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Making the Shift to Student-Led Learning

CONTENTS

- 2 Student-Led Learning and the 4Cs
- 4 Top 10 Skills Needed in 2020
- 5 Belief Versus Implementation
- 7 Student Behavior
- 8 The Assessment Dilemma
- 9 The Role of Technology
- 11 Understanding What Student-Led Learning Means





Introduction

A new *eSchool News* survey reveals tremendous support among K–12 educators for the concept of student-led learning, an approach that positions the teacher as the "guide on the side" rather than the "sage on the stage." In the eyes of the vast majority of the nearly 1,000 educators polled, student-led learning is significantly more effective than teacher-led instruction at developing the 4Cs and other 21st-century skills in students. Despite these beliefs, surprisingly few schools or districts practice student-led learning today, with survey respondents citing a host of perceived obstacles, ranging from professional development to student behavior. Practitioners of student-led learning, however, have shown that all of these challenges can be overcome. This white paper analyzes the benefits of student-led learning highlighted by the survey, and takes a frank look at the obstacles preventing its broader implementation and how they can be resolved.

Student-Led Learning and the 4Cs

For Della Rodrigues, a middle school math teacher in Virginia, any doubts about the power of student-led learning vanished when she gave her beginner English-language learner (ELL) students a collaborative task to explain the difference between experimental and theoretical probability. "They were completely engaged," she said, noting that students worked together with coins or numbered dice. "They used vocabulary that was way more complicated than I would have used with them, and they demonstrated a very clear understanding of the difference. It was fantastic." Rodrigues is not alone in her conviction.

The survey, which polled nearly 1,000 educators across the K–12 spectrum, shows that the overwhelming majority of educators also share her belief in the benefits of student-led learning, with 89 percent of them rating it as "very important" (49%) or "important" (40%). Asked to elaborate, respondents cited myriad educational benefits, with 80 percent, for instance, noting that student-led learning is "extremely valuable" in developing increased student ownership of learning. Seventy-six percent said the same about student engagement, while 65 percent indicated that student-led learning is extremely valuable in developing 21st-century skills.







Even more striking was the respondents' confidence in the ability of student-led learning to develop the 4Cs: creativity, critical thinking, collaboration, and communication. Asked to weigh the effectiveness of both teacher-led instruction and student-led learning in developing each of these skills, respondents favored the student-centered approach 32 percent to 48 percent (see chart above). For instance, 69 percent of survey respondents felt that student-led learning was "extremely effective" at developing creativity among students, while only 24 percent felt the same about teacher-led instruction.

"One of the reasons why educators believe so much in student-led learning is that they fundamentally understand that students' ownership of their learning is the key to success," said Nancy Knowlton, co-founder and CEO of Nureva, whose Span[™] system is designed to foster student-led collaboration in class. "With Internet access at the fingertips of most children today, the teacher's domain is no longer the information—it's finding the key to what's going to engage and excite children in the classroom."

Behind the survey numbers lies a recognition among educators that new approaches are needed to prepare students for what the World Economic Forum describes as the Fourth Industrial Revolution. According to Klaus Schwab, founder and executive chairman of the WEC, this revolution is "characterized by a fusion of technologies that is blurring the lines between the physical, digital, and biological spheres." In a report titled *The Future of Jobs* released this year, the WEC goes on to list the top 10 skills that will be required by 2020 to meet the challenges of this new revolution. Prominent among them are the 4Cs.



"If our goal is to have an innovative society to address the problems of tomorrow, are we going to get there by grading students on their knowledge of content or by developing their skills to use that knowledge?" said Armand Doucet, a modern history teacher at Riverview High School in Dieppe, New Brunswick, who uses student-led learning as an integral part of his teaching approach. "I try to create a classroom where it's not just about the content—it's about improving students' skills to be better for the 21st century and better for whatever job they want."



Top 10 Skills Needed in 2020

The World Economic Forum identified the following 10 skills as being critical for the workforce of the future:

- 1. Complex Problem Solving
- 2. Critical Thinking
- 3. Creativity
- 4. People Management
- 5. Coordinating with Others
- 6. Emotional Intelligence
- 7. Judgment and Decision Making
- 8. Service Orientation
- 9. Negotiation
- **10. Cognitive Flexibility**



Belief Versus Implementation

Even though the vast majority of survey respondents feel that student-led learning offers a compelling path to these skills, surprisingly few schools have actually implemented the approach. Only 18 percent of respondents indicated that their school or district practices student-led learning. Another 56 percent said they are familiar with student-led learning, but its use is not widespread in their organizations.

The huge gap between educator enthusiasm for student-led learning and its poor traction in schools can be explained in part by the respondents' belief that several major barriers stand in the way. These beliefs are most prominent among educators with limited familiarity with student-led learning, but they diminish among respondents who actually practice student-led learning in their schools or districts. Indeed, survey data suggest that perceptions about the extent of these obstacles tend to outweigh the reality.

Foremost among the concerns cited by respondents is the issue of professional development. Seventy-one percent of respondents from schools and districts that don't practice student-led learning cite the lack of PD as one of the biggest reasons, compared with 60 percent of respondents from schools and districts that do. While some respondents feel that teachers need more technology training, a majority identified a need for more pedagogical training to help teachers make the switch.

"We need the education colleges to make student-led learning a priority, to model it in their teacher-preparation courses, and to embed it in the mindset of new graduates." –Nancy Knowlton, co-founder and CEO, Nureva

Knowlton is under no illusions that any quick fixes exist for the PD issue. For starters, she says, teacher colleges must start training new teachers for the new approach. "We need the education colleges to make student-led learning a priority, to model it in their teacher-preparation courses, and to embed it in the mindset of new graduates," she said.

It's a recommendation that resonates with Doucet, who ended up developing his own approach to teaching over several years with the assistance of innovative colleagues. "At teacher colleges we're taught about content-based learning," he said. "The process of scaffolding for the 4Cs skill set is not something we were taught. As a result, most teachers are not comfortable with the process."

As for those teachers who are already in the classroom, Knowlton urges schools to view the issue of PD as an ongoing process. "If you want to transform, you need to take a long-term approach to teacher development as well as support," she said. "This is not a one-shot inoculation—eight hours in one day and you're set. Teachers need the time to contemplate, to reflect, to plan, to share new strategies, and to support each other in the classroom."

Making the Shift to Student-Led Learning



In Rodrigues' view, nothing beats watching an expert practitioner in action. "What works best is when you observe a teacher who is really skilled at what they do," she said. "It would be fantastic to identify people who are actually implementing student-led learning in their classrooms and have teachers observe those classrooms."

Without access to such mentors, Doucet believes it may take some teachers longer to make the transition. "Student-based learning is organized chaos," he said. "It's a very different philosophy, and it takes time—and a fearful step—for people to change philosophies."

The secret, says Doucet, is to make that first step a small one. "Most people think student-led learning requires some kind of drastic change," he said. "It doesn't have to be like that. Start with one little project and build up to being able to do it throughout the year."

In fact, he says, educators need to understand that they are not being asked to trade one educational philosophy wholesale for another—it's more nuanced than that. To explain it, Doucet likes to use a baseball analogy. "To rely solely on student-based learning would be like a pitcher having only a fastball—no split-finger curveball, no change-up," he said. "You need multiple different styles to address all the needs."



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Student Behavior

Adding student-led learning to the pedagogical arsenal does require the teacher to relinquish some control, though. It's not surprising, then, that student behavior is seen by 55 percent of survey respondents as another major barrier to the implementation of student-led learning. But it's an issue that can be managed, says Rodrigues, who believes that teachers need to tailor their approach based on the age and abilities of their students.

The keys, she adds, are time management and picking projects that fall within students' capabilities. "You have to plan activities that are engaging and productive," said Rodrigues. "Check in with the students periodically. Don't give them an hour and a half to do something without actually checking their product and directing them in a certain way."

Doucet, who teaches in high school, feels that older students can be given more leeway than middle and elementary school students, but he also believes that their behavior is directly linked to how connected they feel to what they are learning. It's no coincidence that his students' semester-long research projects are known as "passion projects."





"If the kids do not connect to something that's important for them, then we're going to end up with something that is not authentic and absolutely worthless," said Doucet. This, in turn, can lead to students straying away from their work to social media and other distractions.

Technology solutions, such as mobile device management software, can help by restricting the ability of students to go off task, although Doucet uses none of these technological governors with his high school students. He reasons that any discipline problems are outweighed by the benefit of having students do research on the same tools they use in the rest of their lives. When it comes to students making phone calls, for example, he asks himself, "Is this the hill I want to die on?" noting that they may well be calling an expert in the Netherlands about some aspect of their project.

"You need to realize that you cannot control all of it," said Doucet. "You need to have some boundaries, but also understand that it will sometimes be loud, sometimes quiet; sometimes students will collaborate in groups of three, sometimes they're going to work alone; and sometimes they're going to be brain-dead and need to listen to music for 10 minutes before they get back on task."

The Assessment Dilemma

If practitioners of student-led learning need to be adaptable in managing student behavior, they must show similar levels of creativity in addressing the challenge posed by mandatory assessments. In the survey, 55 percent of respondents identified the current focus on assessments as one of the biggest barriers to the adoption of student-led learning.

Again, perception may outweigh reality, since 52 percent of respondents at schools or districts that already practice student-led learning feel it is "extremely valuable" in generating better student performance on standardized tests, while 37 percent feel it plays a "valuable" role.

"I believe student learning always yields better results and leads to more in-depth learning," said Rodrigues, echoing the data findings, but she also cautions that "it takes more time than teacher-centered learning." Just as Rodrigues tailors collaborative projects to match the capabilities of each class, she uses a similar approach in determining the appropriate balance of student-led and teacher-led learning.

Educators like Rodrigues hope the focus ultimately shifts away from these "shallow objectives," as she describes the current standardized tests, to assessments that evaluate students' skills. For her part, Knowlton is optimistic that the educational pendulum will ultimately swing back. "The news in testing is more toward developing learning and reasoning skills," she said. "There's such a hue and cry over the limited ability of tests to fully assess what children are learning in the classroom, particularly around the 4Cs."



The Role of Technology

Given the time suck represented by standardized testing, teachers obviously want to make the most of the time they can devote to student-led learning. Technology can play a key role in this, although respondents showed a fairly neutral attitude toward the technology they currently use to enable student-led learning. For instance, only 57 percent of survey respondents said that they consider personal devices to be "very helpful" in collaboration activities, while 48 percent said the same about interactive displays. The biggest issue facing educators is the fact that not all students have their own devices, a problem highlighted by 58 percent of respondents. With respect to interactive displays, 48 percent of respondents lamented that only one or two students could use the technology at the same time, while 52 percent reported that teachers, not students, tend to be the primary users of these interactive displays.



These are challenges that Arlington Public Schools, where Rodrigues teaches, has largely overcome. For starters, all 6th- and 7th-graders—and 8th-graders starting this year—receive their own iPads®. Second, Rodrigues now has access to a Nureva[™] Span system, which allows the whole class to work on their iPads and then post their work to a shared interactive canvas projected across a 20'2" (6.15m) wall. "Visually, the Span system is an amazing piece of technology, and it encourages student collaboration," said Rodrigues. "Students can share work on their iPads very easily, and multiple students can go up at the same time to work on the same canvas."





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While Rodrigues does not get to spend as much time on these student-led activities as she would like, she has glimpsed the possibilities: The recollection of her ELL students working together on probability problems still gets her excited. But both Rodrigues and Doucet worry that schools—with their focus on bubble assessments—are training their students for an industrial model that is rapidly disappearing. Doucet equates traditional teacher-led instruction with an end-goal of fostering cooperation, while he believes student-led instruction.

"Cooperation looks like the production line at Ford: You put all the pieces together and you have a car at the end of the day," he said. "Collaboration, on the other hand, is messy-very, very messy. At the end of the day, you might end up with a car that can fly, go under water, or get us to the moon. The sky's the limit."



Understanding What Student-Led Learning Means

The *eSchool News* survey revealed a degree of confusion among educators about what student-led learning actually means. For some respondents, it conjures up images of some kind of educational free-for-all: Eight percent, for instance, thought student-led learning means "students make all the choices about what and how they learn." Among practitioners of student-led learning, however, there is general agreement that student-led learning maintains close ties to the curriculum and its learning objectives.

Among respondents who work in schools or districts that practice student-led learning, for instance, 72 percent agreed that student-led learning is where "students engage in collaborative activities with some teacher direction," while 72 percent agreed with the statement that student-led learning is where "students and teachers work collaboratively to determine how they will learn."

Practitioners are also quick to point out that student-led learning does not necessitate a wholesale transition to a new style of instruction. Indeed, the amount of time devoted to student-led collaborative projects varies enormously. For instance, among respondents whose school or district practices student-led learning, 43 percent said their students work collaboratively several times during the day, while 35 percent said students collaborate only several times a week.





Weaving Students' Passions into Projects

A good exemplar of the student-led learning approach is Armand Doucet, a modern history teacher at Riverview High School in Dieppe, New Brunswick, who weaves what he calls "student passion projects" into his curriculum. At the beginning of each semester, Doucet meets individually with his students to find out their interests, learning styles, and "what makes them tick." For the first two to three weeks, his students work on their 4C skills. "Often, we don't even touch the curriculum during that period," he said. "They learn how to speak to each other, how to collaborate, and how to brainstorm."

Doucet then meets with students again to "connect their passion to something within the curriculum," he explained. "That becomes their driving project throughout the semester. We still have curriculum-driven content, but we do it in a different way."

He also uses his school's **Nureva Span** system to spur student-led collaboration on research projects. During the study of World War I, for example, 12 groups of three students each used a laptop or iPad in class to research aspects of World War I trench warfare that interested them. These groups then posted their research to the canvas for the Span system projected on a wall. Up at the wall, three students, promoted to "general" by Doucet, grouped the incoming research into logical topics, such as casualty treatment, food, or tactics, interacting with their classmates to help identify topics and research angles.

"Instead of talking just about facts—the trenches were 700 kilometers [435 miles] long, no-man's land, and so on—I had 19 different topics about the trenches that the kids were interested in," said Doucet. "I could have given 10 different lectures and still not covered everything that they came up with."

Doucet then printed out a PDF of the mosaic created by the students, so they could each pick topics for further study. "The Span system makes it a lot easier," said Doucet. "You could have kids research everything beforehand, print it, and then make a mosaic on the floor, but I don't know if it would have the same impact. With the Span system, you're generating momentum and the kids get excited. It's fun because it's fast paced."



About Nureva



Nureva Inc. develops education solutions that foster a joy for learning. The company focuses on delighting customers with simple, thoughtful hardware, software and services. A passion for deep customer understanding and a commitment to innovation drive the company's product road map.

The Nureva Span classroom collaboration system uses a software-as-a-service (SaaS) model to enable collaboration on an expansive 40' (12.19 m) wide digital canvas. Students create their input on their personal devices, either a computer or a tablet, and share it on the digital canvas in the cloud. The system's single-projector WM210 model or dual-projector WM220 model transforms walls into a 10' 2" or 20' 2" (3.10 or 6.15 m) wide interactive digital workspace for small-group or whole-class collaboration. Leverage your existing technology investments in personal devices to foster collaboration while also developing students' creativity, critical thinking and communication skills.

Learn more at www.nureva.com.

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