**2020 Online KT Conference:**

**Social Media Strategies for Knowledge Translation**

*Using Facebook to Impact the Knowledge of Evidence-Based Employment Practices by Individuals with Traumatic Brain Injury*

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>> KATHERINE INGE: Yes, I am ready. I appreciate that kind introduction. It's a pleasure to be invited to talk with all of you today. I would like to say that I also have to thank NIDILRR for funding this research through the center on knowledge translation for employment research. You might be able to tell by my introduction that employment for people with disabilities has pretty much been my life's work. It's near and dear to my heart. I must say that that study on knowledge translation and using Facebook is really one of my most satisfying research studies I have participated in.

So, I would like to just start with a comment, and you might think why did we select individuals with traumatic brain injury as the targeted group that we worked with in Facebook? One of the primary reasons for that ‑‑ I don't know whether all of you that are listening today are familiar with the RSA911 closure reports that are produced every year.

But right before we started this study, we found that only about a third of the individuals with traumatic brain injury who exited vocational rehabilitation did so with a successful employment outcome. We were concerned about those outcomes and really wanted to think about how knowledge translation could potentially impact those outcomes, although I must say we did not specifically measure any changes in those outcomes. That is one of the reasons we selected this particular targeted group.

So, let's go onto the first slide. I know most of us know what the definition of knowledge translation is, but what we have here on the slide is NIDILRR's definition from their long‑range plan. Really, the importance of knowledge translation is really that it addresses the real issues faced by people with disabilities, hence, individuals with traumatic brain injury and their employment outcome was our concern. It offers information and solutions related to those issues. We were looking at potentially improving the knowledge around individuals with TBI around employment and employment supports that we can achieve or receive through Vocational Rehabilitation and other agencies in the community. And knowledge translation is presented in ways that make it accessible and feasible for the users and is disseminated effectively.

One of the important factors we are all aware of is that knowledge translation specifically wants to address the needs of its users at each phase of the research.

I think the unique feature for using Facebook as a knowledge translation strategy, and sometimes I like to give people a take away point. If you don't hear anything else I say today, I think my take away for today is that Facebook has the ability to engage the user of the knowledge that we are trying to give to them throughout the process, throughout the phases of our research. We will talk a little more about that as we move forward.

Really, Facebook gives us daily interaction with our end users as well as gives us ongoing feedback as to what they are getting out of participating in the Facebook group.

I think there has been a lot of discussion. The first item on our slide as far as why do we use Facebook for knowledge translation, I think there are many pros and cons. If we took a poll right now, even though we are not, we can probably list the pros and cons of using Facebook for a knowledge translation strategy.

But I think some of the things that I thought about when we were first looking at setting up this study, I was somewhat of a novice Facebook user myself. But some of those issues could bring up what some of those folks with TBI have.

Before I sat down to think about this presentation, I decided I would Google social isolation in traumatic brain injury just to have a look and see if I could find anything on the topic because obviously Facebook provides an opportunity for people to connect socially. I found a rather interesting study that was just published in August of 2020. It's not on my reference list, I apologize because I just found it.

It was a study done in England and they looked at the English community life survey. What that survey found is that people with disability experience loneliness, social isolation at a significantly higher rate than people without disabilities. I'm sure we can all relate to that right now in the current environment we are living in as far as the feeling of social isolation and reaching out for ways we can connect with other people as in we are connecting today through Zoom which otherwise, we wouldn't have been able to do.

Really, the pros for using Facebook as well for me is some of the automatic built in features of Facebook. The e‑mail that you get when you post in Facebook. Hopefully serving as a reminder for people with traumatic brain injury, you may have memory concerns and issues, which is like a natural cue for them.

Immediate feedback from the participants. The ability to see who is looking at your post and who is commenting on your post. All of that feedback was a real pro for me. The very fact that everything what was posted throughout the history of our Facebook group stayed online for people to go back and review materials and resources that was provided was a real pro for me.

The other thing I thought of is naturally letting people have access to Facebook and be looking at Facebook and we will look at some information on that in a minute. Instead of creating a website or location in a website where they would have to remember user name and password. So, those were considerations I had when I first looked at using Facebook. I think we all can recognize the cons around the use of Facebook, do people with disabilities have access to the technology? Do they have concerns about security? Do they have concerns about the truthfulness of the information that is being provided to them? That has certainly mushroomed over the last number of years.

When we first did the study, we found some statistics on the reported use of Facebook and this study was done around 2015. 1.44 billion monthly active users in 2015. As of May of 2020, there were 2.60 billion. That is an amazing increase. Today, there are about 1.73 billion daily active users. And at the time we did this there were 936 million active users. Seven out of ten adults claim they use Facebook as of current statistics.

So those are just some basic points I think about wide use of Facebook which perhaps, all of you would have come up with if we had given you an opportunity do so.

So, let's look at some background information about traumatic brain injury on the next slide related to articles that had been produced about individuals with traumatic brain injury and the use of the internet.

Now, I'm going to admit right off that I am not 100% okay to put out the names of I went to Google and asked how to pronounce these names and came up as Shpigelman and Gill as the first reference that I’m using. Their survey of 172 individuals with traumatic brain injury they found that 69% said they used Facebook at least once a day. And 44.2% logged on for up to 30 minutes each visit.

Another reference that we used for this work was and I really don't know how to say this word. Tsaousides, Matsuzawa, and Lebowitz. I apologize to the authors for destroying the pronunciation of their names. They did a survey of 96 individuals with TBI and found about 50% of their sample used Facebook regularly and 70% reported they had the need to increase the knowledge of Facebook and 50% said they were interested in using Facebook.

So, I would like to wake all of you all up and call for my first poll if I could. I want you all to look at my first poll before we go to the next presentation. I would like you to answer how often you use Facebook. You have a number of choices if you would select one of those. I do not use Facebook. I rarely use Facebook. I use Facebook one to four times a month. At least once or twice a day. At least three or four times a day. I use FB for than five times a day.

So, when we did this study, we had a pre‑questionnaire for our participants to ask them some questions and learn more about them. Obviously engaging them for knowledge translation as well. And we asked them, how often they used Facebook? So this represents the information from our study participants and there were 67 of those individuals. About 82%, if you add the 30%, 25% and 27% at the bottom, the ones that said at least once a day, at least three or four times a day and more than five times a day, you get about 82% of our participants said they used Facebook at least once or twice a day or up to more than five times a day.

So, we had a sample that was interested in using Facebook. Then a lower percentage, a very low percent of only 3% said they did not use Facebook. 6% said they rarely used it and 9% said they used it one to four times a month. Let's have our next poll if we could.

In our second poll, what I would like you to consider is if you use Facebook to find information on services and support on employment for individuals with disabilities. The options are I never used Facebook to find information on employment. I use Facebook once or twice a month. I use Facebook three to four times a month or I use Facebook one day or more often to find information on employment.

Could we have the results of our first poll yet? Is that possible? We can see how similar people we are to our study sample. It looks like the majority of our group or about 38% used it once or twice a day. So, this compares somewhat to the group of individuals that participated in this study. Just to get you all active and involved in what we are talking about here today. And we have a few people of that use it more than five times a day.

I probably must confess that I fall into of that category, but I belong to quite a few groups. Look what our study participants said about using Facebook to find employment information. And, as you can see, really, a very high percentage of our participants said they never used Facebook to find information on employment. I would say that prior to doing this study, I would say that I probably fell in that group with the 62% of our participants who said they never used Facebook.

And then, only 9% said they used Facebook daily or more often to find information on employment. And very few, 15% once or twice a month. 14% said three or four times a month. Since doing this study, I joined all kinds of groups that provided employment information. In fact, I rely on that quite heavily when we were conducting the Facebook study.

Could we see the results of our second poll and see what people say? We are all right if line with what the individuals in my study said. That you never use Facebook to find information on employment at a very high percentage of participants at 78%.

So about 13% of you use it once or twice a month. 4% of you use it 3 times a month and 5% say you use Facebook daily or more often. I would say I fall down mostly in that category, the next to the last category. I use Facebook three to four times a month for information.

Those are things to think about when we consider using Facebook for a knowledge translation strategy. We have two research questions that we considered when we did this study. The first is social media specifically, a secret Facebook group led by a peer mentor‑effective in increasing the knowledge and use of evidence‑based research on employment of individuals with TBI. The second is what is the relationship between the participant demographics and the effectiveness of the KT strategy to impact evidence‑based employment knowledge and use by individuals with disabilities. Some of that included length of time since their injury, their age and others that we will look at a little bit later.

When we did this study, private groups were referred to as secret groups and they are now referred to as private and hidden in search is the name of the type of group now. For those of you interested in the type of research methods we use, we use both quantitative and qualitative methods. We did a pre and posttest control group designed or random control group design. We collected data, excuse me, prior to beginning the study we also looked qualitatively at the number of posts and comments made both by the mentors of the group as well as the tone of the comments, the number of comments and so forth and we did a satisfaction survey at the end of the study for the Facebook group.

One thing that I probably didn't know until I looked most recently since they had changed from calling it a secret group to a private group and it says their number of posts and views. As long as your Facebook group has less than 250 members, you will be able to see who has viewed each one of the posts and obviously, the like feature you are familiar with. I really hadn't been aware there was a number cap on being able to know exactly who viewed your post.

the point that I did not mention is we did not do pre‑approval of the post, which you also can do in a private group. The first day of the study, I had that feature on and I got a number of messages asking why their post wasn't available immediately? I felt it sent a message that we did not trust them. So I took that off. And we never had any problems, I'm not saying that you wouldn't have problems, but we did not have any problems with people posting inappropriate content in the group if that would be a concern for you.

Just a little bit of the study details. The participants were recruited from Virginia clubhouse programs for individuals with TBI and the brain injury association list serve. I'll talk a little bit later about the limitations of that and what ‑‑ that is probably one of the things I would change the most in this study design if I were to do this over again. But we had TBI survivors. They had to be at least 18 years of age, their own guardian. And in the online consent process, they were aware that they were consenting to participate in a Facebook study. That that’s what this particular research was all about. And, they realized their names would show in the group, but would not be available on Facebook for others to see that were not members of the group. That is the purpose of a private group.

Random assignment was done of the participants to a Facebook group and what we call the business-as-usual E news group. The Facebook group participated for three months in the intervention and five times a week means that we had a goal of the mentors of the group posting at least daily, either myself or the other mentor. There were two mentors in the study.

And for the E‑news group, I think I said we called that the business-as-usual group because that is a typical strategy for disseminating information to our stakeholders. We call that the business-as-usual group instead of a control group and giving the control group nothing. They received information once a month.

What I did as the lead person on this study, I looked back through all the information we had talked about in the Facebook group during the month and summarized that in a document that they received through those individuals and the E‑news group. We used a random number generator to randomly assign the participants. We had 34 participants in the Facebook group and 33 in the e‑news group. I didn’t say that originally we had 121 participants agree to participate, but we had a number of e‑mails that we received from people that did not work when we began the study. We had one person that was sending inappropriate e‑mails to the mentors prior to the study beginning and that person was removed from the study. We had a number of people that just never took the pretest.

So, we offered the pre‑questionnaire, I should say, prior to randomizing the participants into those two groups. I have already talked some about the confidentiality nature of Facebook. Because, certainly, there is an issue with that and really high priority, not visible searches for non‑members and not indexed by Google, et cetera.

I'll speed it up a little for those of you who may be worried about the fact I have so many slides. I think when I started this presentation I kept adding things that I wanted to say. Really, I will invite anyone to contact me later if they have questions on some of the information I might brief over.

Right before we did this study, and this is very important to spend a little bit of time on. We conducted focus groups as part of preparing for this study. We had individuals with disabilities and focus groups, including people with traumatic brain injury. Some of the things that we asked them was where do you get your information from? You know, what information are you interested? And in those focus groups, what we learned from the participants was that they wanted to receive their information from a trusted expert such as the VR counselor or a career adviser or if they wanted to receive information from another knowledgeable individual with a disability.

I was very lucky in this study to have Jay McLaughlin who had been a user of our services at the RRTC when we had a traumatic brain injury project for individuals who wanted supported employment or had supported employment services. Jay was one of the first individuals who received employment supported services from our TBI project. Jay went on to get his MS degree as a rehab counselor. He served as a mentor to other individuals with disabilities. So I was very lucky going back to what we had learned from our focus groups to have a trusted person to participate in this study and provide information from his perspective.

And I have already said that we have a minimum of one posting per day and we had used employment focus groups and that the list serve went out monthly with that information. And before I forget to say this, I think it's very interesting to note of the individuals that received the monthly E‑news and that was 33, only one person, and it was the same person. Only one person ever responded to those e‑mails notifications that were sent out. So there was basically no interaction with that list serve group. So there was no feedback that we got from them saying whether there was any usefulness to that information. For those of you, and I won't spend a lot of time on this. For those of you interested, we did do the descriptive statistics. We did a paired t‑tests, independent t‑tests and mixed model ANOVA to analyze our data at the end of three months. 60 of our original 67 participants took part in that and did both the pre and posttest. I also should say, all of the participants received a 25‑dollar gift card at the beginning of the study and at the end of the study.

I'm not going to spend time describing those things because I'm sure that that could be less interesting maybe than some of the other information that I have to share with you.

So the qualitative analysis, we looked at really what was the content of the information and how people responded to it. I think that we counted communication between the research team members as well as the participants. Then we looked at coding the content as far as whether the responses were positive, negative or ambivalent to the information and number of and type of communication.

I haven't said what were some of the things that we actually discussed in the group. We talked about what resources you could get from vocational rehabilitation, assistive technology you could use on the job, we talked about disclosure, interviewing techniques, interacting with employers and co-workers, discussing accommodations as well as supported employment since Jay had a background in supported employment and could talk to the participants about their interest areas.

Really, I think the biggest, most important issue or point of using Facebook is the ability to do qualitative analysis on the information that people are posting as you go along. You can learn what their knowledge needs are in real time. You can respond to the questions that they have. You can see what ‑‑ disclosure was a very big topic that people had and their negative reaction to employers and coworkers and talking about how we could interact with employers in a positive way to setup a positive situations in the workplace.

So, the ability to do that in real time was incredibly useful to me. I felt I was providing information that people needed as opposed to my best guess as to what they might want. And again, I said earlier take away points from this presentation, that really is one of the take aways that I got from this study. And one of the things I probably appreciated the most about being able to interact with the participants in the Facebook group.

The good thing for me when I was working at the office on other things, I had the pop ups that would come and notify me when someone posted in the group. Our goal was always to answer someone within 24 hours. Often times during the week, I was responding within ten, 15 minutes of someone posting. So that, to me, was another real positive feature about being able to use Facebook as a knowledge translation strategy is that immediate feedback that I could give to the participants.

Jay was not as flexible about that because he had a job he couldn't stop and set aside. He had things he would post later in the day, but always within 24 hours.

What this slide tells us is essentially that the Facebook group was equally balanced between female and male participants while the control group or the business-as-usual group that got the E‑newsletter were predominantly female versus male. For educational background, that was also pretty equally divided between those who did not have a college degree and those that did.

What we found in the analysis was that there really was no statistical difference on the educational level or the gender when it came to the knowledge gain when it came to the participants. We can move through these quickly.

The race/ethnicity of our study as you can see was pretty predominantly Caucasian or white with very low representation. I would say this obviously is a limitation of our study and would need to be addressed should you want to do something similar to address people from other ethnicities. But, essentially, what this meant was that the Facebook group and the control group both were similar as far as race was concerned.

We also looked for analysis later on and I'm not going to spend a great deal of time on this. We looked at age, years since injury, number of jobs the person had had before the injury and the number of jobs after their injury. There were in ‑‑ what all of these numbers say ‑‑ so what does this really mean? I'm not going to read the numbers to you. I hope that is okay. But there was no statistically big difference between the Facebook and the e-news group on these demographics.

Okay. So, there is a lot of very technical information on this slide. So, of what does it mean? Basically, it says over both, there was a significant change in knowledge scores, with participants in both groups increasing their knowledge by the end of the study. We see a T‑test score, a statistical a p-value, the pretest score and the mean post-test score. In a nutshell, what this means is that both groups in this study had a significant increase in their knowledge related to employment. Okay?

However, the takeaway from all of this misinformation about the pre post test results by group, they are basically as I just said both groups increase their knowledge over time, and the amount of change was knowledgeable for both groups, but there was no significant difference between the two groups. And I'm going to move on so we can get away from the numbers and into discussing a little bit more since I have not too much time. And that is basically that, again, there is no difference between the two groups that is what the statistical analysis means.

I must give credit to Carolyn Graham who was the other very important member of our team. She was the methodologist and statistician who produced all this wonderful information that you can read more about if you would like to read our paper on this.

What it means when we analyze using a mixed model ANOVA, analysis covariate. Number of years since injury, before injury and after injury, age, education level and gender. There was no significant difference based on those as far as knowledge gain between the two groups.

We had a pre- and post-knowledge test as part of our questionnaire that we used to analyze our study. And some of the areas that did not show any change was understanding what services could be provided through supported employment. Knowing what services to expect from the supported employment service provider and knowing what to do if your VR counselor says you have a severe disability and you are not eligible for services.

We had quite a few participants who reported that they had been found ineligible for VR services. I can't tell you why that was. I know that we have a lot of ‑‑ I think I saw a chat pop up in the chat that we had some VR counselors with us today. So, this is not about criticizing VR counselors. It was more about trying to help people learn about what services that they could be advocates for themselves receiving as part as what we talked about in the Facebook study.

In general, our participants said that they were satisfied with the Facebook study. We had a very small group that actually took or participated in the satisfaction survey, so these results are really limited to that. We had a high percentage agree that people thought the Facebook group information was relevant to them. That they thought it was a good way ‑‑ 83% felt it was a good way to exchange employment information. 91% agreed it was important to have a leader for the group. Even the qualitative information that we received from the participants in the group, we continually got feedback from the participants in this Facebook group that they really liked having Jay to talk to as far as the questions that were raised in the group. His experiences and his knowledge was probably one of the real important take aways from the study. People certainly responded to me. They asked me questions.

But, if you were to delve down and look at the tone of the questions as we did for the qualitative analysis of it, it was very important to have Jay in that group as a member as a mentor.

Let's move on because I see I'm getting towards the end of my time here. The small sample that we had that they said they didn't see anything that they needed to change. People wanted other people to be more visible in the group. We had certainly a number of people that looked at posts, but never posted. One person said they wanted to focus only on work, which really, I didn't really understand that feedback. But another suggestion was to have a topic each week that was focused on ‑‑ which we did not do. It was really good feedback to have.

Okay. This slide basically tells us that there was equal representative across the participants of the Facebook group. I'm represented as the blue. Jay is represented as what is showing up as a maroon color on the slide. The members of the group are showing up as the green. And they actually did the highest percentage of the posts in the group which was 37%. Jay was next at 31%. I was last at 22%.

Most of the time I tried to maintain my post to posting a topic for the day to discuss. And if Jay didn't address a question of a group member that I had some feedback on such as accommodations or how to talk with an employer. If Jay, didn't answer those, then I would help out with those. Predominantly, I tried to let Jay be more of the leader than I was.

This post just talks about what the content of the Facebook posts were. 32% were only about employment. The maroon, a very small percentage about people's skills and a fairly large %, 26% was about their life story and what we call non‑employment post. That was a particularly interesting feature of this study in that participants wanted to talk to other participants about their traumatic brain injury. That only speaks to the social aspect of Facebook itself. It gave them a place to connect with other individuals with traumatic brain injury. Not a focus of this study. If I were to do this again, I certainly would probably want to have some measures about social connectedness, about the sense of belonging they got out of participating in the Facebook group. But, clearly, as you can see just from the percentage of posts related to their life story, that was a significant need for them. And then relaxing inspirational posts. Those were just positive stories about people that were successfully employed, so kinda mixed with the employment posts. I tried somewhat to put inspirational quotes about working up and that was included in those categories. The quote that says, if you work at something you love, you never work a day in your life. You might have heard that quote. Every now and then I would throw out a quote like that and ask people what they thought about it.

Let's move on because I would like to get to some of the things we learned. Let's skip a couple of slides. Is there any way we can move forward through the quotes and go to ‑‑ and I will tell which slide? I won't read these quotes to you. Could we go to actually slide 42 which says study limitations. Is that going to be a problem?

I think the first study limitation that was an issue really was related to the cognitive problems related to brain injury. Probably no surprise to anyone who is listening here. You know, the difficulty and understanding but it's written and spoken messages. I did not mention that we posted links to websites, we posted brief paragraphs. We posted photo images of people working to talk about. We posted, once a week I did an interview with Jay. They were called Tuesday with Jay where we talked about a topic that had been prevalent in the group in the past week. And I would interview Jay about his interests. So I feel I haven't talked very much about what we actually did in the Facebook group. Those Tuesdays with Jay were very well received, and I think very important to the group.

So, I think that the real advantages were that people could go back and they could access the information on their own schedules. But, really, we did have memory challenges. And I think this comes up on another slide in a few minutes. I anticipated that the feature of Facebook putting an e‑mail in your e‑mail that said someone has posted in the group and the pop-up feature of Facebook would be something that would be very helpful to our participants as far as engaging in the actual Facebook group.

However, I think now as I look back on it, it would be good if we did not incorporate tweets. We did not use other strategies. So, looking at engaging people to look at the group information through other strategies than just the ones that were available on Facebook would be very important. The intervention only lasted for three months and we actually continued the Facebook group. I did a poll at the end of the three months after they had taken the post questionnaire. I did a poll and I asked people if they would like to continue the Facebook group? And we got a high resounding yes. So, we extended the Facebook group for six months and extended it for another six months. So, all in all it ran for a year. But we only had one post‑test intervention data collection point. So, I think the brief nature of intervention, we might have seen a difference in our outcomes if the intervention had been for at least six months instead of only three. I think instrumentation, that I already mentioned it would be interesting to include other factors that we looked at. The social interaction piece of using Facebook that we did not look at. If I were going to do this all over again, I would change the recruitment methods and ask to work with VR counselors about working with people in the Facebook group with individuals on their caseloads who were actively seeking employment.

The participants that we had all reported they wanted to become employed when they join the Facebook group. However, they were predominantly in clubhouse programs. So, I would like to do the study again and look at collaborating with either VR counselors or employment specialists and look at how Facebook might actually impact the use of the information that we were giving the group in real time. In other words, did they report how they were engaging with their VR counselor and can we report how they were interacting with their employment specialists. I think that was a real flaw in this study. However, I'm still really proud of this study. I do think that really important that gets to the use component of knowledge translation. How are people using the information? And so, again, if I were to give you a takeaway point, I would suggest that you really think about that when using Facebook as a knowledge translation strategy.

Let's go onto what looks like our last slide. I kind of addressed a lot of these points already. I do think it was a good pilot study. I think I learned an incredible amount of information. I enjoyed it immensely as far as interacting with the participants. I think if I were to do this again, I would intersperse focus groups in the time period of the Facebook study. I might do an initial focus group with all the participants in the Facebook group and also in the other group and then at strategic points along the way have focus groups with the participants again to get ongoing communication and feedback from them.

I think that would greatly enhance the study. I also think that it might provide more social connectiveness between the participants and perhaps they would feel more open to talking with each other. Again, we took a group of strangers and put them together in a social networking platform where they have not known each other previously. I think I would want to do more audio and video as opposed to as much written communication as we had, and I have already mentioned really adding to the instrumentation that we did and adding something about the social use of Facebook and the end users opinions about that.

On the last slide there are a couple references that you could look at and I would encourage you to do so. I hope that you got one or two ideas from this presentation this afternoon and that you will feel free to contact me if you have any questions or if you would like to talk about this. Because it's one of my favorite things that I enjoy chatting about that people ask questions about it. With that, I guess I'll turn it back over to Kathleen and see if we have any questions.