

Bonni Stachowiak [00:00:00]:

Today, on episode number 592 of the Teaching in Higher Ed podcast, Metaphors Free Speech and How We Learn with Barbara Oakley. Production Credit: Produced by Innovate Learning, maximizing human potential. Welcome to this episode of Teaching in Higher Ed. I'm Bonni Stachowiak, and this is the space where we explore the art of and science of being more effective at facilitating learning. We also share ways to improve our productivity approaches so we can have more peace in our lives and be even more present for our students. Barbara Oakley has led an extraordinary life, from serving as a US army officer to working at the South Pole station in Antarctica to translating Russian on Soviet trawlers in the Bering Sea. She is now one of the world's most recognized voices on the science of learning, known globally for her hit course Coursera course, Learning how to Learn. In this conversation, we explore her latest course, Speak Freely, Think Critically, and why free speech matters for every discipline. Along the way, Barb shares stories, metaphors and practical stories, teaching strategies that can help us build learning environments that are brave and intellectually rigorous.

Bonni Stachowiak [00:01:37]:

Barbara Oakley, welcome to Teaching in Higher Ed.

Barbara Oakley [00:01:42]:

So glad to be here. It's a pleasure.

Bonni Stachowiak [00:01:45]:

Barb, we get to start today with a little bit of story time for everyone. Would you tell us a story about what does being lowered down in a basket have so much to do with free speech?

Barbara Oakley [00:01:59]:

Oh, well, the thing is that if you look at free speech from kind of a historical as well as a neuroscientific perspective, you can get a much better sense of people's motivations and the continuing patterns that we see through history of, of people being really pro free speech until it affects them. And then suddenly

it's like, well, no, no, no free speech for me, but not for thee. And one of the first people to really look at patterns in history was an Arab, sort of the father of sociology sometimes. He's so called Ibn Khaldun, who was. He was a sort of a master teacher and a philosopher and a very deeply insightful human being. Back in the 1400s in. Well, he ended up sort of based more out of Egypt. But as it turns out, he came up with a theory which was that societies would become cohesive and kind of glued together.

Barbara Oakley [00:03:18]:

You can think of the Roman Empire. They became cohesive because basically there was another group that was quite dangerous. So that meant that the Italians kind of had to hook up together because otherwise those Germanic tribes could come down and attack them. So even though they didn't want to group together, they eventually cohered. And that was the beginnings of the Roman Empire. And so I shall make this long story much shorter. And Khaldun, he came up with a theory that societies need to have some sense of coherence, some reason for coherence, and that when they lose this reason for coherence, society can fall apart and really become dangerous for everyone. Well, there was this really horrific sort of person named Tamerlane and he was kind of the Genghis Khan of his time and he was attacking Damascus.

Barbara Oakley [00:04:27]:

And as it happened, Ibn Khaldun was in Damascus. Well, Tamerlane found out about this and was so interested in Khaldun's ideas of coherence of society that he put a pause on the siege he was holding in Damascus so that they could lower Ibn Khaldun from a basket and Tamerlane could converse with him. He really want to learn these ideas of how do societies cohere and how do they fall apart. That is part of the essence of the ideas we explore in the Free Speech massive open online course, which is of course to discover why is discussion of problematic sometimes ideas sometimes very important and why do people oppose these ideas? Because sometimes they oppose them for good reasons and sometimes they oppose them for bad reasons. So we started. That's one of the wonderful things that you can do with AI. Did you know? So I am standing on the ramparts of Damascus, ostensibly in 1400 AD when Tamerlane is attacking and I'm coughing as the smoke wafts by me and it looks so real and you can see the battle scene unfolding below me. And it's a gripping way to get into the idea of free speech and what it really means.

Barbara Oakley [00:06:07]:

It's not just like, oh yeah, rah, rah, free speech. Now there are trade offs and that's what we try to explore in that course.

Bonni Stachowiak [00:06:17]:

I want to mention briefly when you were talking about this idea of free speech, but not for thee, you and I were introduced so kindly by Simon Cullen, who for listeners who may not be familiar, is one of the co researchers who created this tool called Sway AI, which Barb and I will talk about here in a little bit. But Simon introduced us and I was so excited for any opportunity to get to meet you. I've long admired your work and so many people have recommended you for the podcast in the past. Barb, I'm going to admit I was one of those thinking I boy if I could have the opportunity to talk to her. I'm not sure if free speech would have been the topic I would have selected because I certainly have experienced that Just as a member of society, that real feeling. And I love the way you and your fellow course designers just bring this thread throughout. You describe free speech as, and I'm quoting here, like air. You don't miss it until it's gone.

Bonni Stachowiak [00:07:25]:

Barb, why is this paradox so relevant in higher education today? And why. I suppose this goes to the origins of why you got interested in doing a course such as this one.

Barbara Oakley [00:07:37]:

So part of my motivation is I'm from kind of an oddball generation for many academics. I'm older, and so I grew up in the era where there was this big question of, is Soviet life? Is communism good or is it bad? Well, I was in high school at the time, and I remember you'd hear from some people that Soviet life Communism was like the promised land, it was so perfect and good. And then you'd hear from other people that it was horrible, that it was worse, and even in sheer numbers of people that died under those regimes than Nazism. And I remember wondering, who is right here? Because each one was so deeply vested in their opinion. So I thought, if I join the army, I can find out. I can maybe go to Vietnam and see what's happening in Vietnam and see whether you know who's right. So I enlisted in 1973, and then the war ended before I went to Vietnam, which is probably a very lucky thing, at least for me and for many others. But I still was curious.

Barbara Oakley [00:09:01]:

So I ended up eventually getting a job working out on Soviet trawlers up in the Bering Sea. And that's where I really began to understand that the absolute fear and real terror that people had for saying the wrong thing. If you say the wrong thing, the political commissar on board that vessel could make you disappear. So sometimes there's a book called the Great Terror by Robert Conquest. And one story goes that after. So he wrote this book and talked all about the horrible

things that had occurred in the Soviet Union. But when the wall came down, so all the people on the left said, this is a pack of lies. It's exaggerated.

Barbara Oakley [00:09:54]:

It's not true at all. Don't believe Conquest. Well, after the Wall came down, he went and looked in the archives for a brief period. They were open. And he found it was even worse than what he had described. So he was asked, well, you're redoing the book in a new edition. Would you like to retitle this book? And he said, yeah, no, I would. I'd like to retitle it.

Barbara Oakley [00:10:24]:

I told you so, you fools. The problem is that people especially, and there's research that shows this really, really intelligent people find it very, very hard to be flexible, to change their mind. And so in any case, this has always held with me and what I began to see in higher education was this pernicious idea of safe spaces we've got to have. And meetings would open with this is going to be a safe space. And I'm just rear back in my mind whenever I'd hear that, because as soon as you hear that, you know it's not a safe space because it means if you even inadvertently say something that somehow someone might, for whatever reason, take offense to, you just violated the safe space. So all of a sudden it shuts down conversation instead of opening and allowing for the open discussion of ideas. That is what universities are supposed to be for. And worse yet, this is spread into industry.

Barbara Oakley [00:11:43]:

Industry has got, you know, DEI training and so forth, which is meant for a very good reason. But again, it's. Well, it's often founded on spurious research that finds only what the researchers themselves want to find. But worse yet, it is promoting this idea that safe spaces are the way to go. And that means that very controversial, very difficult ideas that business leaders and business workers need to be discussing are simply not being aired. And I speak all around the world and when I speak for businesses, I see so many head nods about the difficulties that businesses are now running into because this has spread from academia. But the great thing is Simon Cullen's wonderful Sway, which we've incorporated into our course, gives people a solid tool, a way to learn how to interact with people who you may really disagree with. I love what Greg Lukianov, one of our co instructors, he's absolutely marvelous.

Barbara Oakley [00:13:02]:

And he says if somebody says to you that they hate something you really hold dear and is one of your deepest values, your first reaction is not to go, hey, tell me more about this. So this whole course is geared around helping you learn to

talk to people who may think differently and learn how to learn from them as well as share with them.

Bonni Stachowiak [00:13:33]:

So I had mentioned that Simon is who introduced us and I had such a pleasure interviewing him and his collaborator Nick as well. And. But at the time, hearing someone talk about a powerful tool, I mean, as soon as I read about it, I was instantly intrigued and invited them on without really knowing very much about of a background there. But it was something else. Getting to go through your course and then actually getting to experience Sway as a learner. Barb, is there anything else that you're thinking of that you'd really want to highlight about what that tool does within this course design that you have so wonderfully created with your collaborators here.

Barbara Oakley [00:14:14]:

I think one, one thing that we really work to bring out in the course is that it's almost like there are two kinds of opinions. There's opinions that can be kind of flexible and you can change someone's minds on things, but then there are opinions that may grow from very deep underpinnings in that basal ganglia automatic system. This subtly biases the way you think about things. So you think you are thinking consciously and absolutely objectively. But this is why, let's say you have a paper and it is pro gun control, you can give it to two equally trained statisticians. One is for gun control, one is against it, and they will find, you know, the one who is for gun control. They'll be like this, this paper is really good. And they may overlook glaring flaws in the paper, but they like the result.

Barbara Oakley [00:15:27]:

So they're not going to be super picky. But the one who is anti gun control, they will viciously attack this even if it was really a well put together paper. And so it's that underlying underpin which often grows from our habitual basal ganglia system, that can subtly bias how we think about anything. And that is really hard to change. The problem is you think you are arguing about one point of fact. You've got the perfect example of why so and so is a horrible person or whatever. But people have lots of neural pathways and if they are biased to disbelieve what you're saying, they can find any number of ways to completely discount what you're saying. So again, as Greg Lukianov says, in essence, sometimes the best you can do just learn what they're really thinking.

Barbara Oakley [00:16:37]:

We all have certain things that we believe or follow, and it can be a data point for other people to simply know what your beliefs are in certain things. And the main idea here isn't to just go dashing in and change someone's mind, because

most of the time you're not going to be able to do that, is to find that data point. What do they believe? And maybe even more importantly, why do they believe that every once in a while you find it might shift your own thinking?

Bonni Stachowiak [00:17:16]:

If I had tried to predict what kinds of topics I might get out of taking your class in advance, I would have had some decent, you know, fifth grade understanding of certain things. But one thing that surprised and delighted me, because this is a topic I have long been interested in, is the topic of narcissism. Tell us about what does narcissism have to do with free speech? And perhaps what people who are in a higher education context may not know about narcissism and how it can rear its head in organizations like that.

Barbara Oakley [00:17:53]:

Oh, Bonni, you picked up on something that I think is so important and such an important aspect of that course that is almost never brought out in it that I've seen in free speech discussions. And this. See, narcissism is one of the most strongly heritable of all personality traits. And it's not like narcissism is all bad, because it definitely is not. You can always tell the leaders because those are the ones with the arrows in their backs. You've got to have a pretty darn healthy ego in order to be successful at anything you're doing. And that can mean that you're somewhat narcissistic. The thing is, what narcissism can do is it kind of hand in hand.

Barbara Oakley [00:18:49]:

It can also mean that when someone says something that you don't agree with, or let's say that you're a leader of an organization and somebody inside starts saying you're doing some really bad stuff there, especially if you really are doing some bad stuff, then all of a sudden a narcissist is. They're wired somewhat differently than a, as they say, neurotypical individual. They can take umbrage. I mean, like really get angry when they feel that someone is criticizing them and their response is not sort of like, well, okay, I'm going to get criticized. It's like, let's turn this around, let's attack that person. And this is why that so often this is part of why you will see major organizations, I mean like world class organizations. Let's take the Karolinska Institute, which is where they award the Nobel Prize for medicine. So do you know that they had a doctor there that was committing, he was doing a new type of surgery that ostensibly really helped cure patients in a way that no other methodology had ever been able to do before.

Barbara Oakley [00:20:17]:

But the doctors within the clinic noticed that, you know what? This guy's actually killing people and nobody's doing anything about it. So they kind of got

together and they reported this guy. And do you know what the leadership of the Karolinska Institute did? Instead of saying, oh boy, you're right, look at all these weird deaths here. They, they instead attacked the doctors who complained about this guy. And so often when you have leadership that is really like maybe not the best leadership, they, they will Attack the critics rather than looking and fixing the real problems. It got so bad that the Swedish government finally had to say, we're going to step in here and we're not going to let institutions do their own judgment anymore. But we see this all. I could name universities that time after time, we see it now in Alzheimer's research, people will become aware of really problematic goings on, hanky panky and the institution, but the institution doesn't want to acknowledge it, so they'll try and bury it.

Barbara Oakley [00:21:37]:

And of course that's not a good thing for anybody. But this is why free speech, about why we need to be able to criticize and help save lives and make people aware when there is hanky panky going on. Narcissism and narcissistic leadership can, when we see this, it can really clamp down on free speech. Often with the ostensive sort of the reason for clamping down is, oh, that was just a little complainer here, or our doctors were violating confidentiality, or they'll have some reasons. But when you begin to understand how narcissism plays a role in shutting down free speech, it can be very helpful in letting you see why free speech is so important and why people often try to shut it down despite its value.

Bonni Stachowiak [00:22:40]:

Before we get to the recommendations segment, I'd like to shift and talk a bit about lessons learned about teaching in general. And it is so hard because I have approximately 904 questions I could ask you because I get so curious from having such a delightful experience. Experience. Going through this course, I kept finding myself taking notes, certainly on the content, but I took voracious notes just on, wow, look at what they did there. And I would notice so many subtleties that could help me in my own teaching. So let me start specific. I loved all the use of vivid metaphors. And you mentioned earlier, of course, the metaphor about lowering down into the basket.

Bonni Stachowiak [00:23:27]:

And it sounds like you made use of AI. So a lot of what you do is use these vivid metaphors. For example, the brain as a garden, the greenhouse dome, the velociraptor threat response.

Barbara Oakley [00:23:45]:

Oh, so well, just simply the amygdala and how we respond to threats is, you know, that can get hardwired in there. So all of a sudden, boom, you, you know, and if, actually, if somebody tells you that someone, I see this so often, people will just shut off any conversation about, you name it, because they've been so, so biased to believe that anyone who even thinks, whatever they must be evil. And it's kind of attached to that alarm center of the brain.

Bonni Stachowiak [00:24:22]:
Yeah.

Barbara Oakley [00:24:22]:
And. And what's sad is they won't even listen to other ideas. They shut down before they even begin to hear what someone else has to say. And it's, it's a little bit sad. And that's part of what this course is about is, I mean, you should be feeling good enough about your own beliefs to not have to worry about a threat to those beliefs and to be able to kind of listen to what someone else is saying without just saying, oh, you must be evil. And so I'm not going to have anything to do with you.

Bonni Stachowiak [00:24:58]:
Yeah. So what then did these metaphors do for you as collaborators, as course designers? How important were they to you? How much time did you spend sort of thinking through what they would be? How might that inform the listeners, course design and how they think about metaphors?

Barbara Oakley [00:25:15]:
So when I did my first book on learning, it was called A Mind for Numbers. And this book. Yeah, which is like a terrible name for a book. That's what you see in obituaries. Fred had a real mind for numbers, but it sold over a million copies. And it's not from me, it's from the fact that I don't know if you know this website called ratemyprofessors.com so what I did was I found thousands of the top professors in like, over a dozen different disciplines, from psychology to math. And I, I asked them if they would read the manuscript for the book and give me advice. They gave me some wonderful insights.

Barbara Oakley [00:26:01]:
But one of the things that these top top teachers would tell me is my magical secret tool for being seen as a great teacher. And actually being a great teacher is that I use metaphor and analogy, but I don't tell other people. I do that I remember. Why would you not tell? The reason they wouldn't tell other people is because the other professors would make fun of them. They would say, oh, well, that's why you're seen as such a great teacher. You just make it so

easy for your students. Guess what? Learning is hard. Your job as a professor, as a teacher is to help make it understandable, to help make it easier.

Barbara Oakley [00:26:49]:

So I used to be asked, well, how do you come up with all these metaphors? Well, for me, the metaphors kind of roll spontaneously. But here's the thing, everybody can do it now because just go to ChatGPT and say, what's a good metaphor for Python Programming a main garden scope. How can I teach these more effectively to my students who may be coming off of the Mongolian plane and have no interest in Python programming. It will give you, like, cool metaphors involving yurts and migratory patterns or whatever. Whatever you're teaching, it will give you wonderful metaphors that you can use. And lots of times, if you tell it, you want something that you could use visual metaphors. The thing is, you can now get these great visuals from ChatGPT or from VO3 or from whatever, and these visuals will really, really help enhance your teaching. One little trick that you may have noticed is, like, if you have a scene in a movie, you notice it's not a bunch of cut, like this picture, then this picture, there's a continuity to that concept that's being conveyed in the scene.

Barbara Oakley [00:28:12]:

And we as teachers need to be doing that same thing with our teaching. When you have a concept you don't want to be showing your PowerPoint with, here's a picture snap, here's another picture snap, here's a bunch of bullets on a slide snap that every time you break it up with something new, you're tacitly signaling, I'm going to a new concept. But if you're not, I will see sometimes people who are geniuses with PowerPoint. I just met this wonderful young grad student, and she gave a brilliant presentation on alignment in deep AI, and she carried us through like the key element in one slide morphed into the next slide, and we followed through. So you will often see in the free speech MOOC how we flow along with ideas. If it's the same idea but a different person, we might bring it on the screen with us. But oftentimes we will cut to a different person as we're looking at a different aspect of the same problem we're considering in that particular video.

Bonni Stachowiak [00:29:34]:

So wonderful. And I want to mention to listeners, I'm going to do my best to put in the show notes a link to a past guest named Dr. Flex, because I saw that he put out his course assets and they're very much like what Barb has just described. So a colorful cast of characters, including himself. He's very good at incorporating storytelling and himself into his work, and I just think it might help you draw some inspiration from his work. Okay, before we get to the recommendations, one last question. Barb, I've been thinking so much this week.

We, in the division that I lead, we care so much about supporting people and helping to equip them.

Bonni Stachowiak [00:30:17]:

And so we got asked a question, and it was so such an example of us kind of heightening the, oh, gosh, this person's asked for help. So let's have a lot of people doing a lot of things to try to help this person. And it turned out, Barb, that they weren't even looking for what we thought they were looking for. Because it was one of those things like we're not really supposed to give people access to that is more like internal data. This person's an adjunct. All the things. And if, if we had stopped and if we had just said, oh, so delighted to hear from you and that you're teaching for us, could you give me an example of what you're looking for this information? And it turned out Barb, she just wanted, essentially didn't know how to ask for it. But it was in an entirely different area that's also within our division.

Bonni Stachowiak [00:31:02]:

It was the library databases. And she's asking for institutional research, which to her sounded like the place to go. But no, it's the library. He wanted to go for that. So I just, I keep thinking about failures in this particular case. Failures of all the time that a bunch of us wasted trying to help someone. But if you just asked another question, would like, have helped really resolve that? So I'm curious for you. As you reflect on all the courses that you've built and as you reflect on how hard so many of us work, what would be some, A couple, one or two mistakes that maybe take more time than people realize? If you could just do this, you could save yourself so much time.

Bonni Stachowiak [00:31:40]:

Are there things that are coming to mind for, for you that if you could go write a letter to your past self, you would want to inform her about? Like, you don't have to work this hard at this or this in terms of course design.

Barbara Oakley [00:31:51]:

So, gosh, there's so many ideas come to mind because I have made every mistake you could possibly make. In the beginning, I always felt like we had to have a complete perfect. Like if I was shooting a 10 minute video, it had to be perfect for 10 minutes. So we get all the way up to 9 minutes, 54 seconds. And I would fumble and then I'd be, you know, my, my husband is a saint. I'd be like, okay, we gotta do it again. And he'd be tearing his hair out because. And now of course, it's so easy to just snip and move and one trick, you know, there's so many different tricks.

Barbara Oakley [00:32:36]:

But if you're teaching a class, use something like Camtasia to record your screencast and your voice. And then if you are thinking of making a better video of it, you can either use that video or put it into something called Rev.com and it will give you a really nice run through of like, it'll create the nice transcript for you. Then what you can do, if you wish, there's a wonderful device called, let's see, I think it's called Prompt Smart. What you can do is load it on your phone and then it will show your image, but superimposed over it is your transcript. So you can clean up your transcript and then you can read this transcript. And it looks like you're looking directly at the camera and you're speaking spontaneously, even though you actually just have a transcript of, you know, of everything and you, you're reading off of it and you've cleaned it up and you can sound so eloquent. It's just awesome. But the biggest thing is make mistakes.

Barbara Oakley [00:33:57]:

Do a really bad video. And it's only when you do some, you know, you have to start with bad videos. But you'll begin to find that, hey, students don't care. They can actually, if they're sick and they just get a video view, they still learn a lot. And you've heard so much bad stuff about online. But this is coming oftentimes from people who have a vested interest in not having you go online and get good courses. The reality is half of all teachers are below average except online. Because online, for example, you go to Coursera and you're going to have some of the best instructors in the world and they're going to be having the time to create really masterful courses.

Barbara Oakley [00:34:54]:

So just putting your materials online. There was a little girl, well, she was probably around 13, she wrote an op ed for the New York Times and she's like, this was during COVID She said, I wouldn't wish Covid on anyone. But I am learning so much more now that I with COVID I'm learning online. They're not doing all this group learning, group work. I can actually focus. And she loved it.

Bonni Stachowiak [00:35:22]:

All right, so this is the time in the show where we each get to share our recommendations. If it's not obvious, I absolutely implore you to stop what you're doing and work your way into blocking out some time to take this free speech course on Coursera. As Barb just hinted at, you're gonna learn, yes, a lot about free speech, but you're also gonna learn so much. It's just so wonderfully modeled for exquisite instructional design. I was completely delighted. And now, of course, I'm so curious. You mentioned the name of your book the math oriented one being a bad name. But as soon as I started looking at the other

books you had written, as someone who's not particularly considering myself as skilled at math as I would like to, I got curious and added that to my to be read list.

Bonni Stachowiak [00:36:08]:

So just lots of opportunities for us to learn about this topic. Yes, but also about teaching more broadly. I have two other related recommendations. I mentioned taking such a whole host of notes throughout taking this course and I recently switched over to a new note taking tool. It's called Obsidian. And Obsidian is available on the Mac or on Windows. And it, it's hard to briefly describe. I'd heard about it from my husband Dave for many years.

Bonni Stachowiak [00:36:42]:

Hard to briefly describe it, but it is in the family of note taking tools that don't force you to stay in the note taking tool. So some of us may, some of you listening may have been with me years ago on the the tool called Evernote. And then when Evernote started changing their pricing structures, it was like, you know, this is just not, there's not a good enough return on investment for me to keep using this. They really just kept jacking the prices up and it just wasn't competitive. And so it's a whole process then to move all your notes to another one and learn a new thing. And so Obsidian is part of a family of note taking apps that all you're doing is putting a row wrapper around plain text files that sit wherever you want them to sit. So if Obsidian were to go away, all of my files remain untouched. They're all sitting there as plain text.

Bonni Stachowiak [00:37:34]:

It's in a language called Markdown. But don't get intimidated by markdown. It's pretty darn simple to lose to use. If you put a, a hashtag or a pound symbol and a space and then type something that's a heading one in your notes. If you just started typing, that's a paragraph. If you did two pound signs or two hashtags, that's a heading too. See how easy it is to learn? And you don't even have to really learn it. You could just type into it and eventually start to learn more about how Markdown works.

Bonni Stachowiak [00:38:02]:

But all of those plain text files sit out there in my case in a cloud service, but you can have them stored wherever you want. And then Obsidian gives me this amazing view into them. And if you're curious now and you'd like to learn more, I cannot recommend highly enough Robert Talbert. He does a lot of writing now in on his, his blog called Intentional academia and you can go read. I'll have this in the recommendations as well. His post how and why I Use Obsidian. So if you're curious, even if you just like to every once in a while check in on what's

happening in the world of note taking, that would be would be a great post for you to look at and I'm just going to read for why this might be a good tool for you and then I'm going to pass it over to Barb for whatever she wants to recommend. So Robert Talbert is telling us if you have at least a passing familiarity with Markdown or are willing to learn and as a side note, I would tell you it's worth willing to learn and not that hard to do if you want notes that are simple, plain text and are willing to sacrifice some bells and whistles.

Bonni Stachowiak [00:39:13]:

By the way, most of us don't need the bells and whistles. That's my commentary here. If you don't want to become too dependent on any particular notes app, but instead want to have full control over how to work with your notes if you want not only to store and search notes, but link them and discover connections. And finally, if you don't want to pay for your notes but don't mind paying for syncing or publishing, he thinks Obsidian might be good for you. I did want to mention about linking and then I promise we're going to get it over to Barb. These other, this other family of apps, the idea of making your notes act a little bit like how Wikipedia acts. If you go and visit Wikipedia and you're learning about free speech and who knows, Barb, maybe narcissism is in there, although it's probably not, as you said, because it's. This doesn't commonly come up.

Bonni Stachowiak [00:40:06]:

But if narcissism was in there, you could click on that link in Wikipedia and it would take you over to that page. Your own notes can work that way in a tool like Obsidian. So I now have a people note for Barb and then Barb's people note is connected to my notes about taking this course and when I get to reading her book about math, because you know that I'll get there, then there'll be a note with my reading notes about that book and my highlights, by the way, my digital highlights can be incorporated into Obsidian and those notes can link back to the people note for Barb. So I could go over to the people note for Barb and it would show me all these different intersections. And in fact I don't have one, but I should make one right after this interview if I had a people note for Simon. We keep talking about some Simon Cullen, the creator, co creator of Sway. There should be a link between Barb and Simon. So when you do your notes this way, you start to have these connections that are unlike other note taking tools that I've used.

Bonni Stachowiak [00:41:19]:

So I just really want to recommend it if any of this has made you curious and you really can start small and simple and then grow your knowledge from there. I want to suggest Obsidian and suggest Robert Talbert's post about it. And Barb, I'm going to pass it over to you for whatever you'd like to recommend.

Barbara Oakley [00:41:36]:

Well, that was fascinating. A great discussion of an app that can help enhance our minds. And that's actually also what I'd like to discuss. I speak all around the world. The last couple weeks have been in five countries in Asia alone. And the thing is, wherever I go around the world, I often ask this question, what is the best way to help you learn? Is it rereading, underlining or highlighting, retrieval practice or using flashcards? Or is it concept mapping? Pretty much everywhere I go, everybody raises their hand with concept mapping. And here's the funny thing. Hundreds and hundreds and hundreds of studies have shown that by far the best way to learn effectively is using retrieval practice like flashcards.

Barbara Oakley [00:42:35]:

So if you look at like when you're taking notes, that's one thing, but getting those notes in your head, that's what you need to be doing. And you can't do that effectively through rereading, through underlining, through even connections like linking it to other related topics. You do it through retrieval practice. And this is incredibly important in this day and age of, of generative AI, because people keep thinking, well, you don't have to remember things. You can always just look it up. But guess what? Since you know, IQ scores around the world have been going up from the 1930s to the 70s, as was discovered by James Flynn. But since the 70s it's been declining in Western countries. And why is it declining? Well, the 1970s was when calculators came up and it was also when people started saying, you don't need to remember things, you can always just go look it up.

Barbara Oakley [00:43:43]:

So the way the brain works is if you have a pointer to where to find information, like going and looking it up offline, that is not the same as knowing it yourself. In Finland, for example, what they're finding is they just taught students the sort of the conceptual understanding of multiplication, but actually really getting those Multiplication tables down. That wasn't so. So now what they're finding is a Finnish nursing student can type in 10 times 10, mistypes them, they get 1000 and there's nothing inside them that says this could kill a patient. And so there's a big problem. So the biggest thing we need to be in doing in learning is using tools that can help us get important information in our minds. And the best tool I found for this is something called Smarter Humans AI and this is a flashcard system. Now you might say no, no, a note taking system is so much better.

Barbara Oakley [00:44:57]:

Well, this system was developed by a medical doctor and what he did was he didn't, he didn't go to class most of the time he just watched videos and he read the books and instead of taking notes he made flashcards. And using this

technique he graduated number one in his very highly ranked medical school class. So what you want is you want something that is deep linked. In other words, let's say you have a card it has and you don't have to have just trivial facts. You can have like tell me what the important aspects of the default mode network are and all the parts of the brain that actually relate to it. But the thing is, whatever you put in that card, so to speak, that flashcard, if you can't remember it, you can deep link and you can go back and see it in context. So I just love this approach. Smarterhumans AI helps you to really make sure you're getting information into your own brain.

Barbara Oakley [00:46:14]:

When I'm getting this deluge of new research papers every day I load them up, I press the AI button, I get, I get flashcards that are automatically suggested to me. I keep the good ones and I practice with them so I can really get it in my mind. And that's a whole nother conversation. But I found I love this tool.

Bonni Stachowiak [00:46:39]:

Well, it has been such a delight to be connected with you and as you can tell, I, I would have so much more I would talk to you. So let's get you back here sometime to talk about your other question course, which is how I first heard about you, the how humans learn. And I also will be linking in the show notes to the many episodes that we've had about retrieval practice. And I cannot wait to go check out smarterhumans AI because that one is new to me. I've made use of flashcards for a very long time because of all the evidence that you mentioned out there. And I'm kind of curious now to be able to take my reading highlight notes and see what smarterhumans AI may be able to do with that. Because I so concur with the power of retrieval practice and the importance of us still being able to do that as humans. So I'm so excited.

Bonni Stachowiak [00:47:24]:

What a delight to get to talk to you today, Barb.

Barbara Oakley [00:47:26]:

Wow. I am so lucky to speak with you. So you ask such great questions and you really hone in on the important aspects. I mean, like, nobody's picked up before that narcissism is a real, really important when it comes to free speech. And you're like, oh, I love you. You did it. But so many other things. So it's been a pleasure and a treasure speaking with you.

Bonni Stachowiak [00:47:52]:

Well, I hope that we'll get a chance to have our paths cross again and introduce listeners to even more of your work. Thank you for your generosity, Barb.

Barbara Oakley [00:48:00]:
My pleasure.

Bonni Stachowiak [00:48:04]:
Thanks once again to Barbara Oakley for joining me and on the show today. Today's episode was produced by me, Bonni Stachowiak. It was edited by the ever talented Andrew Kroeger podcast. Production support was provided by the amazing Sierra Priest. If you've been listening for a while and haven't yet signed up for the weekly updates from Teaching in Higher Ed, just head over to teachinginhighered.com/subscribe. You'll start getting the most recent episodes, show notes, as well as some other resources that aren't available anywhere else. Thank you so much for listening and I'll see you next time on Teaching in Higher Ed.

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