

JFYNet Podcast – AUGUST 2020, Dr. James Weaver of the National Federation of State High School Associations

GREG: Today's podcast features Dr. James Weaver, the director of performing arts and sports of the National Federation of State High School Associations. The National Federation of State High School Associations is based in Indianapolis, Indiana. It is the national leader and advocate for high school athletics, as well as fine and performing arts programs. With 51-member state associations, including Washington, DC, they serve over 19,000 high schools and more than 12 million young people. The federation's goal is to ensure that all students have an opportunity to enjoy healthy participation, achievement, and good sportsmanship in education-based activities. **DR. WEAVER** has been the director of performing arts and sports for the past four years. We'll discuss the importance of extracurricular activities for students.

DR. WEAVER: We started looking at speech and debate and theater activities. Those are "Let's get you guys communicating. Let's get you working as a team. Let's get you doing a high level of research. Let's get you putting all that into action and then competing with those things in order to become a better person as you start entering the economy later on in your life."

GREG: His own involvement in high school and college activities...

DR. WEAVER: ...and I picked the bass because it was the weirdest thing ever. It was huge. And I said, I want to play that. And my teachers asked why. Why the bass? It's the biggest instrument. How did you not want to play the bass? That is awesome. And then I ended up falling in love with it and just really started excelling in middle school and high school, really became a solid player. I found who I was in the music classroom, so I knew there's a really rich amount of history that exists in music, then just bringing history to life through performance. And it was amazing for me.

GREG: How organizations are navigating during the Covid-19 Coronavirus era...

DR. WEAVER: ...so we're watching a lot of states push back where their starting points are for their activity programs, both athletically and performing arts.

GREG: And the preliminary groundbreaking results from a study of aerosol spread during performing arts activities...

DR. WEAVER: Let's look at everything we know about music and performing arts stuff and how aerosol is generated. We found nothing, not one article anywhere, how music or performing arts generates aerosols. Okay, well, we need to figure this out, so I need to figure out, one, how to do it, how much they do and then how to stop it.

GREG: This podcast was created by JFYNetWorks, a Boston based nonprofit provider of online learning resources, training and support to schools, students, and parents. JFY's Individualized, self-paced curricula help raise individual and school performance measures by maintaining grade level skills and combatting learning loss. JFY provides online ELA and math curricula aligned to state and college standards from grades six through high school, with personal support online and via phone from friendly learning specialists like yours truly. For JFYNetWorks, I'm **GREG** Cunningham.

As schools across Massachusetts and the country struggle with plans for academic programs in the fall, one important aspect of education has not been widely discussed. The importance of

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co-curricular and performing arts courses and activities, which are essential components of education, as DR. WEAVER explains.

DR. WEAVER: Extracurricular activities are vitally important to the development of education of the student because we view that as the second half of the school day. You're going to get your basic core instruction of your math, your English, or sciences during the school day. But what our activities really do is show leadership, they show teamwork, they show the soft skills that are needed by today's economy. And that's why extracurriculars are really important. When we started looking at speech and debate and theater activities, those are, let's get you guys communicating. Let's get you working as a team. Let's get you doing high level research. Let's get you putting all that into action and then competing with those things in order to become a better person, as you start entering the economy later on in life.

When we start looking, the same thing happens in music. Same thing happens in athletics. You learn those abilities to work together. You learn those abilities to create leadership opportunities up and down the spectrum, so you don't have to be the team captain to have a leadership role. You could be the best researcher on the debate team for what we're trying to find or, if I'm on the basketball team, I know what my role is and how I can lead in there and work together with the other students that we're with. So, extracurricular activities become very important because they provide those opportunities that we may have lacked to find for students inside the school day. And that's really where it goes for the budgetary impact of what extracurriculars are. It's a really big bargain for how much money we sink into these programs, as far as the overall school budget and the bang for the dollar we get out of it. We are providing to the country civic engagement and economic output.

GREG: *DR. WEAVER's experience with co-curricular activities not only helped him prepare for his director job, which he currently holds, but also provided a more well-rounded educational experience.*

DR. WEAVER: I started playing in an orchestra in fourth grade and picked the bass because it was the weirdest thing ever. It was huge, and I'm like, I want to play that, and my teachers asked, Why? Why the bass? I was said, it's the biggest instrument, why would you not want to play it? I think it's awesome and then I ended up falling in love with it and just really started excelling a little bit in middle school, then in high school, really became a solid player. I found who I was in the music classroom, so I knew, there's a really a rich amount of history that exists in music. Then just bringing some of the history to life, through performance, was amazing for me, as a high school kid to just try to start the transformation, I started that transformation.

Then we get into college, where I became a very big fish in a very small pond in northeastern South Dakota. Then I went to a music performance college and realized, huh! I have a lot more I can be doing to make myself better than this. And it was a really good life lesson for me that as soon as you think you're the best at what you're doing, someone's going to prove you wrong. And I think that was a great lesson for me to learn throughout the course of activities.

High school was pretty easy [for me] academically. I graduate 23rd of the 458 students, and I didn't really try. College on the other hand, I had to try a lot. That was a whole different

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ballgame, but I attest a lot of that to what I experienced in the music classroom, as far as realizing there are people out there that are ready to prove me wrong at any moment in time.

And then this is very true for debate too, we were very good at debate. My last year of debating was back when the topic was the reform topic for education, back in early 2000's, and we had a great argument about how we're going to require all incoming freshman to take a Forensics class, because who is going to go up there and say debate is bad. And so, we were wiping it up all over the place until somebody actually came and told us why it was bad, and we have no defense for this. We got swamped so quick, it was ridiculous. But, you know, I got a great experience. I realized you can't just lean on one thing to try to become successful. It was good. High School activities do provide a lot of those lifelong lessons that you can rely on for a long time.

GREG: *The Covid-19 Corona Virus has wreaked havoc not only with scheduling students for instruction for the fall, but also with all sports and co-curricular activities across the country. As with their approach returning to school and even the virus itself, each state is navigating its own course through these complex issues.*

DR. WEAVER: They're all over the map right now, so we have several states that have pushed back all fall activities for a couple of reasons. One, there's no way you can get spectators in there. We don't know if we're able to get a big enough crowd size gathered up in certain states to have the teams play. And for indoor activities, such as performing arts activities. those require huge, massive spaces for huge amounts of people. And we're not able to get to that point yet. So, we're watching a lot of states push back where their starting points are for their activity programs, both athletically and performing arts wise, and it's interesting to see how we're progressing to move forward. So, every state is a little bit different, like we've reacted this entire pandemic. That's different topic for a different day probably, but without a national approach to containing the pandemic, we end up having a very checkerboard and fractured approach to how we're doing this.

About a dozen states are going to go on as scheduled until they can no longer go on as scheduled. Got about the same amount of states, maybe a few more, that have pushed everything into after the winter break. And then we have the rest of them that are kind of similar or in between. So, we pushed back football or some of those bigger, close contact activities. And then we've kind of moved other ones forward. We know golf is good because you can socially distance in golf and you're outside. So those kinds of things we've seen move forward in the schedule to try to get those activities forward. I've watched what I call the mass body activities have move backwards within the calendar, and so we'll see where that all goes.

Economically, it's one of those things where state associations are going to have some issues to deal with because we're used to a certain rhythm and flow of what our year looks like, and that has been definitely disrupted throughout the course of all of this. But most of our associations are in pretty good shape. Associations like the speech association in Massachusetts figured out, let's run these things on a virtual format. And so, there are some very innovative and clever people out there doing some amazing things to keep kids participating, and so we're relying on that as well across the different states.

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GREG: *Co-curricular activities are not just fun moments during a student's day, but vital to the educational wellbeing and success for all students. So far, fall schedules for these activities have seen minimal impacts due to funding issues for states, but financial support for co-curricular activities maybe essential later in this academic year in order for schools to continue participation.*

DR. WEAVER: The state associations themselves wouldn't get those dollars; they would get it through the participation aspects of the schools. In that case, it's very important, because we want to make sure students are participating in those activities. What we don't want to see is a stopping of students participating and having that "gap year." (You can't see my quotes on the "gap year" on the podcast but I'm doing air quotes.) You don't want to have that gap year without participating because we know that as students participate in high school activity programs, their graduation rates go up. Their ACT scores and SAT scores go up. Their ability to get college scholarships in things not just activity related but overall related, go up when they're involved in high school activity programs. And we really hate to see that "lost class" that doesn't get to participate. So those dollars coming into the schools, even though they are important, the bigger importance is that the participation levels continue...their participation levels don't drop off too much as we progress further into the school year.

GREG: *In order to keep the virus from spreading within school communities, state organizations and schools have had to be creative in order to ensure some level of participation will be possible as the academic year begins and also heading into winter and spring seasons.*

DR. WEAVER: Really on the athletic side, we're looking at a lot of modifications to the scheduling. What can we do to push this back until you get better control of it? What can we do in the golf setting, can we just do instead of foursomes in golfing, to do twosomes in golfing and spread those students out farther to kind of keep those programs going?

In our world of the performing arts area, we have speech, debate, music---theater is a little bit more tricky. But in those other three, what can we do to get them virtual? Because, for example, I live in Indiana. Indiana has tens upon tens of thousands of students participating the music programs...the state level programs. What can I do to continue that? And how does that work in a virtual format?

And then we get into what copyright issues we have to deal with, which is a thing. What do we do to make sure students have a safe, online environment to compete in? All those thought processes we need to go figure out. That's what we're seeing in a lot of performing arts activities when they are going online. But it's working for them so far, and they're trying to keep their schedule intact as much as they can.

The other interesting part of that, too, is what do you do, which I think it's something that's important to think about, what do you do when we have schools in session and we want a host a state marching band or a one-act play festival or a debate tournament? Kids can go to their school, but we have no host school to host these festivals and contests. That's why we're seeing some of the focus on the online aspect and what that looks like. Can we figure out a way to broadcast all the different components? So that way adjudicators can see what these things are doing, get them adjudicated, get the state assessment levels which a lot of states rely on,

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and get those evaluations back to the schools and then continue the cycle, what we normally do. We're trying to figure out some of those things as well.

GREG: *However, the modifications forced by the Covid-19 Corona Virus have provided some benefits for certain activities as they adapt and moved to move to online focused experiences.*

DR. WEAVER: One of the things that we have is because school budgets are going to be constricted as we move forward...right now, we kind of got through this fall unscathed. We'll see if that continues to happen as we progress in the next budgetary cycle for most states. One thing it does, it prevents travel, which is good. Other benefits are, for example, in a debate round, if you can't go to all stretches of your particular state, now you can virtually, so you can debate students you've never been able to debate physically before because those constraints are now gone. Does it feel the same? Not really, but does it work? We've proven several times, in Massachusetts, for example, in the state tournament, yes, these things really do work and people do have meaningful debates coming out of those virtual tournaments.

It also takes away some of the individual economic barriers. Can a student dress the way they're supposed to dress, can they get themselves there on time? Can they have enough money to buy food for their lunches and all that stuff? Well, if you take away all of the things that would require those kinds of purchases to do an online tournament, those things become a lot easier for more students to access.

However, I will say that there is a great benefit having those in-person tournaments...you can show what it looks like, how we do it and here's what happens when you debate in front of a crowd because debating in front of an audience, it's far different than debating in front of computers. The same thing goes for playing volleyball and playing football and doing your basketball tournament or having a concert. Playing a concert in front of an empty auditorium is not the same as having 1000 people in a packed auditorium who are just there. And then when you play the last note and the audience erupts in a, 'holy crap they did it!' moment. Those really mean...those are meaningful moments. And so, I think, even though we can do some online things, I don't know if it's a permanent solution, because we as humans are social folks. And we want to make sure some social aspect comes back to our development of our young people.

GREG: *Even as these activities recreate themselves as part of a new normal, the modifications present new and different challenges to navigate, such as copyright issues, when performing arts activities move online.*

DR. WEAVER: Last spring, we were very fortunate to get a lot of the publishers, both in literature and in music, permission to allow a distance assessment and competition to still occur throughout our state associations, which was great. And those permissions were needed because of how copyright law is written. It is very, very complex. So, we had to have an ability for students to say, I can upload it on a YouTube format, but I can't get it on to a different kind of format because of how the output structure exists. You don't really need a lot of bandwidth to upload something on YouTube. And so, we asked, how can we make some things happen? We still want it to be as restrictive as possible but allow state assessments and adjudications to go through and then also allow students to compete in certain areas of literature, and competition speaking events. We were very fortunate to get the big six or seven music publishers and of a

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big 15 of literature publishers to agree to allow us to have those permissions for student assessments, which was great.

Now coming into the fall, we're trying to get some of those back. But as we mentioned before, everything is so crazy across the country, and it's so different that that's a little bit harder of a sell to publishers to say, Here's a nationwide blanket statement; do what you need to do to get through, because some states are almost all back in person, just waiting to see what happens. Some states are only online. Some states are combinations of those two and then given within the combinations of those two, there's multiple combinations that exists within the combinations. So, it's harder for us to find a sweet spot for the copywrite permissions. We're still working on it.

But, you know, the publishers have really been good for our associations and our students moving through the pandemic and trying to navigate what they can do. We need to also make sure that we are thankful in understanding when this is all done, that some things are going to have to go back to how they were before. And we need to. We'll have to navigate what that river is going to look like as we get through the pandemic.

GREG: *But silver linings abound, as playwrights and publishing companies have also adapted to the new normal.*

DR. WEAVER: ...which is incredible, right? Who would have thought...who would've thought eight months ago we'd be talking about Zoom play performances happening for schools? I mean, it's crazy.

GREG: *With the goal of providing guidance to both state associations and school's* **DR.**

WEAVER *began to research how aerosol spray would spread during speaking performances and the use of wind based musical instruments, and discovered no real research had ever been conducted. He set out to spearhead a study which, still in its early stages, has already provided groundbreaking results which will help schools and organizations when making decisions about the safety of some co-curricular activities.*

DR. WEAVER: What we did was, Mark Spede, who's the president of the College Band Directors National Association, had this idea back in early April: We need to study aerosol. He called me up, and said, You're pretty connected. What can we do? I want to figure this problem out. And I said to him, I think you may be right, because at the time it was all about contact surfaces staying clean and all that. But then, as we keep seeing that spread continue, even though everything is being doused with sanitizer, we're still watching this thing spread around like crazy. And so, Mark and I really sat down and decided this might actually be the deal. What can we do?

We started doing a lot of research. Between the two of us, we read over 170 articles in a week on how aerosol spread, what we knew about Covid-19. Everything was crazy and we figured, this is it, it has to be aerosol, but we just don't know. So, they said, let's look at everything we know about music and performing arts stuff and how aerosol is generated. We found nothing, not one article anywhere about how music or performing arts generates aerosols. We need to figure this out.

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One, how they do it, how much they do? And then, what can you do to stop it? We needed to figure this out in like five weeks. We contacted the University of Colorado, Boulder and Dr. Shelly Miller, who was a brilliant environmental scientist. Her specialty is indoor environmental pollution, allergen, viral and bacterial transmission. So, we write up what we needed to have happen, and she indicated there's really not a lot out there and would love to see what happens.

So great. Let's put together a budget. The first projected budget came out to \$37,000 and I thought, I think we could figure this out, this isn't bad. And then we were talking longer, and realized, we needed to duplicate this study. Okay, so the cost was still double. Now we are at about \$70,000 and then we contacted the University of Maryland and they asked, have you thought about this, this, and this? We realized, no, we hadn't thought of any of those things, but we should do all those things. So now we get up to about \$200,000 and we finally slip everything we want to do in the budget. Here is our master wish list. What can you do? They tell us we're up to about \$300,000 between the two institutions. Whoa! But then thought, all right, let's see what we can do.

We put out a call to everyone that Mark and I knew, and then started branching out like crazy for funders. We were very fortunate get a National Association of Music Merchants matching grant for research. And they matched up to \$120,000, and we had raised \$318,000 in 22 days, which was amazing. It's 125 different organizations which have come together to support and fund this study. It's an international coalition; we have a lot of groups in United States because we're spearheading it. We have the International Music Association, a bunch of other places from Europe, some places from Asia, and it has just taken on a life of its own. It has then the largest consortium of performing arts groups that has ever been put together, which is incredible. And they've all come together to solve this problem, how to get students back in performing arts programs.

Fast forward into the research and what we have found...the brief version. I can really dive into some big charts and graphs and stuff, but we can't do that on the radio show. The brief version is we found out that everything in performing arts, whether it's acting, speaking, debating, playing of a musical instrument, minus the strings, all produce about the same amount of aerosol, with the exception of the oboe; the oboe produces so much more. It's ridiculous. However, the mitigation for everything is also the same and brings the oboe back down to where the rest of instruments are. Everything we are doing for the arts is more than conversational talking, but less than coughing, so inside of that spectrum. And so, we think of coughing as being really, really bad. We know everything we do in performing arts is less than that, including singing and playing a band instrument and acting and those kinds of things. But we also know it's a lot worse than if you and I are just sitting in a room talking together.

Then we really start focusing on what is it? What does it take to mitigate that? And we went to an indoor environmental principal, keeping all issues as close to the source is possible. We started doing the whole masking everything component. What if we mask students? What if we cut a slit in a mask for brass and trombone players? What if we mask the instruments? What do we do for acting? How do ask to mask someone acting? First of all, acting is really hard. But when you can only see half of your face, it's impossible, so people are going to be really good eye actors going forward. How does debate work with a mask? How do we make sure that

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when we do that, we don't get a tired jaw issue that occurs? TMJ while wearing masks for people who have to talk a lot, the mask becomes a really big issue. We're looking at those routes as well.

We found that when we mask the students and mask the instruments, keep social distancing at 6 ft by 6 ft squares like the CDC recommends, increase the air change rates as fast as we can within any given room, keep our normal hygiene components that the CDC's been saying since March we need to be doing, and then limit our amount of time in rehearsals, then we feel we can't eliminate the risk, but can reduce it down enough so if your school is in session, all of your performing arts stuff should also be in session. Because we believe the mitigations, we have collected so far bring it down so it should be about as risky as your math class. That was our goal.

We still have more study to do, but we're pretty confident that the direction we're taking is positive. So, for example, in band you have to wear a mask with a slit in it for the object of the mouthpiece to go in, to reach the aperture. That's your performance mask, and then when you're done playing, you take that mask off, you put on your normal mask and you leave the classroom. Then we're recommending bell covers for all wood and brass instruments that have a MERV-13 filter material on the inside of the bell cover. MERV-13 is hospital grade level filter material and we are filtering out pretty much everything that goes through there. And then we add in HEPA filters and those kinds of things. And we can really make the environment safer by keeping as much of the issue at the source, which is our human bodies, as humanly possible.

GREG: *While the study has already provided some reassurances for schools, there is still more work and further research to be done.*

DR. WEAVER: Right now, what we know are what the general transmission rates are. We know where the aerosols are coming out of each instrument. So now the next part of the study is to define all of those things. We're also developing a tool...the University of Colorado has developed tools for a lot of different areas. But this tool, you could go and say, all right, so I have five trumpets. I have x number of students and these many trombones. You plug all those numbers into a formula, it will tell you what your risk level is based on the size of your room, the size of your ensemble, what your instrumentation is, and then how many students would be in the room that could potentially be infected? We want to shoot for one, right? Because you're really doing a good job quarantining and keeping people away. But if we have one asymptomatic student in there, what would be the risk of that spreading? And so, we really want to make sure we can refine that down.

That's one of the next steps to do is really specific transmission rates, not just the general aerosol, which we have now. The goal for the first one was, Let's get this done and let's find out what we need to do to get people back in the classrooms. We know some schools are starting back up. And we want to make sure we do that as safely as possible. So that was our goal. Now that we know where it's coming from, what do we need to do to stop it? We're going to get really more refined transmission rates to get better modeling out there. A lot more models through CFD imagery that can really show what the spread over time will be and where it will go in a room based on how air circulation is developed and those kinds of things.

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We're really working on refinement now. We're also testing different materials. We know we were really restricted with the MERV-13 because we know that stops everything, but that's really impractical for the long term. What other materials are out there that will be effective, will have less issues of decibel decreases, less issues of changes in timbre of the instrument? Those kinds of things. When we get into the speaking side of the world, other alternatives to figuring out what to do to just have your face half covered, because when your face is half covered for theatrical performances, it really causes a problem. We are also going to be doing simulated aerobic exercise to see what happens on the athletic fields as well, to see what that spread looks like and if there's a difference there.

GREG: *What matters most to DR. WEAVER is that all students have opportunities which help to develop not just their educational skills, but real-life skills, which are an essential element of each and every career in all fields of employment.*

DR. WEAVER: Well, I would remind especially those business-world folks, remember your time back in high school, when you were in high school activity programs, what did those programs mean to you? How did they shape where the direction of your life ended up going? And I think you'll find most of your listeners were involved in some sort of high school activity program in some way, shape or form. They may not have been the high-level varsity folks. They may have dropped the program here and there, but those programs had an influence on their lives wherever they went. What we're trying to do here and now in this time of uncertainty is to get students to have those experiences and have those interactions that get them set for where they're going in life. And I think that as we look at our education as a whole, those activity programs are very important for doing everything that the soft skills require for us to be successful as we become adults in the world.

I just want to put that plug out. It's the importance of what those school activity programs are. Athletics performing arts or any combination of the two, which is what I really hope has happened. My kids are in cross country and band and orchestra and tennis, and they just do all those things because it's important for them to get out there and do those.

I think one thing they should remember as well: our educators are incredible problem solvers. They know the importance of education yesterday. They know exactly how important it is today, and they know exactly how important it is going to be tomorrow. And those problem solvers in our classrooms will figure it out and they will ensure that our students still have the class of education and a great experience in the activities they choose participate in, and I'm very excited to see how we're going to be doing that moving forward.

GREG: *We would like to thank Dr. James Weaver, the director of Performing Arts and Sports from the National Federation of State High School Associations, for joining us this month on the JFYNetWorks podcast. If you have any questions or comments, please navigate to our website: www.jfynet.org, where you will also find our new Connected Learning page outlining the array of resources provided by JFY Learning Specialists. Thank you for listening to this podcast. I'm GREG Cunningham. This has been a production of JFYNetWorks.*