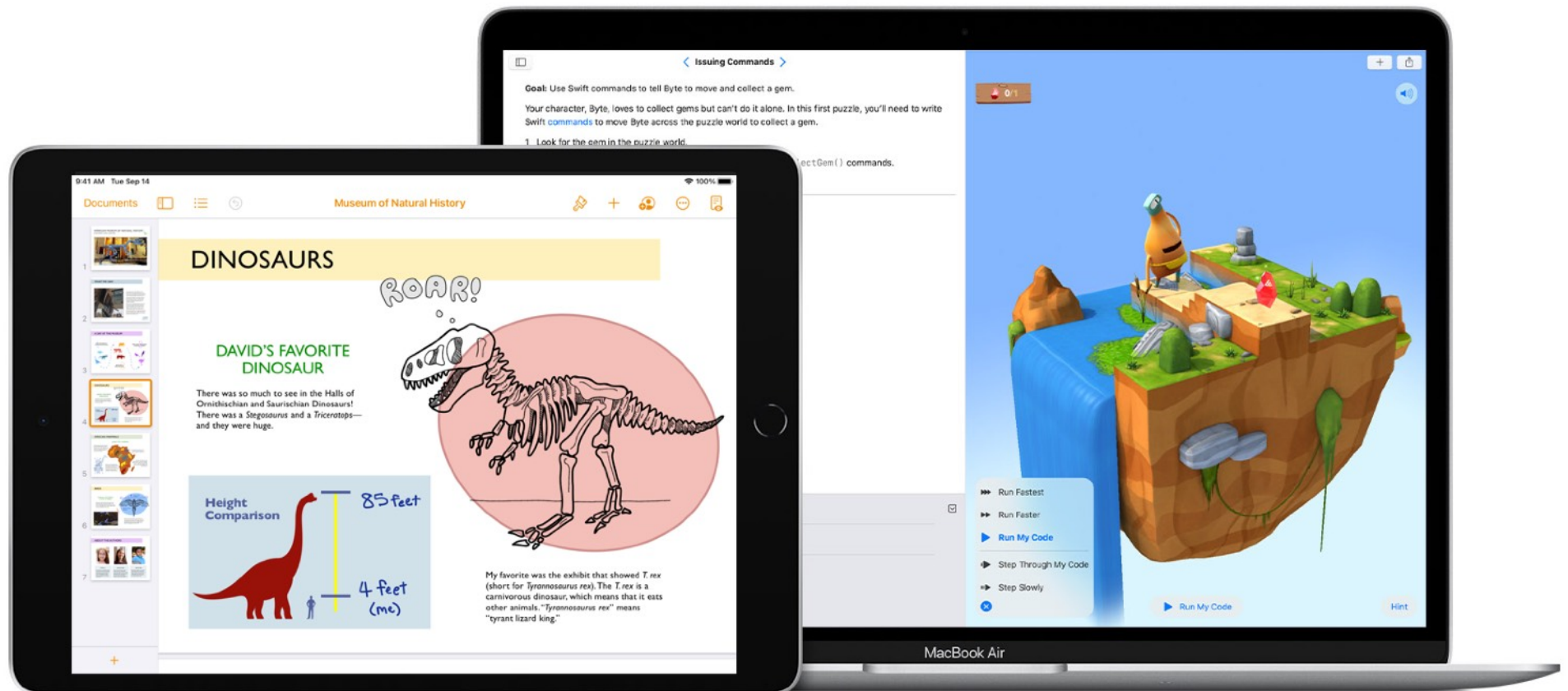# iPad and Mac in Education
Results

September 2022

Schools all over the world are using iPad and Mac to teach transformative lessons and activities, no matter where students are learning.

As teachers incorporate technology into their lessons, they empower students to be self-directed and collaborative learners. This document shares the successes that K–12 and higher education institutions have observed with Apple devices, both in and out of the classroom.

This document highlights the results and trends that institutions using Apple products have observed. The data in this document is self-reported by the institutions — Apple wasn't involved in gathering or analyzing the data and doesn't have any knowledge of the methodologies used.

Motivation and Engagement stories highlight how schools using Apple technology have smoothly transitioned to at-home, hybrid, or asynchronous learning, as well as how technology initiatives at schools have fostered creative and accessible learning environments that continue to attract new students.

Collaboration and Feedback stories show how virtual classrooms, video chat, and accessories like Apple Pencil have allowed for meaningful and personalized communication and feedback in increasingly mobile and paperless environments.

Academic Achievement stories illustrate assessment outcomes and showcase student projects that have real-world applications.

Productivity and Efficiency stories describe some of the ways that Apple technology has aided institutional efficiency and savings.

A number of school **spotlights** are included throughout, sharing stories from institutions whose results speak to more than one of these thematic categories.

Motivation and Engagement

"Because Apple products allow them to develop professional projects, students are both encouraged and motivated to take ownership of their own learning, which creates a culture of drive."

Dana Karczewski
Principal
Meadow Ridge School
Orland Park, Illinois, United States

A survey published by the Wall Street Journal found that student attendance rates fell in 75 percent of U.S. school districts as the 2020 academic year went on — dropping by 1.5 percent each month. A 2020 UNICEF report estimated that 1 billion children are at risk of falling behind. It found that government policy measures to ensure learning continuity through broadcast or digital media could potentially reach a maximum of 69 percent of preprimary to secondary students globally. Access to technology helped prepare staff and students to continue teaching and learning when they were faced with the challenges of moving to at-home learning.

Old River School

Downey, California, United States

In this public school for Grade 4 and 5, 76 percent of students are eligible for free or reduced lunch and 19.1 percent are English-language learners. Using iPad and MacBook, students and faculty were able to smoothly transition to at-home learning, and the school recorded a 95 percent attendance rate during that time.

95%

at-home learning attendance rate

IELEV Schools

Istanbul, Turkey

This private K–12 school began their one-to-one iPad initiative in 2016. Students from Grade 4 on use iPad, and high school students use MacBook Air. Because of IELEV's vision of tightly integrating collaborative technology, students and staff were already familiar with their devices and platforms when schools moved to at-home learning, and 97 percent of students remained in attendance.

97%

at-home learning attendance rate
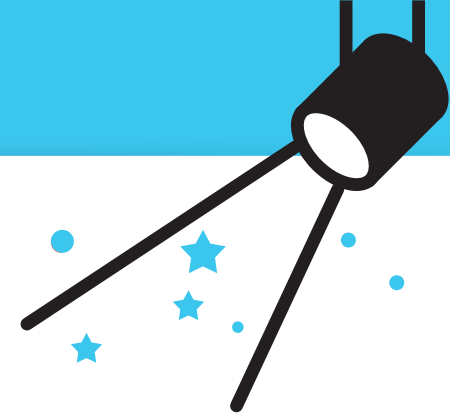
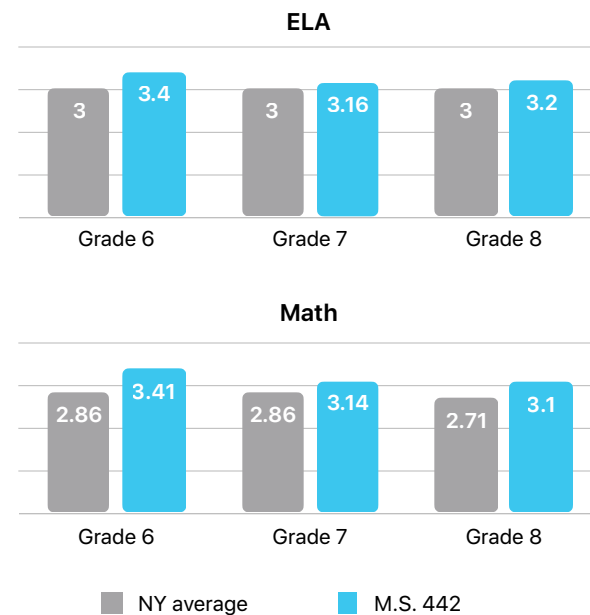# M.S. 442 Carroll Gardens School for Innovation

Brooklyn, New York, United States

Since 2016, this public middle school has implemented a one-to-one iPad program for all students and staff. The school now also provides access to MacBook and Apple Pencil. Technology is embedded in the curriculum, and as a means of differentiating instruction, students are given opportunities for asynchronous and blended learning with individual schedules. Part of the school's vision is to foster student independence and **motivation** through effective use of technology, and students demonstrate their understanding and **engagement** using Keynote, Pages, iMovie, and coding apps.

As a result of the school's efforts to keep students connected, during the 2020–2021 academic year, students in blended and at-home learning environments recorded a 96 percent attendance rate.

In the same year, 100 percent of Grade 8 students took the high school–level Algebra 1 Regents Examination and **achieved** passing scores. And students in all grade levels are outperforming state assessment averages in math and language arts.

State Assessments: M.S. 442 Scores Compared with New York Averages

ELA

	Grade 6	Grade 7	Grade 8
NY average	3	3	3
M.S. 442	3.4	3.16	3.2

Math

|	Grade 6	Grade 7	Grade 8
NY average	2.86	2.86	2.71
M.S. 442	3.41	3.14	3.1

NY average   M.S. 442

In July 2021, data from the National Center for Education Statistics showed that during the academic year 2020–2021, the number of students enrolled at U.S. public schools decreased by 3 percent. Despite this trend, some schools have been able to continue to attract new students through their innovative learning environments and effective technology deployments.

International American School of Cancún

Cancún, Mexico

At this private K–12 school, enrolment has increased annually since introducing Apple technology in 2016. The institution notes that they were one of the few schools in Cancún to offer uninterrupted teaching and learning throughout the pandemic — and the trend of growing enrolment has continued. Primary and middle school students use iPad, and each high school student is designated their own MacBook.
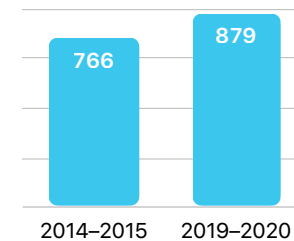
Year	Enrolment
2016	592
2017	601
2018	621
2019	625
2020	636
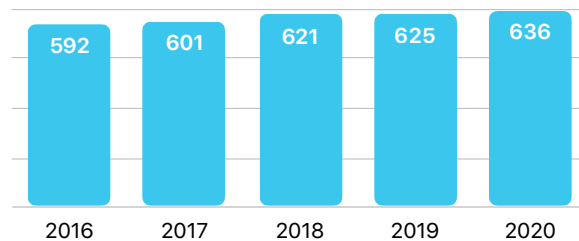
Student enrolment

Lewis Elementary School

Downey, California, United States

The campus at this public K–5 school includes an innovation and design lab where students code using the Swift Playgrounds app and a dedicated studio where they work with GarageBand, iMovie, and Clips. Lewis Elementary recorded a 15 percent increase in enrolment from 2014 to 2020, with nearly one-quarter of new students coming from surrounding schools and districts. Administrators attribute this trend to the school's engaging learning environments and the opportunities that their technologies provide to students with diverse needs.

Year	Enrolment
2014–2015	766
2019–2020	879

Student enrolment

Midland University

Fremont, Nebraska, United States

In 2018, students and full-time faculty at this private liberal arts college were issued iPad and Apple Pencil for teaching and learning. Academic departments at Midland incorporate iPad into lessons in a number of ways. In the nursing department, using iPad with VR headsets provides nursing students with experiential learning opportunities. As a result of this project, one faculty member was invited to present on their curriculum at a 2020 conference hosted by the American Association of Colleges of Nursing.

In the three years since launching their one-to-one initiative, Midland has observed record-setting enrolment each year, with an 8 percent improvement in first-year retention.

In addition, 91 percent of students in the 2020 graduating class were either employed or accepted into a graduate studies program within six months of graduation.

Collège du Sacré Coeur

Halluin, France

Curriculum at this private middle school includes using AR on iPad to enrich natural science studies and to help students visualize technical objects and functions in design and engineering courses. The school has partnered with a museum in a nearby city on a project where students use iPad to create interactive content with the museum and present it in a 360° video. And to empower learners with disabilities — a population that has tripled in the last nine years — educators at this school integrate iPad accessibility features into lessons.

As a result of innovative instruction at the school, surveys show that 91 percent of parents believe iPad has allowed for better educational continuity during periods of at-home learning, and 96 percent of educators report that iPad is an indispensable tool in their teaching.

↑8%

improvement in first-year retention since 2018

91%

of class of 2020 graduates were employed or accepted into graduate program within six months of graduation

96%

of teachers report that iPad is an indispensable tool in their teaching

Collaboration and Feedback

"It is our commitment to our school that no digital divide will occur. We all deserve the right to learn."

Kerry Lilico
Head Teacher
Stephenson Memorial Primary School,
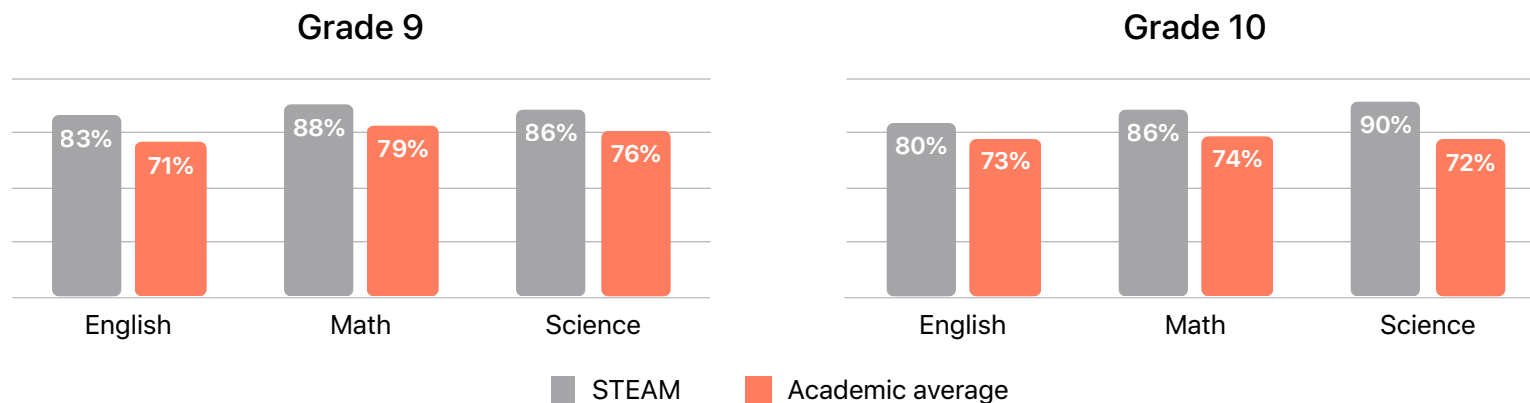Wallsend, United Kingdom

West Ferris Intermediate & Secondary School

North Bay, Ontario, Canada

West Ferris School relies on Apple technology to support STEAM program students as they master 21st-century competencies through project-based learning. Students **collaborate** with teachers to help create and deliver lessons using apps like iMovie and Keynote, and learn to code using the Swift Playgrounds app for iPad and Mac. STEAM teacher and ADE Brent Yacoback, explains "the STEAM course where we get to teach the students coding, is by far the most fun. [It] not only leads into good job opportunities later on in life but, beyond that helps the students become future ready."

Collaboration and mentoring aren't limited to the classroom. As part of West Ferris's outreach efforts, students in the STEAM program can become iCoaches and run workshops at neighbouring schools to teach students about coding, stop motion animation, and green screen iMovie creations among other things—all on MacBook Air, iMac and iPads.

As a result, West Ferris STEAM students are on average outperforming their peers on local assessments and standardized provincial testing in English, Math, and Science by as high as 17% in Grade 9 and 24% in Grade 10. Science and STEAM teacher Bryan Brouse states, "with Apple products, it becomes quite seamless: I get high-quality work and students ask me if they can do more."

Grade 9			Grade 10		
English	Math	Science	English	Math	Science
STEAM 83% / Academic average 71%	STEAM 88% / Academic average 79%	STEAM 86% / Academic average 76%	STEAM 80% / Academic average 73%	STEAM 86% / Academic average 74%	STEAM 90% / Academic average 72%

STEAM ■   **Academic average** ■

Providing opportunities to stay connected through technology is one way that schools can strive to maintain equitable and accessible education. Teachers are using collaborative documents to personalize instruction, Apple creative apps to design lessons and activities, and accessories like Apple Pencil for personalized digital feedback. In virtual classrooms and video chats, students are connecting with each other and their broader communities. On school websites and platforms like Seesaw and Showbie, students are sharing their creative work with an audience of peers, teachers, and families. And in the classroom, AirPlay lets anyone share their screen so the whole class can collaborate instantly.

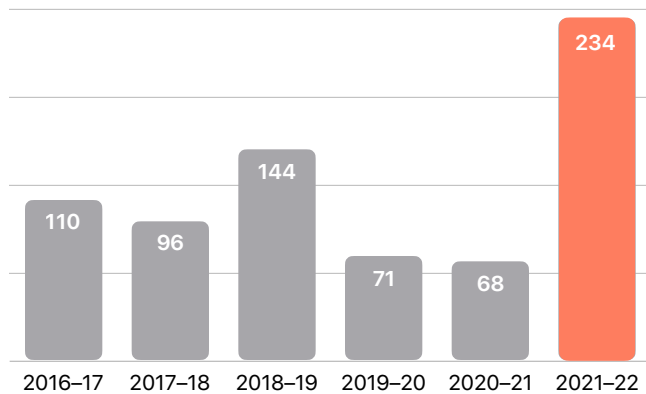## Cheongwon Elementary School

Seoul, South Korea

Since the launch of the school's iPad initiative, Cheongwon students have increasingly been able to engage in self-directed classes and demonstrate their creativity through collaborative projects. The school has also hosted STEM learning camps, where Cheongwon students use Apple devices to connect with students at Seoul National University and Harvard Graduate School of Education. Administrators and IT staff note that since the introduction of Apple School Manager and mobile device management solutions, it has become more convenient for teachers to manage student accounts, purchase and install apps in bulk, and manage iPad remotely. And faculty have observed that the Schoolwork app has made it easier to collect student work and evaluate assignments.

Highlands International School México

Ciudad de México, Mexico

This private international Catholic K–12 school began their one-to-one program in 2014. The school produces a podcast to discuss issues in the community with a variety of guests. A 2020 survey at Highlands found that 98 percent of educators agree that iPad is useful in their lessons on a daily basis. And despite the challenges of at-home learning, the school has recorded a 96 percent retention rate and enrolled about 300 new students since 2020.

New enrolees

Year	New enrolees
2016–17	110
2017–18	96
2018–19	144
2019–20	71
2020–21	68
2021–22	234

Retention rates

| Year	Retention rate
2016–17	85
2017–18	88
2018–19	88
2019–20	87
2020–21	90
2021–22	96

Shotoku Gakuen Junior and Senior High School
Tokyo, Japan

At this private high school, students are encouraged to think as global citizens. They study abroad in New Zealand and Canada to learn and practice English, giving them meaningful opportunities to experience different cultures, reflect on their place in the world, and expand their views. Each student receives an iPad, Apple Pencil, and MacBook to engage with their learning and connect to the world.

The school's STEAM curriculum focuses on cross-curricular problem-solving and creative output. In June 2021, the school hosted Shotoku Tech Academy to offer classes and workshops on Swift Playgrounds and app development.

Research conducted by the school in 2021 found that, as an outcome of their philosophy — including their use of technology — collaborative learning, creative learning, and expressiveness among students increased over the course of the year.
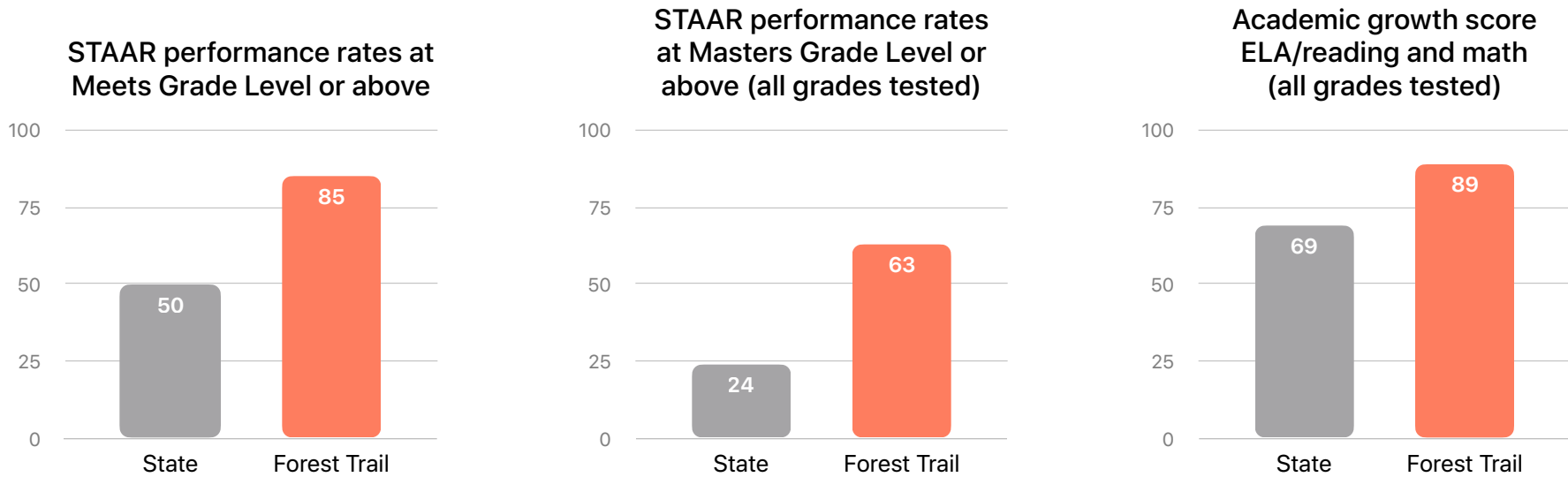
Collaborative learning

	April	August
	3.89	4.23

Creative learning

	April	August
	4.07	4.23

Expressiveness

	April	August
	3.97	4.19
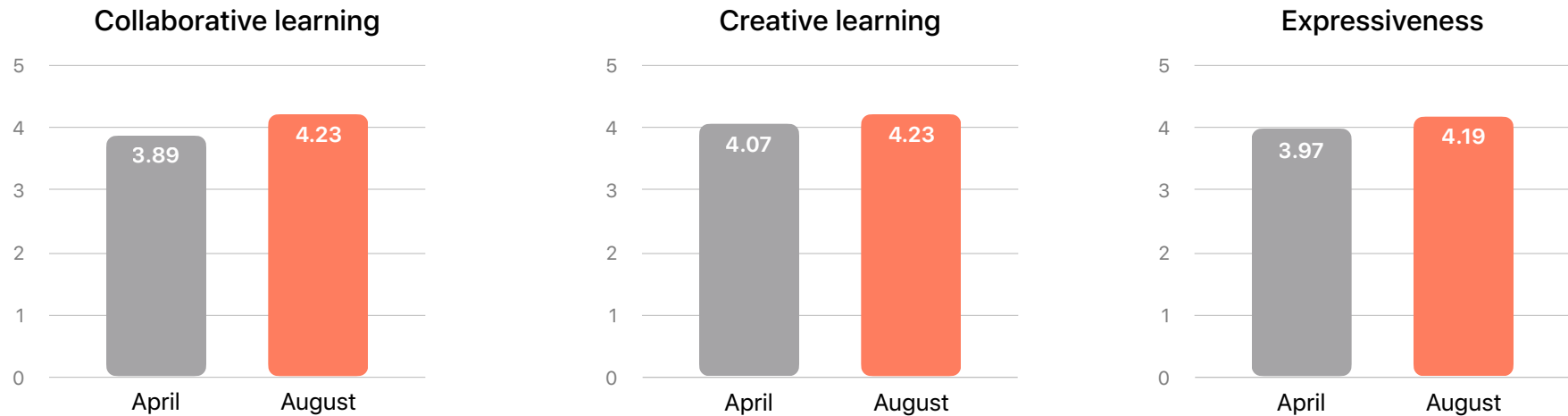
Based on responses to a 2021 survey indicating degree of agreement using a five-point Likert scale.

Forest Trail Elementary

Austin, Texas, United States

This public K–5 school has a one-to-one iPad program for students. Teachers are equipped with iPad, Apple Pencil, and MacBook, and classrooms are outfitted with Apple TV. At Forest Trail, teachers with younger students are using Apple Pencil and AirPlay in the classroom to instruct and model solutions in handwriting lessons collaboratively with the whole class, in real time.

On the most recent statewide assessments, Forest Trail students outperformed their peers in all subject areas.

STAAR performance rates at Meets Grade Level or above

	State	Forest Trail
	50	85

STAAR performance rates at Masters Grade Level or above (all grades tested)

	State	Forest Trail
	24	63

Academic growth score ELA/reading and math (all grades tested)

	State	Forest Trail
	69	89

East Hills Girls Technology High School

Panania, New South Wales, Australia

All students and staff at this high school use iPad and Apple Pencil. In grades 10 to 12, students are assigned their own MacBook. Deputy principal and English teacher Zeinab Hammoud shares that "by using iPad and Apple Pencil, feedback becomes immediate" when marking student essays and other work, and that for students, "the transferring of information is timely, and that's powerful."

With the school's long-standing one-to-one initiative and Apple technology as a common platform, staff and students were prepared to move to at-home learning with ease in 2020, and they used their devices to stay connected through online events. Staff has also reported a more streamlined process for proctoring state and national assessments due to students' familiarity with their devices.

Western Primary School

Harrogate, North Yorkshire, United Kingdom

At this school for students from nursery to year 6, AirPlay has become a tool for peer learning and assessment in the classroom. As one teacher puts it, "Using AirPlay in the classroom means the children can share their work instantly and collaborate to help them improve their writing."

Staff members have efficiently integrated iPad into their lesson design and delivery. In a recent school survey, 100 percent of staff members surveyed agreed that iPad has helped reduce their workloads.

And parents recognize the benefits of putting a device in the hands of every learner. The same school survey found that 95 percent of parents agreed that iPad has increased their student's motivation. As one parent shares, "iPad has allowed our children unparalleled access to their teaching resources and ensured that they have remained engaged and motivated."

"Using AirPlay in the classroom means the children can share their work instantly and collaborate to help them improve their writing."

# Jesmond Gardens Primary School

Hartlepool, United Kingdom

Since 2014, every student at this public primary school has used their own designated iPad. Head teacher Phil Pritchard states that "the staff and pupils' creative and innovative approach using Apple technology provides a stimulating, inspiring curriculum that empowers children to be the best learners they can be."

Teachers use iPad features like Voice Memos and accessories like Apple Pencil to provide personalized digital **feedback** on student work. One instructor states, "I'm able to give students feedback via voice notes, and I can use my Apple Pencil which makes it much more personal because the children hear my voice, play it over again so they're fully understanding, and ultimately making my marking more effective and giving the children a better learning experience."

While the school is in a region that's among the top 10 percent of the most underserved areas in the country, school officials cite their innovative campus, dedicated instructors, and long-standing technology integration as some of the drivers of their students' **achievement**. Upon entering school, 100 percent of students are below the expected standards in all areas — reading, writing, and maths — but by the end of year six, 62 percent are at the expected standards.

Students at expected standard in all subjects
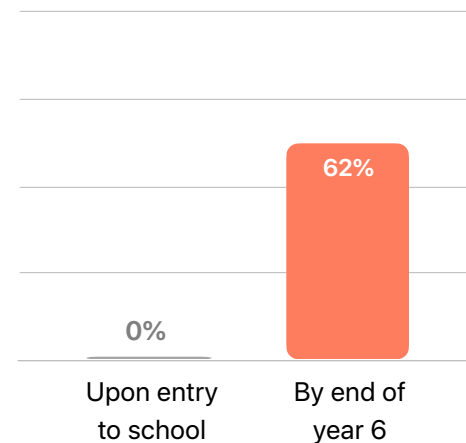
0%	62%
Upon entry to school	By end of year 6

Academic
Achievement

"We are preparing students for the real world before they are even in it, thanks to Apple."

Pam Harris Hackett
Faculty Member
Southern Methodist University Meadows
School of the Arts, Dallas, Texas, United States

École Secondaire Sisler High School
Winnipeg, Manitoba, Canada

École Secondaire Sisler High School is the largest high school in Manitoba serving over 1700 students. The Winnipeg School Division CREATE program, located at Sisler, is designed to **motivate** and prepare high school and post-secondary students for careers in the creative industries while utilizing the latest technology. Being the first of its kind in Manitoba, CREATE offers students project-based courses in VR/AR, filmmaking, animation, graphic design, game design, coding, and motion graphics along with opportunities for software certification and paid internships.

Using Apple hardware and software, students learn how to prepare for a digital world outside of the classroom. "The use of this cutting-edge technology is key to our program," said Jamie Leduc, CREATE Department Head. CREATE students **collaborate** with each other to manage projects, develop visual storytelling skills, create compelling content and much more. With Apple Pencil on iPad Pro and Adobe Premier Pro on MacBook Pro students learn how to conceptualize an idea, create graphic design assets and bring their ideas to life. Students also use MacBook Pros for high-end media projects in the studio and at home, Mac minis for collaborative centres and Apple TVs for screen sharing and school announcements.

CREATE's success is amplified in its graduates' **achievements** such as Anjali Sidhu, who contributed animation work in Netflix's Peabody Award-winning short film 'Cops and Robbers'. Or Mark Toledo, 2016 CREATE program graduate, whose resumé now includes his contributions to the game development of 'Hotel Transylvania: Hotel Havoc', 'Biba Playground Games' and 'Marvel Dimensions of Heroes'. And there are countless other CREATE graduates pursuing careers at companies such as Amblin, Atomic Cartoons, Eagle Vision Inc. Bardel, Titmouse, Archiact VR, Toon Boom, and the Winnipeg Art Gallery. CREATE program teacher and ADE Bernard Alibudbud adds, "our partnerships really make things happen for the students. Most of our students and graduates come from diverse backgrounds and are eager to tell their stories. The whole industry is benefitting from this diversity of voice."
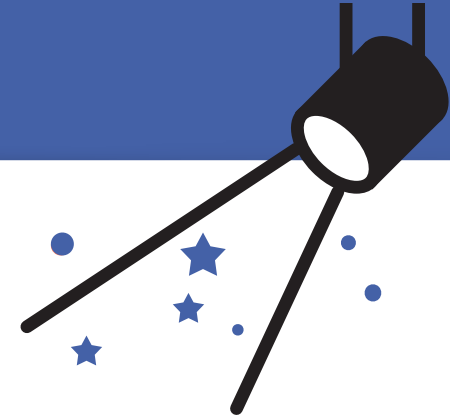
70%
of CREATE graduates are employed in creative industries or pursuing creative studies in post-secondary education

Colégio de Lamas

Santa Maria da Feira, Portugal

This independent K–12 school has seen an improvement in student motivation since introducing Apple devices in 2017 — 70 percent of students report feeling more motivated in creative writing projects when using iPad, and 89 percent report feeling happier and more gratified in their own overall learning process. Colégio de Lamas reports that, with students' increased enthusiasm and deeper learning experiences, student performance on national exams is 20 percent higher than the countrywide averages.

20%

higher student performance on exams compared with countrywide averages

Haywood Early College
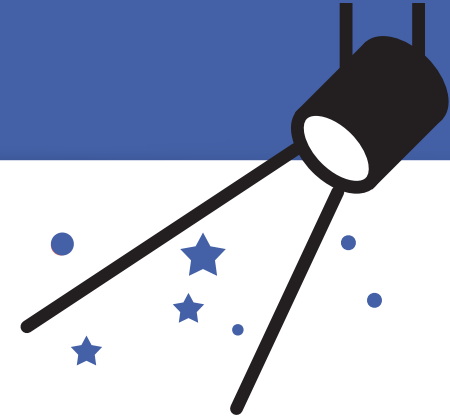
Clyde, North Carolina, United States

Since introducing their one-to-one iPad program, this public high school has seen student ACT composite scores improve. During that time, graduation rates have also increased — from 81 percent in the 2017–2018 academic year to 95 percent in the 2020–2021 academic year.

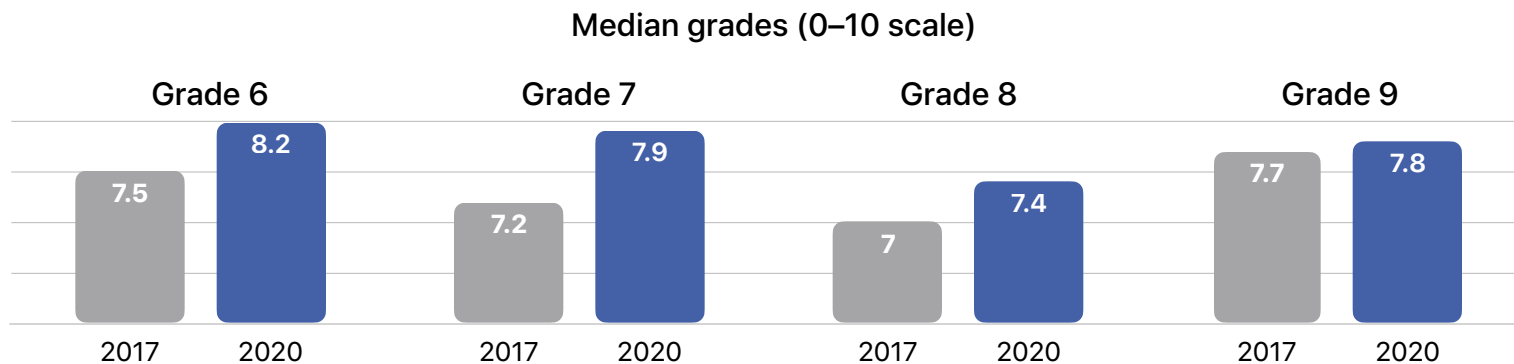### Graduation rate

81%   95%

2017–2018   2020–2021
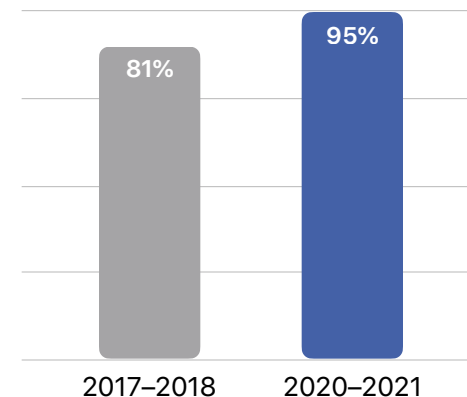
Colégio Bandeirantes

São Paulo, Brazil

At this private secondary school with more than 2600 students, Apple Pencil has been an indispensable tool for educators. Faculty use Apple Pencil to correct, comment, and provide **feedback** on student work. They also use it to produce video lessons, presentations, and other learning materials — and with support from the school's publication team, they've developed 5500 digital book pages and more than 10,000 instructional videos.

Equipped with iPad, students connect and **collaborate** with peers at their school and around the world. STEAM students use design and prototyping apps to work together on project-based learning activities. Grade 8 Spanish-language students use iMovie to edit and produce museum tours, then make these virtual field trips available to the school community. Students in environmental finance and impact investing courses practice listening and conversing in English by using iPad to video chat with representatives at international NGOs.

Since the school's digital initiatives began in 2014, median grades for students in years six to nine have steadily and consistently improved, demonstrating **achievement** even throughout periods of at-home learning.

Median grades (0–10 scale)

	Grade 6		Grade 7		Grade 8		Grade 9	
	2017	2020	2017	2020	2017	2020	2017	2020
	7.5	8.2	7.2	7.9	7	7.4	7.7	7.8

Latin American School

Monterrey, Nuevo León, Mexico

This private K–9 school credits iPad and Apple technology as essential to their success in expanding project-based learning, transitioning to at-home learning, and implementing flipped instruction — where students watch video lectures at home to learn the material, then apply that learning to their work in the classroom.

Since Latin American School introduced their one-to-one iPad program in 2012, students have participated in more national and international competitions for math, physics, creativity, and design, where some students were awarded gold and silver medals. Also in that time, the school has seen an increase in the number of students awarded scholarships from prestigious local high schools — between 20 and 40 percent of students annually.

20–40%

Students awarded scholarships from prestigious local high schools

Singapore American School

Singapore

Since 2011, students at this pre-K to grade 12 independent school have been assigned their own Apple devices — younger students use iPad, and middle and high school students use MacBook. Students engage with the community and stay connected to the campus — one of the largest in the world — through their personal devices, service learning, and hundreds of school clubs.

In elementary school, students learn with AR and code using Swift Playgrounds. High school students are offered over 40 university-level courses. This includes over 20 Advanced Placement courses and over 20 Advanced Topic courses, which are university-level courses designed by Singapore American School faculty in collaboration with university faculty.
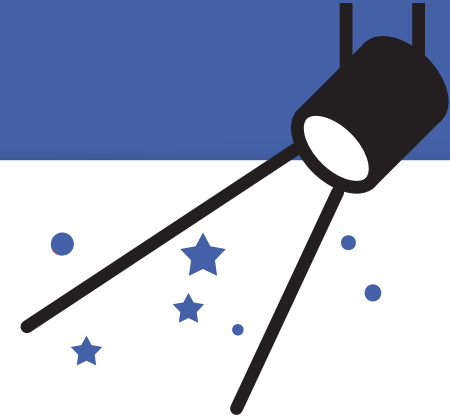
Centennial Middle School

Yuma, Arizona, United States

Educators at this public school for Grade 7 and 8 incorporate Apple technology for flipped instruction and video lectures, which students can watch at their own pace on their iPad devices — freeing up more time in class for them to **engage** in hands-on activities and problem-solving.

The school has been able to **motivate** students to use technology responsibly, reducing disciplinary incidents related to technology by 83 percent. They were also awarded Common Sense School status by Common Sense Media for 2020–2022.

At Centennial, every faculty member is an Apple Teacher. In terms of student **achievement**, incorporating Apple devices into flipped instruction has contributed to 100 percent of learners attending and excelling in college-level algebra.

100%
of faculty members are
Apple Teachers

100%
of students attend and excel
in college-level algebra

Fairmont Elementary
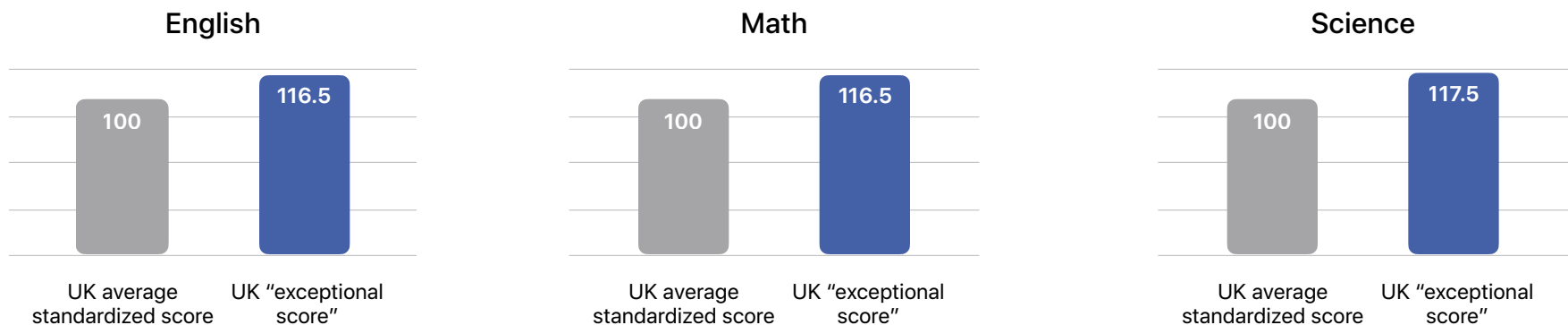
Sanger, California, United States

Fairmont Elementary is located in the County of Fresno's Central Valley, a predominantly agricultural area, and their curriculum includes an agricultural STEM program. The school has incorporated iPad into the program's coursework as a durable and mobile device that's suitable for taking out into the field for recording, analyzing, and tracking plant growth.

Using iPad to collaborate and research, students at this K–8 public school participated in and won the Student Spaceflight Experiments Program, competing against 85 other teams. As a result, their project was sent to the International Space Station in 2018.

Repton Al Barsha

Dubai, United Arab Emirates

At Repton Al Barsha, students work one-to-one with iPad, teachers use iPad and MacBook, and classrooms are equipped with Apple TV. Since integrating Apple devices in 2015, this private school for early learners to year nine has seen steady improvement in the percentage of students performing above average. In 2020, 90 percent of students were achieving above average in all subject areas. Compared with the UK average standardized score of 100 — with 115 and above considered "exceptional" — students average 116.5 in English, 116.8 in maths, and 117.5 in science.

English		Math		Science	
100	116.5	100	116.5	100	117.5
UK average standardized score	UK "exceptional score"	UK average standardized score	UK "exceptional score"	UK average standardized score	UK "exceptional score"

Colégio E.Péry & Tia Min

São Paulo, Brazil

This private K–12 school began their iPad initiative during the 2019–2020 academic year. Since then, the school has reported an 18 percent increase in creative activities in the classroom and 50 percent more collaborative activities.

The school has also incorporated iPad for reading — and since doing so, they've recorded a 155 percent increase in the number of books students and faculty have read.

In addition, with more digital resources available on iPad, Colégio E.Péry & Tia Min has been able reduce printing at the school by 85 percent.

↑**155**%

increase in books read

Ross Middle School

El Paso, Texas, United States

This public middle school for students in grades six to eight is the area's regional school for the Deaf. Of their students, 75 percent are considered economically disadvantaged and one-quarter are English-language learners.

While district-level trends showed that student performance on high-stakes exams declined significantly at the middle school level, Grade 8 students in Ross's Deaf Ed program are closing the achievement gap. Using accessibility features on MacBook Air, the school's Deaf Ed instructor has updated the program, and as a result, 100 percent of Deaf students at Ross passed the state academic readiness assessment in 2021 on their first attempt.

100%

of Deaf students at Ross passed the state's academic readiness assessment on their first attempt in 2021

Productivity and Efficiency

"The versatility and opportunities that Apple products offer our school community mean that iPad is the device of choice to support our school vision."

Lana Menadue
Digital Coach
Bakewell Primary School
Palmerston, Northern Territory, Australia

St. Kateri Tekakwitha Catholic Elementary School

Hamilton, Ontario, Canada

St. Kateri Tekakwitha Catholic Elementary School serves 261 students of diverse cultural and socioeconomic backgrounds with 20% having unique learning needs. Utilizing the accessibility features on Apple iPad, students translate their thinking in a variety of ways—including voice notes, drawing, speech-to-text, multi-modal choice boards, and screen recordings—allowing them to communicate and express themselves with their peers and teachers alike.

iPad and Apple apps, including Clips, iMovie, Keynote, and Pages, are an essential tools for students. Most students agree iPad is a critical tool for their learning process and data shows the use of iPad improved the frequency of personalized learning experiences and critical thinking skills. A grade 8 student, explains "I have ASD (Autism Spectrum Disorder). I use my iPad as a learning tool to help bridge the gap between my special needs and my classmates. A variety of apps on my iPad help me with the challenges I have being in an inclusive classroom. It helps me stay organized and to communicate better."

Brookswood Secondary

Langley, British Columbia, Canada

Brookswood Secondary School built an innovative, interdisciplinary 1:1 iPad-based program called Cat Pack. Through this program, students enroll in either the English or French Immersion stream where they work with Keynote, Pages, Numbers, iMovie, GarageBand, Clips and Office 365 along with a team of experienced teachers across Science, Math, English, French Immersion, and Technology.

The results are nothing short of phenomenal. Students showed improvements in their listening, questioning, and consensus-building skills with 80% of them maintaining or improving their ability to 'work interdependently as a team.' As one student explains, "seeing other people's work has really helped me because everyone has a different understanding in some way. And when you see their understanding, it helps you get better in science and better at what you're trying to accomplish."

90%

of students say the iPad became a critical tool for their learning process

75%

of students participating in the Cat Pack program agree iPad allowed them to demonstrate their classroom learning more effectively

A variety of institutions from pre-K to higher education have seen improvements in their resource savings since working with the Apple ecosystem. Digital inking, instructor-designed materials, and ebooks are reducing printing and textbook costs. And having a common work platform has enhanced staff efficiency and institutional research savings.

Jakarta Intercultural School

Jakarta, Indonesia

At this private coeducational institution for pre-K to grade 12, a 2020 school survey shows that 93 percent of faculty, students, and parents "strongly agree" or "agree" that the school's implementation of Apple technology fosters effective teaching and learning.

Sinta Sirait, the school's chief financial officer, describes how staff and student workflows employ the Apple ecosystem: "Teachers manage their daily work with Apple Classroom, students share Keynote presentations with Apple TV, and we all share documents and pictures via AirDrop. Simply stated: We spend no time trying to get technology to work, and our focus is streamlined on learning."

High school principal Dr. Clint Calzini summarizes, "Our Apple one-to-one program allows our students to focus on creativity, their passions, and supporting one another, without battling technology."

Percentage of students agreeing with the statement: "iPad has had a positive impact on my learning"

	2013	2017	2021
Years 10 to 11	45	88	95
Years 12 to 13	51	87	93
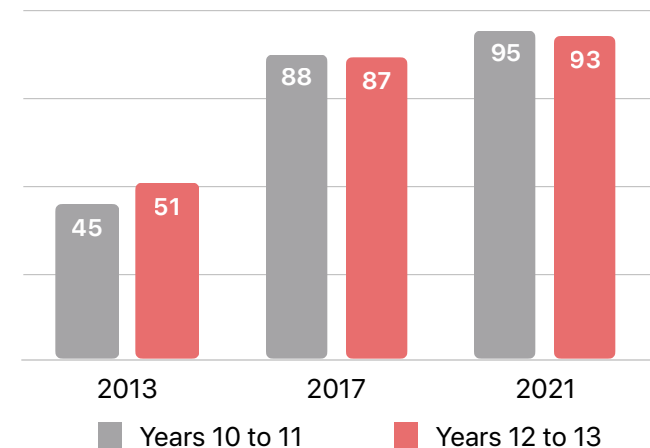
Athénée Royal de Nivelles

Nivelles, Belgium

Educators at this public secondary school make the most of Apple Professional Learning offerings — as well as iPad and Apple Pencil — to innovate instruction. They produce a number of ebooks, videos, and other paperless teaching materials, helping the institution drastically reduce textbook and printing costs. By developing their own digital learning materials, staff members can easily modify, adapt, and personalize resources for more accessible and inclusive lessons. And during periods of at-home learning, these instructor-created resources have made it easier for students to access content and stay connected to their learning, with 95 percent of courses available online.

95%

of courses are available online

Maryville University

St. Louis, Missouri, United States

In 2015, this private college launched their iPad initiative and increased their emphasis on digital curriculum. Since then they've successfully scaled up their program, and they now provide students with an Apple Pencil and Smart Keyboard, too.

After implementing iPad, Maryville compared software licensing costs associated with two different apps for schools. IT staff and administrators found that licensing was up to 99 percent cheaper for the iPad versions than the same number of licenses for the PC versions.

Maryville has also seen full-time undergraduate enrolment increase significantly since providing students with iPad — up 58 percent from 2014 to 2021.
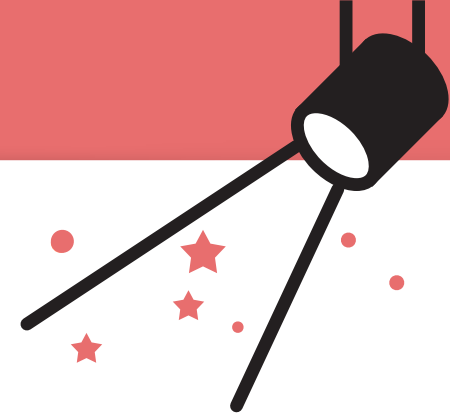
Malton School
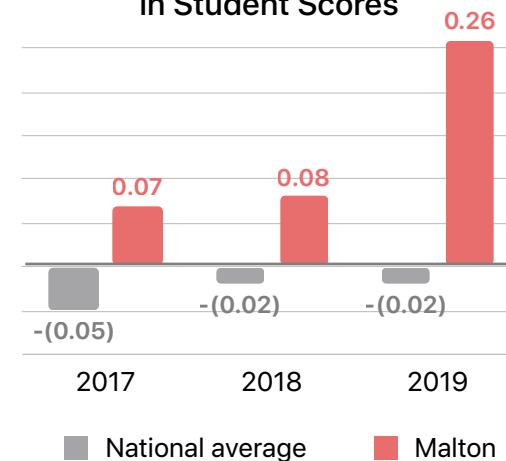
Malton, North Yorkshire, United Kingdom

At this comprehensive school for students aged 11 to 18, 100 percent of teachers use Apple Pencil for markups and **feedback** on student work. Digital inking has transformed the school's feedback delivery and enabled faculty departments to become more **efficient** — some have even gone entirely paperless. As one teacher notes, "Apple Pencil has fundamentally changed my teaching practice. I am now 100 percent paper-free."

Educators have also taken advantage of the activities in support materials like Everyone Can Create and Everyone Can Code to **engage** learners. As instructor Damien Ferrari states, "The advantages of Apple and Malton School's adoption within a learning and teaching environment were abundantly clear, and I was immediately inspired to champion the accessibility and equality of opportunity afforded by iPad devices and the Everyone Can Create and Everyone Can Code resources, which allow an individual to express themselves creatively, and the ability to learn and teach in different ways supporting diversity and learning styles." From 2020 to 2021, instructors delivered 3860 hours of lessons using Everyone Can Create activities.

And the student outcomes speak volumes. In a 2021 school survey, 97 percent of students attribute their academic **achievement** to using iPad, and GCSE and A-level assessments show improved student progress since the school implemented their one-to-one iPad program.

"Apple Pencil has fundamentally changed my teaching practice. I am now 100 percent paper-free."

GCSE Improvements in Student Scores

Year	National average	Malton
2017	-(0.05)	0.07
2018	-(0.02)	0.08
2019	-(0.02)	0.26

National average Malton

The de Ferrers Academy

Burton upon Trent, Staffordshire, United Kingdom

This academy enrols students in years 7 to 13 across its three campuses. In the 10 years since the school deployed Apple technology, the administration has observed more efficient use of resources and savings of more than £1 million due to moving from traditional, fixed technology to a more mobile deployment with iPad.

And now that 95 percent of lessons include iPad, multiple years of school survey data show that more and more students agree that iPad has had a positive impact on their learning.

£1 MILLION

in resource savings since deploying iPad

Kolbe Catholic College

Rockingham, Western Australia, Australia

At this private school for years 7 to 12, administrators are observing that lessons and lesson presentation have been streamlined since staff began using iPad instead of laptops. Jody Rubery, the school's director of professional practice and learning, notes that "by giving staff the same device that our middle school [students] use, they are now able to design better learning experiences for the students and better understand the full scope of the ways students can demonstrate their learning on iPad."

Rubery goes on to say, "The impact of iPad has been enhanced even further since 2020 with the introduction of iPad Pro for our year seven students. The addition of the keyboard and Apple Pencil have been a game changer. [And] as student capacity with iPad grows, we have noticed students naturally transfer their skills across learning areas to demonstrate their learning."

"As student capacity with iPad grows, we have noticed students naturally transfer their skills across learning areas to demonstrate their learning."

Mount Sinai College

Sydney, New South Wales, Australia

Faculty at this K–6 school have integrated the Schoolwork app, flipped instruction using videos created with iPad and Apple apps, and digital markups using Apple Pencil on iPad to streamline their workflows. As one educator explains, "Having the option of flipping the classroom with video-modelled instructions and being able to give digital feedback on students' work without disrupting them can help me as a teacher reach more students."

Prescot Primary and Nursery School

Liverpool, United Kingdom

Of Prescot's population of students, 15 percent have disabilities and 30 percent are eligible for pupil premium — a government initiative in the UK intended to provide schools and underserved students with resources to close the achievement gap. As Deputy Head Lisa Seddon notes, iPad assistive features "allow these children access to all areas of the curriculum. iPad also improves their engagement to take ownership and learn at their pace . . . all children feel that they can access all aspects of school life, and iPad is essential for that."

Mrs. Seddon speaks to the value of using iPad to help build students' literacy skills, wherever they're learning: "We've found that access to digital books raises the profile of reading in our school and also helps readers who June not have been that keen to read . . . Students take home over 6000 books in their iPad every day. This is something that we could not have done before, and it has transformed our approach to reading in the school."

Equipped with ebooks and iPad accessibility features, Prescot students read nearly 16,000 books from 2020 to 2021 — and during that time, they surpassed national averages for reading expectations at all grade levels.

Students read almost

16,000

books on iPad from 2020 to 2021
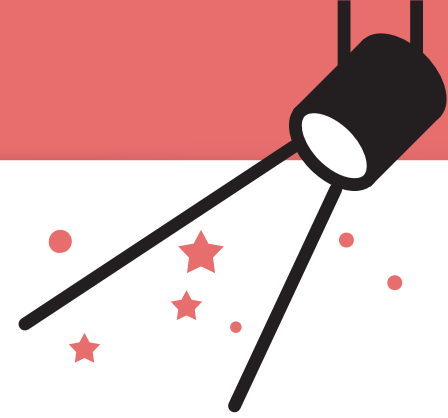
Delaware State University

Dover, Delaware, United States

Over 5050 students are enrolled at Delaware State University (DSU) — and of the more than 4300 undergraduates, 44 percent are eligible for Pell Grants, 99 percent receive financial assistance, and 51 percent are first-generation college students; additionally, a high number of students are identified as Dreamers.
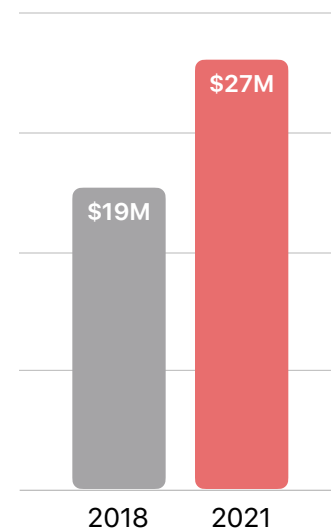
DSU's academic departments incorporate Apple devices in a number of **engaging** ways. Within the first week of computer science courses, freshmen use MacBook to program robots. Business majors use iPad on the school's digital trading floor. In the department of nursing, students use iPad to learn anatomy and prepare for national certifications. In biology, 90 percent of textbooks and course materials are available through ebooks and open educational resources — reducing students' textbook expenses. And because of their shared platforms, students and faculty have been able to more **efficiently** deliver 100 percent of dissertation defences virtually during at-home learning periods.

Through their contemporary, high-quality, low-cost education, DSU is committed to equipping all students with the skills and training to **achieve** in their future careers. The university prepares more of Delaware's teachers, nurses, social workers, and accountants of colour than any other school in the state, and they prepare the most professional pilots of colour in the nation.

Since DSU began their one-to-one initiative in fall 2018, they've seen a 6 percent jump in freshman retention. As of 2021, the school's freshman retention rate sits at 80 percent — more than 10 percentage points greater than the overall average of all HBCUs.

The school also credits everyone's access to common technology platforms as a major asset in streamlining and increasing research **productivity**, which has grown from $19 million annually in 2018 to $27 million in 2021.

Research productivity

$19M — 2018
$27M — 2021