EPISODE TRANSCRIPT

THE KEY: INSIDE HIGHER ED
EPISODE 96
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DOUG LETTERMAN:
We're spending a lot of time in energy now trying to figure out how to change higher education, to better prepare students for careers after college. One group thinks we should be just as focused on reshaping the college experience to make learners' lives more fulfilling. Hello and welcome to the Key Inside Higher EDS News and Analysis Podcast. I'm Doug Letterman, editor, and co-founder of Inside Higher Ed and host of The Key. I really appreciate you for taking time to listen today. As public support and belief in the value of higher education has steadily declined in recent years, most of the attention for turning that around has been on improving the career readiness of graduates and making college more affordable. Those are surely important goals, but an emerging group of college leaders believes the real key may be to ensure that all learners, regardless of their background, have experiences in college that help them develop identity agency, and purpose, with the goal of improving their well being 30 or 40 years down the road.

Today's episode features a conversation with Richard K Miller, president Emeritus of Olin College of Engineering and a driving force behind the Coalition for Life Transformative Education. In our interview, Rick discusses how the Coalition's diverse group of members are using data-informed experiments to rework their curriculums and scale the use of project-based experiences to build a sense of belonging and a growth mindset for all of their students. Before we begin today's discussion, here's a word from the Bill and Melinda Gates Foundation, whose support helps make this episode of the key possible.

SPEAKER:
This episode of The Key is brought to you by the Bill and Melinda Gates Foundation, working to ensure that race, ethnicity, and socioeconomic status are no longer predictors of educational success. Learn more about the Foundation's work to improve digital teaching and learning, advanced Institutional transformation, and more at usprogram.gatesfoundation.org.

DOUG LETTERMAN:
Now on to today's conversation with Rick Miller. Rick, welcome to the Key, and thanks for being here. Great to see you again.

RICHARD MILLER:
Thank you, Doug. It's always a privilege.

DOUG LETTERMAN:
So you have decided to cap off your long career in postsecondary education and engineering and engineering education by founding something called the Coalition for Life Transformative Education. Can you tell our audience what it is and why do we need it?

RICHARD MILLER:
Yes, I can tell you how this started. After 21 years as the first president of Olin College, watching kids walk across the stage at commencement, it became really clear to me that they had more than just an engineering education. They had a calling in life, and I kept getting letters from parents. It said, what did you do to my kid? And there was this notion that we left them here four years ago. They were really good at math, but they were not really sure of what they were getting into. We were hopeful they wouldn't live in our basement and postpone getting married for 20 years. Then they did get a job and now they're ready to go on the Ted stage. And when you look at what's happening to youth today with the problems with mental health and with everything else, it was really clear there's something special happening. And a little bit of reflection made it clear that this was not about engineering, this was about the culture of learning. This really changed their direction in life and their sense of identity, agency, and purpose.

So, I felt guilty and I talked to the board about it. Only 5% of the degrees that will be awarded in college in the next couple of months will go to kids who study any form of engineering at any university in America. 95% of them study something else. And I felt that while I still have a few grains of sand left in my hourglass, I should use it to do something on a broader scale. I had some wind at my back from a private foundation who had been needling me to do something like this for a while, and so I decided to leave early. I announced to my board, I'm stepping down about two years before my contract ended. Give them plenty of runway. Find a new leader, who they did, which is, who's doing really great. And I decided I'm going to step out on the thin ice and to see if others will join me. So as you do, in any, and particularly from an engineering background, data matters a lot. Things that bring diverse people together is interesting data that is relevant. We found this data from Gallup a few years ago, the Gallup Purdue Index, about what really matters in college decades after they leave.

And two things jumped off the page. Someone cared about me as a person. And college is not just about books and tests, college is about life. I had an opportunity to apply what I learned in the real world while I'm still a student. If they responded positively to those two principles, the data shows you doubled their life well-being sometimes as long as 40 years after they graduate. What's going on here? So with a lot of

trepidation, I called people, friends I know, presidents, and provosts of other universities. Let's meet at Chicago O'Hare and let's look at this data. And I invited Brandon Busteed, whom you probably know at Gallup, who think was the architect of that project, to come and explain it to us in a small conference room. We got about 20 of us in the room, and also so that we could interpret it, I invited Carol Dweck from Stanford, who is brilliant with the whole concept of mindset. The whole lot of head nodding in that room about, yes, of course. And of course, we're doing this at our place, too.

But of course, the data shows that only 3% of the college graduates in America tell you that that's the kind of experience they had. So that's really the genesis we started there. What can we do about this?

DOUG LETTERMAN:
Rick, a couple of little threads I wanna pull on from what you just said. You noted that only 5% of graduates get degrees in engineering. But I suspect that the special brand of education you described at Olin isn't true even of all engineering curriculums. So what was it about the education that you helped define and create at Olin, which again had the benefit of being a new institution starting from scratch when you did it, what do you think were the elements of that Olin education that allowed your relatively small group of students to get that kind of, those kinds of benefits?

RICHARD MILLER:
Yeah, that's exactly the right question, Doug. Olin is not the average engineering school. In many ways, Olin is a lab school that was developed with a $500 million investment from the FW Olin Foundation to completely start over in engineering education 'cause there was a great deal of unhappiness about the way engineers were prepared. The bottom line, and it's the way I was prepared too, the country produces a lot of applied scientists who are really good at equations but don't actually know how to conceive things to design and build them, to work together on a team, to worry about budgets and schedules and to get a customer to come back and buys it again. That's not part of the curriculum. I guess one way of thinking about it is the aircraft industry in the US was the result of two bicycle mechanics in Ohio who kept jumping off a cliff with these wings on their back, saying, you know, there must be a better way. And they keep tinkering with it until it flew. That, in fact, is the process of engineering.

When I look at the way I was educated, and I went to good schools, University of California, MIT, and Caltech, projects were an afterthought. That what you did at the very end, the outcomes didn't matter very much. It was mostly so you get some sense of how you apply the equations that you've been using. That is backwards. So we decided at Olin, I'll just skip to the end. The average kid at Olin who walks across the stage at commencement has in general done between 25 and 35 design-build projects on a team, has explored building a business around this, is adjacent to Babson College, which is a really well-known entrepreneurship school. It's produced graduates like Frances Hogan, whom you probably know was the Facebook whistleblower. It was ranked at the top of the global benchmark study of engineering by MIT in 2018. It's an experimental place, and you can't get through it by sitting in your chair and filling out multiple-choice tests at the end, you have to be engaged with others. A central theme in this is intrinsic motivation and design thinking.

Intrinsic motivation is close to what we're calling life-transformative education. Intrinsic means it comes, you're doing this for you. Lifelong learning doesn't happen without intrinsic motivation. You don't do it to put a check in the box constantly. It has to be something that's part of who you are. Extrinsic motivation is what people think of about getting a job, it's vocational. Intrinsic motivation happens when

you care about things. And design thinking is about caring about people. So we have this signature course in the middle of the curriculum in which we put students in teams of about five. And on the first day you ask them a question, identify a group of people whose lives you want to change, not someday, but within the next four months, and then listen to what they say and just walk you through a composite of a couple of case studies. Some young lady says, my grandmother has Alzheimer's now, I'm not sure that her life is the same anymore. She's living in an assisted living.

I'd like to do something to help the elderly. So we find ten elderly people living in assisted living facilities within a ten-minute drive of campus who are willing to be interviewed by five kids for two hours each in the first two weeks. So that's 20 hours of interviews with 19-year-old kids in a nursing home with people in their 80s. That number one, does not happen very often, especially in engineering schools. What's the point? What does it mean to be elderly today? What are their concerns? What keeps them up at night? And they take all kinds of quotes on little sticky notes. They come back to the office, they arrange the sticky notes and themes on a wall, and they debate about what they heard. They heard things like deathly afraid of falling and breaking a hip and being confined to a wheelchair for the rest of your life. And the reason was, because, if you're confined to a wheelchair, you can only look at people's belt buckle. They can't look at them eye to eye. They look down on you.

And when people come to see you on the weekend, they congregate behind your back. They talk about you in the third person and you're no longer a person. Now you're a problem that needs to be solved. There is this loss. Something fundamental about humanity is lost and they're deathly afraid of crossing that step. And there's a secondary effect. If you're confined to a wheelchair, then it turns out you can't control your metabolism. You can't walk anymore. You can't burn the same calories. Your weight is difficult. In fact, even finding out how much you weigh is a big ordeal. They have to hold you up by your elbows on a hospital scale. Humiliating. So they convene. What are we gonna do about this? This course is about coming up with two or three ideas that these people tell us would change their lives. We're 19. I don't think we're gonna fix the aging problem today. Maybe we can do something about their weight. What if we thought about making a little carpet with pressure sensors and you could drive your wheelchair onto this carpet and an RFID radio transmitter would send the data to your iPhone, which has an app that tells you, Doug, today you weigh 150 pounds.

Would that be possible? So this is on their list. They go and talk to the people in the nursing home and they say. Really, two things. Number one, you listened to us. Nobody listens to us. Do you know how few people come and visit us? The fact have people who are 19 come to a nursing home was transformational right there. Number two, you actually listened hard to what we told you. This carpet thing, do you think you could actually make one? And now the kids say, well, I'm not sure. We don't have a course. We don't know how to make carpets with pressure sensors, but we can find out. They go home and they're on fire. This is what I mean by intrinsic motivation. Now they're on fire. They ask, who on this campus knows anything about pressure sensors? Who knows anything about RFID radio transmission? I don't care what their course title is, I wanna go have lunch with them. Two months later, they built one. They now have a prototype. They're back in the nursing home and they're telling them, hey, what do you think?

You know, we've built this thing. And the people have tears in their eyes. And they said, if you could actually make this, you know, this would change my life. So, that's how we teach engineering. So what happens is, it's about envisioning what has never been and doing whatever it takes to make it real. It's

about people in the center. It's about caring for others. And they learn. You can't sit for 20 hours in a nursing home talking to people in their 80s without it, building empathy and changing your sense of identity about who you are. Number two, the experience of having to build this prototype without having a course and just, you know, scrounging for materials teaches you a sense of agency. I don't need a PhD from Harvard to make a difference in the world. And number three, when you see the tears in their eyes when you show them the product at the end, you build a sense of purpose. And I think this is the power tool in what Gallup is telling you. Gallup Bates' project on purposeful work demonstrated a factor of ten increase in well-being in the students when they finished the project because they felt their life had a purpose to it.

So they learn the equations, OK? But they learned so much more. This, I think, expanded over 25 projects and for years is why parents are writing me this letter. What did you do to my kid?

DOUG LETTERMAN:
One thing I wanted to remind ourselves to come back to later in the discussion 'cause it's really important, I think, is the question of how applicable this is, not just to the 18-year-old traditional students who predominate at places like Olin, but to the tens of millions of working adults. The some college, no degree Americans and other post-traditional learners that we need post-secondary education to do a better job with going forward. But for now, let's go next to what is the sort of set of conditions you see in and around post-secondary education now that have you wanting to do something along these lines?

RICHARD MILLER:
When this first happened and we got these interactions with parents and with kids that you could just see they were on a different trajectory now. After having been through the program, I thought of this as a nice to have in higher ed. Wouldn't it be great if we could share the riches with people who are in a community college or in a state university in some, in the middle of the country somewhere? I mean, I spent the 90s at the University of Iowa, so I know what the center of the country looks like. Now, I don't think of it that way. Now, I think of it as a must-have. Higher education, as you know better than most, is a house on fire. I think there's an urgency to it. And having a theory of change in a way to spread these ideas is critical. So let me tell you three of many points to base the conclusion that the house is on fire that we need to address. Number one is the Pew Research Center data on public opinions about higher ed, I'm sure you're aware of this data. It basically says that most Americans, I believe, for the first time in history, feel that higher education is on the wrong path.

They don't always agree on why, but nobody's happy about it. Number two, most Republicans feel that the country would be better off without higher education. Full stop. I thought of this as hyperbole a few years ago when I read it. I don't think of it as hyperbole anymore. We have to do something about the public's view of higher education, or we risk losing the opportunity to set our kids to the world's best, higher educational institutions on the planet. People have choices, and they'll leave. We have to earn the public's trust. I tell you, those parents who came to me and said, what did you do to my kid? Do not worry about trusting us. They could see it in their own children. Number two, CDC has pointed out the number two cause of death for people between the ages of 15 and 29 is now suicide. I believe it's the health and mind study that's pointed out that from 2010 to 2020, the percentage of young people involved in mental health crises in college has doubled. Almost every college president I knew just before

I stepped down told me the fastest-growing part of their budget was psychological counseling for young people.

This is not a fad. This is not going away. You can't just pick up the lecture notes you used in 2010 and walk into the classroom and present them and expect the same result. The kids are in a different place and it's our responsibility to meet them. Student well-being has never been such a bigger flashing red light on the dashboard. And then number three is our friend Anthony Carnevale at Georgetown, who a year ago, I believe, published the study on the College Scorecard data on financial outcomes for kids who go to college today. And he pointed out that one in three colleges in America has a distinction, the average student that they enrolled ten years ago is worse off financially today than they would have been if they'd never gone to college at all. Now you can see why the Pew Research data is coming out the way it does. And by the way, only one in three Americans has a college degree of any kind. So most Americans don't have firsthand knowledge of what happens in college. This is from their friends and neighbors and from their kids.

We have to do something about this.

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DOUG LETTERMAN:
A lot of the proposed solutions to the problems you just listed, declining public confidence in higher education or perception that colleges aren't preparing students well for success in the workforce, focused on building skills that can help graduates get a first job or otherwise point in a more sort of vocational direction, much to the dismay of many faculty members and advocates for the liberal arts. Why are you and your colleagues focusing more on things like human relations and mindset?

RICHARD MILLER:
What the Coalition is doing, how to embrace this as three pieces to it? We focus on interventions that universities implement to address these concerns that have three characteristics. Number one, most important, they're evidence-based. So we don't just dream up an idea and say, oh, I think I'm gonna try poetry and see if this makes life better. We look for data like the Gallup data that we interpret as saying someone cared about me as a purpose that's about belonging and identity. I had an opportunity to apply what I learned in a real-world context (INAUDIBLE), that's about agency development. Number three, purposeful work. My education prepared me for purpose and meaning in my life. Number three, identity agency and purpose. That's what we know today. That's just based on the Gallup data. And I'm sure there's other sources, too. So we say evidence, find us evidence, be focused on finding evidence that what you're doing will make an impact on people's lives long after they graduate. Number one.

Number two, what's your intervention is intended to do is to scale to everyone on campus. This is not an intervention for a subpopulation somewhere that might have urgent need. I think of it as a public health initiative. We're looking for the fluoride you can put in the water that prevents cavities everywhere. OK? We're trying to prevent forest fires, not put them out. What can we do from an educational structure point of view that prepares people with identity agency and purpose no matter what they study when

they're coming up? Because I don't believe they'll lose their job after two years because of human relations issues if you do that. Number three, we are primarily focused on the impact of these interventions many years after college. This is not about the graduation rate. This is not about the starting salary. This is not about the SAT test scores for the kids that come in. This is about ten years later, 20 years later. Three things. Evidence-based, skills to all students, it's about life long after college.

Our program has had generous funding from a couple of foundations that allows us to give really small grants to institutions that would incentivize multidisciplinary teams of faculty to try experiments on their own campus, to take these ideas that they've heard about, and to apply them there. I can give you examples of how this has worked, and we just did this in our conference. Storytelling turns out to be a powerful tool for changing identity and belonging. Our friends at University of Michigan at Dearborn listened to this, picked up the idea, and said, I think this could be a useful tool here. And they've been working that idea with groups of students at the University of Michigan, and we have presentations on how their works turned out in the last year or two. It's very promising work. Another example, Bates College Purposeful Work program, taking the liberal arts college, talking about work. This is a four-letter word. Having university faculty think about careers after students leave is a major breakthrough.

And it worked because it's about purpose. It's about doing something meaningful with your life. Their particular intervention, which I won't go into detail, it's not very labor or cost-intensive, produce a factor of ten increase in student well-being after graduation. Arizona State University heard about this, and this coalition has an adaptation of that idea for a completely different institution called Workplus. And they're scaling up to the entire university, which has something like 80,000 students. That's what we mean. It's these three principles, evidence-based scales to everyone, the impact long after graduation. And secondly, you incentivize them to experiment with their own student population, with their own limited resources to develop a plan that will guide them in trying to scale this up to every student in their campus.

DOUG LETTERMAN:
This seems like it's (INAUDIBLE) a long game, potentially. Can it have (INAUDIBLE) effects as well? And how are you gonna be able to judge that?

RICHARD MILLER:
Yeah, this is really hard to do. Number one, there are no guarantees. I look at it, this is worthy of the rest of my career. OK? If it doesn't work, it was worth the best efforts that I had. Our best guide in this has been working with Gallup. We have hired Gallup as a partner, a thought partner in this. We're assembling a committee of really well-known thought leaders around the country to help us supplement this sort of Gallup survey approach with their long-term studies about what works in the long term in transforming people's lives. So we're building the tools. We don't know yet how, but we do know from the Gallup data, which is probably the largest alumni survey database in existence that I know of anyway. About 100,000, I believe, alumni involved in this over hundreds of universities, that there are very strong correlations in self-reported experiences and long-term outcomes among students who just graduated from the university and students who've been out for 40 years. Gallup calls them the Big Six.

There are three questions in each of those two areas. Someone cared about me as a person and experiences outside of the classroom really matter. Those two things have real power behind them. There may be lots and lots of other ones we just haven't discovered yet. It's going to be decades before we know for sure. Because we think it's a cool idea and we get a lot of people on board does not mean

that over the long run, it's going to work. We have to be constantly humbled by the fact that we could be wrong about this and that we need to be driven by data. We need to be doggedly committed to assessing what we do with the best tools that we can find. Now in the short term, I had lists of parents and students who come up to me afterwards and said, thank God for this outcome. I mean, I can tell you one person is a young lady who graduated from Duke University. She's done really well. She's a Fulbright scholar, of a PhD program at Duke, and she's in Nepal where she's working on geotechnical engineering in the developing world.

If you listen to her story, which is a three-minute-long video, she'll tell you she almost didn't make it through school. She had problems with ADHD. She had problems with, she was a Division One athlete. She felt a great deal of pressure. She was not thriving in her engineering classes and almost quit. But then an intervention happened, which is called the Grand Challenge Scholars Program, which is a kind of extracurricular activity for engineering students that engages them in doing something to help other people and doing this as a team and doing this as a project. It's not about a time test and multiple-choice tests in a classroom, changed her life. She said, I found my people. It just turned everything around. Was not at focus on judging herself about whether she was fastest or quickest or whatever, it was about making a difference for others. That unlocked the door for her. That's an intervention that I know from an engineering point of view. In fact, it's now being used at 97 universities around the world.

It doesn't require changing the graduation requirements. It's just an extracurricular kind of attitude, behavior, and belief system that you instill in students and it changes the way people live. And there are dozens of these examples.

DOUG LETTERMAN:
I wanna go back to a question I hinted at before about how applicable this work might be to institutions and groups of students that may be unlike the somewhat kind of privileged environment of a place like Olin. Is this approach just as workable for a working mother studying social work at a community college who may be more typical in higher education as it is for an 18-year-old engineering student at a selective institution?

RICHARD MILLER:
Olin is an odd place, right? It started with plenty of money to get started and then mandate to do crazy things. And we had a lot of success. And I'd go to meetings and people would say, yeah, sure. If we had a gazillion dollars and geniuses, we could do cool stuff too, you know? But we have to live in the real world. So, you know, what does it matter is we said there's a point to that. Maybe this is just all selection bias and in terms of the original kids. So we started looking around deliberately for partners that had a completely different environment. We did some work with the University of Illinois at Urbana-Champaign, certainly very different from Olin, a book came out of that called A Whole New Engineer, which demonstrates how you can transfer these ideas. We then worked with the University of Texas at El Paso, which has a highly minority student population. Got Similar results. I went to College Unbound. Dennis Littky is brilliant. He's working in the evenings in the K12 classroom setting where those classrooms are empty from about 4:00 in the afternoon until the next morning.

So he uses them at night. His students are all prisoners. These are people who are either in prison or on parole or recently released. How do you create an educational environment for them? It turns out that project-based learning in these groups, where you have a clear goal and an intrinsically motivated learning style because they know they're not gonna get a job because their police record is gonna stop

that, they're going to have to create their own job by being an entrepreneur. Talk about intrinsically motivated. These principles work everywhere. So, I'm convinced that there are pathways to success here that work for everyone.

DOUG LETTERMAN:
We just heard from Rick Miller of the Coalition for Life Transformative Education, which is working with institutions as diverse as Bowdoin College, Arizona State University, and the University of Michigan at Dearborn on developing scalable data-informed practices that build a sense of identity and purpose in students that strengthens their long term well-being. This work interested me because it seems in one way, almost in direct contrast to the push to improve students' preparedness for jobs right out of college and to increase their early career compensation levels. These two approaches may seem very different, but they're not in conflict. This is the epitome of the both and thinking that we'd be wise to embrace about many higher education issues. Yes, we need to do a better job at ensuring that learners can get good jobs right out of college and can repay their loans. And yes, colleges and universities should do everything they can to improve the long-term well-being of their graduates.

Pursuing one of those goals doesn't have to come at the expense of the other. And the sooner we stop fighting among ourselves over which of those missions is more important, the better. Both of them can help increase the perceived value and efficacy of higher education, and doing one without the other is likely to be inadequate. That's all for today's episode of The Key. I'm Doug Letterman. And until next time, stay well and stay safe.