Episode 24: Small Improvements, Big Outcomes

Adam: Hi, I'm Adam Sanford. I'm an academic life coach and professor in Los Angeles.

Dinur: And I'm Dinur Blum. I'm a college professor in Los Angeles.

Adam: And this is Learning Made Easier, a podcast where we discuss how we learn, and how we teach, and how they overlap.

Dinur: Welcome back to Learning Made Easier. This is Episode 24, where we'll discuss how making small improvements lead to big, big outcomes.

Adam: Now, many students get stressed out when their work does not produce the results they want. So we're going to talk about how to make small improvements that will create big results, and how you can make that happen in your classrooms if you're a teacher, and in your study habits if you're a student.

Dinur: And many students stress out when they can't easily achieve an A. And a big part of that is that students don't really know what goes into improving their scores. They tried the same things they've always tried, they try and work their way out of a slump, but they get discouraged if it doesn't work. And a lot of students quit. And one of the big things that students do is, they try to cram for exams the day or the night before the test happens. Or they try and do an entire project in one night, and they rush through it, and they're not happy with the results.

Adam: Now this is a standard problem for most students who come out of high school today. That's what they're used to doing. Because they've been allowed to turn things in at the last minute, after the due date, right up until the day classes end. And so they've never learned how to break down the big assignment into small pieces.

But what they've gotten very good at is putting it off and putting it off. So, teachers, helping students learn how to break down a big assignment into little pieces, or how to space out their study time for exams - that's one part of helping them with this.

But students, you need to refocus on the advantage of taking small steps. Too many students approach an assignment or a project or test as something that they've got to study for or do in one session, and either they don't realize it can be broken down or they don't leave themselves enough time to break it down.

So, in my experience with both coaching clients and with students who take my classes, making small but consistent changes can lead to enormous gains in outcomes.

I had a client who told me they never had any time. They were studying six, seven hours a day and I had them refocus on what small step are you going to take on this day, on that day, on that day? And they had never thought of it that way because they just sat there with their book open, thumbing through it, rewatching my video lecture over and over trying to figure out what they were supposed to write down, instead of having a goal - and a goal will give you a small step.

So maybe your goal for this study session is: I will down 20 terms from the lecture and find their definitions. And that is your goal today. And maybe your goal the next day is: I will make flash cards for those 20 terms and their definitions. And maybe your goal for three weeks from now is: I will use at least six of these terms in the essay that I have to write for this class.

But you need to have small goals. And too many students just see PAPER or EXAM or PROJECT, and they can't see it as something that you have to break into small pieces.

So learning how to do that, and refocusing yourself on the advantage of doing that - students, this is critical. This is so important. I can't - there aren't words to say how important it is. Just trust me on this. This is a make-or-break thing for you.

Dinur: In his recent New York Times bestseller, Atomic Habits, James Clear shows how a coach took British cycling and turned around by focusing on these small improvements to help the team performance.

And the coach - his name was Dave Brailsford - he focused not just on what his athletes were doing, but they looked at what kind of beds gave the team their best sleep. He painted the inside of the team truck white so that they could spot dust, because just could screw up the bike gears. And by being able to spot it, it made it easier to notice they could clean, they could make sure that the machines were all running well.

And he made all of these small, seemingly insignificant or meaningless changes. But over a 10 year period, British cycling went from being mediocre, to sweeping the Olympics and the Tour de France - and no British cycling had won that in 110 years.

So all of these small changes that look like they don't do a whole hell of a lot end up having massive, massive improvements. British cycling, now, was winning.

I'm a huge hockey nut, especially if it’s the San Jose Sharks. And I remember, years ago, Sharks players and team personnel had these T-shirts that said, “we cannot be 100% better than our opponents, but we can be 1% better in a hundred different ways.”

Right. It's assuming that Sharks and their opponents, they're all pro players. So you're not going to be worlds and leaps better than anyone else, because they're also professionals. But they're going to find small ways of improving, and they’re going to exploit those advantages. They're showing that improving in small ways, again, leads to big gains, big successes.

Adam: And James Clear calls this the idea of “marginal gains.” and you can do this too, because improvement actually works best and sticks longer if it happens in small steps. So when I discovered new ways to teach, for

example, I started out - I wanted to completely change everything I'd done, from course material and books to teaching methods. And I did that - and at first, it did not go well because I was rushing it. I was trying to do it all at once. And I just was not as familiar with the methods that I was trying to implement in my classes as I needed to be to really do it right.

Over time I learned: make smaller changes but stick with them longer. And these days, although I do still use the flipped classroom and the standards based grading system, I don't make many changes from term to term, and the ones I do make are pretty small.

For example, this coming semester, because students have repeatedly given me feedback that they're never sure where their grade is, I simplified the grading system so that students can understand right from the get go what they need to do and the only math that we'll have to worry about is simple addition. I haven't changed anything else about how I run the class. And I really think that my students are going to respond well to this, because it's the only big change that I've made, and many of them have taken classes with me before. But now it'll simply be: “if you've done these five things, you have a C. If you've done these six things, you have a C-plus. If you've done these seven things, you have a B-minus,” and just go on and up until they get to the point where they've done enough things to have an A.

Making these little changes does not look important. That's the other thing, I think - is that a lot of students and a lot of teachers and a lot of people think, “If I'm not making a huge big splash, then I haven't done anything.”

Well, there's a course that I'm taking on creating online courses, and someone said, “I only had three people sign up. I only made $3,000 in my launch. I only made -” because they were expecting to make $300,000. They were expecting to have, you know, 300 people to sign up. And people pointed out to them, “you won, you had a win, you made a small change to your ad, and then you got three people to sign up,” and they're all, “well, I was hoping for more.”

“Well, okay, but you did something, right? Now you need to make another small change. Maybe next time you'll get 10 people. Maybe the time after that you'll get 20 people. And eventually you'll get the number of people you want. But the fact that you got anybody to take your class is a huge win!”

And it took them a while to change their mindset, because they were expecting this course to lead them to get rich quick - which, by the way, does not happen in real life! - and the small changes that you make are the things that will make a big difference over time.

Dinur: One way - Adam just discussed a change he made teaching. I've also done small changes and it's led to big improvements in my teaching. I know when I was just starting, I used to be really, really self-conscious in front of students. Like, I was nervous - what if they asked something I didn't know, I couldn’t answer? Would I look like a fraud? Would I look like an imposter? And I was nervous! And I've never been great at just random small talk if I don't know a person. And I felt very awkward.

And, to a student's credit, on one of my early evils, it said, “Man, he's socially awkward.” And - trust me, I know! I live with this. So it wasn't just an act!

So what I started doing is, I started thinking, when am I relaxed? Well, obviously if I'm at a sports game, hence all the sports analogies, but also when I'm laughing.

And so I started thinking, well, why not just play some YouTube clips of standup comedy, or some music, to help relax and lighten the atmosphere? And I kind of felt good doing it because I'd start relaxing. My students would laugh. I let my students recommend comedians or musicians that they want me to play. And as long as they tell me which class it is, I'm more than happy to do it, because I'm relaxed after laughing. My students are relaxed, we're all in a good mood, and it lets us get into the swing of things with class, and it lets learning actually happen. So that's one of the things I've done as far as, at least, my teaching.

Adam: For me, when it comes to the self-consciousness thing, I've come up with several lines that I just use. So being autistic, I know that I have terminal foot-in-mouth disease, and when I say something inappropriate, if the students react weirdly, I'll stand there and I'll just say, deadpan, “you all know I'm autistic, right? This is something I've told you?” And of course I've told them that, and they laugh because it's sort of this self-deprecating, “All right, you guys know this as a problem I have. Right?”

But I've also had when students, when you ask, you know, when you said “what if they asked me something I know nothing about?” my standard response to that has become, “that's not something that I specialized in in grad school, but boy, that sounds like a great topic for your research paper!”

And students, if there's something your teacher doesn't know, pick it as your topic for your research paper. It's a really, really good idea.

Dinur: And I've learned to tell my students, “I'm not sure. Let me get back to you.” And I will. Like, I will do that research and see what I can find on a question, because the fact that they're asking me something means that they're engaged. They want to know about it.

So if I can't give them Adam's response of, “that's something you should really study,” if they're asking just something kind of more quick, then I'll do that legwork.

And it's not the end of the world to occasionally tell students, “I don't know.” I've had students who responded really positively to that, saying that I was the first instructor they'd had who would admit that they didn't know an answer. Sometimes I said, “Look, just because we're teaching doesn't mean we have all the answers. It means we know how to look for the answers and how to work together.”

Another way that I can talk about mistakes that I've made leading to improvement was in writing my own dissertation. Because before I started doing that, all I could think of as “a dissertation” was just this giant book that had been written. And by definition, it was perfect, because, well, a person became a PhD. They became a doctor with it. So they must've been able to write it in one draft, maybe two drafts, and they wrote it really quickly. And yeah, totally not the case at all.

And a piece of advice that was given to me, that really helped, was that a good dissertation is a done or a finished dissertation, but “done” happens in small bits and pieces. And that helped me reframe this. So instead of trying to write, you know, a hundred or more pages all at once, now I'm just focusing on writing a small bit each day. Maybe today I'm going to write a little bit about my methods, or I'll write about literature that's relevant. Or maybe I'll talk about some of the interviews that I did.

And look, maybe I don't use 75% or 80% of the words that I've written. I'm just writing down these ideas. But now I've got words on the screen that I can work with. They're not just all in my head.

And once I had written a draft of a section - and this would take days or weeks, so even at a whole section, even the methods, for example, wasn't happening in one sitting. It was happening over time - but I would go back and then see what can I explain a little bit more clearly? What can I phrase just a little differently so that it's maybe more effective. Maybe I'm not communicating something as well as I'd like.

And honestly you don't - or I wouldn't - notice my dissertation as an entire good or a finished product. But I did notice the attention to detail within each section, because I'd say I didn't like how this read, you know, a couple of weeks ago. But I'm better with how it reads now.

Adam: It's interesting. When you say that, I think of my own dissertation. And I have students say, “well, doing two drafts is too much.”

And I say, “Okay, look, in six months I wrote a book called a dissertation. It went through 13 drafts in six months. Would you like to tell me how two drafts of an eight-page paper is a lot?”

“Oh, okay…”

You know.

Uh, and then the other thing that I thought is when you talked about “see what could be explained more clearly, see what can be phrased differently.” You're making me think of my ad copy. You know, the change of one word may make a big difference. And that's hard for me, ‘cause just like you, I like to take a broad-spectrum look at it, “just get the thing done!” But taking it a step at a time is the more effective way to do it.

And in a course redesign that I had to do, I ran into a similar issue. I tried to change four or five things at once. And then, of course, I couldn't tell whether any of the changes had an effect. And maybe one change would have, if I hadn't made the others, but I didn't know. And then it occurred to me this was supposed to be an experiment. And when scientists do experiments, they change one thing at a time and see what happens. They don't change two or four or five or twelve - they change one thing if you have to troubleshoot an issue.

Back when I used to work in technical support, back before I went to grad school, and I would have a person call up and say, “oh my God, my computer is not doing this.” And I would say, “Okay, let's start at the beginning. What kind of computer? Okay, what's your operating system? Okay.”

And it's just one step at a time. If I had tried to fix it without knowing all that information, I wouldn't have gotten anywhere, and so you change one thing when you're troubleshooting, you see if that has an effect. If not, you change one more thing. See if that has an effect. Okay, let's change another thing - and you keep doing it until the change you make has the effect you want.

This is everything in life. This isn't just your schoolwork. This is, if you're making a recipe and it goes drastically wrong. All right, go back and backtrack. Start again. The first step was this. The second step was this. The third step was this. Where did I drop the ball?

You have this problem when you're fixing a car, okay? The car is making a bad noise. Now, if you're an experienced mechanic, you've probably got a pretty good idea of where the noise is coming from, but you still have to do one thing at a time. You can't just do the whole thing all at once and then hope that that fixed the problem. You have to see, is this actually the problem? Or is it this other thing that's got a similar symptom, but it's in a completely different part of the engine or a completely different part of the car?

The car bouncing might be that you've gotten a flat tire, or it might be that your shocks have gone bad. They're not the same part of the car, and a mechanic will have to check for those things, and say which one is which. But notice that the focus is on small changes. Now the big outcome is once they're fixed, the car works again, right? That's a big outcome. But if you try to change six things at once or do them all at once, you probably will never figure out what the problem is, and how to fix it.

Dinur: Yep. And look, in sports, players have to adapt on the fly. So do coaches, they have to make improvements within the game. For an example, in baseball, sometimes the pitcher doesn't have one of their pitches working as effectively as they'd like. Maybe batters are making too much contact, or they're not able to throw strikes with it. What are they going to do? They're not going to pull themselves from the game - that's going to look bad - but what they'll try and do is they'll figure out a slight improvement. Maybe they throw that troublesome pitch in a different situation, where there's less involved if they mess up. Maybe they try and throw from a new angle. Maybe they try and throw other pitches, and try and just focus on improving that one wonky pitch during the game, but focus on it more heavily during practice sessions after the game.

Adam: and as a teacher, I actually teach students how to go through the process of learning how to break a big project down into small pieces, how to identify each step - and a lot of them, they've never done this. It's always been broken down for them. But once they've learned how to break it down, then I encourage them to work on one step, finish that, work on another step, finish that, and so forth.

And some students resist this and they're the ones who get bad results because they stick with cramming and last-minute completion of work.

I had a client who said, “well, I have to do all this work and I never have any free time.” Well, the reason that they never had any free time was because studying for them was not studying. It was sitting in front of the book and stressing out. And when I taught them how to break their work down into small pieces, then they ended up studying about two hours a day. They were a high school student, and suddenly they had all this time to spend with friends to spend playing video games and they could do it with a clear conscience knowing, “okay, I've done the step I needed to do for history today, for math today, for English today,” instead of going, “Oh my God, I've got this history project and I've got this English paper and I've got... arrrrgh!”

They weren't freaking out anymore. And they did work every single day, but they had to change their view of what work was. Because, for a lot of students, they hear me say “break it down into small steps and do a step every day.” And in their head, “do a step” is three or four or five hours of work, and they don't have that time. And when you say, no, this project will take you 10 hours, break it down to maybe 20 half-hour steps, and do one step a day. Now you're only doing a half an hour of work a day. Do you see how much easier that is?

And so, students, this is also a time management thing. Some students do resist the breaking it down, but they're the ones who get bad grades. And so, this brings us to what teachers can do to encourage small-step work and a small-step view with their students.

Dinur: And one of the first things that teachers can do is focus on both the huge jumps that students make as well as the small gains. Ask students to tell you: how are they breaking an assignment down into small steps? What are they trying to change in order to do better? Are they studying a few more minutes each day? Are they studying at a different time of the day or in a different place?

You want to get involved with that process, and see how they're changing and you want to comment on that. You want to praise that effort. The results are going to be the results, and to some extent, we can't say how

we'll react to them until we see, but you certainly can reward the effort that students are making in improving. And if you see that they've done these things, they've tried to do well and at the end of the term they're borderline between two grades? Reward them, give them that bump up, because they're showing that they are trying to learn and trying to improve.

Adam: And too many times, as teachers, we give a gold star or an A to someone who's done the work really well and they didn't need to improve. And that creates two situations and they're not good.

The first situation is that the student who had the big jump or had the wonderful right-from-the-start paper, they may either feel an enormous amount of pressure to keep to that standard, or they may feel like they don't have to work so hard because obviously they're smart. Both of those encourage that fixed mindset thing. Both of them are very bad for the student.

And then the other thing is that the students who are making those incremental gains, if they're not told, “hey, you're doing a good job,” they're going to stop doing them because they're not getting any feedback. We, the older generation - I mean I'm, I'm Gen x and I think Dinur is Millennial - we may not like it that students require instant feedback, but they do. People who are taking these Millennial folks on and, you know, especially the younger Millennials, are reporting that they need a lot of feedback. They need a lot of positive feedback every day.

And some people see that as hand-holding and spoon-feeding. But what it is, is they've been raised in an environment where they got continuous feedback. If you don't give them continuous feedback, they're going to just throw in the towel. So you've got to reward them when they consistently improve their work. But in order to do that, you've got to draw attention to the fact that they are improving, because if they can't see, through their grades or your comments, that they're improving, what motivation did they have to keep going?

Dinur: And for each student, give them a list of suggestions for improvement. And these lists have to be personalized, because every student faces different challenges. So maybe some, you're going to focus a little bit more on time management. Some, you might focus on using multiple methods of engaging with the material. You might ask them to meet with a study group, instead of studying on their own, and to let you know who they met with, and for how long, and what they went over. And what you want to do is ask students to track the number of times they use that list, in order to improve their work and reward that effort. Because again, it's something new to students. It's a new way for them to learn. It's scary, it's tough, and so why not reward them for taking that risk?

Adam: You can also set up your assignments so that they really have to be done in steps, so that they can't be done effectively in one fell swoop, at the last minute. And like Dinur talks about, with - they've got to turn in their drafts. You could require them to turn in or document each step, to show that they'd done it, in order to get credit, for example.

So the way that I've set up my classes this fall, there are a certain set of assignments where you cannot do assignment number two, until you've done assignment number one. That forces this stepwise movement where they have to show me, “okay, I did assignment number one, I completed it, and I got a passing score.”

“All right. Now you can do assignment number two.”

And that basically forces them to take the steps one at a time, where they can't just do it all at the last minute, because if they want to do assignment six, which is the research paper, they've got to do assignments one, two, three, four, and five, which are the prep up to it, first, they can't just do the research paper.

And some students will get - will grouse about this and say, “well, why can't I just do it? I've always done that on the last night!” Yes, and then it's a garbage piece of work that I have to read. I'm not interested in reading what you wrote, you know, 20 minutes before class started. But what I do want to see is that you actually put in the effort, and changed the way you learned, to make your learning more effective, and to make what you give me better work.

Dinur: And you want to keep track of how your student's scores change over time, so that when they ask you about their grade - or even if they don't - you can point out to them and show that you're seeing improvement in their grade. So, I mentioned, at the end of the term, how you can reward the effort, but you can also give that feedback during this term and say, “Look, I see that your first test didn't go so well, but wow, ever since that, I've seen you improve here and I've seen that you're really engaged with the class. And that's really showing up really well. I see that improvement.”

You want to reward something that is concrete. You want to be able to point to something, so that students have a basis, and so that's not just empty words.

Adam: And I'm thinking of a story by Stephen King. There was a point where there was a student who was having dreadful trouble with his grades, and he improved his algebra. And his algebra teacher gives him his algebra quiz back and it's a C-plus, where it had been, you know, like a D-minus and written on the bottom: “Good improvement! Check errors carefully. At least three of them are arithmetical, not conceptual.”

Meaning, “Hey, you've done well. Just don't be sloppy. You know, now check and make sure that you can do the, the arithmetic in addition to the Algebra.”

And that kind of a message, that kind of comment to a student says this: “I see you, you are seen, and what you've done is seen, and I recognize it, and you're not invisible to me, and your work is not just something I grade. I am noticing that you, personally, are improving in this area. Good work.”

That's powerful. That's so powerful. And so many students don't realize that they are missing that kind of praise, and encouragement, and commentary, and observation, and recognition - until they receive it. And then they're like, “oh, I want more of that. I want Dr. Sanford to write that again. I'm going to do something else good.”

So students, here's how you can use this idea to improve your work. First, don't try to improve your work by 100% a day. Try to improve it by 1% a day. So, if you're working on math, this might mean learning how to do one specific kind of problem correctly every time. And when you've got that, then move onto the next problem type.

Or, if you're working on a writing assignment, find one of your known problems, the one you always get marked down for. Maybe you've got the habit of using soundalike words incorrectly, like they're for their, or accept for except, or affect for effect. Make a list of the five or 10 words that you habitually use incorrectly. Search everything you write for them. Make sure you've used them correctly. You've just made a 1% improvement.

If you know that there are three words you always misspell, always, then write down the misspelling and write down the correct spelling, search for the misspelling and correct it. That's the 1% improvement.

Every day, find one small incremental change to get 1% better at whatever it is you're doing. But remember, the goal is to make it 1% better, because a big project - it has to be a set of 1% improvement steps.

Dinur: And similarly, a good paper does not write itself overnight. Good research doesn't happen in one fell swoop. It's never a smooth process. You don't master skills with one try. And I realize I'm making a reference from 2015, but go ahead, try and play Candy Crush all the way through on your first try and win.

So instead, you want to focus on making consistent progress, and you're going to see that your work builds up really quickly, and hopefully it's a little bit less stressful than before, when you tried to do everything all at once.

Adam: Remember that “perfect” is the opposite of “good.” Good is “completed to a certain standard.” The standard is not perfection, it's improvement. Focus on improvement. Focus on completion.

Dinur: So that's what we have for you in Episode 24. If you're finding this podcast helpful, please share it with your friends. We're always to get new subscribers so we can help more people. You can find us on Apple Podcasts, Spotify, and Android. We're hosted on blubrry.com. Also, we'd really appreciate it if you could write us a review of this podcast on Apple Podcasts.

Adam: Be sure to join us next week for Episode 25, where we’ll dig into how to make a study group work for you.

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Dinur: We want to say thank you to all of our supporters on Patreon who make this podcast possible.

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Dinur: And we look forward to seeing you next week.