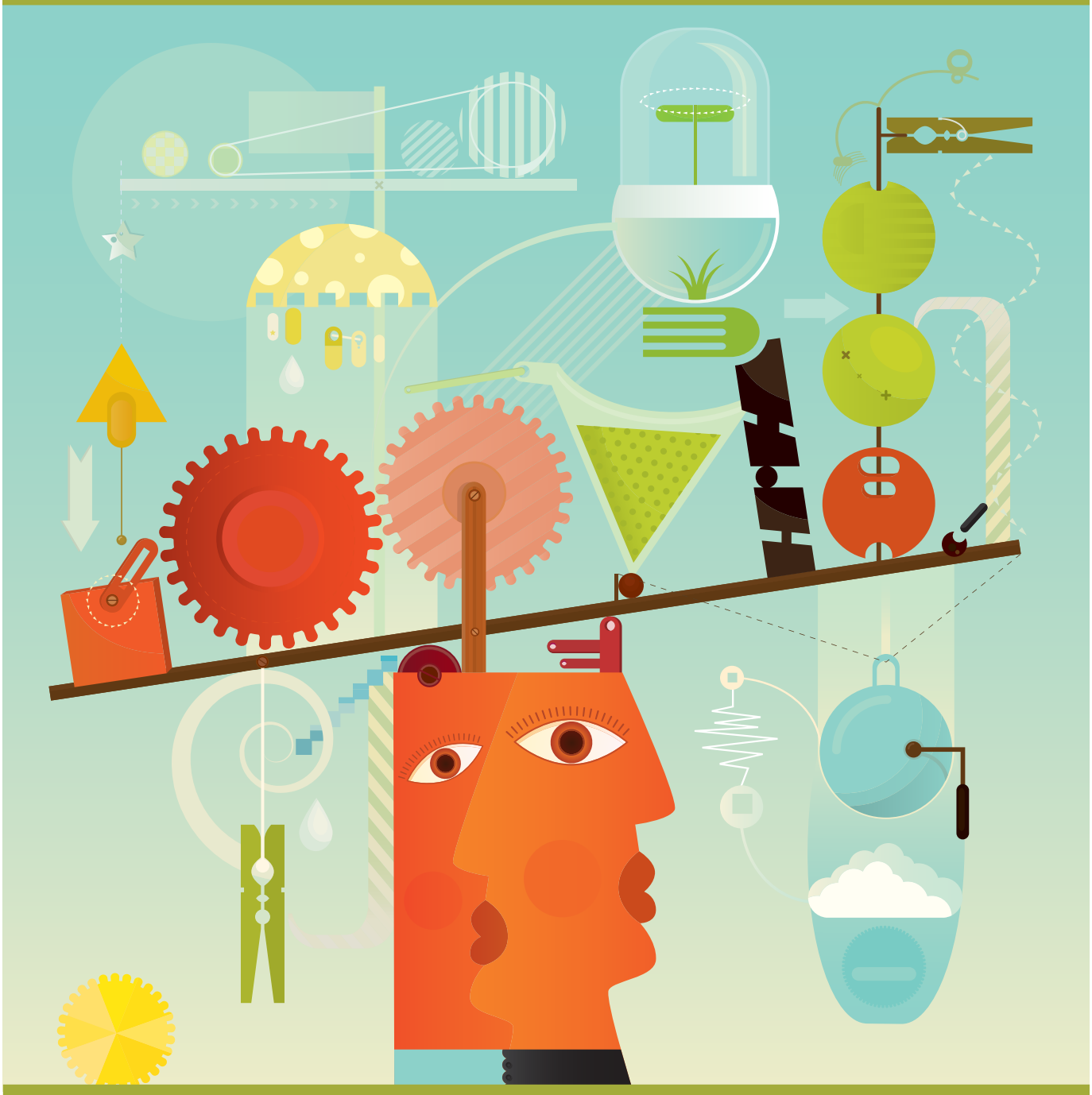
By Jen LaMaster

Give Your Old-School Curriculum a NETS Makeover



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Integrating digital age technology into an industrial age educational system is hard enough. Imagine introducing ed tech to a 450-year-old Jesuit educational paradigm.

I became the educational technology coordinator for Brebeuf Jesuit Preparatory School in Indianapolis, Indiana, USA, in 2008. Brebeuf is a Catholic-based, Jesuit-run, interfaith high school dedicated to developing men and women for service to others. I soon learned that my new colleagues expected the focus of my job to be on tools and processes rather than on engaging, motivating, and facilitating learning. I had different ideas, though.

And I had support in Brebeuf's educational compass, the Ignatian Pedagogical Paradigm (IPP). (See "The Ignatian Pedagogical Paradigm" to the right.) This framework, based on the Spiritual Exercises developed by St. Ignatius Loyola, has been directing Jesuit education for nearly 450 years, so I felt it was due for an update. As I saw it, ISTE's NETS was the perfect set of standards to modify the IPP for my purposes. Here is how I successfully integrated technology into an ancient system of schooling by mixing a little bit of the old (the IPP) with the new (the NETS).

Context: Meet Them Where They Are

The first step in my quest to integrate technology was to begin framing technology integration in the language of the academic culture, because a shared vocabulary is a critical element of change management. In the book *Disrupting Class*, Clayton M. Christensen talks about "charting the degree of agreement." An organization moving toward a change event needs to create cooperation tools to bring the organization together. For me, a shared vocabulary was that tool.

Both the IPP and the Jesuit charism *cura personalis*, or "care of the whole person," demand that educators consider all learners in their personal context. For our learners, that context is digital age skills. As the Speak Up 2009 survey illustrates, "Students, regardless of community demographics, socio-economic backgrounds, gender, and grade, tell us year after year that the lack of sophisticated use of emerging technology tools in school is, in fact, holding back their education and, in many ways, disengaging them from learning." Our students were already engaging in digital environments outside of class and wanted to try them out in school. Our teachers just needed to meet them where they were.

At the end of the 2007–08 school year, I looked at the state of the school's infrastructure. We were running a stable wireless network (802.11b/g). We had a 3:1 student-to-computer ratio. All teachers were equipped with Toshiba Portege M400-S5032 tablets. Every classroom had a desktop PC, DVD/VCR combo, and ceiling-mounted projector. About 25% of the classrooms had electronic whiteboards.

The main problem, I had heard, was communitywide "resistance to technological change." I saw little evidence of true resistance, although I did see some hesitancy due to several years of poor communication between staff and IT. I remedied this by starting a biweekly ed tech newsletter, instituting a guaranteed one-hour IT response to any tech request, and prioritizing classroom needs over all other requests. Open doors and a coffee maker also helped the hesitancy issues to drop dramatically.

Because I was new to Jesuit education, I spent time reading the guiding documents of the Jesuit Order. I read not only about the Ignatian Pedagogical Paradigm, but also documents such as *What Makes a Jesuit High School Jesuit* and the Jesuit Secondary Education Association's (JSEA) "Profile of the Graduate at Graduation." I reviewed the strategic plan that the board of directors created to steer the direction of the school. And I listened to teachers, students, administrators, and parents talk about their dreams of the perfect school setting.

The Ignatian Pedagogical Paradigm

Brebeuf Jesuit teachers follow the Ignatian Pedagogical Paradigm to address students' experiences, reflections, and actions in their goal to care for the whole person. This paradigm, which has guided Jesuit education since the 1500s, is a simple five-step process:

Context. The educators find out what the learner already knows and what background/history is necessary to know about the learner.

Experience. The learner engages in a new learning experience.

Reflection. Looking at the experience, the learner reflects on successes and failures. The learner then discerns if the new experience is worth incorporating into life practices.

Action. The learner integrates new activities or knowledge into his or her daily processes.

Evaluation. The learner reflects on the entire process to design goals for his or her future knowledge acquisition. The teacher assesses the learner for growth and understanding of the new knowledge.

Experience: Engage and Learn

Now it was time to align the educational objectives to the technology objectives. I enrolled in the PBS Teacherline/ISTE Certificate Program, Teaching with the 2008 National Educational Technology Standards for Teachers. One of the first assignments in the program is to create a "My NETS Organizer." This simple chart asks the responder to reflect on current practices according to each of the NETS•T indicators, including how each indicator manifested in the teaching environment, specific examples of the indicator in practice, additional ideas for implementing the indicator, and tools and resource links relevant to the indicator. (See "My NETS Organizer" on page 26 for an excerpt.)

Once I finished the chart, I used the specific indicators of both the Jesuit booklet *What Makes a Jesuit High School Jesuit* and the NETS•T to create an ed tech strategic plan that aligned

Tech Integration Guide at a Glance

With a little help from the NETS, the Ignatian Pedagogical Paradigm works for technology integration as well as it does for the education of students. Here is an abbreviated outline of my tech integration variation on the IPP:

Context

- Assess current technology infrastructure.
- Assess history of technology resistance or successful implementation in the past.
- Assess educational objectives, including paradigms, state academic standards, data goals, and mission statements.

Experience

- Brainstorm alignments between your educational objectives and the NETS.
- Gather a small group of supportive teachers and start integrating existing or free technologies into their learning activities.
- Introduce the NETS vocabulary (model, facilitate, engage, real-world problem solving, digital age learning experiences, etc.) to discussions with staff.

Reflection

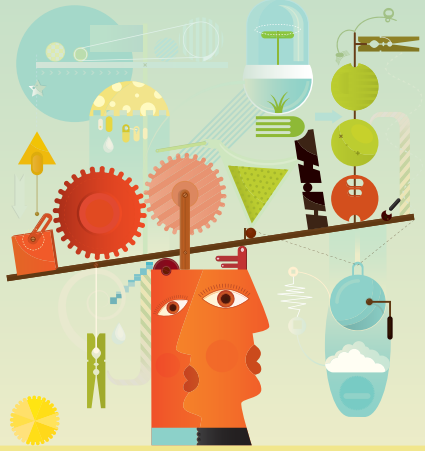
- Survey students and faculty using online or paper surveys, focus groups, or interviews.

Action

- Implement resources, policies, and workshops to take integration successes to the broader community.
- Intentionally integrate the vocabulary of the NETS.

Evaluation

- Create next strategic plan for growth, paying close attention to language of NETS framed within specific learning objectives unique to institution.



the educational paradigm with the ed tech framework. (See "Ed Tech Strategic Plan" on page 26 for an excerpt.) This plan was my compass for the next three years of intentional integration experiences.

Armed with all my charts and ed tech objectives, I was ready to start integrating. This proved easy! After I approached a few teachers with the offer of tool development, team teaching, and help with grading, the rest of them came to me. By taking on some of their workload, IT was able to alleviate the stress of integration. You can find specific, detailed integration activities in my PBS/ISTE Capstone Portfolio (see Resources on page 27).

One of the best collaborations was with Linda Smoot, a social studies teacher. Each year, her AP U.S. Government students filled three-ring binders with definitions, laws, and other factual information necessary for study. She and I collaborated on a wiki where students created, shared, and accessed information online 24/7. The wiki had a password to protect students' privacy but was left up so that Brebeuf graduates could continue to access the content.

Beginning with Smoot, I started intentionally using the NETS•T vocabulary in my conversations with teachers. When the next teacher came to me asking about a wiki as a tool for collaborative book discussions in an English class, I said, "Oh, you want a digital age learning environment?" She laughed. Yet slowly but surely I started to hear the terms *model, facilitate*, and even *digital age learning environment* around the school in casual conversation.

Reflection: What Works, What Doesn't

By March 2010, many of my goals from the ed tech strategic plan were becoming reality. All teachers were using a new learning management system, Edline. We were using Skype to web conference with former students in El Salvador and sustainability groups in California, USA. Students were using wikis and blogs in a multitude of environments to reflect on course material. YouTube was off the filter list, and students and faculty were using video to differentiate instruction. I advised teachers to model digital age tools for educational purposes so that the students would begin seeing technology as a tool rather than a toy.

But before I could celebrate the might of my integration powers, I knew I could not forget the next, crucial step in the IPP: reflection. I looked over the accomplishments and failures of the past 18 months. The IT team created a survey in Edline to gauge the attitudes toward, concerns about, and successes of our attempts at technology integration. We held town hall meetings for students to voice their opinions about the state of technology. In classroom collaborations, I asked students to evaluate their experiences with technology in school. The IT team analyzed all this data to discern the areas of capital growth, policy reconsiderations, and trainings that we would need to implement.

Action: Take It to the People

It was time to take initiatives proven in the Experience phase to the broader school community. The first step was bringing in enough computers to

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make all the web-based tools accessible to all students. Some had reported that during their personal responsibility times (breaks during the day when all students have 20–35 minutes to work on whatever they wish), the library and open labs were full, so we lowered the student-to-computer ratio to 2:1. After lifting the filter on YouTube and other streaming media, we also had to increase the bandwidth running into the building. Fortunately, we are located in an urban area and already had a fiber line (Viola 20 MB).

We needed to update policies as well to reflect increased use of collaborative tools. First, we realized that if adults and students were going to interact in electronic environments, we needed a policy guiding behavior in those environments. The coordinator of special projects and I drafted a social media policy that is now approved for inclusion in the Faculty/Staff Handbook.

The focus of educational technology is no longer how to use the computers; it's now where it should be, on *cura personalis*.

Next, we looked at the appropriate use policy for students, as increased use of electronic tools could create increased opportunity for academic dishonesty. We modified the language to preserve academic integrity in our digital environments.

I devoted much of my time to training. I couldn't expect people to use Edline, blogs, wikis, and social networks if they didn't know how. Through one-on-one sessions, small-group instruction, on-demand video uploads, and lots of newsletters, I communicated the basic "how to" information to assist teachers in creating and maintaining digital environments.

As we entered the 2010–11 school year, we had a solid technology infrastructure to support student learning as well as policies to protect and support learners and teachers. Professional development opportunities are available via video and documents on Edline, newsletters, and one-on-one or small-group sessions, and we offer delayed-start professional development days for faculty to meet in learning communities, many of which revolve around digital age learning. We share a vocabulary based on the IPP and the NETS. The students have accepted our learning management system as a primary tool for communication and collaboration supported by digital environments, such as wikis, blogs, and social networks. The focus of educational technology is no longer how to use the computers; it's now where it should be, on *cura personalis*.

Evaluation: Evaluate to Evolve

No process would be complete without evaluation. The IPP is no exception.

My NETS Organizer

NETS•T standard	Do you currently address this standard in your teaching? (Strongly, Adequately, Somewhat, Not Effectively)	Brief examples of how you currently address the standard	Additional ideas for addressing the standard	Related technology tools	Resource links
1a. promote, support, and model creative and innovative thinking and inventiveness	Strongly	Developing social media policy for school Meeting with department chairs to discuss student push for new technologies Creating a student advisory group to weigh in on technology growth and strategic planning	Augmented reality and virtual learning environments (not ready to make the push yet but will file it away for later)	Interactive whiteboards KidPix SMART Notebook 10	Prezi Delicious Movie Maker Audacity Edublogs Zoho Ning www.graphic.org SMART Ideas Inspiration Kidspiration Gliffy Wordle

Ed Tech Strategic Plan

NETS	Jesuit	Brebeuf Tech Goals
Digital Citizenship (NETS•S) Promote and Model Digital Citizenship and Responsibility (NETS•T)	A Jesuit school manifests its solidarity with the poor by offering generous amounts of financial aid based on need and by its efforts to recruit and retain students from families of limited means. In response to the current social teachings of the Catholic Church, a Jesuit education makes students sensitive to areas of injustice in modern society and encourages solidarity with the disadvantaged and dispossessed of modern global society. They recognize the suffering and pain that poverty, racism, sexism, and religious intolerance have caused not only in the world at large but even in their own communities. Those who attend Jesuit schools have the opportunity to experience Jesus Christ in an atmosphere that respects religious difference and promotes inter-religious dialogue.	Skype video conferencing More global initiatives, such as Peace Corps Enrichment Projects and Global Education Cooperative, introduced via Ning social networking Increased use of YouTube, Cable in the Classroom, and other video outlets

The NETS offer a framework for creating this plan, but without a clear educational paradigm, technology integration goes nowhere.

Evaluation precedes the next step in evolution. To help me assess technology's impact on student learning, I asked Smoot to reflect on her experiences with technology integration. She said there have been definite improvements in class discussion quality and conversational maturity since she integrated blogging into her government class. Students are more prepared and illustrate more competencies with the material because they reflect on readings prior to class in their blogging exercises.

Students' confidence in their personal knowledge has also improved. In reflection writing after participating in the University of Southern California's Annenberg Center "Redistricting Game" (www.redistrictinggame.org), students reported increased confidence in conversation with friends, peers, and others outside of class related to the topic of redistricting in light of the 2010 census.

When we asked students to evaluate how technology affected their learning experience, the comments revolved around ease of communication in a 24/7 learning environment and preparation for their future. While one student admitted that not all integration activities were effective, she added that her experiences with interactive quizzes delivered via texting were "fun and helpful. It was a good interactive way that got everyone to pay attention in class." Another student wrote, "Wikis and blogs have aided in the process of learning because they provide an easy platform for communication and discussion among students." Finally, a third student felt the online environment had prepared him well for college. He wrote, "I am not even

on campus, yet it is becoming readily apparent that some of the online work I have done at Brebeuf has been a good warm up." Although we have not addressed all issues, overall student evaluation of the learning environment has been positive.

Now it's time to make a new strategic plan that takes into consideration the evaluation of the previous one. I am asking myself several questions along the way, including: What are the areas for advancement of success? What has changed in the technology available in the past three years? Where is student learning lagging? This school year, we also created an open student wireless network, setting the stage for our Bring Your Own Tech initiative.

Incorporating this process into any learning environment takes time (three years in our case), colleagues (I am part of an amazingly dedicated IT team), and a plan. The NETS offer a framework for creating this plan, but without a clear educational paradigm, technology integration goes nowhere. After all, education is what school is all about; technology is a tool we use to get there.

Resources

"JSEA Profile of the Graduate at Graduation," Jesuit Secondary Education Association (2010): http://community.jsea.org/mod/resource/view.php?id=162

NETS•T: iste.org/standards/nets-for-teachers/nets-for-teachers-2008.aspx

PBS Teacherline Capstone II Exhibit (2010): http://tinyurl.com/3p39yqs

What Makes a Jesuit High School Jesuit? The Jesuit Conference (2000): http://community.jsea.org/mod/resource/view.php?id=162

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