Loyola Academy, for its second century of excellence, includes continued integration of Apple products into the learning environment to increase student engagement and improve organizational efficiency. Students, faculty, and staff at this large Jesuit high school have created 275-plus public and private courses and published them through iTunes University. Content includes documents, web links, multimedia audio and video files, as well as links to the App Store and iBooks Store.

Beyond that, from authoring its own multi-touch textbooks to empowering students to engage in authentic learning experiences -- such as challenging the community to phase out plastic water bottles and video-conferencing with teens in India and Pakistan about Hindu, Muslim, and Catholic faith and values -- Loyola Academy continues to leverage iPad devices to promote innovative teaching and learning in the Jesuit, Catholic tradition.

Loyola Academy
Wilmette, Illinois

Recognized by Apple as a distinguished school for innovation, leadership, and educational excellence.
Chapter 2 of Our Story

In August 2016, Loyola Academy embarked on its fourth year as a 1:1 iPad learning environment. As a school, we have enhanced our practice during this time. Beginning with the very basics of creating an Apple ID to now designing an aquaponics science project prototype addressing water problems in an orphanage in the Philippines, we continue to grow instructional practices and leverage iPad for innovative teaching and learning in the global classroom. Turn the pages of this sequel to see what has changed since we last told our story.
Visionary Leadership

Shared Leadership
School leaders take collective ownership of the initiative.

How do leadership groups make decisions that support progress toward reaching and refining the goals and vision for the initiative?

Individual Leadership
A credible and inspirational thought leader sets and articulates the vision.

How do individual leaders ensure coherence of the initiative?

Community Engagement
Broad community sponsorship supports the institution’s initiatives.

What is the role of the institution’s larger community in supporting the initiative?

Shared Leadership
Our first two years as a 1:1 iPad learning environment focused on infrastructure, learning the basics of the iPad, and how to leverage the features of this new tool for 21st Century teaching and learning. To promote continuous innovation, we continue to build upon our mission and vision for our Second Century of Excellence. Loyola Academy strives to be the leading Jesuit college preparatory faith and education center in the nation. We are a diverse and committed community responding to our God-given call to become women and men for others who are religious, intellectually competent, physically fit, loving, open to growth, and committed to doing justice.

In alignment with the strategic vision and priorities for Loyola Academy in the 21st Century, the future academic years are about transformation with a focus on three critical areas: (1) school culture, (2) student learning, and (3) curriculum.

School Culture
Our goal is to examine school culture and the impact of leadership as it relates to the entire community. The ultimate outcome will be to develop and define a Jesuit model of leadership unique to Loyola Academy that encompasses components of our mission. The model will encompass pathways for both adults and students and will represent a Jesuit approach to how we live. As we develop and implement this model of leadership, the components that define the culture (policies, practices, programs, experiences) need to be examined and assessed to determine if they align with what we value as a school.

Movie 2.1 Loyola Leadership

The vision behind the leadership vision.
Student Learning

Our goal is to elevate student learning by enhancing faculty instructional practices across disciplines, by reviewing and developing student interventions while using data to determine new practices, by defining clear practices for observing and evaluating teachers such that it enhances instructional practices, and by further developing faculty's technology skills in the classroom to increase student engagement, critical thinking, and creativity.

Curriculum

Our goal is to continue to lead academic departments in a curriculum-review process creating a multi-year road map (five to seven years) with milestones and metrics for ongoing progress. The end result of the curriculum-review process is to offer Loyola Academy students highly competitive curricula, firmly rooted in our Jesuit mission, which more fully prepares them for post-secondary experiences.

Our strategic priorities (school culture, student learning, and curriculum) provide the foundation to harness technology in the classroom and leverage mobile computing to promote innovative teaching and learning.

Individual Leadership

Completing her fifth year as principal of Loyola Academy, Kathryn M. Baal, PhD., continues to inspire and articulate our school vision. Taking advantage of a variety of methods, Dr. Baal connects the community with the latest news, information, and ideas in her monthly blog. She also convenes thought leaders and members of the Rambler community for Coffee with the Principal and Courageous Conversations.

Courageous Conversations is a book and speaker series for Loyola Academy parents, students, and friends. Now in its third year, Loyola Academy's Courageous Conversations series features renowned authors and experts on the issues most influencing adolescents and their families today. 2015-16 topics included teens and the law, brain development, marijuana use, the impact of technology on our interpersonal relationships, and the college admissions race.

Additionally, individual school leaders use social media to further the school vision and make connections. Facebook, Twitter, and Instagram are just a few places to experience our

Scan this QR Code to discover individual Rambler leaders active on social media.
global digital presence.

Finally, the visual arts department has created an [Instagram account](https://www.instagram.com) for students to publicly show-case works.

**Community Engagement**

Bolstered by Pope Francis’ environmental *encyclical* Laudato Si’ and the leadership initiative, new individual leaders are inspired to carry the charge and lead. The Advanced Placement Environmental Science team, led by faculty member Jennifer Snyder, has been working on a two-year environmental responsibility project which challenges the Rambler community to phase out their use of plastic water bottles. The campaign is called “Love the Planet. Be the Change. Revolution H20.” This [authentic-learning](https://www.youtube.com/watch?v=22RevolutionH20) experience started as the final service project for the AP environmental science class. Students met regularly to prioritize, research, build enthusiasm, and plan details to solve a real-world problem. Their leadership, depth of knowledge, higher-order thinking skills, connectedness to the world beyond the classroom, substantive conversations, and social support created much excitement for this important environmental and social-justice issue.
Innovative Learning and Teaching

**Student Learning**
Learning is a personal experience for every student.

*How does student learning change?*

**Instructional Practices**
Faculty are master learners who expertly guide their students through difficult and complex tasks.

*How do faculty's instructional practices evolve as you integrate technology?*

**Curriculum Design**
Innovative and rigorous curriculum is designed to leverage technology.

*How do faculty redesign curricula to take full advantage of digital content?*

---

**Student Learning**

Several academic research frameworks have guided our 1:1 iPad initiative, including The Partnership for 21st Century Education and SAMR. These frameworks emphasize 21st-Century skills and tools for differentiating the student learning experience. Loyola Academy faculty and students have built upon and strengthened our alignment with these frameworks by taking full advantage of iPad and other digital tools. One mainstay to our program has been iTunes University as our content-distribution system. iTunes U affords teachers the ability to distribute assignments and digital content to the students via the iPad. The new discussion/chat features make it easy to get started with collaboration and class discussions. Likewise, teachers augment usage of iTunes U with the versatile Showbie app, which completes the digital workflow cycle with its capability for students to submit work to teachers, helping to create a paperless classroom. Not only can students send assignments to teachers electronically, but the opportunity for formative and/or summative feedback is made easy through Showbie’s drawing and voice-note capabilities. The app was piloted by our language department, which especially values the ability for students and teachers to communicate in the target language.

Another way learning is a personalized experience for students with digital content tailored to their interests and preferences is seen through the use of leveraging iPad with the Edmodo social-learning network. Teacher Peter McNulty’s calculus and honors geometry classes ask and answer homework questions via their Edmodo class connections. Students who know the answer create short video clips with the Educreations interactive-whiteboard app, allowing students to demonstrate what they know as they help their peers in a dynamic, collaborative, virtual environment, often long after the day’s final dismissal bell.

**Gallery 2.1 A Year in the Academic Life of Loyola Academy.**

Calculus Edmodo class allows peers to ask and answer homework questions.
Outside the classroom, in partnership with EPICS (Engineering Projects in Community Service), founded at Purdue University, our Loyola Academy co-curricular chapter has undertaken a number of projects. Some of our previous and ongoing EPICS projects include growing a community garden on the Munz Campus, an aquaponics prototype built in a science classroom, repairing and replacing birdhouses for the prairie restoration on the Munz Campus, and iPad/iPhone app development.

Specifically regarding the iOS app development, after surveying the school community, the EPICS Club determined there was a need to ease navigation of the school footprint and help students to contact and access teachers. The club has been developing an app over the past two years, written in Apple’s Xcode. It is currently in beta test with the App Store.

The app contains a map of the school, accessible by anyone who downloads the app, which would allow visiting parents, new students, and others to find areas of the school more easily. It also features a directory, which allows students to search for teachers by department and name and has information on teachers, including position, email, and phone number. Teachers who download the app are able to input their available free periods, which will be visible to students on the teacher information page. Teachers can specify the location where they most likely will be found during each free period, and can edit and update their free periods whenever they wish. Once approved, the EPICS Club plans to add new features as part of their ongoing commitment to the project.

Many more examples of teacher and student work evidencing our educational-technology goals and alignment to research frameworks are collected on the Innovation Station page of our LA Learns website.

Interactive 2.1 Aquaponics Science Project Prototype to Address Water Problems in an orphanage in the Philippines
Instructional Practices

AP Art History (APAH) is a required course for sophomores who are enrolled in our Dumbach Scholars Honors Program. Organizing and learning from a vast array of artwork, locations, and timelines was historically an overwhelming feat. Taking advantage of iPad’s mobility and the ability to leverage many technologies, faculty designed a student-created, year-long digital portfolio project to organize resources, showcase learning, and reflect on learning. This project combines technologies -- iPad, apps, Web 2.0 tools -- with our mission-central pedagogical paradigm, the Ignatian Pedagogical Paradigm.

Specifically, these digital portfolios are student-created Google Sites and include a mashup of Tikitoki timeline and mapping apps. Through the apps, students organize APAH's 250 pieces of artwork, major questions and vocabulary, spanning almost forty thousand years, and show the image locations via the map app. Students partner by strength -- spatial or sequential -- to create maps and timelines, thereby becoming responsible for each other's learning. Students showcase student-selected personal-inquiry projects and studio projects on separate web pages. Last but not least, reflection has always been a part of the Jesuits’ 450-year pedagogical paradigm. This exemplary digital portfolio project is a way for students to not only curate course content and demonstrate mastery of learning but also to reflect on learning. Additionally, the journal practice gives teachers great insight into learners’ lives, likes, dislikes, and assists teachers in guiding students’ future artistic endeavors.

Another example of evolving instructional practices is the use of videoconferencing via the iMac computer and Apple TV. Ramblers enrolled in our new World Religions course had the opportunity to engage in dialog about faith and values with Hindu and Muslim students as far away as India and Pakistan, thanks to modern technology and the Tony Blair Foundation’s Face-to-Faith program. This authentic-learning experience was created to solve the real-world problem of religious conflict and extremism by promoting dialog between young people around the world through videoconferencing.

Curriculum Design

Continuing our three- to-five-year cycle of curriculum review, curriculum is being redesigned to use digital content and content-creation tools to enhance learning. Examples include student-created multi-media books, iMovie, and the Desmos graphing calculator.

The number of teachers who have moved to the flipped-classroom model, either in part or in total, is also growing. Both students and teachers find very beneficial the format of assigning pre-recorded, interactive screencasts as homework and spending class time the next day practicing or expanding upon the lesson. Interactive videos are created and contain embedded questions and other formative assessments to create an active viewing experience.

During the 2015 summer session, the Social Studies department piloted Loyola Academy’s initial foray into blended learning. After the
overwhelmingly positive feedback received from students and parents, we added an additional course for summer school 2016 and look forward to seeking new ways to bring this style of instruction to Loyola Academy.

Finally, a few teachers have ventured into authoring multi-touch textbooks in their discipline. One is a freshman physical education health book. Others in the pipeline are for precalculus and yoga/pilates courses.

“Create a professional quality video: make it look nice!!” - Math teacher Carol Danstrom

iMovie Requirements

- Include your Hudl video in the project
- Include your steps to solve for velocity
- Include how you wrote the equation
- Include how you calculated the maximum
- Include a slide for your name and your partner’s name
Relevant and Timely Professional Development

Faculty engage in a cycle of inquiry that promotes reflection, experimentation, and sharing.

How do faculty stay current and learn new ways to amplify student learning?

Relevant and Timely Professional Development

From the beginning of our 1:1 journey, Loyola Academy has embedded professional development to facilitate faculty growth and innovation with mobile devices. Beyond iPad application and function basics, curriculum included a study of Jim Knight’s High-Impact Instruction framework to foster deeper introspection on instructional methodologies and practices, as well as technology research frameworks -- SAMR and the Partnership for 21st Century Education -- to infuse technology into instructional practices. Teachers selected and set learning goals. Informal peer observations and classroom visits were encouraged for organic sharing and problem-solving. Our iLeader team of nine core teachers, a cadre of instructional coaches, and an educational technologist work together with faculty to observe and modify instructional practices and curricula, with an eye toward optimum leverage of technology. Formal classroom post-observation meetings include conversations about tech integration.

With a firm foundation in place, our iLeader team was retired; and we now draw upon the expertise of the wider learning community for leading our tech week program. Topics for these quarterly workshops were selected from teacher and Bright Bytes survey data results. Curriculum included apps such as Nearpod, Zaption, Showbie, Seesaw portfolios, Google Sites, Google Drive, Explain Everything, and updated features of iTunes University. In addition, faculty team-level meetings are used to informally evaluate apps as to user friendliness, effectiveness in meeting learning goals, and ability to create a student-centered learning environment.

To build upon digital-citizenship skills, our school guidance counselors facilitated a tech week exploration of the meaning of digital citizenship; how our formation curriculum prepares students to navigate today’s digital landscape in a safe, responsible, ethical manner; and how the larger Loyola Academy community can enhance digital-citizenship skills beyond our formation curriculum.

To extend learning beyond the reach of the classroom and share innovations, a micro-workshop was facilitated by members of the Loyola Academy Twitterverse to introduce a common hashtag,
#LALearns. In addition, the majority of teachers continue to publish courses in Loyola Academy’s iTunes U public catalog, contributing content and sharing with the greater educational ecosystem through over 275 active courses.

Interactive 2.2 2015-16 iTunes University Usage Statistics

Click on the buttons above for more statistics on academic year 2015-16.

Finally, new faculty members are on-boarded with a six-hour, face-to-face iPad training workshop during the summer and additional technology learning experiences through a mentoring program during the academic year, to expose them to apps foundational to our 1:1 learning environment.

Gallery 2.3 Ongoing Professional Learning

Fine Arts Teacher Jessica Harrington leads teachers through how to incorporate student-created digital portfolios.
Compelling Evidence of Success

Research Practices
Data is routinely collected, analyzed, and shared to inform progress and measure success.

Is there a systematic approach that uses research to inform progress toward the initiative’s goals and vision?

Research Practices
In the fall of 2015 we partnered with Brightbytes, an educational research and analytics organization, to gather metrics on technology access, skills, and on our school’s technology environment, in order to understand the connection between technology use and student achievement. In our first collection of data, through surveys of students, teachers and parents, we received an Advanced rating of 1104. Areas for improvement included digital citizenship and teacher use of the 4 C’s (communication, collaboration, critical thinking, and creativity). Professional development offered during tech week in February 2016 focused on our digital citizenship curriculum taught by school counselors in formation classes.

The Canisius program at Loyola Academy was created in 2012 as a teacher-leader program with three components: educational leadership, Ignatian spirituality and pedagogy, and personal spiritual growth. Currently, the program includes approximately 45 participants who are divided into three cohorts. The three-phase program covers eight years of study, including two years of classroom work, three years of educational and action-based research, and a practicum.

Overview of results in categories of classroom, access, skills, environment.

Three examples of our action-based research projects focus on the benefits and challenges of a 1:1 learning environment. One study intends to answer the following question: Does direct instruction on promoting self-regulation capacities—focus, sustaining attention, task shifting—decrease the self-identified distraction time for academically at-risk students in a 1:1 learning environment?

The second study focuses on screen-casting in a flipped classroom model to determine which elements of a screencast have the greatest impact.
on student learning. Using his Macbook Pro, the teacher recorded eighty-eight screencasts throughout the school year. He altered twenty of the screencasts, adding introductions, summaries, and interactive questions, and then used the Socrative assessment app to administer quizzes to measure the effect of the screencast changes.

A third study entitled "Measuring Student Engagement and Learning using Interactive Electronic Textbooks: Implications for the Creation of a Multi-Touch Textbook on Saint Ignatius for Freshman Theology Classes" is investigating if course-specific interactive electronic textbooks -- namely, electronic textbooks created using iBooks Author -- increase student engagement and learning in the classroom as compared to traditional paper and hard-bound texts. The interactive tools that are a part of iBooks Author software, including the ability to imbed scrolling photos, videos, and Keynote graphics into the text, presumably create a more personalized learning experience for students. The purpose of the study is to probe to what extent that is the case in the theology classroom and to use that research to shape the creation of a multi-touch textbook on Saint Ignatius of Loyola. The study assumes that increased student engagement leads to improved student learning, as research described in the literature review has demonstrated.

Finally, another measure of success is standardized test scores. Our average ACT test scores continue an upward climb, from a school average of 26.52 in 2013 to 27.7 in 2016. The percentage of students electing Advanced Placement courses has risen from 553 in 2013 to 694 in 2016, indicative of increased student confidence in meeting AP curriculum challenges. The percent of students scoring a three or above is 88 percent, despite the increase in AP tester-takers.
Flexible Learning Environment

School Design and Facilities
Facilities and schedules are designed to maximize learning opportunities that technology provides.

How do learning environments and student schedules change over time?

Information Technology (IT)
IT infrastructure supports innovation in teaching and learning.

How does the IT staff support faculty and students in daily innovative use of technology?

---

School Design and Facilities
In the spring of 2016 we applied for a grant with Steelcase Corporation for an Active Learning Center using their mobile classroom furniture. While we did not receive the grant, we were able to purchase the furniture for two classrooms for the 2016-2017 school year. Our rationale for implementing a “dynamic and flexible learning environment” with an Active Learning Center focuses on student engagement, cooperative learning, and multi-sensory stimulation.

Our desired pedagogy focuses on the active and collaborative engagement of students in their own learning. The overwhelming evidence in brain research shows that to improve student's thinking skills, they should engage in a dynamic learning environment that involves movement, is multi-sensory, collaborative, and includes a sense of control of one's learning. Our desired pedagogy thrives in a classroom where student movement is part of the learning experience. Through cooperative learning activities such as quiz-quiz-trade and stand-up, hand-up, pair-up, students will be up and out of their seats activating their minds, communicating, collaborating and formatively assessing one another.

Information Technology (IT)
The Chief Information Officer and Assistant Principal for Instruction meet weekly to discuss how IT staff can support the ever-changing needs of dynamic classrooms. In addition, newly created in 2015-16 was a technology committee, comprised of the CIO, school leadership, faculty, and staff. Both communication structures have provided opportunities for brain-storming and valuable information sharing to address needs. Some examples include:
• Partnership to procure the services of BrightBytes/Clarity to survey stakeholders on technology use and provide data analytics to inform future endeavors.

• Research into and selection of a learning-management system that meets both IT and academic needs.

• Research into and adoption of a subscription service for online, self-paced technology lessons for both faculty, staff, and students.

• Research into and adoption of motor-skill assessment and reporting software for student-fitness statistics gathered by the physical education department.

• Ensuring FERPA/COPPA compliance of classroom apps.

Finally, in collaboration with the IT Department to sustain our devices, faculty will benefit from improved iPad features and functions through a scaffolded refresh from iPad 3 to Air2 models beginning in summer 2016. We have also increased network bandwidth to meet peak-volume needs.

Thank you, Faithful Readers, for your interest in our story!
Contribution and Credits

List of people willing to address five areas of best practices.

Many thanks to the Loyola Academy community for sharing resources which demonstrate our continued growth as a 1:1 iPad learning environment.

Special thanks to Melissa Krein for the use of her photographs.

School Liaison
Mrs. Janice Loudon Stoner
Educational Technologist
Email: jstoner@loy.org

In addition to the school liaison, the following people are able to address these areas.

Visionary Leadership
Dr. Kathryn M. Baal
Principal
Email: principal@loy.org

Innovative Learning and Teaching
Mrs. Karen Love
Assistant Principal for Instruction
Email: klove@loy.org

Ongoing Professional Learning
Mrs. Janice Loudon Stoner
Educational Technologist
Email: jstoner@loy.org

Compelling Evidence of Success
Mrs. Karen Love
Assistant Principal for Instruction
Email: klove@loy.org

Flexible Learning Environment
Mr. Ademola Popoola
Chief Information Officer
Email: apopoola@loy.org
AQUAPONICS

Noun. A system of aquaculture in which the waste produced by farmed fish or other aquatic animals supplies nutrients for plants grown hydroponically, which in turn purify the water.

Because of its automatic recirculating system, aquaponics does not require much monitoring or measuring.

Related Glossary Terms
Drag related terms here
AUTHENTIC-LEARNING

Learning through applying knowledge in real-life contexts and situations.

Related Glossary Terms

Drag related terms here

Index

Find Term

Chapter 2 - Visionary Leadership
ENCYCLICAL

Roman Catholic Church. A letter addressed by the pope to all the bishops of the church.

Related Glossary Terms
Drag related terms here

Index

Chapter 2 - Visionary Leadership
SAINT IGNATIUS OF LOYOLA

Saint Ignatius of Loyola was a Spanish priest and theologian, who founded the religious order called the Society of Jesus (Jesuits), and became its first Superior General.