— BLENDED PROFESSIONAL DEVELOPMENT —
Getting to the Common Core State Standards, Next Generation Science Standards and 21st Century Competencies

Educurious is a nonprofit organization that brings high schools a blended learning model together with the professional development teachers need to meet new standards for a 21st-century education.

The Educurious model includes:

- Project-based courses built to the Common Core State Standards (CCSS), Next Generation Science Standards (NGSS) and the Framework for 21st-Century Learning
- A comprehensive, blended professional development system
- A national network that connects students with experts across a wide array of careers (The Educurious Expert Network™)
- A blended learning environment with rich technology applications

NEXT GENERATION STANDARDS AND 21ST CENTURY COMPETENCIES

The practices of the Next Generation Science Standards (NGSS), the Common Core State Standards (CCSS) and the skills and dispositions necessary for students to build competencies for the 21st century require educators to make a massive paradigm shift.

In order for students to have the learning experiences described in these new standards, teachers must also have the opportunity to learn. Too often, new curriculum alone has been considered a solution to meeting new standards, without giving teachers adequate learning support. Teachers are often asked to take on new practices without the adequate time and opportunity to experience, learn and apply the new pedagogies involved.

It takes substantial time, collaboration, and content knowledge as well as teaching pedagogy for educators to succeed on the front lines of a new paradigm (Ball and Cohen, 1999; Yoon et al., 2007; Goddard and Tschannen, 2007).

Shifting instructional practices to meet the demands of the 21st century requires connections: among instructional practices, student/teacher interactions and classroom instructional materials. Educurious supports the evolution from addressing one of these three essential elements to addressing all three simultaneously. Professional development is less effective when we isolate one from the others (Ball and Cohen, 1999).

THE EDUCURIOUS BLENDED PROFESSIONAL DEVELOPMENT APPROACH

We believe in the power of great teachers. To support teachers in the implementation of 21st century teaching and learning, Educurious has designed and executed a multifaceted approach to professional development. We begin by supporting teachers as they implement exemplars of 21st-Century Learning. These are problem- and project-based units of study in English Language Arts (ELA) and Biology, delivered through a blended-learning approach. Students build the skills of the CCSS and NGSS through authentic

projects as they engage with a network of working professionals who support student and teacher learning, provide resources, and give feedback on project work. As teachers become more comfortable with the pedagogical approach, they can adapt the units to local context and student interests. Collaborating with peers in the Educurious Partner Teacher Network, teachers create their own projects and units that apply the CCSS, NGSS and 21st Century Skills. Student data, including frequent student engagement survey results, is used to revise projects and units through an iterative design process. Professional development experiences are built on an essential triangle of teaching practices, students' response to teaching, and instructional materials.

DESIGN FEATURES

The Educurious blended professional development structure is built on a systems approach. It uses the framework of the Standards for Professional Learning (Learning Forward, 2012), with the following components:

- **Leadership:** Teachers are prepared to lead the work. Principals and central office leadership participate in learning events.
- **Learning Communities:** Through a combination of face-to-face (f2f) gatherings and an online community of practice, trust is built among teachers along with a shared commitment to continuous improvement and collective responsibility for student learning.
- **Learning Designs:** Design features include two f2f national gatherings each year, twice-monthly online ePLNs where teachers gather to analyze student work and discuss instructional practice, online protocols for sharing work, and discussion boards.
- **Implementation:** Hot Topics (a weekly co-developed newsfeed that prepares teachers for the week ahead), discussion boards, and f2f and virtual coaching provide ongoing implementation support.
- **Resources:** Resources are aligned at the Educurious, district and school levels to help teachers implement effectively. Technology leaders at the school and district levels are included in planning and implementation support; barriers for technology use are analyzed and removed.
- **Data:** A range of student and teacher data are used to plan professional development, including engagement surveys of students and teachers, pre- and post-test data, student writing and project work.
- **Outcomes:** Teaching practices are aligned to national rubrics for teaching effectiveness. Surveys, focus groups, student pre- and post-test data, writing samples, rubrics and projects help us evaluate our work together.

At our f2f meetings, teachers learn the instructional approach through a deep dive into Educurious content units. They share practices, learn and apply the Educurious Learning Design Principles, use collaborative protocols for data analysis and reflective practice, and learn the protocols and practices for student and teacher engagement with The Educurious Expert Network.

Most important, teachers build relationships with one another. In the twice-monthly online ePLNs, teachers share their experience with the teaching practices, advise one another, share data and student work, and learn instructional strategies — similar to what happens in effective collaborative groups held in schools.

This is followed by Hot Topics, a weekly newsfeed that gives timely support for what will come up in the next week. We provide weekly or biweekly one-to-one virtual support and, when needed, a local site visit for f2f coaching support.

RESULTS FOR TEACHERS

Following our summer and fall f2f gatherings and 10 online ePLNs, teachers in the Educurious project were asked, "What was the turning point for you when you noticed that your instructional practice was shifting?" They wrote about their turning points, then discussed them in triads and posted to a discussion board.

ELA teacher: *I think two turning points for me were when my students took control and took risks. When my students stopped relying on me for answers and began to rely on each other was a major turning point for me. I am admittedly a mother hen, so I had to learn to accept giving control over to them. Another turning point was when my students problem-solved a video issue during the Dystopia unit and I did not know about it at all until the problem was solved. I think seeing the power of student independence is a key learning experience for me.*

ELA teacher: *I love the idea of instilling a sense of agency in students who are so used to always being told what to do. Filmmaking, in particular, is an excellent way for students to engage in real work, to be involved in processes that are not always linear, but that lead to products that can be shared publicly. It seems that allowing students to engage in "real work" makes them more accountable in an authentic way.*

Biology teacher: *A turning point for me was how the kids are able to make more individual connections to their learning. As one example, for the DNA Barcoding individual design plan, I had a student whose plan involved barcoding mosquitoes. He wanted to see which mosquitoes from our area are capable of carrying the West Nile virus. He chose the topic because he had a family friend who had passed away from the disease. If we were not in the middle of winter, I think it would have been a great design plan for the group experiment.*

Biology teacher: *I've done the fruit fly experiment with my I8 biology kids in the past (11th and 12th grades) and had serious doubts about implementing it with 9th- and 10th-graders. But after counting and sexing all of our fruit lies, I now feel confident that this type of higher-level lab experience can be implemented with younger students. Sure, you need more structure and scaffolding, but it's just as possible, and it's been really rewarding to see the kids engaged and actively coming up with conclusions about genetics even though they have no background in genetics.*

Algebra/ELA teacher: *My turning point came when my block period changed over from Algebra I to English I a few weeks ago. Many of my students had trouble with math, but in particular there are two girls who were constantly acting out and making negative comments ("I can't, I don't, I won't"). The attitude was contagious, and I struggled all semester to keep everyone motivated and convince those two girls that they could master the content. These same two girls have been flying through the evidence-based arguments content. Once they realized that they could set their own pace for learning, they really became classroom leaders. They taught other students the content and the technology. They don't have to sit around being bored and wait for more instructions or for the rest of the class to catch up. They have also been able to take their time and dig deeper into the content.*

ELA teacher: *I chose to speak about an experience that I have seen time and time again with my students – students becoming experts. Seeing my students who were once not interested in class, or the one in particular who has said he was just waiting to turn 16 to drop out, and now he had the experience to not only excel at making his own Special Commentary Video, but to be an expert. He was so far ahead of the other students in his group that I asked him to do me a favor and help out a few students. At first he looked around, then he said to me, "I have never been asked by anybody to help with anything." He turned out to be the best helper, and I am sure that moment changed his life.*

RESULTS FOR STUDENTS

How does a teacher's blended professional development affect student performance? After one year in our project, we are seeing promising learning results.

BIOLOGY

At New Tech West High School in Cleveland, Ohio, 100 percent of its students qualified for free or reduced-price lunch.

The student body is diverse, with a majority of students African American. Most of the students participating in the Educurious program were in 10th grade, with a small percentage of 9th-graders who were on an accelerated path.

School comparisons were made using two assessments. The Measures of Academic Progress (MAP) Science assessment was used as the pre-assessment measure and the Ohio Graduation Test (OGT) was the post. The first assessment is highly correlated with the three proficiency levels of the state exam. Comparisons were made with three other schools in the district that have similar populations and the same feeder schools as New Tech West High School.

Each school showed improvement over the course of the year. However, New Tech West had the highest migration of students from Low Proficiency to Medium and from Medium Proficiency to High. In fact, High Proficiency numbers went down on the post for two of the other three schools, which illustrates that New Tech West is meeting the needs of students with varying abilities. The steepest decline of Low Proficiency students came from New Tech West High School.

ENGLISH LANGUAGE ARTS

At the Opal High School roughly 77 percent of its students qualify for free or reduced-price lunch, and 6.7 percent are transitional bilingual. Another 13 percent of the students require special education. The student body is diverse, with an almost equal split between African American and Asian/Pacific Islander students. These numbers were mirrored in the 10th-grade ELA classes on which this analysis is based.

To study whether Educurious content and instructional methods influenced student outcomes in ELA, the growth of Educurious participants was compared to state and district academic outcomes and the academic progress of other ELA classes at the school itself. We used the Washington High School Proficiency Exam (HSPE) passing rates in reading and writing to make growth comparisons.

The Educurious students outperformed state, district and within-school trajectories for 10th-graders in ELA. Educurious students had a 92 percent passing rate in reading and writing. Other classes at the school had passing rates of 78 percent in reading and 83 percent in writing. These classrooms used a blended and project-based approach but did not participate in the Educurious learning strategy for students and teachers.

In both of these examples, the teachers were fully engaged in the blended professional development system, attending all events and contributing to the learning community. More needs to be understood about the practices that the teachers are regularly implementing. This is a next step of our project evaluation.

REFERENCE

(1999) Cohen, D. K., and Loewenberg 8all, D. Instruction, Capacity, and Improvement. CPRE Research Report Series. RR-43.

(2007) Goddard, Y., Goddard, R., and Tschannen, M. A Theoretical and Empirical Investigation of Teacher Collaboration for School Improvement and Student Achievement in Public Elementary Schools. Teachers College Record, Volume 109, Issue 4, Pages 877-896.

(2012) Learning Forward. Standards for Professional Learning

(2012) National Research Council. Education for Life and Work: Developing transferable knowledge and skills in the 21st century.

(2007) Yoon, K., et al. Reviewing the Evidence on How Teacher Professional Development Affects Student Achievement. U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southwest. Washington, D.C., USA.

ABOUT THE AUTHOR

Jane Chadsey is the vice president of School Solutions at Educurious, a nonproft organization dedicated to creating solutions to today's toughest education challenges (www.educurious.org). At Educurious, Jane has designed a Professional Development System for Educurious teachers using a blended learning model of face-to-face and virtual learning experiences that supports teachers in implementing the Educurious instructional model, the CCSS, NGSS and 21st-century competencies. Prior to joining Educurious, she was the director of curriculum and instruction in Seattle Public Schools and the Renton School District in Washington State.