

# Using NBME INSIGHTS to Support Student Success

*On-screen:* [NBME MELS, Using NBME INSIGHTS to Support Student Success.

Amy Gilthorpe, Outreach Manager, NBME.]

Amy: Hello and thank you for joining us. My name is Amy Gilthorpe, the outreach manager at NBME. We've got an outstanding panel of four medical education learning specialists eager to share how they've been using our newest tool called INSIGHTS to transform the way they support their students.

Since the launch of INSIGHTS, which is an interactive dashboard that gives examinees a comprehensive view of their progress by bringing together results from NBME subject exams, self-assessments and customized assessment services, or CAS, we've seen a powerful shift in how assessment data is being used.

Over the last year, more than 100,000 medical students from all over the world have used INSIGHTS to guide their progress toward content mastery. To support them, learning specialists have been exploring new ways to interpret INSIGHTS data and most importantly, turning it into actionable steps that can directly enhance student success.

Today, our panelists will share their strategies for helping students understand and use the data. We're really excited about how INSIGHTS is shaping the future of medical education and we hope this session will inspire new ideas for all of you.

We're going to turn to a video where you'll meet our four panelists, and on the other side, you'll meet them in person for our Q&A. All right, let's roll the video.

*On-screen:* [The views expressed in the video reflect the opinions of the individual speakers and not necessarily their respective institutions. The information shown from insights is for demonstration purposes only and does not reflect student data.]

Amy: Hello, and thank you for joining us. My name is Amy Gilthorpe, the outreach manager at NBME.

As many of you might know, last year, NBME launched an interactive dashboard called INSIGHTS. INSIGHTS enables examinees to access all of their NBME subject exams, self-assessments and customized assessment services, or CAS, results in one place.

This helps them dig deeper into their performance and track their progress more easily. Examinees can use INSIGHTS to better analyze their depth of knowledge in different

content domains, identify areas for further growth and development, and view their learning gains made over time through this interactive dashboard.

Members of the Medical Education Learning Specialist Group, MELS, have been exploring how to best interpret the assessment data and make it actionable for their students. I'm here today with four medical education learning specialists to hear how they utilize the dashboard to help support their students.

Let me introduce our presenters. We'll start with Kristen Cappola from Rutgers, Robert Wood Johnson Medical School

*On-screen:* [Kristen Coppola, PHD. MELS Chair, assistant professor of psychiatry and senior research associate in the office of advanced learning, teaching, and assessment at Rutgers, Robert Wood Johnson Medical School.]

Adeste Sipin from the Kirk Kerkorian School of Medicine at UNLV.

*On-screen:* [Adeste Sipin, MA. Director of academic support services at Kirk Kerkorian School of Medicine at UNL.]

Shavonia Wynn from Medical College of Georgia at Augusta.

*On-screen:* [Shavonia Wynn, PHD. Medical Education Learning specialist, Medical College of Georgia at Augusta.]

Kiely Madhavan from Creighton University School of Medicine.

*On-screen:* [Kiely Madhavan, PHD. Assistant professor of medical education at Creighton University School of Medicine.]

And Kevin McAllister, NBME's Senior Product Manager for INSIGHTS.

Welcome, everybody. Great to have all of you here with us today. In this webinar, our plan is to discuss the challenges and opportunities this group has experienced with helping students use assessment results to support learning and academic development. Explain how they're integrating data from INSIGHTS into their feedback loops with students. Reveal the top tips they're sharing with students to help them maximize their study time for subject exams and the USMLE. Learn about student perceptions of INSIGHTS and finally, give an update on future enhancements planned for INSIGHTS.

Let's get started. Kristen, we'll start with you. Would you give us a brief introduction about medical education learning specialists for those who may not know?

Kristen: I'd be happy to. Thank you so much for having us here today, myself and my colleagues representing the medical education learning specialists.

*On-screen:* [Introduction of medical education learning specialists (MELS) group.]

I want to give you a little bit of background to understand how MELS came about.

*On-screen:* [The Liaison Committee on Medical Education requires that medical schools: have an effective system of academic advising in place for medical students that integrates the efforts of faculty members, course and clerkship directors, and student affairs staff with its counseling and tutorial services... LCME Standard 11.1.

Our non-profit organization is a community of professionals with academic backgrounds including cognitive and educational psychology and who focus on helping medical students become effective and efficient self-directed, life-long learners.]

The Liaison Committee on Medical Education, the LCMA, and the Commission on Osteopathic College Accreditation require that degree-granting programs, the MD and the DO degree, provide academic support for students. And how it's done really can vary, but the LCME, for example, requires that all schools have an effective system of academic advising in place for medical students that integrate the efforts of faculty members, course and clerkship directors and student affairs staff with this counseling and tutorial service. And like I said, how each school fulfills that mission can really vary.

So our organization of MELS really arose from that need to pull together all the professionals that work in this capacity. And really we come from a wide range of backgrounds, and it can include something like cognitive psychology or educational psychology, but our overarching goal is to support students in their journey to becoming physicians. And the way that we do that is really to help guide students to become self-directed learners through the most efficient and effective ways of learning that they can take with them and become lifelong learners.

Amy: NBME offers self-assessments to help medical students assess their readiness for upcoming exams. They've mostly been used in summative ways.

So let me ask you this, Kristen. How does the launch of INSIGHTS affect the way NBME self-assessments are used at your school, for example?

Kristen: That's a great question. In our community, we really like to talk to students about the difference between assessment of learning and assessment for learning.

So that summative way that you're talking about is the assessment of learning. So I've studied and I take an NBME assessment and I see what's my score. Now, traditionally, before we can get into the nitty gritty, we had those bars. Students could see general categories and sometimes they would get, you know, a little overwhelmed with this just one number and not knowing for sure, well, where are my errors? And, you know, they might not want to continue doing practice questions.

So the assessment for learning, we can now use INSIGHTS in a way that students really see the value in doing practice frequently after studying for periods of time so that they know what content to work on, what tasks to work on. And it just I think promotes good learning.

Adeste: And I think to add to that, the average EPC or equated percent correct also gives them an idea of where are they at in comparison to where people are nationally and on average. Gives them an idea of how further behind or how close they are to hitting that average or even surpassing that average. And I think that that's a lot clearer now than versus when we had the bar graphs that students used to look at.

Amy: Okay. Anybody else have anything else they want to add to that?

Shavonia: Yeah, I think it also helps students take charge a little bit more of their learning as well and feel more part of the process, that they can be at home and also do some data interpretation on their own once they get comfortable with how to use the system. And I think that ownership of their learning also really helps during this process as well.

Amy: I've got a two-part question here. Kiely, I'd like to ask you, what challenges have you faced in helping your students learn and develop based on assessment results? And if you could follow that up with how does INSIGHTS help you help your students?

Kiely: Sure. I'd be happy to. The biggest challenge that I think all of us faced, and the students as well was taking those scores and translating that into an actionable step for improvement. They focused so heavily on just the overall equated percent correct after taking a self-assessment, and sometimes would scan for weaknesses, but would see those and wonder what to do with it.

So, for example, on the basic science self-assessments, there are pretty broad categories on a feedback form. We have respiratory and renal lumped together as one category. You'll also see reproductive and endocrine lumped together.

So if a student is weak in one of those areas, they start to wonder how to correct that. They're working under time constraints. They might only have two or three weeks left to study and it might not make sense to pour a ton of time into just trying to, you know, hone in on an entire system. It's just not the best use of their time.

The other thing that happens is it causes a lot of stress and anxiety. So particularly for the lower performers, they might look at a feedback form and see just low performance compared to a comparison group almost across the board. So putting, you know, ourselves in that student's position, we understand that they just don't know where to go or how to improve.

*On-screen:* [NBME INSIGHTS webpage, My Exams tab.]

With the introduction of INSIGHTS, it addressed a lot of these challenges. Students can now go into their INSIGHTS dashboard and see all of their self-assessments, subject exams and CAS exams all in one place. So there's a sense of longitudinal progress or assessing how they've been doing over time.

*On-screen:* [INSIGHTS Question Details tab. All exams are selected, content topic is changed.]

It also allows for a finer assessment of strengths and weaknesses. So instead of just these broad categories, students can get in there. They can filter questions and start to see what exactly are they struggling with within that system.

It's also more efficient when it comes to reviewing questions. They no longer have to just go through question by question in the order that it was on their self-assessment. They can now look at just their incorrects or they might be able to jump to just the system they were struggling with and review all the questions from that system.

Amy: Okay. Thank you for that. Anybody have anything else they want to add to that?

Adeste: I think also the time spent on the question is also a new feature of INSIGHTS. And I think oftentimes we work with students and they'll tell us, "I ran out of time at the end. I had to guess on the last five questions."

Well, now with INSIGHTS, they can see the time that they were spending per question and then we can analyze that and strategize why are they spending too much time here or there? And it's really helpful to sort of give them that data to look at and reflect on.

Amy: Okay. Thank you.

Kristen: Yeah. I think as well it helps students to understand when they can review by a system or putting a system from one exam and put the other practice exams in at the same time to get a sense of, for a particular system, what are really the key concepts that are being tested here?

So instead of trying to, you know, take a shot in the dark, they now know, "Okay, here are the repeated themes and the content areas that really look like they're being stressed."

Shavonia: And you guys can probably all agree, like there's less places to hide. You know, my students would work really hard and get a low score and then when we were working through it, they'd say, "Oh, well, I only got a low score because there was so much endocrine on this exam," right? And then I can say, "Well, let's go to..." You know, before I didn't get to say this, but now I can say, "Let's go to INSIGHTS and see how much endocrine was on this exam," right?

And sometimes they get a little surprised because the areas, you know, when they're taking the exam, their perception tends to lend towards, "Well, I was weak in this area, so I'm seeing it pop up a lot." But with INSIGHTS now, we can actually see how much did it pop up and what was your score in this particular area versus this area.

So there's less places for students to hide, which is a good thing, because the more we can pinpoint what those areas of weakness are, we can turn those into correct points there. And that's what we want at the end of the day. So yeah.

Adeste: Absolutely.

Kiely: The identification can happen so much earlier now too. For schools that are implementing CAS exams and basic science subject exams, there are no surprises at the end. Students could get into that dashboard and start to assess for weaknesses much earlier. What we just discussed is finding out these weaknesses when you're already in a dedicated study period and not having a ton of time to improve them.

Shavonia: Yeah. Yeah.

Adeste: This truly is the difference-maker with INSIGHTS is that it's tied to the Step 1 content outline and they can see that. I think before when we used to just look at the reports, we would see which organ systems they were weak in and which disciplines they were weak in. But now it's tied directly to the Step 1 content outline and they can focus on those specific areas.

Amy: All right, we've talked about the challenges all of you have faced helping your students. We've talked about how INSIGHTS is helping you help your students. Let's get into some specifics, Shavonia. Let's talk about Step 1 and how INSIGHTS is helping you help your students with Step 1.

Shavonia: Absolutely, so I always start out telling students like, "Let's have some fun," right? Like, "Let's go into the system and let's look at your data." And I think sometimes when students first open up the INSIGHT tool, it looks a little scary to them, right?

So the first thing I always say is click around. You are not going to crash the system. You're not going to delete anything out of it. Click around to get comfortable with it. We want students to be comfortable. So then when we're not around or they're not with their learning specialist, they're not with a faculty member, they can go in and pull out the data pieces that they need.

So let's take a look and we're going to walk through a little bit about what we click on and, you know, from a learning specialist point of view, what we view as most important.

*On-screen:* [INSIGHTS Exam Results tab]

What we do is we start by selecting the Exam Results tab and then we look for Comprehensive Self-Assessment. After that, we're going to go to Exam Take. And if we just want to isolate one exam, we might look for the latest one. So for Step 1, that would be the comprehensive basic science self-assessment. And here is where you could look at one in isolation or you can look at multiple forms at the same time.

Now, we know from looking at this overall score report, this is where we notice that the reproductive and endocrine systems are together, and they are flagged as one of the content areas that needs a little attention. So when we're looking at this screen, the most important thing that we try to get across to students is that they can sort and filter. They can sort the columns and they can filter the data.

*On-screen:* [INSIGHTS Question details tab. Top of columns in table selected to sort.]

When we look at sorting, they can sort any of these columns on the screen in ascending or descending order. So I tell them, like, "Play around. Look for patterns within this. Within the sorting, what do you see? What do you notice?" And then we talk about, which we're going to get more into this, what we notice as learning specialists. But for students, you know, having them verbalize what they notice even within sorting is extremely helpful.

*On-screen:* [Correct and or incorrect, content topic, and content description are changed to filter table.]

The other thing you'll see on the right-hand side, we can filter. So we can filter by looking at correct questions or just incorrect questions or all, which can sometimes be helpful.

We can also filter by content topic. And I tell students, click that button and look at the content topics, play around and see what happens to the data and what do you notice from those overarching content topics? And then we can get even more detailed by clicking on content description. And this is where they can see different organ systems and different parts of the exam that do align with that Step 1 content outline.

We noticed from looking at the overall score report that repro and endocrine are together. And so this is where, you know, in the past, we kind of had to guess or, you know, make an educated guess about which one might be low. And now we can actually see it.

*On-screen:* [In content description, select all is unchecked, endo is typed and multiple results are selected, then repro is typed, and results are selected either with M for male or F for female.]

So when you click on content description, what we tell students is first to click off select all so that way nothing is selected. And then from there they can type in endocrine. They can start typing it, and they'll notice as they start typing, it will automatically begin to filter for them.

Once they do that, they're going to select endocrine. And this is where they'll be able to see, "Okay, how many endocrine questions were actually on this exam? And then how many did I get right? How many did I get wrong?"

From there we can also see were they actually struggling in foundational knowledge or were they struggling within diagnosing? And that also allows us to help a student make a plan.

Maybe the endocrine-related questions were correct, so we're done with endocrine. Now we want to go over and look at, we can look at female and male together or we can isolate female and male separately.



So these are some of the ways that we look into this data for Step 1. There's also some really cool and unique ways that we can use this for Step 2. And I think Kristen, you do this a lot at Rutgers using it with your students, don't you?

Kristen: Yes, I love this feature and I love that when we moved into Step 2 and now because Step 1 is pass/fail, students are very concerned about really trying to work on getting a strong score for Step 2. So one of the things that we can do, in the very similar way that Shavonia clicked through the processes, same thing for Step 2.

*On-screen:* [INSIGHTS Question Details tab is open. Assessment type is set to self-assessments, exam type is comprehensive self-assessment, and for exam take, recent Comp Clin is selected.]

You start at the top, you would go to the Exam Results tab, the Comprehensive Self-Assessment. But now this time what we're going to select under Exam Take is comprehensive clinical self-assessment. And let's say we selected Form 10. So what we might do then, and again, for this particular student, we noticed that endocrine is one of the three flagged systems. What I like to do is once they've isolated endocrine, I then go back to that main box and I like them to sort by the physician task.

*On-screen:* [Isolating Physician Tasks.]

So I think it becomes very clear if they're struggling with diagnosis or what was the next step versus whether it's a lab question. And I think that also provides a lot of insight into what to study next. Oftentimes if one exam is not enough within a system, like Shavonia had mentioned, I would go back up to the top and say, "Well, let's take the last two self-assessments. And now let's again, sort for endocrine. And then within endocrine, let's sort by physician task. And see, is it clearly been the same pattern across the three exams?"

Adeste: Okay. Adeste, I saw you shaking your head. Anything you want to contribute?

Adeste: I think too, sometimes students are often focused only on the content areas. And like Kristen was talking about, looking at the physician task is just as important. And so I'll have students filter by physician tasks as well. When I'm reviewing questions with them, I find that they aren't answering the question that's being asked by that physician task. They're answering the question in their head.

So as an example, mixed management is a physician task. The question asks for what is the next best step in management? Well, the student was answering that question,

but the question was asking for preventative measures because it was actually a health prevention physician task and not a next step in management. And so they picked no intervention needed as their answer choice because they were answering what they thought the question was asking and not the question themselves. And so I'll have students filter by physician task and even just read through each question and I'll tell them, "Notice how the NBME is setting up. What words are they using? What questions are they asking? If you're paying attention to that, then you'll understand what are they asking you to do."

Amy: Kiely, anything to add?

Kiely: All of us now that we have this at our fingertips, I think we look back and just wonder, "How did we do this before we were able to get in there and filter and sort by those questions?" So it has been helpful and just listening to everyone talk about how they're using it. We're kind of getting students to the point where they're just able to do this on their own as well.

Amy: That's great. Kiely, let me start with you. With the use of INSIGHTS, how can students maximize their study for their subject exams, Step 1 or Step 2? What are you recommending to your students?

Kiely: Well, we recommend that all students use the INSIGHTS tool. And we've talked a lot about how it's used for preparation for board exams, but this is beyond just performing on board exams. Students can really get to the point that they are directing their own learning.

So if they're using the tool and constantly assessing for strengths and weaknesses, they'll not only perform well on board exams, but go into the residency feeling really prepared.

*On-screen:* [INSIGHTS Exam Results tab. The score interpretation, and Physician Task, System, and discipline tables are shown for both higher and lower results.]

With high-performing students, the tool is important. It's all about efficiency. So if somebody is already doing really well, it doesn't make sense for them to do broad review of an entire system or content topic. They need to use the tool to really refine that and find out much smaller areas of concern for them to address. It might feel good to review things they're already good at, but it's not a good use of their time.

For students that are at risk of not doing well on board exams, we probably work a little closer in terms of helping them find out where they really need to spend their time. We talked a little bit about the time constraints and how that can cause quite a bit of stress and anxiety for students performing on the lower end.

So these flags that we've mentioned a few times now, that's showing students these are areas that are large parts of the test and areas you're performing below the cohort that's used as the comparison group. It really has been helpful for us to tell students, "Don't worry about every content area right now. We're going to slowly address those issues. Let's start with the flagged areas, work on those and those will improve. Next time you take a practice test, maybe you have three new areas. Those have improved, but we have something new to focus on." And it really has made the goals just more manageable for these students.

Amy: Shavonia, do you practice the same process?

Shavonia: Absolutely. Yes. And one of the things I want to add to what Kiely said, we're looking for patterns, right? Sometimes students get bogged down of, "Well, I did this one thing wrong." And no one's percent correct is impacted by just one thing. What we normally find is it's multiple things, right?

*On-screen:* [INSIGHTS Results Comparison tab open. An exam is selected, and all takes are selected. Content area trends are viewed, and the filters are changed.]

And so we're looking for patterns. We're looking for patterns within the physician tasks. We're looking for patterns within topics. So what were their strengths? What were their weaknesses? And sometimes when students are coming and they're meeting with us, a lot of the topic of conversation can be focused on weaknesses, but I also like to be like, "Look at all these green check marks you got, right?" And I talk about, I'm like, "Wow, what were you thinking during this string? What was going on there?" Like, "Yeah, I really did feel good when I was answering those questions, right? So we also can use this to really build students up, right? And I think seeing it on one screen sometimes is more impactful than when it was on separate screens before.

We also look for high-yield areas because it's usually the higher-yield areas where students are like, "Oh, that wasn't my favorite topic." And I'm like, "Well, it's going to be now because we're going to work on it." And you can turn it from a weakness into a strength.

Not just the content, right? The other thing is really about their test taking.

*On-screen:* [INSIGHTS Question Details tab is open. The table is set to sort by ascending.]

So the other thing that I do is that's what I use the sort feature for a lot because I want to see how did you start and how did you finish, right? Sometimes students, it takes them a while to warm up, right? So I see like question 1 through 10. I'm like, "Ooh, we only got two right from question 1 through 10." So I was like, "How was it when you first sat down?" And they might have been shell shocked, they were nervous. They thought about the weight of what this meant. And so we work on how can we sit down and kind of calm down from the beginning?

And then I look at the end of the exam. Were you starting to run out of steam? Your stamina started to get low. What do we need to do about that? How were your breaks? So the patterns within that becomes extremely important.

*On-screen:* [INSIGHTS Question Details tab is open. Assessment Type is Subject Examinations, Exam Type is Subject Exams, and all takes are selected. The filter is changed to show incorrect only.]

Also, when you look at, for some of the different areas, like for the subject exams, like the national percent correct, what were some of those national percent corrects and did you get them wrong? Let's say, you know, there was 90% of people who have taken this exam for one of the subjects, I mean, taken, answered that question for one of the subject exams got it right. I'm going to be like, "Ooh, I think we started to overthink a little bit here, right?" And students are like, "Oh yeah, I do remember. I kind of got into an overthinking pattern and then it just continued and continued and continued."

So we can go back and we can make a plan with them. How do we get out of some of that routine that students can definitely easily pick up when they're in a, you know, what they're perceiving to be a stressful kind of environment.

Amy: Adeste, anything to add here?

Adeste: Yeah, just going off of your conversation about identifying patterns. This past Step 2 season with INSIGHTS, I just had an epiphany and I was working with a student and I saw they were weak in a certain subject, organ system, let's say. So I said, "Hey, let's go back to your practice self-exams." And we went through all of their past ones and I looked for that same content, that same subject. I think this time it was endocrine and it was thyroid disorders. And then sure enough, across all of their practice self-exams, that same content topic was a sore spot consistently and throughout.

*On-screen:* [Longitudinal Opportunities: Clinical Science Subject Exams and USMLE Step 2CK.]

And so we can now see that longitudinally. It's really interesting because these practice tests are only 50 questions. So you don't notice that I got two questions wrong here out of 50, but now when you're seeing that across all practice question tests that they've ever taken, it starts to show the pattern that it's more apparent.

So even with where INSIGHTS is going, now that they're starting to have INSIGHTS for the NBME customized assessment services exams, the NBME CAS, I can't imagine how that's going to help inform what patterns are there for students in preparation for Step 1. It's going to be a game changer.

Amy: Kristen, how about you?

Kristen: So I think with everything that's been said, I think an important consideration is also still using the official score report that students get first.

*On-screen:* [Graph of Total CCSSA Score.]

I really like using the graphs and the visuals that are found at the end of whenever they take a self-assessment.

*On-screen:* [Graphs of Sample Content Area Performance.]

And so you can pair that, the graphs and the visuals, to really look for patterns that you can then pair with the INSIGHTS tool to get at the granular.

*On-screen:* [Graphs of different organ systems.]

So, for example, if you look at any particular organ system, let's say cardiovascular, you may notice that over several self-assessment takes, the student has been really climbing for each one, but they're not really at the passing rate yet. And so you'll want to really encourage them to keep going because you know there's more there, as opposed to an organ system where maybe you've stayed consistently along the top and you're just bumping up and down a little bit. And so our advice would then be to, you know, work on your space repetition, really just hone in on those details, but you have the basic understanding.

And then you'll see some systems where they might shoot up very quickly and then slowly deteriorate over time. Again, more related to forgetting, but knowing that they did

understand it at one point so that they can bring that score back up as they're working on other organ systems at the same time.

Amy: I'm going to ask each of you, what feature of INSIGHTS do you find valuable?  
Kiely, I'll start with you.

Kiely: I really like that the flagged content areas are available for students, particularly in the case where a student might be struggling to get to a place where they feel confident they're going to pass Step 1.

*On-screen:* [INSIGHTS exam results tab open with system and discipline tables showing flags.]

It used to feel a little helpless looking at a score report that has many weak areas and it was hard to know how to advise students about where to even start. So those flagged content areas have made just my approach feel more purposeful or more intentional with those students to just break it down, make it more manageable for them to focus on three things before even taking another practice test.

Amy: Shavonia?

Shavonia: Yeah, one of the features that I've been using is just doing a lot with filtering and sorting, particularly if I have a student who takes a self-assessment and the percent correct is extremely low.

*On-screen:* [INSIGHTS question details tab open with self-assessments for assessment type, all exam types, and two takes selected. Columns in table are sorted and filtered.]

If I had a student who let's say got a 32% on their self-assessment, I would probably recommend for them not to review it with the question, actual questions, but we can take a look at their data overall and we can use the sorting and the filtering and look at overarching areas and say, "Why don't we go back and study these areas that were low some more?"

And then I actually have them take that exact same exam again, not so much for their percent correct. I'm really interested in did we get questions wrong before and now we got them right again? It's really been helpful just to go in there and be able to filter and they can select that exact same exam twice and we can compare apples to apples.

So we're not necessarily using it to make any date determination about, "Oh yeah, you're ready to sit," but it's more of an exercise when you have a student who's scoring

really, really low to actually help them understand, like, "You can improve, it can go up," and we can also save some of those other exams for the future as well.

Kristen: Okay. Kristen.

Kristen: So my very favorite feature I kind of stumbled upon by accident. So in the preset filters, there are the categories that you would normally see on the score report. However, what I realized is you don't have to only use those words to search for. So, for example, the word neoplasm appears in multiple systems. And so one thing students sometimes struggle with is integrating all of the information they need to know for Step 1, Step 2.

*On-screen:* [INSIGHTS Question Details tab is open, neo is typed in filter.]

So instead of looking at it in isolation, you can now look at themes across each of these systems. So neoplasm is one of the keywords I have them type in. I've also found congenital disorders, traumatic and mechanical disorders, and I'm sure there's more, but really helpful in determining something that's outside of what the traditional score report had.

Amy: Okay. Adeste.

Adeste: I think one of my favorite features that I find very valuable is the time column, which tells us how much time is spent on each question. I think students take an assessment and they always attribute their incorrects to content deficits and they think that it's always knowledge that is the issue at play.

*On-screen:* [Question Details tab table is sorted by time ascending, and descending.]

And so I'll look at time with them. I'll do highest to lowest and I'll say, "Wow, you did 20 questions and spent over 260 seconds. Why?" Yeah. And then let's look at how many of those did we actually get wrong? And I'll tell them, you know, "One question isn't going to make or break your score." Then we'll flip it and then I'll look at, well, how many questions did they spend under 30 seconds?

And more specifically, we'll look at the incorrects. And then when we review those questions, I'm like, "If you just gave it an extra 20 seconds, an extra 30 seconds, how many more of these questions would we have gotten correct?" So that time column is so powerful for them to sort of recognize that they might be sitting on a question too long. They might be overconfident on another question and it just needed a little bit

more time to think through what is the question asking, what are the clues? So that's one of my favorite features.

*On-screen:* [Export testing data. Table menu is selected, followed by Export to Excel.]

The second one is that the datas, you can export it. You can export it to Excel or CSV. And I find this really helpful because as learning specialists or as faculty and staff, we don't have access to students' INSIGHTS unless they're in a meeting with us and we have them pull it up.

So one thing I started to do with my students that are in clerkships is I'll have them export their practice test data, put it in a Google Sheet or an Excel sheet and send it to me so then I can look at the data, analyze it, look for patterns and then sort of give them feedback that way.

Amy: Then let me ask you what you're hearing from your students about INSIGHTS.

Kristen: Wow, this is such a great tool that we've all really gotten so much out of as learning specialists. But when the students finally get in there and start working with it, they're like kids in the candy store. They are so excited. It takes a little bit to, you know, encourage them, just open it up and try. But when they do, they are just so encouraged by their ability to identify their weak points, to be able to recognize patterns in the behavior, and really just to take ownership over their learning and really be the self-directed learners like we've taught them to be.

The other thing that we're also hearing is that it's so nice to have all of their self-assessments, their subject exam, and their customized assessments all in one spot. So they can go back, refer to things, look for those patterns and know where everything is instead of going through emails for one individual score report.

Amy: Okay. Kevin, I'm really happy you're here with us today. We'd love to hear about future enhancements planned for INSIGHTS.

Kevin: Thank you, Amy. It's been a pleasure meeting with you all and hearing all your wonderful stories about how you and your students are utilizing INSIGHTS. NBME is continuously looking for ways to enhance this tool based on the feedback from students, learning specialists and other faculty members at medical schools. This feedback drives our prioritization of improvements based on critical needs that could be met with releases that are aligned at times that will be helpful and non-disruptive. Also, we want



those releases to be in a regular cadence as is common with other software experiences.

Now, we've also received direct feedback from the MELS Group that they're looking for a better way to instruct students and learn themselves about the ins and outs of INSIGHTS. So we're happy to announce that we are working on an interactive demo version of INSIGHTS to release as soon as possible, along with other releases to help our users understand and learn more about the INSIGHTS experience, even if they do not have direct access to INSIGHTS themselves. The demo will include sample material from multiple NBME exams to serve as a resource for those who want to explore INSIGHTS and to use it more effectively with their students.

NBME is also continuing to explore data opportunities, both for the student experience of INSIGHTS and eventually for schools. We are conducting exploration now and in the near term to ensure NBME can assist schools and faculty with their various needs.

Amy: That's very exciting. Thank you, Kevin.

Kevin: Thank you.

Amy: Thank you so much to all of you. We've come to the end of the video portion of our webinar. Now we'll transition to the Q&A where we'll answer questions from the audience.

*On-screen:* [NBME. Copyright 2024 NBME. All Rights Reserved.]

Amy: All right, welcome back, everyone. We hope you got some interesting ideas to use with your students. We've got questions rolling in, so let's jump right into the Q&A.

Kevin, I've got one for you right out of the gate. Can faculty have access to their students' INSIGHTS data?

Kevin: Thanks, Amy. Yes, this is actually a very common question, so I hope to provide some clarity. Only students can access INSIGHTS, but we encourage students to share their INSIGHTS views with faculty and staff, either in person or via online conference software like Zoom, Microsoft Teams, and Webex. Students can also export tables from INSIGHTS in either a CSV or Excel format to share with others.

Amy: I have a follow-up question for you, Kevin. This question says, "Our school provides our students with vouchers for two CCSSAs and we give them one CCSE. Would these three exam results, plus the remaining CCSSAs that they purchase themselves, show up in INSIGHTS?"

Kevin: Yes, they will. Currently, INSIGHTS is able to populate all of the assessments mentioned there, including the Comprehensive Clinical Science Self-Assessment and the Comprehensive Clinical Science Subject Exams. Thank you.

Amy: All right. We'll move on to some other questions. Here's one. How can students identify specific areas that need to be addressed in content areas that have plateaued?

Kiely: I'm happy to answer that one. If content areas have plateaued, we'd recommend more thoughtful review of questions within those self-assessments. So in this situation, a student can pull up all of their self-assessments and then start filtering the questions. So they may have had four self-assessments. They can filter for the content area that has plateaued and review those questions. So it's not just going to be the most recent assessment. They'll be able to see all the questions from the previous assessments and review those together.

If things continue to plateau, it could also be a sign that their study strategy or maybe a resource that they're using isn't working. In that case, we'd recommend that they might reach out to a learning specialist for additional help.

Amy: Okay. Thanks, Kiely. Let me just quickly jump back to Kevin. Asking about this tool, Kevin, is it available for Step 2 and Step 3 practice exams?

Kevin: Yes, it is.

Amy: So for all exams. Okay. Let's move on to the next question. What specific recommendations do you offer your students regarding how to use INSIGHTS data effectively when preparing for USMLE and subject exams?

Adeste: I can go ahead and give a crack at that one. We talked a lot in the video, and Kiely talked about it as well in terms of identifying patterns, but I think one of the great things about INSIGHTS is that it lets students get really granular. And so they realize their cardiology is low. What subtopic in cardio are you missing a lot? Maybe it's ischemic heart disease. And then you can even find out, well, maybe it's the diagnosis physician test type questions, and so you can specifically work on pinpointing very, very specific areas that you have content deficiencies in.

I think another great thing with INSIGHTS, especially on the self-assessments when I'm working with students preparing for these exams is their ability to review the questions directly. And so when they're able to do that, a lot of times I'll have them look at the question, especially if it's a diagnosis type question, and then ask them to figure out

what are the key differentials between the answer they chose and the correct answer? And then even ask them to then use that knowledge with the explanations that are literally in the PDF question that they are able to review and come up with a question stem that would then make their incorrect answer the correct answer.

So there's just a lot of different things that you can do with INSIGHTS to use that to prepare for their exam.

And I have one more really quick tip to share. So one thing I did recently was I took a student's most recent self-assessment. I saw the areas that they were deficient in from organ system to content description to physician task. And then I went into the NBME customized assessment services and created a practice test that they could take on their own. And I populated that 40-question test with all the things that the student was weak in in their previous assessments that I saw on INSIGHTS. And then I had them take that in preparation for their next CBSC and in preparation for Step 1.

So there's a lot of cool things that you can just do with data and datas from INSIGHTS.

Amy: That's really helpful, Adeste. Thank you for that. All right, Kevin, I'm coming back to you. Is there an interactive demo version of INSIGHTS that can be used to teach students and faculty about INSIGHTS without having to pull someone's scores?

Kevin: Thank you, Amy. Another common question. I mentioned this at the end of the video, but we do recognize this need and we're currently working on a demo version of INSIGHTS that mimics the live experience. While we don't have a definitive launch date yet, we do hope to launch this soon.

I also want to add one clarifying point to the previous question that was submitted to me regarding practice exams. If we're speaking about the practice exams that are publicly available on the NBME website, those are not included in INSIGHTS. These are general public questions, but all self-assessments or any voucher exams that a student may have, or if they use a voucher to complete a self-assessment, those are included. When people talk about practice exams, it sometimes gets confused there, so I just wanted to make sure I added that clarity.

Amy: Yeah, that clarification is helpful, Kevin. Thank you for that. All right, here's one. How can we promote the culture of assessment for learning rather than assessment for marks among students? Who would like to take that one?

Kristen: I can answer that. I talked about that a little bit in the video. And I think we could actually have a whole webinar just on this topic.

One thing that comes to mind though is the importance of student buy-in for formative assessment. Taking every opportunity to prepare as if they were taking a test to be able to get feedback on their progress and approach without the concern of the grade. When preparing for board exams, I think students often mistake the formative nature of practice assessments and miss all the great ways to modify their study strategies that were discussed today because they're so driven by the need to get the number that they have in their minds. I think sometimes reminding students to continue to have curiosity, to enjoy the learning process and focus on the long-term goals of integrating this information for use in their clerkships and beyond into their careers as physicians. And also to remind them to not feel judged by their score, but really truly to accept it as a formative assessment.

Amy: That's really helpful. Perfect. Thank you for that. All right, we have another one for the panelists. How can INSIGHTS be used by faculty to improve quality of teaching and provide feedback for students?

Kiely: Yeah, I'm happy to jump back in. I think this is a great question for faculty that are participating in this and may not be in a learning specialist role like those of us here today.

First, I think just encouraging students to use it is helpful. This is a relatively new tool and it just takes a little while for students to get in the routine of incorporating it into their learning.

Next, as faculty, you can ask students to share their INSIGHTS dashboard with you, whether you're one-on-one in person or scheduling something over Zoom or Teams. Having them show you the dashboard, you can ask them to filter questions that are in the content area that you teach so you can start to get a feel for the questions they're being asked. We have experience with some brave faculty that take self-assessments on their own, which may not be a fun experience, but will also give you a good idea of the types of questions students are seeing in the area that you teach.

So I think the last thing, and this one, you know, might be a little more challenging is this could involve a larger discussion at your school about whether or not to incorporate more NBME CAS exams and subject exams, particularly in the preclinical years. That way students have more data in there. So I know a lot of schools at this point have

started to incorporate a cumulative NBME exam at around the midpoint of their preclinical curriculum. This would allow students to identify strengths and weaknesses much earlier and it could allow them to even adjust their studying moving forward for the remainder of their courses.

Amy: Very helpful. Thanks, Kiely. All right, here's one. How can we support medical students with disabilities? Anybody want to grab that one?

Shavonia: Yeah, that's a great question. I can grab that one. And I know this is something that happens at every school, no matter where you're at. And so I think for students that are currently receiving accommodations or they're neurodivergent, this is where the details that are provided in INSIGHTS become so important.

And there are several things that I do with my own students where I really spend some time looking at different categories in terms of examining their time spent per question. And we use a lot of the sorting feature and we mix and match things. So we use sort and filter is going to be your best friend when you're working with a student who might have some learning challenges.

I also look at, for the times that they've taken like a practice exam, how did they start and how did they finish? And I think I mentioned this on the video, which is really important because sometimes these students, it might take them a little longer to warm up, to be comfortable with what they're doing as they're sitting there.

And I also will take a look at like the national percent correct, where appropriate, for the exams in there because that will tell me if they're missing questions that a large majority of students in the nation are getting correct. Then that tells me okay, what were we missing? And this is where we need to go back to their studying, right?

And so what you're seeing in INSIGHTS tells one half of the story, but it also informs the other half of what are they actually doing when they're sitting down to study? And I think that's what makes it such a powerful tool is because you can have conversations, you can use the data that's in the INSIGHTS tool to have these conversations about what are they doing when they're actually sitting down to study, right? Are they focused more on the big picture, the small details? Are they doing more memorization? Are they practicing applying? Are they doing enough practice questions? And for students who have learning differences, they might need to be doing a bit more, right? More practice questions.

Even outside of that, I know we get a lot of questions through MELS in terms of English as a second language. And so again, that's probably where we need to be doing more practice questions, more practice exams, more memorization. Making sure these students are being put in situations where they can practice and they can practice under test conditions is going to be so important.

So that's just some of the ways that I use that with my students who have learning differences.

Amy: I think that resonates with a lot of people here. Thank you, Shavonia for that. Let's move on. What have been some of the challenges associated with using assessment results to support students' academic growth? Kristen, do you want to take that one?

Kristen: Sure, since we're going back to assessment again. So this is another great assessment question. I think one challenge in using assessment results is that results on individual assessments provide information on short-term learning, but don't necessarily encourage best practices for long-term learning. And we can see this when some of the very same students who do okay course by course struggle to complete Step 1 in a timely manner.

One strategy we've implemented at our school, like Kiely was saying, is to move a customized assessment exam earlier into the curriculum. And I think for the struggling student, this has helped us to monitor their progress after just a few courses and encourages early integration of multiple systems. So at our school, we're now using two CAS exams until students are ready to take a full comprehensive exam like the CBSE. And now all of these results are in INSIGHTS.

So I'm really looking forward to using INSIGHTS to be able to look across these exams and further support students' academic growth.

Amy: All right, thank you for that. All right, here is one regarding Step 1. Since Step 1 has gone pass/fail, we've noticed a decrease in the number of students passing. As we try to understand the reasons for this, how can we help offset this? Who wants to take that one?

Shavonia: Yeah. I could take that one.

Amy: Okay.

Shavonia: Yeah, so again, this is another issue that we're dealing with nationally. So if you're listening to this, you are not alone. All schools are dealing with this. And I think

one of the things that I've noticed, I've been a learning specialist for 11 years, and one of the thing I noticed is when Step 1 was scored, we would nitpick. We would nitpick to find students more points as best we could. We didn't have the INSIGHTS tool then, but we would do that as best we could in terms of helping them raise their score.

Once it went pass/fail, I think some students, they've taken their foot off the gas a bit, and sometimes maybe even at the institutions we've taken our foot off the gas a little bit. And so even though it's pass/fail, we have to continue to go deep into the data. We have to, right? Not just the data that you're collecting from your school or like the class as a whole, but truly the individual data.

And this goes back to some of the themes that we've been talking about today, how students might feel a little intimidated to go into the INSIGHTS tool. So first we have to make sure they're trained on how to use this, right? And I know that right now, you know, we're all looking forward to the sandbox, but we don't have it now, but we still have to make sure students are trained on how to use INSIGHTS.

And I think I said this in the video, encourage them to go in and play around. They're not going to break anything. It's unbreakable at the level they're using it at. But we have to encourage them to take ownership of their learning.

And even though they're trying to get a P, we have to move away from the P and actually look under the surface that how is learning occurring, right? And number one, is it occurring, right? And then how is that being actually facilitated? And it has to even go beyond, "What did I get right? What did I get wrong?" I started to notice at my own school with the students that I work with, they're pulling... You know, they get the report and they see what their percent correct is and they're like, "Okay." And then they go through the questions. But I sometimes don't find there's a lot of reflection because they're cutting corners, they're trying to get it done. Like, "Did you review your practice exam?" "Yeah, I reviewed it." I'm like, "Oh no, we're not done. There's a lot more that I want to know. I really want to dive deep."

And we have to have these conversations with students, but we have to set the stage very early that this is what really needs to happen. So there's a lot of students cutting corners, make sure your students are not cutting corners. That will help offset the problem. Where are patterns within memorization, within an application? If you're seeing on the score report, there's several categories that are grouped together, ungroup

things, right? Like, we really got to get to the heart of where some of those points are actually going.

And also making sure they're taking enough practice exams. I also noticed that students, you know, they're sometimes wanting to say, "Okay, well, my friend took two. I was only going to take two." You know, even if you have students that, you know, I recently discovered there was a student who said, "I didn't have enough money to take more." And I'm like, "Oh, that's a fixable problem." We have vouchers that the school have purchased to help facilitate that." We have to feed the INSIGHTS tool.

And I think Kristen was just talking about, we have to feed the tool to have enough data in there to be able to extract this and begin to fix these issues. The patterns are there, but are we finding those patterns? You know, are we facilitating that? And then are we encouraging students to find those patterns themselves? So that's some of the things that we've definitely done. And I know Adeste does also some similar stuff and maybe some different things too.

Amy: Yeah. Adeste, we have about one minute.

Adeste: Just a quick add. Really encourage students to see the learning specialists. We talk a lot about identifying patterns, but I also tell students, "Let's go over your INSIGHTS together. Let's go over your reports," because we as learning specialists see much more and infer much more with the data than students would when it's the first time that they're exploring what those patterns even might be. So that was the last thing I was going to add.

Amy: All right, we have so many questions that we weren't able to get to. We are going to put a document together along with this video and we will send it out to everybody that's registered.

So I really want to extend a sincere thank you to our panelists for sharing their strategies. We're excited. We're so excited that INSIGHTS is not only benefiting students directly, but also empowering learning specialists to support their students more effectively. We hope you found this helpful, especially those navigating similar challenges.

As I mentioned, we will be contacting all of you with the questions that weren't answered and the video. And if you have any additional questions, you can reach us at [nbmeoutreach@nbme.org](mailto:nbmeoutreach@nbme.org). You're going to see a survey that's popping up on your



screen when we close out of this webinar, and we would really appreciate your feedback.

Thank you so much for your time and your participation today. And we'll say bye for now.

*On-screen:* [NBME, Copyright 2024, All Rights Reserved.]