**Testing the Waters Before Diving In -- Determining the Type of Knowledge Gap**

**and the Readiness of Knowledge to Fill It**

*Presenter:*

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JOANN STARKS: I want to welcome everyone to today's session on, "Testing the Waters Before Diving In-- Determining the Type of Knowledge Gap and the Readiness of Knowledge to Fill It," a webinar for the Center on Knowledge Translation for Disability and Rehabilitation Research, or KTDRR, which is housed in the Austin, Texas office of American Institutes for Research, or AIR. The Center on KTDRR is supported through funding by NIDILRR, the National Institute on Disability Independent Living and Rehabilitation Research, which is the center within the Administration for Community Living of the Department of Health and Human Services.

My name is Joann Starks. And now I will introduce today's presenter, Dr. Travis Sztainert, who is the knowledge mobilization specialist at Frayme-- that is spelled F-R-A-Y-M-E-- in Ottawa, Ontario, Canada. Travis regularly consults with decision-makers, regulators, and other organizations to foster collaboration and provide the best available evidence to support their work. He leads the development of products from large-scale evidence reviews to brief reports and data analyses, to digital resources and social network analysis to demonstrate wide-reaching impact.

He was a knowledge broker content specialist at GREO from 2015 to 2020. Travis also works as a research consultant with various addiction and mental health-related organizations. In addition, he has developed and instructs the Certificate in Knowledge Mobilization through the University of Guelph. Travis holds a PhD in Psychology from Carleton University, where his interest in mobilizing knowledge began, and a Knowledge Translation Professional Certificate from SickKids Learning Institute.

In this presentation, Travis discusses the processes that underlie knowledge translation. He focuses on examining the knowledge-to-action gap, by introducing overarching micro-gaps, and proposes the creation of a gap assessment tool. He also presents an end-of-grant readiness tool he has been developing over the past several years and discusses some partnership activities around the use of the tool. This is a follow up to a presentation that Travis provided a few years ago for our sister KT Center, the Center on Knowledge Translation for Employment Research. Travis, are you ready to begin?

TRAVIS SZTAINERT: Yes, I am. Thank you so much. So, I want to thank everybody for coming to watch my webinar today. So, I'm going to be talking about testing the waters before diving in. So, the idea here is that you really want to get your feet wet before you dive into knowledge translation, knowledge mobilization, whatever you call it.

And so, this work really began when I was doing my PhD and postdoc at Carleton University. I started as a sort of associate for the Carleton University Gambling Labs Gambling Research and Exchange hub at Carleton University. Then I was a knowledge broker and content specialist at GREO, which had a knowledge translation mandate. And now I'm a knowledge mobilization specialist at Frayme. So, I just wanted to thank all three of these organizations for basically giving me the time and space to work on this at this passion project that it's become.

When I first started hearing about knowledge translation, it took me a while to really get a grasp on what it is. So, when I first started, I did all the research. I found that there is more than 100 terms that refer to all or a subcomponent of knowledge translation exchange. You get things like knowledge transfer, knowledge management, diffusion of innovation, broader impacts, and implementation science.

And when you start getting down into the frameworks, there's a plethora of frameworks that are looking at different aspects of knowledge mobilization translation, some based on integrated models of knowledge translation, some focused more on end-of-grant knowledge translation. But what I really found is that, despite the frameworks that I was looking at, there wasn't enough focus, for me, on how to determine if your knowledge is ready to be used, and more importantly, what type of gap your knowledge is filling in the landscape.

So, I really needed clarity to move forward in my own work in terms of determining how and when to use research to fill knowledge gaps. So, I sort of created my own framework. This was done way back during my postdoc. But it really-- it's called The GREaT Flow Chart. And you can see that there's a start in the top upper left, and a finish down in the bottom.

But the real takeaway here is there's three phases that I pulled out. And the first is the knowledge determinant phase. And this is determining what knowledge you have and what gaps you're looking to fill. And that's where we're going to focus our talk today. Then there's the knowledge planning phase, planning on what you're going to do, how you're going to implement the knowledge into practice. And then the action phase reaction, doing that work, so that's the implementation and evaluation piece.

So, let's look at the first knowledge determination. That's what we're going to talk about today. So, the first thing that you hear about when determining if your knowledge is ready to be used and in what capacity is to really identify the gap, the knowledge-to-action gap. And this is called different things to different people. Some people call it an innovation-to-implementation gap, or discovery-to-applicability gap.

But the real question is, what's in the middle? How do you fill these gaps? And I think there is an implicit assumption here that knowledge will fill the gap, that giving people the right information or the right knowledge to the right people at the right time in the right format will fill that knowledge-to-action gap. And I think maybe knowledge-to-action gap is a misnomer. And my idea was that maybe we can identify specific micro-gaps along the process that could help inform where, specifically, that knowledge-to-action gap lies.

So, in the research, I came off with really two overarching gaps. And the first is sort of an attitude or value-to-action gap. And this really occurs when what people say they value and want doesn't equal what they do. So, there's a discrepancy between what they say they want and the behavior that they employ. So, I might say, for example, I value eating healthy, healthy food. But I regularly visit McDonald's. So, there's the gap between what I say I value and what my behavior shows.

And here, people are generally really bad at telling you what they want. So, I might say I want to eat healthy. But when it comes time to choose the food, other things might be more important-- so like the cost of the food, the convenience, how ready am I to really commit to the healthy lifestyle and that sort of thing. So, when it's actually time to decide, there can be a real big disconnect between what people say they value and what people do.

And this gap is often addressed using an information deficit or rational choice model of human behavior. So often, people will say, well, if you just give people enough information, if you just tell them the consequences of their actions, you help them build out a plan for dealing with those actions-- so you tell them that, for example, that the fast food is unhealthy, and give them the guidance there-- then they'll do it. Then they'll become more in line between their values and their behaviors.

But models based on this information deficit hypothesis really fail to account for cultural, institutional, and structural constraints. And actually, there's a whole other webinar that I've given that you can look up, called "An Introduction to Nudge Theory." So, nudging in behavioral economics really are ways to change behavior, without focusing on the information in that deficit hypothesis.

The other overarching gap that I came across was the intention-to-action gap. And this is where people fail to implement what they're intending to do. So, a lot of psychological theory states that intention is really one of the best predictors of behavior. And if you're doing a survey, or if you've ever filled out a survey after a webinar, one of the things they might ask you is, what's your intention to actually use this new knowledge that you've used in practice?

And so, there's a bunch of theories that look at intention in the theory of reason to action, the theory of plan behavior, the attitude behavior theory, prospection-motivation theory. But the problem here is that, even among those theories-- so there was a meta-analysis of meta-analysis conducted and found that intention really only accounts for 28% of the variation in behavior.

And so, they found that intentions change over time. Temporal stability doesn't improve consistency between intention and behavior. So, if you continue to say that you're going to do something, you're more likely to do it. But really, it comes down to the fact that intention, even though it's the best way to get to behavior, it's still relatively a poor predictor of actual behavior.

And so, I want to really take those two overarching gaps and look at them more closely, and see, can I find micro-gaps in why people might not do a behavior within those bigger overarching gaps? And so, I came up with some, looking at the literature. One of the first ones is that communication-to-action gap.

So, this is where somebody might not follow through with a behavior change because it just wasn't-- they didn't have great instructions. There was poor communication. There's poor directions for how to change. In order to get people to change their behavior, they need to know why, where, what, when, who, and specifically, how to change their behavior.

So, some of the reasons for this gap that may exist may include miscommunication due to a lack of clarity around the goal. I don't know what the end goal is. What am I supposed to be doing? Lack of clarity around how to get to the goal-- OK, so I know what I'm doing, but how am I supposed to get there? Or false communication or other intentions-- and so this can be lack of support.

This can happen sometimes in change management, where they say, oh, we're going to be more inclusive or have greater diversity and accessibility. But then there's sort of a lack of follow-through, so other intentions that are coming through there. And so, there's a lack of clear communication around the issue.

Another gap is the motivation-to-action gap. So even if you communicate with me, and I know how to do something and when to do it, but even knowing that, even knowing how, I might choose not to do it. And I might lack the motivation to really follow through with what was told to me or what I said I was going to do. And the reasons here might be numerous.

People may not buy into what we're trying to suggest that they do. There might be a lack of belief. It doesn't make sense, lack of clarity. That goes back to the miscommunication piece. People can be very anxious and concerned about changes. There can be a lack of focus. They're just not interested in making the effort to change. It seems like it's too effortful, and I don't feel like doing it. Or they're lacking a big picture to guide them-- so lack of destination, lack of end goal.

And there are some arguments here that, is this really our problem? Should we have to address motivation-to-action gaps in knowledge translation? And here, some people put the argument, don't people bring their own motivations with them? And I would say no. I would say, there's a lot we can do to help motivate people. And if knowledge translation, knowledge mobilization has taught us anything is that emotions and motivation really do matter in helping people make a change.

OK, so even if you communicated clearly and are motivated to do something-- so I understand the knowledge, I appreciate it, I believe it, I want to change my behavior-- I may actually lack the experience to do so. So, there might be a skill gap there, a skill-to-action gap. So, this is a great example that I came across the book. But it's basically, if I'm going to hike the Appalachian Trail, the only thing that's going to get me ready to do that is a lot of practice and conditioning, like doing multiple smaller hikes.

Like even if I get the best gear, that won't really help me. If I have the best supports, if I have the best technology, that won't help me do the trail. Understanding the starting point and the ending point and knowing how I'm going to take on the trail, and having a destination and a map and guidance, again, that won't really help me when I'm actually walking on the trail. It might help a little bit, but it's not going to carry me the whole way through. Route planning won't help.

Maybe spending some time on an elliptical and a stair climber will help. But probably not. Probably what I really need to get me ready to hike this trail is actual experience hiking. And so sometimes, it comes down to that. If the gap you're trying to fill comes down to a skills-to-action gap, you need to give people the chance to really try out in safe, smaller ways what you're asking me to do, especially if it's a big ask.

And then there might be a habit-to-action gap. So even if I have the skills, if what you're asking me to do to change my behavior is going against an already preformed habit, that's going to be a problem. So, we all know creating and maintaining new habits can be really difficult. This is called the New Year's resolution effect. Everybody tries to make a resolution on New Year's, and a very small minority actually follow through with that. And a lot of that has to come down to habit.

So, unlearning and delimitation is a new concept in implementation science and knowledge mobilization, more generally. And here, as the saying goes, old habits die hard. So, if our brain and our body is used to doing something, there's automatic processes, those are very hard to unlearn.

So, the idea is that teaching an old dog new tricks is a relatively easy thing to do. The hard part is unteaching an old dog a trick it already knows. And so, this is something that's currently being looked to in implementation science. There's this idea of changing habits through substitution.

There's a great book called The Power of Habit. And if you're dealing with a habit-to-action gap, if that's what's stopping people from doing the behavior or taking on your knowledge, then I highly suggest reading that book. And it requires conscious effort to do something new. So, making new behaviors as easy as possible will go a long way.

One of the last gaps might be that the environment really isn't set up for success. So, the environment-to-action gap has a lot to do with change management approaches, wherein, maybe there's not greater support in the environment for a changed behavior. So maybe the organization doesn't really support the change. Maybe there's not enough materials or reference aids to support a person changing within their environment.

There's the question, are people being rewarded for making the change or are they being dissuaded? So, is it taking more time for them to make this change and they're not being compensated for that time? And is the change being reinforced over time? And these are all things that you need to think about if there is an environment-to-action gap.

So, the way I pictured it is that, in terms of the knowledge-to-action gap, really, there's these two overarching gaps, of an attitude, value-to-action gap and intention-to-action gap. And through those are possible smaller micro-gaps. So, there might be a communication gap. There might be a gap in motivation. There might be a gap in skills. There might be a habit gap. Or there might be an environment gap.

But this is nothing new. So if you really look at the literature, when people are looking at the attitude or value-to-action gap, there are existing frameworks and models that can help examine the attitude, value-to-action gap, including the theory of planned behavior, social cognitive theory, health belief model, and stages of change model. And likewise, with the intention-to-action gap-- so there's Maslow's hierarchy of needs, the hierarchy of the four sources of motivation, and Arnold's appraisal theory of emotion.

What doesn't seem to exist yet is a tool or checklist to help us really identify what is the micro-gap that we're facing in our work. And so, I propose that the knowledge mobilization sector-- and maybe you're interested in this, as well. And if so, connect with me. But maybe we should come up with a tool that, really, at the beginning of the process, really looks at, what type of gap is this. And then by determining what type of gap it is, whether, it be knowledge, communication, motivation, skill, then we can come up with the appropriate initiatives and solutions to help fill that gap.

So, this is just rough. But if it was a knowledge gap, we might say, do individuals realize that there is a way to fill the knowledge-to-action gap? If not, well then, maybe it's a knowledge gap. Do they know that the knowledge exists? And can they find the knowledge? And if not, then it's knowledge or communication. Are the goals clearly communicated and understood? Well, if not, then it's clearly a communication gap. In terms of motivation, are individuals resistant to changing course?

Is there any apathy towards the change? If so, then it's possibly a motivation-type gap. For skill, you need to ask yourself, is it reasonable to think that somebody can fill this knowledge-to-action gap without practice? What will they need to practice? Where are the opportunities for them to practice?

In terms of habits, you need to ask, are the required behaviors that I want the individual to do with this knowledge, are they habits? And if so, are there any existing habits that need to be unlearned? And then finally, in the environment, are there factors in the environment preventing the individual from being successful in their change? What do individuals need from the environment to make them successful?

And so, this is just some questions that I threw together. But again, it is my hope that one day we can make a gap assessment tool. And if this is interesting to you, please reach out to me. I'll have my email at the end of the slides.

OK, so that was the first piece that I was really interested in, was in terms of the knowledge determination phases, I call it. It was really determining what type of gap we're dealing with. Now I want to look a little bit closer at that knowledge determination phase. So, this is a zoomed-in picture of the flow chart that I showed earlier, just looking at the start, and looking at some of the steps in the process.

So, we already dealt with the type of gap. So, have you identified a potential problem or issue to be dealt with? That seems like it's manageable. Even if you don't have the gap assessment tool, I think most people can identify some place in which knowledge, in some way, shape, or form, can help bridge the divide between good practice and then evidence-informed practice.

Do you possess the knowledge that you want translated? Again, most people will have this knowledge on hand. And if not, they can get it, whether that be through systematic reviews, whether that be through lived experience, local community data. Most people have some idea of-- they have the knowledge to fill the gap that they've identified.

But they need to ask yourself, is the knowledge ready to be used? So, if you've identified a potential problem or issue, and you have knowledge that you want translated, well, is that knowledge ready to be, then, used to fill the gap. Because knowledge exists on a continuum of readiness. And in my research, I haven't found any sort of tool that really looks at this piece about assessing whether the knowledge is ready to be used and in what capacity. And so that's been really the driving force for this tool that I'm about to talk about.

So, when you're thinking about how ready knowledge is to be used, there's these two quotes that come up. They're from the "Knowledge Translation in Health Care" book, "Moving From Evidence to Practice." And they say, when considering the end-of-grant KT activities, it's critical to consider the strength of the evidence and its significance and tailor our strategies as appropriate.

So here, it's just that-- not all knowledge is born equal because it's on this continuum of use. So even if knowledge exists, it may not be right for you. So decisions about the extent and ambitiousness of KT plans should be guided by the reliability, validity, strength, and significance of the research findings. And so that's what I really wanted to flip into a tool.

So, I came across, really, three overarching criteria for what we might want to look at when considering how ready evidence is to be used. The first is, is your evidence, or is the knowledge that you have in hand, is it couched within a larger body of work and existing within a solid foundation of valid, high-quality theory and research? So, the idea here is that you don't want to just put excessive emphasis on a single small study or studies of poor methodological quality, or studies in which the strength of the evidence is low. So, this can help fight against cherry-picking of data.

So, you might hear that there's an issue that arises in the news. And some media person comes on and says, well, look, there's this great research that's been done that addresses this issue. Why hasn't it been implemented? We need to move forward on this research to help address the issue. And yeah, but it's not of a great quality, and it's a single small study with poor methodological considerations, then it might actually be unethical to move on that right away. Because then you might be implementing something that maybe wasn't tested as thoroughly as it should or could even impact-- could be harmful to people.

So, it's important that the knowledge is of high quality. Of course, then the question is, what is knowledge? So, there's the idea of the rigor of the knowledge, like the methodological quality of the knowledge versus the relevance, how relevant is it to actually addressing an issue. And then you get into the weeds of research versus practice-based evidence. So, when does evidence from the front lines maybe outweigh research evidence. And what happens if they collide?

And so that's all to say that, in this tool, for the sake of simplicity, I really did focus on research-based empirical-type evidence. And so, this tool is really tailored towards assessing the readiness of empirical research-based evidence from that lens. So that's not to negate the importance of relevance and practice-based evidence and evidence from lived experience, but just to say that I couldn't incorporate everything into this tool. And so, if that's what matters to you, then this tool really isn't designed with you in mind.

And some authors argue that knowledge synthesis, specifically systematic reviews, or meta-analysis, should be considered the base unit of knowledge translation. To some extent, I agree with that. But I also have some issues with it. So systematic reviews, if you've ever read one, or a meta-analysis, often, the focus is so narrow in terms of which studies they include and what studies they exclude in their synthesis. And they're always looking for populations that are homogeneous, so that are the same.

And so, the results from those systematic reviews and meta-analysis are often not very widely applicable, and in some cases might be meaningless. To the credit of academia, this is part of the reason that people are moving to what's called realist reviews, where they look at not in what populations this effect might occur, but why, what are the reasons for success or failure here. But that's all to say that, I slightly disagree that knowledge synthesis should be the base unit. But it is good if it is a base unit for your knowledge.

Another thing to look at is, is the evidence relevant or appropriate for the targeted domain of use? So, if whatever knowledge or evidence you have in hand is going to be of major significance to the issues at hand, it's going to really impact the users of that knowledge, then it should be placed at higher consideration. So, evidence should be locally relevant and adaptable to its target domain of use.

And then lastly, you need to think about, will the evidence have a significant impact on the knowledge users or the system? So, this gets into the weeds a little bit of the ethics of knowledge translation, knowledge mobilization. But that is to say, if you choose not to move forward with a piece of evidence or knowledge, that could greatly impact or influence people's quality of life or health outcomes, there's an opportunity cost of not moving forward quickly enough.

So, a great example of this is with the story of ulcers. So, it was 10 years between when simple antibiotics were found to be a cure for ulcers and when it was actually implemented as an evidence-informed strategy. And so, in those 10 years, ulcers are debilitating and common. So, there was a lot of people that, I would argue, were probably needlessly suffering from ulcers. So, the question would be, should that knowledge have been implemented and mobilized and translated quicker than it was? And so that's just something to consider.

So, in terms of the actual tool, the tool is divided into two sections. The first section looks at the quality and strength of the evidence. And the second section looks at the strength of the evidence. This tool, again, is designed to be used by anybody who wants to assess the KT readiness of completed or near-completed research. So, it's really focused on end-of-grant KT activities. And as I mentioned before, the current checklist deals more with empirical evidence-- so it's from a health and social science perspective-- than it does from other perspectives.

So, you'll see in a second that there are some initial considerations I use with the tool that are based on the evidence pyramid, in terms of empirical evidence. And so, this first section can be adapted to meet the needs of your organization and whatever you feel is valid evidence about where you work. The important thing about evidence is it's never-- it's always defined by the users. So, the users of the evidence and the ones that are going to be impacted by it are the ultimate ones that determine what type of evidence is meaningful. And so, this is just, again, with my tool, my interpretation of what's meaningful.

So, I'm going to show you first the blueprint of the tool. I'll show you the behind-the-scenes of the tool. And then I'll quickly go over where it's going. So, this is the tool in all its ugliness. This is the very first iteration. I go through this in a lot more detail in the previous webinar that I did for the other organization, the sister organization that was mentioned. I encourage anybody that's really interested in finding out more about my thought process throughout this tool to go and watch that first webinar. Because it goes into a lot more detail than I'll be going in today.

But I just wanted to give a general overview of the end-of-grant readiness tool. So, you'll see that, in the three colors, there's really three sections. The first one in the green is really an initial consideration section. The second section looks at the quality and strength of evidence. And the third section looks at the significance of evidence. You'll see that, on the very right side, there are points awarded to the answers to such questions.

And those points, ultimately, add up and sum to a score and it. And depending on that score, the tool will suggest one of three possible outcomes, either that the evidence really isn't that ready, so there's low readiness to mobilize that knowledge or translate that knowledge, moderate readiness, and then high readiness. And we'll go through those a little bit at the end.

But let's just start at the beginning. So again, the initial consideration, as I said, is based on the evidence pyramid. So here, if you're starting off with a meta-analysis or knowledge synthesis of some sort, you're starting with a lot more points than if it's just a single observational study. Now, that's not to say, at the end of the tool, that the observational study won't have moderate or even high readiness to translate at the end, depending on the rest of the outcomes in the tool. This just gives an initial weighting. Because in some senses, it can give you more confidence in the findings of the evidence and the knowledge that you are using.

So, you start off with 10. You can go down. Observation, we start off with 1. You can go up. There are no negative points here. It's a 10 to 1 scale. And then the first thing you need to think about is, is this empirical evidence, is the knowledge that you're dealing with, is it of high quality, methodological or otherwise? And there are a lot of different tools that you can use to appraise methodological quality. It's also called risk of bias. You'll hear these tools called risk of bias tools. And you just Google search them. There's a ton.

And so, I didn't want to specify which tools to use. All that to say, whatever tool you use, just transform it into plus 10 or negative 10. And then, at the end of the day, you'll be able to use this checklist. And so, if it's of really high quality, you can get up to 10 points. And if it's of really low quality and it's not very well done methodologically, you can lose up to 10 points. So right off the bat, if it's a very poor meta-analysis, it's going down to 1 point or 0 points. And if you're starting with a really solid observational study, you're 10 points right there.

So, the next question is, is the evidence in line with the existing body of knowledge or cached within existing literature? Again, I talked about this briefly. You can have, yes, up to 5 points, or no, subtract 5 points. What is the estimated effect of the outcome? So, this talks about effect sizes. The reason for this question, and the next question about power analysis, is due to something in the social sciences called p-hacking. So, there's been a lot of concern within psychology and the greater social sciences that a lot of emphasis has been put on statistical significance and not a lot has been done on effect sizes and replicability.

So, the problem is here, in any study, if you have a big enough sample size, if you have thousands upon thousands of participants, it's very easy to find statistical significance. But what it's hard to find is meaningful differences. And those are effect sizes. What is the actual effect that you're looking at?

And so here, I wanted to give points for larger effect sizes and adequate sample sizes. And this helps fight against the fact that some studies might come out with high significance, but it's relatively meaningless because the effect size is so low. So, you don't need to get too bogged down in that at all. But I do have some links within the tool to help navigate that.

And then the last question here is, is the evidence ecologically valid? So, in other way of saying that, is the evidence generalizable? Did they just look at, say, a population of students to find this evidence? And if they looked at students in university, is that generalizable to lower income, ethnically diverse populations in rural Alaska, if that's where the gap exists? So, you need to think, is whatever evidence comes out of your knowledge, is it generalizable? Is it more ecologically valid to the real world and where you want to implement your knowledge?

The next section is the significance of evidence. So, this doesn't deal-- this is a little bit more subjective. So, whereas the first one, they're scales to tell you about mythological quality, although I argue that some of those are a little biased and subjective, as well, power analysis, and even the ecologically valid question, somewhat subjective. So, it can take this tool sort of with a grain of salt, in the fact that a lot of these questions might be subjective, and different people would rate them differently.

But at the end of the day, this tool is just designed to give you a quick snapshot of your research. It's not designed, and it shouldn't take a long time to really fill out. But it's really designed to get you thinking about, how ready is your evidence to translated? So, this next section, significance of the evidence, starts with a note that you maybe consult your stakeholders or knowledge users to help answer these questions.

But the first question is, for example, does the evidence fill a knowledge user gap or need? Will this knowledge really fill their gap or help address the issues that they're facing? And yes, if it's determined via specific request, you get plus 15. Does it determine if an area needs assessment or a formal consultation? Plus 8. Local opinion, plus 6. And no negative 15. So, the point here being that, if your knowledge is not going to fill a knowledge gap or need, then it's really not ready to be translated.

So, you're losing 15 points off the bat. Because if there's no need or appetite for your knowledge, then no one's going to pay attention to it. You could have a very well-designed meta-analysis. But if you're trying to get it into practice and it doesn't fill a need or want at the knowledge user level, then you're going to be fighting an uphill battle. And it's maybe not ready to be translated in the same way that something would be that would fill the need.

The next question is, can the evidence be applied to the target population? Again, yes, maybe, and no. So again, this kind of goes to ecological validity, as well, but more generally. Does the evidence directly address the desired change of beliefs, attitudes, behavior? So, let's say, for example, a psychology study was looking at attitudes.

Well, we know from my gap analysis that I just talked about that attitudes don't actually predict behavior. So, if what you're trying to do is change behavior, but the evidence was just looking at attitudes, then maybe the evidence doesn't directly address the desired change, for example, in behavior. And so here, you could score a plus 5 to negative 5. And then lastly, does the evidence provide a new, novel, or innovative way to address the desired change? If not, you don't lose any points. But if so, you get some points.

This is probably one of the most arguable pieces of this tool, about whether that should be a criteria. This comes down to the fact that you can't get out of an issue or problem with the same thought processes and thinking that got you into that problem. And so if you can find a new, novel, or innovative way to address a desired change, then it actually might be more successful and have more merit, and you should put some more efforts, in terms of KT, into it. But again, that could change.

So that's the ugly blueprint of the tool with all the scoring criteria. And then, at the end of the day, you have these readiness outcomes. And they're based on-- they're suggested cutoffs for each. But again, that needs to be pilot tested here, and we'll get to that. But the readiness outcomes are low readiness-- so if you score low readiness, that suggests that maybe more research is needed. But passive dissemination practices here would still count. So I don't want to ever say that a piece of knowledge or evidence should never be translated, but maybe just with caution-- so presented at, for example, a conference or a journal article, where other peers could read about it, so more of these passive dissemination type of pieces.

If it scores as moderate readiness, then active dissemination, more targeted dissemination practices. And then if it scores higher readiness to translate or mobilize, then what you might be looking at there is actual implementation readiness. So, we'll go through each of those.

So, the first is low readiness to translate. So again, the evidence doesn't really seem to be ready to be translated. More high quality, higher significant research needs to be conducted. Passive dissemination or diffusion strategies may be appropriate. Stakeholders here should be consulted to make sure that future research will be of value and significant to the end users. Some examples of a low readiness to translate, I gave you again, presentations at academic conferences, sharing knowledge on research-centered media, maybe some focus groups with knowledge users and stakeholders that are facilitated to determining their pressing and upcoming issues, and how that knowledge might actually fit or address some issues that you didn't know about, and that might be up and coming. So, I never want to that evidence shouldn't be translated, just with caution here.

If you're looking at moderate readiness to translate, well, then you might be ready for more active approaches to dissemination. So, targeting specific audiences other than researchers might be useful to get your message out, to get them knowledgeable and potentially thinking about your evidence and using the knowledge you're trying to share. So, this quote, again, comes from the Knowledge Translation in Health Care-- Moving from Evidence to Practice book.

It says, "Active approaches may include tailoring the message and meeting to the specific audience, linking researchers and knowledge users through linkage and exchange mechanisms, such as small workshops focused on the dissemination of a synthesized body of knowledge or those focused on developing a user driven dissemination strategy, engaging media, using knowledge brokers, or creating networks of committees of practice involving both research and knowledge users." So, the idea here is that it's a little bit more active, a little bit more intentional, if you will, than the passive strategies for low readiness to translate.

And then finally here at the end, you get high readiness to translate. So here, in order to score high readiness to translate, you need to have done really well with this piece of evidence on the quality piece and the significance piece. So, if you're scoring high readiness to translate, that means you started with a good study, it was a good study, and it's very relevant to the end users. And so, you're very ready to translate that knowledge, because whatever effort you're going to put into it is going to be relevant and you can stand behind it.

So, you need to do well in both sections of the tool, that is to say. So, you'd come to high readiness to translate. And here, the evidence may be highly useful, and therefore should go beyond regular means of just dissemination. You might want to consider ways of putting your knowledge or evidence into practice. You need to decide if you want to use your knowledge or evidence to change attitudes, behaviors, influence decision-making, influence intentions.

You really need to think about what your goals will be for implementing that knowledge and come up with tailored and structured knowledge translation plans in order to do that and meet those goals. So, an example would be, you may want to begin with a small-scale project with a target population in a local setting. And then make sure to secure the early involvement of knowledge users and stakeholders in that pilot. And then if it goes well, scale from there.

OK, so I brought you through the thinking of the tool. What's next for it? So, this has been an ongoing process, like I said, since my postdoc. But really, what has happened in the meantime is that, I've gotten busy with work and jobs. And it's sat a little bit on the wayside. I have created this beautiful Excel version, with help from Joe Grady at GREO, who is a summer student with us. And he helped put together this beautiful template that does the automatic scoring for you. It's a dropdown menu, and points are automatically calculated. So, it's a little less ugly, a little more beautified, if you would, than what was previously done.

And I'm happy to announce that, based on the presentations that I give on the tool years ago, that some people have come forward with interest. So, one the people that is really interested in this work is Dr. Belinda Goodenough from the Dementia Training Australia. And she really wanted to create a Readiness for KT Tool. She's calling it the R4KT protocol. She approached me about using my tool.

And I gave her some links to some other tools that since then have done similar things. Like this is called the hexagon tool, which is very similar. It looks at the context around evidence to determine its readiness. And so, she took parts of my tool, parts of other tools, and really combined them in this Readiness for KT Tool. And she presented the initial findings at the 2019 Australia Dementia Forum. And the idea is, eventually, to publish this tool online as part of a web portal for Dementia Training Australia.

And part of the reason that she's looking at this is that they've had a lot of research that has been done in the past. And the question now, of course, is, well, what has been done with that research? And what can be done and should be done with that research? And so, the idea is to use this tool to help inform that, as well.

Besides that, I think that this tool could also be useful maybe as a pre-consideration for people undergoing research. So thinking about how to do significant and high quality research at the very beginning, and going through some of the questions on my tool actually might be helpful for people at the initial stages of their research, to help ensure that, down the line, that it can be used, especially if they're not taking an integrated approach, especially if they're taking an end-of-grant type of approach. So, if the knowledge translation is going to come after the findings, to just try to consider some of these questions that I posed and some of the scoring criteria upfront I think could be useful.

And so, with that, I'd like to thank you. I'm always interested in collaborations and working with people on these tools that I'm coming up with. And so if you're interested in any of them, please, please, please, don't be shy. Please contact me. My email is travis.szt@gmail.com. Dot Or you can reach out to me on Twitter. My Twitter address is @DrSzt. So, I want to thank you, again, for listening to my ramblings and philosophy on knowledge translation and mobilization. Thank you.

JOANN STARKS: Well, thank you very much, Travis. That was really great. We really appreciate you sharing this information with us. I think you did a great job. But we do have a couple of questions. And one is, how do you determine the scores for each question or construct? And as part of that, why did you decide to include negative scores in your scoring system?

TRAVIS SZTAINERT: Right. Yeah, so a lot of the thinking, initially, was guided through the research I did, looking at the question and trying to find out, are there any tools available for this readiness to change? But ultimately, it came down to a decision of face validity a.k.a. what looks good and how I imagined the tool being used. And so, through pilot testing and through the work with Belinda Goodenough, she's working on her own scoring for the tool. And we're hopeful that through that pilot testing and through seeing how the tool works that we can better refine those scoring criteria.

But yeah, again, I designed, also, the tool and the scoring to equalize out. So, in order to get the highest readiness to translate category, you really have to have high quality research that's done methodologically well with high quality that is significant to the end users. And so, the scoring is sort of balanced out such that, again, you could start with the lowest, you could start with an observational study. And you could get high readiness to translate if both criteria are met, the overarching criteria. Or you could start with a meta-analysis that actually is not very much ready to translate based on the scoring-- so enough flexibility to go both positive and negative.

Now at the end of the day, given all the scoring, it's very rare that anybody would be in the actual negatives, like any piece of one research would be in the negatives. Part of that is because I don't personally feel that-- I feel that any research, even the most basic research, can be translated, can have some knowledge translation some way. So, I didn't want to give people negative scores and for them to think that they're out their research isn't positive. I think research is always positive and you can always learn something from it and help others learn by sharing it. So that was some of the thinking around the scoring and the positive and negative numbers. So again, yeah, I wanted offset between the different categories, so that you could gain points or lose points.

JOANN STARKS: OK, thank you. Regarding the quality and strength of evidence, I was wondering, do you have some accompanying text that maybe gives a little bit of an explanation of some of these things, such as effect size, sample size, power analysis? Or is the assumption that, if you're doing this, you already have that information, or that you can get it elsewhere?

TRAVIS SZTAINERT: Yeah, that's a great question. Thanks. And I think the idea is to have a guide to go with this, and to really take you through the different considerations of each question. I think it's great if you already have that knowledge with you. And there are, as I mentioned, some great tools that can take the average person through scoring with the methodological quality of a research evidence. The Critical Skills Appraisal Program checklists come to mind. They're really user-friendly and really help you determine methodological quality.

Having said that, in some capacity, I think it would be easier to use this tool if you had some background knowledge in research. So community organizations that are wanting to use a tool, where maybe they don't have that sort of expertise on panel, I would recommend, at least at this point, to maybe work with a researcher or scientist, to help you answer those questions. Because a researcher, even graduate students within the research institutions, would be able to probably fill that section out fairly quickly. So, I don't want it to be too onerous on people to fill out. But I think having a user guide would be really great. And if you're interested in that, again, give me a shout on email or Twitter.

JOANN STARKS: Before we go, I want to ask viewers to complete the brief evaluation for this webcast by clicking on the link in the description box below. We do appreciate your feedback very much. I want to, again, thank Dr. Travis Sztainert for his presentation today, and to thank everyone for participating. I also want to be sure and thank Shoshana Rabinovsky for helping with logistics, and NIDILRR for supporting webcasts and other activities of the Center on KTDRR. Please visit our website at [www.ktdrr.org](https://ktdrr.org/). I hope you all have a very good afternoon, and we will see you at our next KTDRR event.