ecosystem to spark innovation across the curriculum and inspire leaders among students, resulting in significant transformations.

- Replaced all textbooks and school supplies with iTunes U content
- Built the curriculum collaboratively, in real time, and published content on iTunes U

\$100,000

savings per year on textbooks with iTunes U for content and teacher-created courses and curriculum



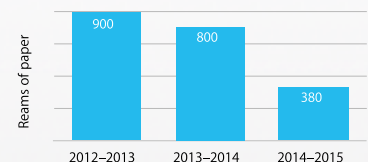
Emma K. Doub Elementary School

Hagerstown, Maryland, United States

At Emma K. Doub, every student in the school uses iPad in a one-to-one environment throughout the instructional day along with a variety of other tools, including digital photography and green screen technology. The goal at this school is to integrate arts and technology into the curriculum to challenge, connect, and create in order to achieve academic success. Emma K. Doub reports that the initiation of this one-to-one environment has reduced paper costs.

58%

decrease in paper cost over two years



ESSA Academy—Bolton

Bolton, United Kingdom

Essa Academy's vision was built on the desire to provide a high-quality educational experience that created a strong sense of belonging and community. With a one-to-one iPad program, the access to rich learning materials coupled with the ability for teachers to provide quality feedback enabled a personalized learning approach.

Just two years after implementation, students began creating their own digital textbooks. This resulted in a 70 percent decrease in photocopying costs and a reduction in the number of photocopiers needed from nine to three. But more importantly, students were able to go deeper into the lesson and expand the learning from the classroom.

70%

decrease in photocopying costs



Cathedral Catholic High School
San Diego, California, United States

Since their schoolwide iPad program implementation, the Cathedral Catholic community has enjoyed \$38,000 in financial savings through the creation of electronic handouts and handbooks for use on iPad. Parents and faculty also report savings after transitioning to iPad.

\$38,000

in savings through creation of electronic learning materials for use on iPad



Søndervangskolen
Aarhus, Denmark

Leadership at Søndervangskolen created a culture of continuous professional development that helped teachers show improvement with their students while providing them with tools to keep track of their students' progress. This led to a school environment that facilitated academic success for all students.

The one-to-one iPad program also had a significant impact on Søndervangskolen's financial health by helping the school save more than 50 percent on the printing of course materials.

More than

50%

reduction in printing costs
over one year

Content Quality and Design

Quality content for iPad and apps for iPad in education lead to higher achievement. Research shows the importance of developing features that enhance learning and engage young students, while not distracting from the educational content. Several studies have focused on specific content effectiveness of third-party apps, underscoring that designing quality content matters.





Solar Walk, *Science*

Researchers explored how two specific interactive features in the app Solar Walk would affect high school students' understanding of the solar system and enhance learning on iPad.²

- The Solar Walk app impacted student understanding in 20 minutes.
- Interactive features of iPad enhanced students' understanding of content that is otherwise difficult to demonstrate with traditional instruction methods.

Solar Walk³ impacted student understanding in

20 min.



Wuzzit Trouble, *Math*

A recent Stanford University study showed that playing the mobile video game app Wuzzit Trouble led to dramatic learning results in math. When researchers compared the written pre- and post-test results of two classes, the students who spent 120 minutes of class time playing Wuzzit Trouble improved their math problem-solving skills.

16.4%

increase in math problem-solving skills after 120 minutes of game play with Wuzzit Trouble



Learn with Homer, *Literacy*

The study "Can an App Close the Literacy Gap?" set out to examine the efficacy of the Learn with Homer app on early literacy development in an effort to improve school readiness skills. In seven Head Start classrooms, 82 children were randomly assigned to treatment and control groups. The treatment group used six levels of Learn with Homer's literacy program.

74%

increase in TOPEL *test scores after using the Learn with Homer app 15 minutes a day over six weeks



ST Math, *Math*

In 2010–2011, the WestEd "Evaluation of MIND Research Institute's Spatial-Temporal Math (ST Math) Program in California" study looked at the average grade-level math scores on the California Standards Test (CST) at all schools that used the ST Math app. When comparing the test scores with a matched set of other schools that did not use the app, the findings were impressive.

16 points

gain on CST test scores after one year of implementing the ST Math app



Teachley: Addimal Adventure, Math

Teachley: Addimal Adventure teaches single-digit addition to kindergarten through second grade students—the goal is to promote conceptual understanding and fact fluency. A pilot study was conducted to determine the effect of Addimal Adventure on students' accuracy, speed, and strategy use.

13%

increase in speed and accuracy of math facts per minute when using the Addimal Adventure app



LightSail, Reading

LightSail reports students reading 25 minutes a day on LightSail are seeing 2+ years of Lexile growth in a single year. In a recent Columbia University Teachers College study, researchers found that students in grades 5 and 6 who use the LightSail app in their reading practice have improved their Lexile measure between 2.6 and 4.3 times the national average, according to MetaMetrics, the creators of the Lexile Framework.

2+ years

of growth in reading ability after one year of reading 25 minutes a day on LightSail



eSpark, Math and Literacy

Launching their one-to-one iPad implementation in 2013, Elizabeth Forward School District has seen remarkable impact in student engagement and academic achievement using eSpark. Before eSpark, the kindergarten, first, and second grade special education students began the school year significantly behind their peers, averaging in the 48th percentile nationally. That same group grew 25 percentile points in math and English language arts after using the eSpark app, closing the achievement gap.

25%

point gain on NWEA* MAP** after one semester using the eSpark app



1. The data shown in this document is self-reported by the institution—Apple was not involved in the gathering or analysis of the data reported, nor has any knowledge of the methodology used. This document highlights the results or trends institutions using Apple products have observed, along with studies that demonstrate the positive impact iPad is having on instruction in the classroom.
2. Conceptualizing astronomical scale, *Computers and Education*, January 2014
3. Prior to purchase or download, you should review the terms, representations, policies, and practices of any third-party app to understand whether their treatment of information meets the needs and requirements of your organization, especially as it relates to the treatment of children's data.

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Appendix C

Examples of How iPads Will be Used for Teaching and Learning in Different Subjects

R.E.A.L Schools would like to be part of the success stories. We would like our teachers and students to experience the same level of technological opportunity and advancement. We would like to see our student learning engagement to improve, facilitate better academic achievement, improve our teachers' skills and capabilities to deliver lessons, and to improve the overall education experience in our schools.

This is how we envision the use of technology in different learning areas:

Language

iPad includes many built-in features that support language learning. With Speak Selection, students can highlight text and use the Speak option to have the text read aloud. Students can also use Speak Screen to read the entire contents on screen.

With built-in microphone and Dictation, students are no longer limited by having to write or type their thoughts. Allowing students to talk instead of type helps them practice speaking, enunciating and pronouncing words effectively.



There is a wide variety of learning materials available that help students learn in new and exciting ways. **iBooks Store** has numerous, engaging Multi-Touch books that have built-in reading tools such as spoken text, instant access to dictionary definitions and study cards that help with comprehension.



iTunes U is the world's largest online catalogue of free education content, with over a million media files being shared in collections and within courses.



iBooks Author allows students and teachers to create their own interactive books. Teacher can develop materials that are personalized for students' own reading levels.



Simplemind+

Mind-mapping before writing an essay / résumé. A teacher can also use it to assess what students know about the topic that the teacher will introduce in a lesson.



Bookcreator

Students create a personal project comprising relevant photographs, illustrations, useful phrases and interactive sentences that play back their pronunciation.



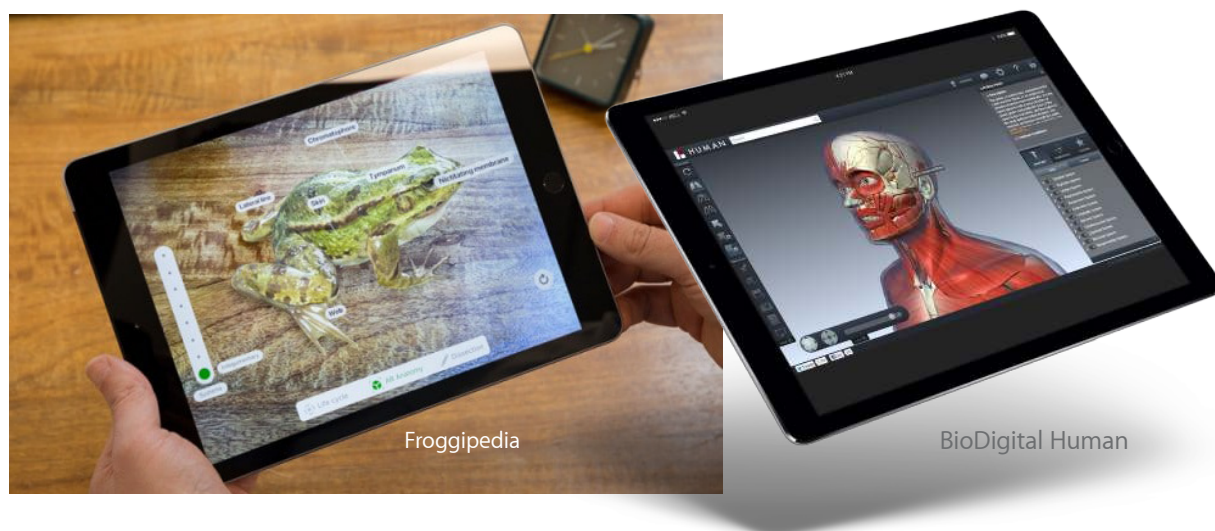
Socrative

After a short amount of teaching a particular grammar point, students might complete an interactive quiz. Results are collated and fed back to the teacher automatically.



STEM

Built-in apps like camera microphone, maps and clock support STEM by helping students capture scientific data.



Apps that offer interactive 3D models enable students to explore more deeply. Apps like **Solar Walk 2** allow students to navigate the solar system, see planetary positions, and explore how and why they move; while **BioDigital Human** offers a comprehensive set of anatomy and health condition models. Student can add and remove layers and see around and through an accurate 3D model of the human body.

Augmented reality apps make STEM lessons more interactive than ever. Apps like **Froggipedia** bring organs, systems, and vocabulary to life in the context of a lifelike frog. Students can see a frog's life cycle, study a living frog in AR, and then dissect a virtual frog; while apps like **GeoGebra Augmented Reality** let students explore Math by walking around 3D shapes that they create.

Various coding apps enable students to learn this essential skill which is also known as the language of machines.

A wide range of third-party hardware products can be connected to extend learning through innovative STEM apps such as **Sphero playgrounds, Dash playgrounds, Venier and 3D printers.**



Arts and Humanities

By using **digital paint**, students will learn to work in layers with transparency, undo their mistakes, zoom in for more details, and resize / crop / rotate to create good compositions.

Students can explore **digital photography, digital storytelling, animation, graphic design, website building, movie-making, songwriting**, and more through various apps that enable sharing and creating digital content and media focusing on art.

In Geography and History lessons, students will be taken on exciting journeys with a real-life presence at amazing places. **Spherical 360° photo panoramas** allow students to rotate an image, change the field of view, and zoom in on a particular detail. They can explore the most beautiful cities in the world, historical locations, beaches, night landscapes, witness volcanic eruptions, amazing lakes, mountaintops, and waterfalls.

Interactive timeline apps are a great way for students to see how historical events from around the world happened and their relationships to each other.

Students and teachers can explore apps like **BrainPOP** and **National Geographic** for humanities topics or videos that relate to their lessons. They come with test and question banks too.

Educational maps app can be used during Geography lessons to see high definition maps of the six continents as well as useful stats and information about each country.

National
Geographic



Why iPad as a learning device?

Every child is a natural learner. They are born full of curiosity and creativity. Educators must nurture these innate attributes by providing them opportunities and tools to be more creative. Creativity makes our students better communicators and problem solvers. This will help them thrive in today's world and even shape more possibilities for their future. Apple designed the iPad and all the tools that come with it for this purpose.

- *Technology designed to be as limitless as a child's imagination.*
User-friendly, providing complete freedom of expression in the hands of every student who uses it.
- *Apps that help you put the power of technology to work. In and out of class.*
Teachers can focus on facilitating as developed tools and apps provide engaging opportunities with students and allow them to give timely and valuable feedback.
- *Everyone Can Create - project guides that unleash creativity in every student.*
Tools and apps provide multiple ways of allowing students to demonstrate their learning; drawings, charts, graphs, photography, video, music, and many more.
- *An immersive programme to help you teach the language of innovation.*
Tools and apps that will easily teach students the language of coding, augmented reality, virtual reality, and simple AI or Artificial Intelligence.

Appendix D

Biodata of Craig Kemp: R.E.A.L Schools' External Consultant for iPad Programme



Craig Kemp
Digital Learning Consultant
MrKempNZ.com



As a keynote speaker, workshop host and global Education Consultant Craig works with Departments, Ministries, School Leadership, School Communities and Educators to understand, design, and implement digital learning solutions and transformations to improve teaching practice and student learning outcomes.

Craig has supported schools and organisations all over the globe to establish practices, protocols and guidelines to support the sustainable implementation of technology into the curriculum to add value to student learning. In addition, he works as an advisor with technology vendors adding value to their products for use in schools.

Craig is a New Zealand born educator with over 14 years experience both in the classroom, in leadership and in consulting. He is an enthusiastic change agent that is passionate about every aspect of education and making a difference. Craig is currently based in Singapore and as a digital learning consultant he supports schools in their digital learning transformation journey.

Craig is well known for his dedication to education through Social Media, with over 41,000 followers on Twitter. He is an Apple Professional Learning Specialist (one of only 20+ in Asia), Apple Teacher, Google Certified Educator (Level 1&2), Google Certified Innovator, Common Sense Certified Educator, SeeSaw Ambassador and has a Bachelor of Teaching and Learning and a Post Graduate Diploma in Educational Leadership and Administration. He was rewarded as one of only three teachers in New Zealand by being invited to the NZ Leadership Institution Young Leaders Programme. He is a leading change agent, being involved in the makeover of several schools ICT hardware and integration programs, with a particular focus on pedagogy to support curriculum integration of technology. His experience in leading and developing successful teams has seen him support the development of teams across the world to positively make changes. His work is highly sought after, with proven results.

Craig is the co-founder and moderator of the trending twitter ed-chat #whatisschool, as well as the co-founder of #AsiaEd. His passion for sharing knowledge and connecting people to make a difference is clear.

Craig specialises in digital learning transformation, 1:1 device rollouts, global connections, formative assessment, developing schoolwide technology integration strategic plans, creating an enjoyable and engaging learning experience for students, social media in education, educationally and innovation in education and training parents in the application of technology and social media to support student learning. He is available for consulting, speaking engagements, workshops, and seminars both in person and via video conference .



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