

INTERVIEW

Transforming Education with Zeal: An Interview with John Danner

Originally published in District Management Journal, v.17, Spring 2015

If instruction is abundant but hard to navigate, maybe your job as a school is to help your students figure out how to learn in a less structured way than they've been used to.

Transforming Education with Zeal:

An Interview with John Danner

hampioning blended learning and adaptive learning had not been in John Danner's original plan. Growing up with a love for computers, he received a master's degree in electrical engineering from Stanford University in 1992, and was part of the Silicon Valley tech boom. Yet after selling his successful company, NetGravity, Danner found himself drawn to working in public education. He enrolled to get his M.Ed. at Vanderbilt University and then spent three years as an elementary teacher in low-income schools in Nashville, Tennessee. In the classroom, Danner drew key insights about how technology could help personalize education, engage parents, and build greater efficiency into education.

Danner sought to put these ideas into action, and co-founded Rocketship Education, a charter school network based on a novel blended learning model. Rocketship garnered national recognition and a \$2 million grant from the Obama administration when Rocketship students—primarily from low-income, and immigrant families—significantly outperformed the county and state averages on state exams.

After eight years with Rocketship, Danner sought to make personalized learning accessible to a broader population. He co-founded Zeal, an online application that provides an individualized sequence of learning activities aligned with Common Core standards. Zeal makes learning engaging for students and tracks progress for teachers and parents.

For his pioneering work, Danner was named one of *Time* magazine's 12 Education Activists of 2012 and was the recipient of the Aspen Institute's McNulty Prize for social entrepreneurship.

In this edited interview with DMC CEO John J-H Kim and Associate Kayla Rosen, Danner discusses how technology will fundamentally change education over the next two decades and beyond.



DMC's John J-H Kim and Kayla Rosen discuss blended learning with John Danner (center).

It's clear you have a vision for the future of education. Can you share your thoughts about the big shifts you see happening and what the future may hold?

I think there are two really interesting things going on in education right now. One is the relationship between parents and formal schooling. Right now, at least in the Western world, schools are the place where your kids are educated, and as a parent, you're supposed to drop them off and let the schools do their job; that's the relationship. The parents need to get out of the way, be polite and helpful when possible, and maybe help with homework. So, parents have been a little bit sidelined. It's very different from what we see in Asia or even with Asian families that come to the United States. Their attitude is "our kids' success is our success, and we need to make sure that we're doing things right." I think that's a far more rational viewpoint for a parent to have.

I think we will see the relationship between parents and schools change a lot as parents get more and more information about how things are going with their kids' education. As a parent—I've got a 10- and a 12-year-old—you really only know a couple times a year how your kids are actually doing. You get the report card, go in for the parent/teacher conference, and you're thinking, "Okay, I really get where my kid's at." You feel good for about a week, and then a month later you're



Rocketship Education is a network of public elementary charter schools serving primarily low-income students in neighborhoods where access to excellent schools is limited. Founded in 2007 by John Danner and Preston Smith, Rocketship now operates 11 schools in three states and uses a novel blended learning model pioneered by Danner and Smith. At Rocketship, instruction is delivered in a variety of ways: online; through tutoring; and through small group, whole group, and team learning. This model allowed teachers to have more time to focus on students' individual needs. Unlike many other charter schools, Rocketship has been able to operate within the budget provided by public funds because of the reduced cost of online learning. The Rocketship model has proved successful as students have significantly outperformed the county and state averages on state exams.

ZEAL

In 2013, Danner and Sanjay Noronha co-founded Zeal, an application with game-like features in which students move at their own pace through a series of learning games based on Common Core standards. Unlike other education technologies, Zeal places an emphasis on fun, collaboration, and competition to engage students in learning. The assessment items allow teachers to track the progress of each student to better inform their lessons. Parents receive messages about their student's progress as well as information about what types of support at home would best support learning. By using data to empower students, teachers, and parents to personalize education for each learner, Zeal represents what Danner sees as the model of what education can be in the future. wondering, "How's my kid doing?" Homework provides a window to how things may be going. "Gosh, my kid's struggling on that. What should I do about that?" But there's no context to it. "Are other kids struggling? Are all kids in the class struggling?" you wonder. You're really in an informationfree zone right now as a parent.

So we can expect to see parents taking a much more active role?

Zeal and other programs like ClassDojo and Remind are increasing the ease with which teachers can communicate with parents, and this will probably cause much bigger effects than people think. It will bring parents back into a kind of primary ownership of the education of their children. I predict over the next 10 or 20 years, as parents get more information, they'll get far more involved in the outcomes for their kids; parents will be much less of a consumer and will become more of a participant in their kids' education. Parents will think, "I know my child needs to learn this because I keep getting this report that tells me that they're not doing well. It's challenging sometimes to get individual attention from a teacher, so what are my options? What can I do?" Right now, parents are thinking, "Oh my goodness, that's too hard. I just need to hire somebody to do that." But I think there will be more and more tools that will make it easier and easier for a parent to go out and search for the right materials. I think that macro change will make it much more viable for parents to help their own kids get to the right instruction.

And the other big shift you see happening in education?

The other thing that is changing is what I would call the abundance of instruction that's coming now. If you know what you want to learn, there are free resources out there that you

can tap into. It's hard to find sometimes, especially if you're going after something that's not completely mainstream, but it's out there now. And that's going to change how and where education happens.

There certainly are a lot of instructional materials online, but how much of an impact on student learning is that really having? What needs to change?

Well, I've been having some interesting conversations about this with a variety of elite private schools right in and around Silicon Valley. Virtually all these schools have tried online learning, but all end up with only about a 5% participation rate in their blended online learning classrooms. Not a lot of kids have wanted to do it. The reason seems obvious: why would you take the classroom experience and make it remote? That's not super compelling.

But there was a great insight that came from those discussions. I asked one teacher at a school in Southern California, "Why do you think only 5% of the kids are doing this?" He said, "It may be actually pretty hard for kids to do this kind of thing." "Well, why?" I asked. He responded, "You have to be pretty organized, know what you want to do, get your stuff done, etc. That's not that normal for a high school student."

That was kind of an "A-ha!" moment for me. Maybe the most important thing that schools can do is to teach students how to do well in that environment. If instruction is abundant but hard to navigate, maybe your job as a school is to help your students figure out how to learn in a less structured way than they've been used to. High schools especially are super structured, which may be the most efficient way of learning a given thing, but it doesn't teach the skills of how to learn in a much more chaotic environment where there are many

John Danner's Biographical Timeline

M.A. from Stanford University

:1992







2002 M.Ed., Vanderbilt University



VANDERBILT UNIVERSITY

2002-2005

Teacher, Metro Nashville Public Schools



sources of information—some good, some bad, and some just hard to find. How as a student do you make a plan and follow through on that?

What would it look like for schools to teach these skills?

It means changing the roles of teachers and teaching these skills explicitly. For example, for kids who want to learn something that's outside the normal curriculum, instead of just subscribing to an online school's courses, why don't you create a tutorial program where you have a teacher work with a dozen or so students on how to figure things out independently? Let the students try to figure things out; then, the job of the teacher is to sit with them a few times a week and say, "How's that going? What's your plan look like? What have you managed to discover? Okay, that's not going well. Let's work on that a little bit together." The teacher is in charge of helping them over the hump of figuring out how to deal with this new world of abundant instruction.

What does that really mean for schools and teachers?

As education evolves, as instruction becomes abundant, the job of a teacher is not just instructional delivery, which has dominated all teaching for the last 200 years. The main job becomes, "Do I understand my kids well? Do I know how to motivate them? Do I have specific skills in certain things?"

I think there's going to be a growing tension between teachers and their school systems as these big blended changes happen. I think the first step is to begin questioning whether teachers and schools fit together anymore. Traditionally, teachers needed schools because that's where education happened. And schools needed teachers or else there would be nobody " If instruction is abundant but hard to navigate, maybe your job as a school is to help your students figure out how to learn in a less structured way than they've been used to."

to do the teaching. I think schools will always need teachers that's the definition of schools. But the bigger question is whether teachers need schools in order to do their job. You could see a role for teachers that has nothing to do with the system anymore. They're just really good at what they're doing. We already see it with tutors, and especially with tutors in specialized areas like special education. But the question is: will we see more of an unbundling for teachers away from schools into specialties where they actually can make a great living delivering what they're really good at?

What would it look like for teachers to not need schools?

We've seen the outlier cases already in places like Korea where very specialized, good teachers are able to make good livings outside of any kind of formal school system. Traditionally, we've called that tutoring, right? But what's tutoring? Tutoring is really teaching without a school. We've used tutoring as

2005-2013 Co-founder,

Rocketship Education



2010

Aspen Institute, McNulty Prize for social entrepreneurship



2012

Chosen one of *Time* magazine's 12 Education Activists of 2012



2013-Present

Co-founder, Zeal





John Danner, co-founder of Zeal and Rocketship Education

a way of differentiating what happens for an individual versus what happens within a school. A great metaphor is in medicine: why do specialists and surgeons work in hospitals? Usually, the reason they work in hospitals is that the hospital takes care of the administrative stuff. Let's not fool ourselves: the reason people go to a particular surgeon is because he or she is a great surgeon, not because of the particular hospital. If you've got a special issue, you figure out who the best doctor is, not necessarily which is the best hospital.

How would that impact teacher compensation?

Right now, the salaries are actually the same across teachers, right? If they have this many years of experience, they get X dollars. The sad thing about that is that it pushes against this idea of a teacher being extraordinarily good at something; they're not going to be compensated any differently. I think as the unbundling happens, you'll actually start to see excellent teachers build really neat practices because the market will recognize how good they are. If they're good at what they do and good at finding the kids who need them, they will be able to make a really good living.

At Zeal, we are starting to offer tutoring, and the first thing that we did was ask the teachers on our advisory board whether they would be interested in doing any tutoring. We thought they probably wouldn't want to because they are too busy. Yet, every single one of them wanted to do it because for somebody who is making \$60,000 or \$70,000 a year, the ability to make another \$20,000 by tutoring for a couple of hours a day might be lifechanging, as it has been for Uber drivers. And the teachers don't even have to drive anywhere; they're just sitting there online. This is basically found money for people who are already good at what they're doing. In a system like Zeal, which is information-rich, a teacher's or tutor's ability won't be judged based on how long they've been doing it or on hearsay—it'll be based on results. If they're good, more people will want to hire them and that will drive that teacher's hourly rate up, and that will be fine. This is a very shocking concept for school systems because in a world where the data isn't available to connect to outcomes, that all gets masked.

On this notion of tutors, I feel as though these are counterintuitive points. On the one hand, technology is going to allow individual students to access information for free, for example from Bill Gates's favorite tutor Sal Khan, but on the other hand, you're painting a world where there are "uber tutors" that can supplement their income. How do you reconcile that?

No, I think that's right. So the question is: what will teaching be like in 10 or 20 years? Teaching will not be instructional delivery. Either in the classroom or on an individual basis, that's not what it's about because that's free and will become increasingly easy to find. You're not going to be somebody who makes \$100,000 a year as an individual teacher/tutor just by being really good at instructional delivery. That's just not going to happen. All that is going to be free.

What I think a teacher is going to have to be very good at is identifying when a student exhibits certain issues or certain problems and then helping them over the hump. I think that's why the tutorial system has always been so successful for Oxford and Cambridge Universities. By and large, you can learn more by trying to figure it out yourself. But there will still be lots of times when you get stuck and can't quite figure it out; you can spend a huge amount of time if you don't have a good coach to show you the way.

We lose that fact outside of sports. In sports it's totally obvious. If you're a great golfer, a great football player, a great basketball player, you pretty much always have somebody who's working with you who helps you to figure out how to do better. But in academics, we don't have that concept of having somebody coaching you to be more intentional in your practice. It's a much more efficient way to do it if it can be done economically.

You're making a case for a tutorial system as a more effective form of education. Why hasn't tutoring been the norm, and what would make it more possible for it to become the norm in the future?

Traditionally, we think of teaching as being for large audiences and tutoring as being for the individual. One was maybe not as effective, but pretty cost-effective, while the other might be quite effective, but not super cost-effective. I think technology is going to change that a lot, because when the cost to get individual attention goes down, I think that more and more people will do it.

Look at what's happening with Uber right now. I don't think people had any understanding of the efficiencies that they would be able to achieve. One of the most counterintuitive things that Uber keeps doing is lowering the price of UberX. The way they do it is by focusing on increasing the density of riders in a market, which keeps their drivers more and more busy. Uber then keeps forcing down the price, which further increases demand, and the drivers actually make more money even though the price is lower.

And another thing they're doing, which I think is very applicable to education, is this idea they call UberPool, where they have more than one person in the car at a time. There are two people, both trying to go to the airport; one person is in one place, and the other person is in another place. If you allow Uber to pick up that other person, you can pay 25% less.

One of the long-term, massive efficiencies in online learning will be identifying and grouping three or four students with very similar challenges. That's been a hugely difficult problem for tutoring in physical spaces because those kids have to be in the office at the same time with that tutor. But as you get better and better at matching kids with similar needs, you can offer them a group rate, which makes more money for the tutor and costs less for each student. I think we're going to see those efficiencies in tutoring just the way that we've seen them in other marketplaces.

So the same type of technology behind Uber's success can help education?

Education has struggled with basic efficiency forever. To me, the core issue in education is the efficiency with which

"I think schools will always need teachers—that's the definition of schools. But the bigger question is whether teachers need schools in order to do their job."

a child can learn something—how much work goes in, and how much cost goes in. And it's extremely high-cost stuff right now. The thing technology does extraordinarily well is figure out how to make things more efficient. It's just inevitable that the cost model for student learning is going to have to go down.

Can the cost go down enough so that tutoring is accessible to each and every student?

I think that depends on policy. Probably the biggest policy decision in 10 or 20 years will be how to help parents who are less able to get that individual help for their child. I think that's a huge problem. It always happens in times of change that certain people are advantaged and disadvantaged. From an access standpoint, the lower and lower cost of bandwidth and access to technology has been a massive win for previously disenfranchised people. From a knowledge standpoint and the capacity to capitalize on the available online tools, I still think there's an advantage to upper-income families who have the resources to hire people to help them navigate that. From a policy standpoint, if I am the state of Colorado and I have to figure out what's the best way for kids to learn, it's a simple issue of how much money I want to give to my schools, and then there might be 1% of the dollars spent on other random things. But there may come a time when it's a better investment for that governor to say, "I want to put 5% of the money into defraying the cost of getting individual teaching for a set of kids who aren't going to get it otherwise."

I definitely think we need to pay a huge amount of attention to making sure that the income gap doesn't define the education gap in the way it does now. The only good news is that it can't get worse. I can pretty much guarantee that with technological access, poor kids won't do worse in the future than they're \rightarrow

"

To me, the core issue in education is the efficiency with which a child can learn something—how much work goes in, and how much cost goes in.

> doing now. When I taught in very low-income schools, the most difficult thing was coming across extremely bright and talented kids and doing everything you could for them, but knowing that they were at such a massive disadvantage relative to even a mediocre middle- or upper middle-class student in terms of their educational outcomes. I think that access will largely wipe that problem away over time.

We've been talking about what education will look like in 10 to 20 years. But what are the intermediate steps that will get us to that future in which teachers work as personalized tutors for students?

If teachers are able to stop spending most of their time figuring out what instruction they're going to do next and instead are able to spend more time on understanding where each student is, I think they can add a ton more value for their students. I watch lots of teachers plan, and a huge portion of what they're doing and thinking about is what piece of content do I need to get across, and how do I need to get it across, etc. But if you move the instructional piece out to technology, it buys a teacher a lot more time to think at a higher level about what children need and what to do to intervene. It'll take a long time to evolve to where instruction is not part of what teachers do in schools. It's a little bit like thinking about when we will have all-electric cars. I don't know... it'll take a while. But even at the early stages, I think it will become more and more obvious as a teacher that you don't have to do as much instruction if you're smart about the resources available to you.

I know you have two school-aged children. How have they shaped your view of personalized learning?

I have two kids who are polar opposites in terms of educational needs. So as we were working on personalization and individualizing education, my kids were always in the forefront of my mind. I kept asking myself: how could my daughter and my son be in the same class together? What would that look like? It's not easy—they need such different things, which is why I believe we have to reconfigure things so that teachers have the time to provide that.

How do districts play into this vision of the future? Do you think districts are going to be essentially disintermediated, or do you have recommendations for how districts can make the transition?

It's a good question. It's very much like the questions universities are facing: what do you do as a university today? The traditional advantage that districts and universities have had was that they were the places you went to be educated. They were physical locations and they built up cultures that were good, and attracted teachers and professors that were good. So in a world where physical place is less important, what do you do to differentiate yourself and still be the place where people want to go?

I think that institutions that are rich in culture are much less susceptible to being disintermediated by technology. If you ask high schoolers today, where do you learn? They'll tell you, "I still learn most of what I'm supposed to learn in classrooms, but I learn a lot of stuff, like 30-40%, outside the classroom. I go online and I do this and I do that." If that trend continues, as I think it will, then the only thing you can do better as a physical place is based on culture and the way that your teachers work with students.

The thing Rocketship really got right is creating a culture—a culture of success. They are extremely clear with parents about the culture and the commitment that the family and the school are making to each other. If you want to get to this outcome, if you want your kids to go to college, you're going to have to do these things.

What can districts do to innovate?

If districts can give teachers some space, the teachers are likely to be the ones who innovate and figure out what to do. It's so much easier for an individual teacher to change his or her practice and try to identify what works, and let that bubble up. But this is hard for districts because it's the opposite of how things are done in successful districts. If you are a successful superintendent, you're a little bit like an army general. It's about command and control. You make things happen. You know how to execute. That's the game. But, this is an era where the opposite is true. Now, a successful leader is a leader who is comfortable with innovation happening and is smart about identifying what's working and trying to get it to scale up in their systems. So, the biggest challenge is a human capital challenge of helping people in upper district leadership get comfortable with the idea of loosening their control if they want to make jumps in performance.

How well is education technology reaching schools and districts?

It's tough. The district world is an insider's game. If you've got the network and you know how to promote your products, you can get in. But the majority of these young edtech startups don't know anything about how to deal with districts or with parents.

Over and over, I see companies that create pretty amazing products that a lot of people use struggling to make it. A good example is NoRedInk. They built a writing product to deal with writing mechanics, which is one of those areas that's really difficult to teach en masse, since you need to correct students' writing mistakes. It's super laborious, and a perfect thing to automate with a tool like NoRedInk. They've done well and have a couple million active users. But they are 10 people in an apartment somewhere trying to make this work. The leap from having a great product and a lot of users to having a viable business is massive.

I would like to see some of these companies make parents their customers. For example, Zeal helps create the dialogue with parents and interest them in getting tutoring support for their children. In the long-term, whether it's Zeal or somebody else who figures that out, it's important to the ecosystem for the consumer channel to exist. That allows these companies to put more money into their products, and spend less time and money on selling.



John Danner gives a talk on a Futurist View of California Education

It sounds like you have faced quite a few challenges in bringing new technology to schools. What keeps you motivated?

It's that triangle of teachers, parents, and students, and each point of the triangle really cares. The student, of course, wants to get a good education. The parent is thinking, "I really hope my kid gets a good education because that's their future and my future." And as for the teacher, I think that teachers are amazing people because there's no rational reason you should be a teacher. It is harder work and less pay than pretty much any other job, right? These are special people who do this job because they care that much more about children. Trying to empower the points in that triangle is incredibly energizing to me even with all the other craziness that surrounds it.

And how has coming from an entrepreneurial tech background shaped your work in education?

Having a different perspective really helps me to deal with the complexity and challenges of the education field. So many people who have been successful in education have grown up through the system and have a point of view based on the way the system has worked. I think education has to change as an institution over the next 10 or 20 years, and it's folks like me who are outside the box that may be more likely to introduce ideas or technology or approaches that can help pivot education. I think that's why I like it so much, even though it's hard. Somebody's got to try and figure it out.