Ramona Schindelheim, WorkingNation editor-in-chief:

You're listening to Work in Progress, I'm Ramona Schindelheim, Editor-in-Chief of WorkingNation. Work in Progress explores the rapidly changing workplace through conversations with innovators, educators and decision makers, people with solutions to today's workforce challenges.

For the past few months, we've been hearing that artificial intelligence and machine learning could transform nearly every job on the planet. With the introduction and popularity of ChatGPT, it feels like that transformation might be coming very quickly, some think may be too quickly.

Last month in San Diego, I attended the annual ASU GSV Summit, it's a gathering of leaders to share ideas on transforming society and business around learning and work. And there I spoke with several leaders in education and learning solutions, including Rohit Sharma, Senior Vice President of Global Education and Workforce Solutions at ETS, and John Fillmore, President of Skills Learning at Chegg. I wanted to know how the introduction of AI into learning at all levels will transform education and the way people prepare for careers.

First up, Rohit, I asked him how automation might create opportunities in the workplace.

Rohit Sharma, ETS, SVP of Global Education and Workforce Solutions:

So as we think about the future of work, our thinking is shaped by what's happening from a macro perspective, what are some of the macro trends in the space? And as we look at it from my view, there are three big mega trends as I'm calling it. The first one is around talent shortage, and that manifests itself in a few different ways, including actual talent shortage, including skills mismatch, including work that is getting automated and getting eliminated, but then new type of work that is being created, and hence you cannot find talent.

Ramona Schindelheim, WorkingNation editor-in-chief:

That's a very important thing, this idea that jobs are changing, some are being eliminated, but some are creating new jobs and I think the speed feels very quick and how do we keep up with that?

Rohit Sharma, ETS, SVP of Global Education and Workforce Solutions:

It is a challenging environment and especially I think in the last several months as we have seen the emergence or coming to light of ChatGPT and everything around it has just felt that the whole pace has accelerated. I would say that there are a couple of things that organizations and individuals need to do to keep up with it. One is often used and sometimes over abused term of constant upskilling and reskilling, there cannot be better time to do that. We all need to make sure that we are keeping up in our relevant domains, things that are technology oriented, things that can help us understand the ecosystem better of all the changes that are happening. At the same time, if you are an organization and thinking about your workforce, you also need to think about where from a strategy standpoint you're going, and the skills that you would need at an organization level, and how do you help develop your people to gain those skills through corporate development programs and other kind of experiential learning as well?

That's going to be equally important because there's so many things that are new, we can't just put people in a training program and expect something miracle to happen, and it needs to be complimented with on-the-job training.

Ramona Schindelheim, WorkingNation editor-in-chief:

That experiential learning I think is very important, are you talking about K-12? Or are you talking about older? Where do you see that happening?

Rohit Sharma, ETS, SVP of Global Education and Workforce Solutions:

Actually all across, from K-12 to higher ed, into the workforce. So if you think about one of the most common criticisms that higher education institutions get is that they are not producing employable graduates, right? And if you go back and look at it, while most of the criticism I would say is fair, there's also a challenge in terms of how higher education institutions are marketing or positioning themselves. So as an example, there's a lot of emphasis on gaining knowledge in higher education institutions and less so in terms of skill development. Now the foundation of skill development is knowledge, but the part that translates that knowledge into skills is the practical application, the hands-on learning that happens.

And that's why you see in this a day and age, lot of alternative education models, whether it's boot camps or other types of credentials are coming up because they are promising that we will train you in that skill, and when they say skill, it's basically how to apply that knowledge that you may be already learning at a higher education institution that makes you readily deployable on day one with an employer. So I think that's where, as an example, it's all cuts across the experiential learning all across right from when you are in K-12 into higher ed. My example was just about the higher ed part and into the workforce as well.

Ramona Schindelheim, WorkingNation editor-in-chief:

How do you make this happen from your end? What is your role in this kind of ecosystem that we really need to have?

Rohit Sharma, ETS, SVP of Global Education and Workforce Solutions:

We look at ourselves as a data and insights company, while traditionally the way, if you think about ETS, a lot of people think of it as from a lens of assessments and we happen to also be the world's largest educational assessment organization, but if you break it down and think about assessment, every time you're doing an assessment, you're capturing a data point. What you do with that data point is going to be very important moving forward, it was always important. Largely those data points historically have been used for a summative purpose, like an admissions process, a high stake purpose. And we believe that we as an organization need to evolve and we are moving in that space that assessments doesn't need to be only in the summative side, it starts right from diagnostic so that it can provide the test taker both an input into where they may be lacking as well as recommendations of how they can improve. And then follow that up diagnostic assessment with a formative assessment where you're checking for the learning that has happened and seeing if there are still gaps.

How do you now recommend even a more personalized learning path for that particular individual to improve upon that? And there's still a room in this whole ecosystem for a summative assessment in that whole process. So we are seeing ourselves as an data and insights company being able to help learners that can be individuals, test takers in their journey, whether they're trying to get to that next level of employability and or students who may be looking for that next educational pathway to be able to provide them with those insights that based on their aspirations, their desires, their motivations and the background that they bring, what is the most optimal path for them?

Ramona Schindelheim, WorkingNation editor-in-chief:

And how are you getting that information to the students at this point?

Rohit Sharma, ETS, SVP of Global Education and Workforce Solutions:

So definitely right now we are using our assessments as one of the tool, but one of the things we are doing is to starting to enhance our assessments. So we are doing some pilots right now where, like I said, in addition to a TOEFL score that we give you, we'll also be able to tell you how good you are perhaps in certain aspects of a communication. Are you better in written communications versus oral communication? As an example, or are you better in analytical reasoning that can be applied in certain jobs and contexts that may be more suited to your strengths? So taking an aggregate score that historically we have done and then breaking it into individual components of micro skills, you can say even with an English language proficiency, there's so many micro skills that are there, and how do I make sure that the test taker is aware of that and leverages if he or she so desires to their advantage to find the right path for themselves.

Ramona Schindelheim, WorkingNation editor-in-chief:

On the idea of AI because that's something, does that play into your company right now? Are you using artificial intelligence to help find those assessments?

Rohit Sharma, ETS, SVP of Global Education and Workforce Solutions:

Absolutely, I think we are all, and there's probably no company at least here that you'll meet or any [inaudible 00:08:23] that says that, "We are not starting to leverage on AI." And we do it in a few different ways, so we look at it primarily from, can we provide a better solution or an experience to our end user, which is a test taker? Or in many cases the end user is the institution that also accepts the test. And so there what we are doing is matching the data and insights that I was talking to you about with other external sources of data. So we could be looking at labor market data, we could be looking at job data, certain roles in the marketplace and disaggregating that role into the skills that are needed for those roles, and saying that now based on your assessment score, and if I marry it with everybody else who has taken similar type of an assessment and has the desire to move into a certain type of a job, you are better suited for option A versus B.

The more you are mining the data and building that model, and that's why AI comes into play, the better your predictability becomes that over time you are able to say with 98% confidence level as an example that Ramona, if you were to take this path based on what you have shared with us, there's a 98% chance that you'll hit your goals. And that's what we want to ultimately get to.

Ramona Schindelheim, WorkingNation editor-in-chief:

I've had decades long career now-

Rohit Sharma, ETS, SVP of Global Education and Workforce Solutions:

Okay.

Ramona Schindelheim, WorkingNation editor-in-chief:

So it's too late for me-

Rohit Sharma, ETS, SVP of Global Education and Workforce Solutions:

No, no.

Ramona Schindelheim, WorkingNation editor-in-chief:

... to tell me my skills.

Rohit Sharma, ETS, SVP of Global Education and Workforce Solutions:

In fact, you probably have so many skills that as an ecosystem we don't even talk about, right? Part of the challenge that we need to teach are learners and students and children, whether they're in K-12 or young adults in higher education, is how to both be aware of the skills that they have and how to talk about that in the right context. So in higher education, people are learning so many skills, higher education is not just about the knowledge that you gain, but it's also the social experiences. It's your ability to have that debate in the classroom when you're taking an opposing point of view and how do you defend your position in that regard. So that's a skillset that you have developed, but how often do you hear students talking about the fact, because that's one of the skills that you would argue is very important in a workplace setting.

We all as an ecosystem need to make sure that we are equipping our learners to A, become aware of the skills that they have, talk about them in the right context, so that they are then able to position themselves for the right type of roles. And that's where one of the gaps that has existed for a long time where higher education, in my humble opinion, has not done a great job in equipping the learners to do, even though they may be teaching them a lot of those skills.

Ramona Schindelheim, WorkingNation editor-in-chief:

I would counter that, not disagreeing, I totally agree, but I would counter and say, employers don't know what skills to ask for as well, they may know a [inaudible 00:11:16] thing, but they might not know how to ask for that, I need a problem solver, I need someone who can communicate a little bit better. I think there's still a little bit of a mismatch in that area.

Rohit Sharma, ETS, SVP of Global Education and Workforce Solutions:

No, you're absolutely fair, I think especially as you think about roles that are getting progressively more complicated, it becomes very difficult to disaggregate that into individual skills. And even for entry level positions, while everybody talks about the skills of problem solving, communication, critical thinking, but employers need to do a better job in terms of contextualizing those skills in the context in which it'll be applied. Is your problem solving going to be that? As an example, if you think about a junior analyst coming into an investment bank, problem solving is about learning about the Excel skill sets and breaking down a P and L into the drivers of revenue and cost, as an example, that's one way of doing problem solving. And in the other context, you can think about a marketing or a communications or a journalism fresh grad from that space.

And their critical thinking is about, or problem solving is about taking a broad narrative and breaking it down into what are the sub-messages or themes that are there that can build up towards that narrative, and [inaudible 00:12:40] is the person who's making that narrative or putting that position able to defend themselves or not? So I think these are contextual things that you're absolutely right that employers need to do a better job of how they present and test for those so that they are able to also find the right gap, because oftentimes you hire people and then you are so-called disappointed saying that they don't have those skillsets, but did you do a good job explaining and then did you do a good job evaluating?

Ramona Schindelheim, WorkingNation editor-in-chief:

Later, I spoke with John Fillmore, President of Skills Learning at the education technology company Chegg. I started by asking him for his big picture view of the future of work and how technology will change that.

John Fillmore, Chegg, president of Skills Learning:

I'm a massive optimist on how technology is going to impact the future of work. The reality is every technology change we've had over the past 200 years has ended up creating dispersion, but ultimately created more need for talent, more need for great jobs. Obviously, the great example I always use is the ATM, which everybody said was going to eliminate the need for bank tellers, and it turned out it just changed what the nature of a bank teller job ended up being. You had a lot more relationship banking, and so you had a lot more push towards skills of customer service, skills on how do you actually upsell people, versus previously, which was just, can I actually count out the money that you have? I think you're going to see that in a lot of different spaces now. You even look at, obviously generative AI is the big thing everybody is talking about, suddenly we forgot that blockchain is a thing, automation is a thing-

Ramona Schindelheim, WorkingNation editor-in-chief:

Cryptocurrency is a thing.

John Fillmore, Chegg, president of Skills Learning:

... [inaudible 00:14:20] yeah, cybersecurity is a thing, all of these changes that are happening are very unlikely to change will people need to work? But they will change the skills that you have or the skills that are required to be successful. So if you think about a data analyst, whereas right now so much of the job of a data analyst is actually data cleaning, data retrieval, you're going to have a lot more of that that can be done by a machine going in with prompts to say, this is the data I need, this is the level of fidelity that I need within that data, but you're going to have to have people who then are very good at the critical thinking skills of saying, does this answer make sense? Can I explain why this is the answer? Because just like when Excel came out, everybody thought, "Oh, finance is going away." Well, it didn't turn out finance is going away, it turned out you needed financial analysts to do a different job, which became more and more about how do I leverage that tool to tell a story?

Ramona Schindelheim, WorkingNation editor-in-chief:

But I think that's a very, very important point that when people look at the future of work, quote-unquote [inaudible 00:15:27] and they hear all about AI, they think, "Robots are taking our jobs." That's such a cliche comment now, but somebody does also need to feed the machine. What is it that you want your AI to do? So you have to have that critical thinking at the top, right? So how do we prepare the workforce though to be able to be a part of this change?

John Fillmore, Chegg, president of Skills Learning:

It is going to be, I think one of the most fascinating technology changes because the technology itself is going to be a part of how do we help people? And what I mean by that is imagine a world five years from now where if I want to train you on how to be a great podcaster, instead of today where I would say, "Oh, go talk to Ramona, Ramona's amazing. I have somebody new who wants to do this, Ramona will take you under her wing, she'll help you learn to do this." Imagine I now have a technology tool that I can say, "You're just going to practice with this AI, and the AI is going to give you feedback based on the most successful podcast, the most popular podcast."

Now, take that into any skill that we're talking about within the world of work, a sales skill. Now imagine instead of saying you're going to go to a sales training or we're going to do a prep with you where an experienced salesperson is going to go work with a young salesperson and say, do a pitch with me, I can do this pitch into the machine and the machine is going to give me real-time feedback on what does or does not work as a part of my pitch.

Ramona Schindelheim, WorkingNation editor-in-chief:

So then that sounds like some knowledge based jobs may go away, but as you said, they're going to evolve, but if they don't need me, I'm not going to be coaching anymore, right?

John Fillmore, Chegg, president of Skills Learning:

Right. Yeah, I think you'll end up with one, as you said, somebody has to feed the machine, so there will be an absolute premium placed on who are the people that can think about what does a good AI coach for podcasting look like? And so that job starts to get created. Then you have issues of you want to create more podcasts, who are the creative people that are thinking about what are the stories that people want to hear? You're going to have so much content that is out there, we are literally in a space now where you could infinitely go online and listen to music that is being created from scratch while you are online, but the reality is nobody wants to spend their life doing that, we want to know how do I listen to good music? So somebody has to be out there to think about what is actually going to create that?

It's going to be very similar in the world of work, right? People are still going to have to sell, right? In a world in which AI is spamming you with a thousand different messages on everything that you should be buying, the value of someone who can actually cut through that clutter becomes significantly higher. Now it's going to be about who are the creative people that [inaudible 00:18:22] can actually have that message?

Ramona Schindelheim, WorkingNation editor-in-chief:

Do you think it's only going to disrupt creative knowledge-based jobs? Or if I am working at a manufacturing, is that going to be disrupted as well?

John Fillmore, Chegg, president of Skills Learning:

Well, this is the part where I say everybody suddenly forgot that there's all this other change that's happening in technology. Generative AI is less likely to change the nature of a manufacturing job, right? It's less likely to change the nature of somebody who's working the register at a Walmart or a McDonald's. However, automation is going to change those jobs, but very similarly, as automation changes those jobs, there are going to be other things that we are trying to create for people. Companies are going to need literally hundreds of thousands more data analysts who can think about, again, "What is the right answer on this?" Not, "Can I plug something into a computer and say, tell me the answer on it?" But, "Does this answer make sense?" "Can I tell the story of why this answer should lead us to make a different decision than we are making today?" Those people who are getting displaced are going to want to go into this, this is actually why we work with Walmart and Target and Macy's and lots of these companies that want to train their frontline workers for the jobs of tomorrow.

One, because it's the right thing to do, and they know that in a world where frontline workers are in short supply, you want to be able to offer a benefit that's going to help you recruit and retain. But also on this, you look at this and say, "If I'm going to need more data analysts, if I'm going to need more

cybersecurity engineers, if I'm going to need more people who don't just know how to code, but again know how to prompt engineer that coding so that I both get the answer and I know that that answer is actually correct." You're going to have to train those people to do it. And with all due respect to higher education, which changed my life, traditionally, higher education has not moved fast enough to customize all of those types of training needs that an employer is going to have, because as you mentioned earlier, those are going to change dramatically and faster than I think we've ever seen in human history.

Ramona Schindelheim, WorkingNation editor-in-chief:

So tell me how Chegg does work with those employers to make those changes to try to at least keep up to some degree?

John Fillmore, Chegg, president of Skills Learning:

So one of them is we spend a lot of time with employers on what are the skills that are in demand. We spend an enormous amount of time, Chegg [inaudible 00:20:47] has 8 million students that we train worldwide, and in Chegg Skills, we leverage what those students are looking at and what is it that they need in order to be successful? And let me give you a very specific example on this. It's very popular to talk about coding boot camps, right? Well, the reality is, if you are someone who has been failed by the traditional education system your entire life, just dropping you into a coding boot camp is kind of like the movie Good Will Hunting, it's like, "Okay, just go off and you'll figure this all out." That's not how most people actually learn, and especially if you don't have a lot of experience with the educational system.

So for a lot of these people, we're doing things like technology fundamentals. How do I get comfortable learning online? How do I get comfortable with things like email? How do I put myself in a spot where I then can think about that data analyst job or that cybersecurity job and I actually learn more of what those jobs really are to see what interests me as a human being? Then you have the issue of, well, we know what skills employers are looking for, we know what jobs they're searching for. Now we can create the content that says, okay, both this is what this job looks like today and what we're having a lot of fun with right now is what do we think this job is going to look like in a year? What do we think this job is going to look like in two years? Because every knowledge economy job, a part of it will involve generative AI.

Ramona Schindelheim, WorkingNation editor-in-chief:

Is there anything about generative AI, ChatGPT that worries you?

John Fillmore, Chegg, president of Skills Learning:

We could go on an entire separate conversation on all the things that are potentially worrisome about this. The level of cybersecurity risk that is being created on this, where very truly things are being generated right now where somebody can take this podcast and then use your voice or my voice, call our banks, and if they have also stolen our social security number, which is how banks tend to do, your voice and your social security number tend to be how they actually verify it's you go in and say, "Transfer all of my money to this nefarious account." So terrifying in terms of what can happen on that side of it. The question that everybody is wrestling with, what is going into the machine? And I'll give you an example in the workforce side of it.

You have a lot of companies that are talking about, we're going to analyze people's skills for you based on their online profile or what they do in Slack or what they do in email, and we're going to map that against what your most successful employees have been, and that's going to help you think about who should be on what career paths. Well, now imagine this is a company that is 50 years old, and we all know that 50 years ago, 20 years ago, 10 years ago, today, there is inherent biases in the system, structural racism does exist, certain communities of people have not had the same opportunities. But if I'm using a system that is using all of that data to train me and tell me who is most qualified to take a great career opportunity, how do I know that it's not going to tell me, "Only white men are the people who should get this." All of those things we have to go figure out.

The optimist in me looks at this and says, "With all of the challenges that we've had in technology, and we can all talk about all the social media companies that everybody's worried about and all these things, overarchingly, we end up getting it right over time, we come to a balance on it, and the world does become a better place as a result of more connectivity, more productivity, more opportunity." I'll call it a slight bit of fear with a level of optimism of what it can do outweighs the what it could do.

Ramona Schindelheim, WorkingNation editor-in-chief:

And in terms of what it could do, do you think it could broaden access for those people that you said sometimes are left out of this?

John Fillmore, Chegg, president of Skills Learning:

Undoubtedly, and it should do this if we do it right. Again, you think about, but we have to make sure there's access to technology, we have to make sure there's access to high speed internet, there are a lot of things to figure out on this, but now imagine something where you say, "Here's a student that really does need one-on-one instruction in order for them to master third grade math." Well, now imagine that we really can have that one-on-one tutor experience for that student because they're working with an AI tutor that has unlimited patience, unlimited experience, and can try every different orientation of how to work with that student, but somebody still has to program that, right? Because a third grader isn't going to know to say, "I don't understand it this way, help me, teach me in this other way because I'm more visual."

Someone has to teach the machine to think that way and actually try different steps with that third grader. If we do those things right, and I think there's going to be massive opportunity to do it, a 100% we change the game in terms of the level of access people have.

Ramona Schindelheim, WorkingNation editor-in-chief:

That was my conversation with John Fillmore from Chegg. Earlier I spoke with Rohit Sharma from ETS, I talked with them both at the annual ASU GSV Summit in San Diego. I'm Ramona Schindelheim, Editor-in-Chief of WorkingNation, thank you for listening.