Dead Ideas in Teaching and Learning Podcast Series
Season 2, Episode 1: Assessment *For* and *As* Learning
Center for Teaching and Learning, Columbia University

Catherine Ross (00:00):

Hello, and welcome to Dead Ideas in Teaching and Learning, a higher education podcast from the Center for Teaching and Learning at Columbia. I'm Catherine Ross, the center's Executive Director. Let's get started. I'm speaking remotely today with Drs. Aubrey Swan Sein and Yoni Amiel.

Catherine Ross (00:28):

Dr. Aubrey Swan Sein is the Director of the Center for Education Research and Evaluation at Columbia University Vagelos College of Physicians and Surgeons. She is an Assistant Professor of Educational Assessment in Dental Medicine and Pediatrics at Columbia University Medical Center, and is an educational psychologist by training.

Catherine Ross (00:49):

Dr. Jonathan Amiel also known as Yoni is an Associate Professor of Psychiatry at Columbia University Medical Center, Senior Associate Dean for Curricular Affairs, and interim Co-Vice Dean for Education at Columbia University Vagelos College of Physicians and Surgeons. He is also an attending psychiatrist at the New York State Psychiatric Institute and New York Presbyterian Hospital. Welcome Yoni and Aubrie. I really am happy to have you here today in our Dead Ideas podcast.

Yoni Amiel (01:23):

Thanks [crosstalk 00:01:23]

Aubrie Swan Sein (01:23):

Thank you.

Catherine Ross (01:24):

Before we get started, just a quick reminder for our listeners. In this podcast series, we are exploring dead ideas in teaching and learning. In other words, ideas that are widely believed, though not true, and that drive many systems and behaviors in connection to teaching, exercising what Diane Pike called the tyranny of debt ideas.

Catherine Ross (01:47):

Let me set the stage a bit for all of you listening to us today. A few years ago, the College of Physicians and Surgeons at Columbia University made some pretty major changes to how curriculum and assessment are structured for the medical students. These changes pushed against some pretty major dead ideas, some dead ideas like that grades somehow motivate learning or that you can't trust students not to cheat, or that high-stakes testing is really the only way or the best way to assess learning in the medical school context.

Catherine Ross (02:27):

The reason I wanted to talk with Yoni and Aubrey today is to explore how they pushed against some of these dead ideas in the changes that they've made since 2007. I will let them walk you through some of these changes so I won't detail them here for you. Here we are in 2020 now, and I'm wondering with all the changes that you've made, what do you think is the purpose of assessment?

Catherine Ross (02:59):
Clearly it is a dead idea that the purpose of assessment is simply to rank and sort students, obviously you've moved past that. So, what would you say is the purpose of assessment now in the medical school?

Yoni Amiel (03:14):
Thanks so much, Catherine. And this is a place where I'd say that we're in conflict. In some ways the idea that assessment is to rank and sort students is a dead idea. In some ways it's kind of a zombie, a dead idea that keeps on walking around. And I would say that in different parts of our curriculum, that idea has been put to rest and in other parts of our curriculum, it is still walking around.

Yoni Amiel (03:44):
When I think about it, especially early in our curriculum in the first year and a half, which is the more classroom-based portion, what we've tried to do is really embraced the idea that we're educating professionals and that rather than assessment telling us how much someone knows or doesn't know, we ought to be focusing on what they can or can't do, and whether they're ready for the role they're going to be serving in their next stage of training.

Yoni Amiel (04:14):
And in order to do that, one really has to shift their thinking about how to build a competency-based framework for education, and in medical education this is really informed by some of our Canadian colleagues. The idea behind competency-based medical education is, first you look at the outcomes, right? What are you trying to accomplish? And then in a orderly way, you sequence competencies throughout your curriculum.

Yoni Amiel (04:43):
You try to ensure that learning experiences are aligned to those competencies, that the teaching is tailored to those competencies and then that you assess in a programmatic way that can give you coherent data about where learners are and when they may be ready to advance into the next stage. I would say that those are the ideal components and we strive for the ideal, but we're not quite there.

Catherine Ross (05:09):
That's really interesting. I love the zombie idea. That's another great metaphor.

Yoni Amiel (05:16):
That's a metaphor that was coined by Jason Frank, who is one of our colleagues from Canada as well.

Catherine Ross (05:21):
That's great. We thank him for that. I'm wondering, I know one of the other big changes that was made pretty early on was a change to pass/fail grading, was there's some dead idea about grading or a zombie

idea of our grading that you were going after with that? And it's related, I guess, also to your competency-based curriculum.

Yoni Amiel (05:49):

Yeah. I think a lot of this relates to the idea that A, the educational programs should be based around helping people to advance rather than ranking and sorting them, and B that the process of learning is a social process and how one learns, how one becomes a professional may be as important as what one learns and what they know, what they're able to do.

Yoni Amiel (06:21):

And I think a lot about stories we heard actually from some of our alums, from a couple named Dick and Sylvia Cruess, and early in their career, what they were focusing on in medical education was really trying to take a look at professionalism and what it means for a student to be professional and really what it means for a student to be unprofessional.

Yoni Amiel (06:46):

And they were, in a somewhat concrete way, and even they'll say that they were somewhat concrete thinking about what are the behaviors that are necessary for the profession? Does someone have integrity? Is someone reliable? And what does it mean when there are lapses in their professionalism.

Yoni Amiel (07:05):

Over time, as they were thinking about these aspects of professionalism and realizing that they really occur in a social or ecological model, they grew to thinking about this more as a process and they called the process Professional Identity Formation. And that model really takes us through learning in which one internalizes professional attributes through a series of conflicts and negotiations, right?

Yoni Amiel (07:33):

When you come into medical school, you're not a physician yet, but you're learning with physicians and you're seeing what they value, what they see as important and meaningful in the identity of a doctor, and then comparing it with your pre-physicianly identity. And sometimes those align really well and other times it's kind of hard, right?

Yoni Amiel (07:56):

The medical school isn't like college, it's different and one expects the way that you complete assignments to echo in some ways how you're going to be responsible to your patients. That's really different from college and so through a series of successes and through a series of failures one takes in that identity. And how does that relate to grading?

Yoni Amiel (08:26):

When we think about the conflicts that we actually line up in an educational program, they facilitate these kinds of conflicts, right? There's a lot to do in medical school, a lot of facts to learn, a lot of skills to develop, a lot of collaboration that one needs to be able to manage and maintain.

Yoni Amiel (08:46):

And rather than at each point telling a learner, "You achieved 92% of what you were supposed to," really helping them reflect on what they were able to do well, what they had a hard time with and how they can grow from that can really help us to prepare them for life in the workplace and to take on more responsibility over time.

Catherine Ross (09:14):

Wow. That's really powerful stuff. Aubrie, I know in your role, you have taken these ideas and you're the one who's really developed how then you promote learning through the assessment with the medical students. So, I was wondering if you could walk us through some of the things you've done to promote learning.

Aubrie Swan Sein (09:40):

Sure. When I started working at the medical school, one of my roles was as a medical education learning specialist and one thing that I would do is I would meet with students who struggled on exams, or didn't feel confident in their ability to demonstrate this knowledge and this competence. And the students worked really hard at studying and learning, but sometimes they weren't successful.

Aubrie Swan Sein (10:10):

And so I started to think, "Well, I have tried to help the students to think about what they could do to improve their studying and learning strategies, not just for short-term exam performance, but also to be prepared for long-term performance in the clinical setting and on future board exams that medical students take." But I also started to think about the assessment system and how it was structured to support or not support this long-term student learning.

Aubrie Swan Sein (10:41):

Over the years we've made a number of adjustments to the assessment system, again, to promote learning. As Yoni mentioned, one of the important values to us is Professional Identity Formation. So one of our early steps was after implementing an honor code, we began allowing students to take exams unproctored and then offsite, which we hoped could help to give them the trustworthiness feeling to be prepared to do this in the future.

Aubrie Swan Sein (11:15):

Because of that flexibility, they're taking exams offsite, and such we started to create things like assessment weeks where we scheduled all of their exams during a given week, because in the past we were finding that students again were focused on short-term exam performance. They would perhaps cram for an exam in one course, but then ignore or de-emphasize what was going on in the other course while they were preparing for an exam.

Aubrie Swan Sein (11:49):

So we situated all the exams in one to help them to focus on studying when they needed to study. We also decided to let students retake exams. So if they didn't meet a minimum threshold of getting 70% of the questions correct, we let them retake the exam that following weekend, where they could have to write why the right answer was right to each question.

Aubrie Swan Sein (12:20):

But that way we wanted them to be able to demonstrate this performance right away, and to learn from their errors right away so that they would then be prepared for the next block of information. We also created problem sets that the students did weekly in between these assessment weeks, such that the students could not cram, so that they could think about questions as they went along and to learn from those more formative problem sets to be more prepared for the tests during the assessment week.

Aubrie Swan Sein (12:53):

And we also instituted post exam review sessions. It's really important to us that students review their exams and learn where they had errors so that they can correct those before they move on to their next section. Those were some of the ideas put into practice to change the assessment system.

Catherine Ross (13:16):

Wow. That's great, Aubrie. Thank you. It sounds like you also managed to push back against some dead ideas that students had. And what a radical idea to allow your students to take exams off site unproctored relying on an honor code. I want to pivot us a little bit to talk about the article that you both were recently part of publishing. The article is titled 12 Tips for Embedding Assessment for and as Learning Practices in a Programmatic Assessment System.

Catherine Ross (13:55):

This is really a great resource for anyone who wants to know how to carry out assessment that is evidence-based, learning-focused and student-centered. And to my delight, it pushes back on a whole lot of dead ideas, some of which we've mentioned already about assessment and the role of assessment in learning.

Catherine Ross (14:15):

In the beginning of your article, you state that a programmatic assessment system is one in which each individual assessment should be viewed as part of a larger system in which the assessments are viewed holistically to make high stakes competence promotion decisions. Could you expand on this a little bit, maybe give some examples of this, how this works in your program?

Yoni Amiel (14:45):

Absolutely. I think the easiest way to understand this within our curriculum is that though we have courses and each course might have different sections, we really think about progression as moving from one phase of a curriculum where one has a particular kind of set of responsibilities into the next.

Yoni Amiel (15:07):

Our initial phase, we call fundamentals is largely classroom and simulation center based with some clinical skills. But in that phase of the curriculum, students don't have direct patient care responsibilities. The next phase is the major clinical year and that's one where students are taking on clinical responsibilities of patients in the hospital and outpatient settings with very direct supervision.

Yoni Amiel (15:30):

And then the last phase is differentiation and integration where students are senior students on teams and are taking on more responsibility and really preparing for their residencies and beyond. And so

when we think about programmatic assessment in a medical education setting, at least in medical school, we think about the kind of data that we collect over time as a gradient, right?

Yoni Amiel (15:56):

And so there can be quizzes and assignments that are very low stakes, there can be exams that are somewhat higher stakes, right? You need to pass an exam early in the curriculum in order to pass a course but if you need to, you can retake it, et cetera. But the decision about progressing to the next stage of training, that's the high stakes summative decision.

Yoni Amiel (16:17):

And in order to make that high stakes summative decision, the progression committee will look at somebody's performance on a series of exams and quizzes. And actually what they'll do is look at different modes of performance, not just whether someone has mastered a set of knowledge, but how did they do in their clinical skills assessment in objective structured clinical exams.

Yoni Amiel (16:41):

And try to integrate a view of whether learner is ready to advance or whether a learner needs a little bit more time and a little bit more enrichment in order to take on the responsibilities and be successful in the next phase.

Catherine Ross (16:56):

Aubrey, did you have anything you wanted to add to that?

Aubrie Swan Sein (17:01):

As part of this rollout that I'd mentioned before, one of the additional features was to add in cumulative progress exams in order to support students to move in this direction and to move toward what ultimately need to be a high stakes decision made before their progression to the next stage of the curriculum.

Aubrie Swan Sein (17:23):

And so we, after each semester give the students, again, it's a low stakes progress exam so that they can practice answering questions, they can see which areas they may have forgotten more than others over time. They can assess their studying and learning strategies to see if they are paying off for long-term learning. I think that that's been one thing that we've done to support this sort of programmatic assessment structure that we have.

Aubrie Swan Sein (17:52):

And we're also working to add questions on exams that come from previous topics that students have learned so that they don't necessarily go a year and a half or so without seeing questions on content that they learned about in the first semester of medical school. I think those are some of the changes that we've made to support this structure for long-term learning.

Catherine Ross (18:20):

It's really quite impressive how for every structural change you've made, you've also built in support for the students to adapt to those structural changes. I just want to compliment you on that. That is a rare

occurrence, I think, in higher ed broadly. And I think that sort of leads me into the next question I wanted to ask you about the article.

Catherine Ross (18:50):

You have so many good ideas in here and we won't have time to go into all of them, but I did notice that a lot of the ideas you have in there are grounded in this sense that assessment should have impacts on the students in a couple different ways. Assessment should be empowering the students as learners.

Catherine Ross (19:16):

They should be educating students about how learning happens and also motivating them to keep going, to retake exams if they need to. Those sort of three things come out in a lot of the ideas and techniques that you shared in the article. I just wondered what kind of impacts you have seen actually, now that you've gone through a couple of years with this robust assessment system. Can you describe some of the changes you've seen in your students and the impacts on the students?

Yoni Amiel (19:58):

I can talk about a couple of things. One, and Aubrie has had such a big leadership role on this and Boyd Richards who was with us before Aubrey, but we've been really convinced by the idea that an assessment system is a direct communication of an institution's values to students. And so whether you're intentionally teaching students about your values or unintentionally teaching them, your assessment system does convey what they are, right?

Yoni Amiel (20:34):

And so, especially in the pre-clerkship part of the curriculum as we're trying to notice how students are responding to a very different form of assessment than they're used to, almost all of them are pre-meds who had been actually quite focused on their GPA's and their MCAT scores and all of that coming into a system where that matters less and in our pre-clerkship part of the curriculum can be a little bit confusing.

Yoni Amiel (21:04):

And what do we see? We see students actually seeking a lot more self-assessment resources. So asking for practice problem sets so that they can monitor their own growth and preparations for more formal assessments. We're seeing in our simulation centers students asking for more feedback, more experiences in practicing their clinical skills.

Yoni Amiel (21:30):

And actually when they're receiving feedback in a formative setting, really treasuring that, right? So if a preceptor is observing student doing a cardiac exam and says, "Your stethoscopes should be a couple of inches over if you want to hear that murmur or that part of the heartbeat." That's a great piece of feedback. It's really actionable. It's there to help improve the student's performance and it's trusted because it's based on direct experience.

Yoni Amiel (22:03):

So we're seeing students really engaging in a lot more feedback-seeking behavior, and that's been something very valuable. Obviously as we have been transitioning more and more in this direction, a lot

of people, a lot of faculty, maybe some who have held on to more of these dead or zombie ideas have been worried, "Aren't we just promoting cheating and students will do what they need to do in order to get a score on the exam and just pass."

Yoni Amiel ([22:33](#)):

Aubrie can comment on this a little bit more, but we know that if we've set up the progression system right, that there's a lot of intrinsic value to learning what one needs to learn so one can do what they need to do and so we don't need to artificially increased stress over that because the teaching is really aligned to practice.

Yoni Amiel ([23:02](#)):

In some ways in medicine, we have some external stressors as well. We have external stressors related to standardized testing that is important in applying for the next phase of training. We have some stresses which maybe we'll get to later about assessment later in the curriculum and grading that matters for residency program directors. And that's really challenging, but especially early on, focusing on that intrinsic motivation for learning is really powerful.

Aubrie Swan Sein ([23:34](#)):

I would agree that that our goals have been to help students to learn to focus on having a growth mindset and we also want students who can be self-directed learners. We don't want an assessment system that just incentivizes short-term memorization and fact recall. We want students to learn how to engage in clinical reasoning and learn how to learn, how to find information resources that are going to help them to learn in the clinical setting and we also want them to think more about...

Aubrie Swan Sein ([24:09](#)):

You don't necessarily have to always know the right answer off the top of your head. It's okay and probably safer to look up information that should be referenced just for patient safety purposes as well. I think those are some of the other values that we've been trying to promote with our system.

Catherine Ross ([24:31](#)):

Well, I think the other major theme I noticed in your article is that the larger cultural changes that support the student learning efforts, this is a quote, should promote learning by adopting a competency-based education and evaluation structure and a culture of valuing learning over performance.

Catherine Ross ([25:01](#)):

And I think that's sort of what you were just addressing, Aubrey, right? That it's the culture. And also Yoni, you were mentioning as well, there are these additional stressors that are external to the culture, but the culture you've created for these early years really is the valuing of learning over assessment, which it sounds like really did empower your students as learners and help them know how to learn and to ask for the things they need to learn. That's great. What a success that is for you.

Yoni Amiel ([25:40](#)):

Well, Catherine, I think we're constantly striving towards that, but obviously as we look at our learners' experience in this curriculum, in this assessment system, we're also aware that learners are coming in

with different educational experiences, a different amount of enrichment and external resources in their lives.

Yoni Amiel (26:05):

So I think part of the discussion, part of the real need for educational culture change here is to think about equity in the educational environment too so that we don't simply reward those who have more resources in their lives, but rather use our educational resources to help make sure that everybody is getting to where they need to so that they can become wonderful, fabulous doctors.

Catherine Ross (26:38):

I love that, Yoni. That's really powerful and I think higher ed could take note, grading often simply perpetuates situations and why we don't always go with the assumption that our students are here to learn and that they are capable of learning and that should be our primary focus is beyond me, I guess, because these are zombie things that keep wandering around so I appreciate you unpacking that for us.

Catherine Ross (27:18):

In the conclusion of your paper, you talked about the culture change that was required for everyone, right? For administrators, faculty, students, in order to view assessment as a learning tool. And I know you've mentioned already a few of the things, the zombie and dead ideas you've confronted. Were there any, or any one, or any couple that you found were really the toughest to confront and how did you work through those challenges?

Yoni Amiel (27:53):

Well, I would be very clear, especially for our learners who may listen, our colleagues who may listen, that we are continuing to confront them, right? We have a learning system that's really oriented around these principles before students go into their clerkship year. But in their clerkship year, we actually still assess in ways that grade students and that have different incentives for performance.

Yoni Amiel (28:19):

And I think that we're struggling with that internally to try to reconcile some of the inconsistencies between learning theory and some of the external pressures around what a student record ought to look like in order to make sure that our learners can be successful down the line and have their strengths really recognized and valued by their future teachers.

Yoni Amiel (28:44):

I know that in the undergraduate environment educators are struggling with that too, wanting to make sure that they can recognize high degrees of excellence or achievement and trying to make sure that those assessments are valid and I think it's tough.

Yoni Amiel (29:03):

And I think that as a community of educators, we're all continually coming back to this question and trying to understand how do we satisfy our competing goals and reconcile them with one another, especially when they conflict. And I don't have an easy answer for that one unfortunately.

Catherine Ross (29:23):

Aubrie you were on the front lines of a lot of this as well. Do you have some thoughts or wisdom you could share with us?

Aubrie Swan Sein ([29:39](29:39)):

I think I would say from a student standpoint probably, maybe it's a dead idea, that they haven't realized yet it's a dead idea that they have to get every single question right on an exam and some students may put kind of some self value on that sort of performance.

Aubrie Swan Sein ([30:00](30:00)):

And so again, we've worked consistently with the students to help them to appreciate it's much more important than not just how you do on a one-off exam, but that you can actually retain and utilize this information in the future and in the clinical setting. So again, trying to emphasize that growth mindset versus having a performance mindset with the students has been a work in progress.

Aubrie Swan Sein ([30:25](30:25)):

And there's always a new group of students every year who are conditioned to try to get the highest score on the MCAT to get into medical school and that sort of thing. So working with the students consistently on the same messaging has been very important.

Yoni Amiel ([30:41](30:41)):

I would also want to give Aubrie and her team in the Center for Education Research and Evaluation just huge recognition for what they've done in terms of educational data warehousing. These conversations and these tough discussions with faculty and with students get much easier or at least more direct when based in data.

Yoni Amiel ([31:06](31:06)):

And so easing some concerns about whether a transition in education theory and educational practice might unintentionally harm the learning environment or whatnot can only be done by demonstrating in a data-driven way that the outcomes are as good or better than they had been under our former system and Aubrie has been such a leader in that.

Catherine Ross ([31:37](31:37)):

And I think that speaks very directly to allowing students to take unproctored exams. I know that you do have data on student performance over many years and you're able to demonstrate that trusting students as learners has not impaired any performance or incentivized any cheating and that their performance on whole has improved, especially for longer term retention. Did I get that right, Aubrey?

Aubrie Swan Sein ([32:13](32:13)):

I think that it has been what we've demonstrated with our internal data so far. Our exam performance did not change much once we instituted the remote proctoring, the scores didn't shoot up or plummet, they stayed about the same. When we instituted the assessment weeks, the mean scores improved a little bit, and notably the rate of students failing exams dropped substantially.

Aubrie Swan Sein ([32:45](32:45)):

And so I think because of the problem sets and maybe the lack of a lot of pressure to perform as well as they possibly could on getting every question right, help them to focus on the core material and to perform well on the exam.

Aubrie Swan Sein (33:02):

And then we've also seen in the student board exam scores in at least one class of students that have gone on to take their boards since implementing our assessment weeks that that class did quite a bit better than previous classes on their boards, which we cannot explain that they and different MCAT scores or anything different coming into medical school.

Aubrie Swan Sein (33:26):

It does look like between the assessment weeks and having progress exams and more cumulative questions and the support that we've been providing students that they're doing well on their boards. That's what our data has shown so far.

Catherine Ross (33:44):

Well, thank you. I think you've given people quite a bit to think about, but as we wrap up this conversation, I'm just wondering if you have any other things you'd like to share with us, any next steps or challenges you see coming up in your future.

Aubrie Swan Sein (34:02):

As Yoni mentioned we're always iterating. We're always trying to improve. We're in the process right now of developing a new curriculum for our preclinical fundamental space of the curriculum and we want students to be able to learn in a more active and integrated manner.

Aubrie Swan Sein (34:21):

And so we would like to see our assessments become more integrated so it's not just the genetics assessment, not just the pharmacology assessment, but to have the assessments overlap in content areas and again be more cumulative.

Aubrie Swan Sein (34:36):

We're also interested in expanding the use of other assessment types, not beyond say multiple choice questions to assess knowledge, expanding into maybe some essay questions and utilizing more competency-based assessments in terms of their clinical performance.

Catherine Ross (34:58):

That sound like really great directions to be moving in. I really like the push for integrative learning that is so helpful for students, I think at every level, undergrad and grad. I'll be anxious to hear how that goes and how it works out. I'm sure you'll have some great ideas to share with all of us as you work through that. Yoni and Aubrey, thank you so much for taking time to come in and chat with us today. We really appreciate it.

Yoni Amiel (35:31):

Thanks for having us.

Aubrie Swan Sein ([35:32](#)):

Thank you very much.

Catherine Ross ([35:38](#)):

If you've enjoyed this podcast, please visit our website where you can find any resources mentioned in the episode, ctl.columbia.edu/podcast. Please like us, rate us and review us on Apple Podcasts or wherever you get your podcasts. Dead Ideas in Teaching and Learning is a product of Columbia University Center for Teaching and Learning and is produced by Stephanie Ogden, Laura Nicholas, Abie Sidell and Jon Hanford. Production support from Kate Tighe-Pigott. Our theme music is, In the Lab by Immersive Music.