


## Empowering Classroom Teachers to Teach Nutrition: Evaluation of Teacher Coaching Email Program






Thanks for rocking with us on the Texas Farm Fresh Jump with Jill Live Tour!

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**Keep Rocking!**

Follow-up the messaging of the assembly with these live-show video segments and discussion questions! Play this video before lunch today!

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## INTRODUCTION

In support of Commissioner Sid Miller’s Farm Fresh Initiative at the Texas Department of Agriculture (TDA), the rock & roll nutrition school assembly *Jump with Jill* (JWJ) was performed at 20 schools in the Northwest and High Plains regions (Figure 1) of Texas in October of 2019.

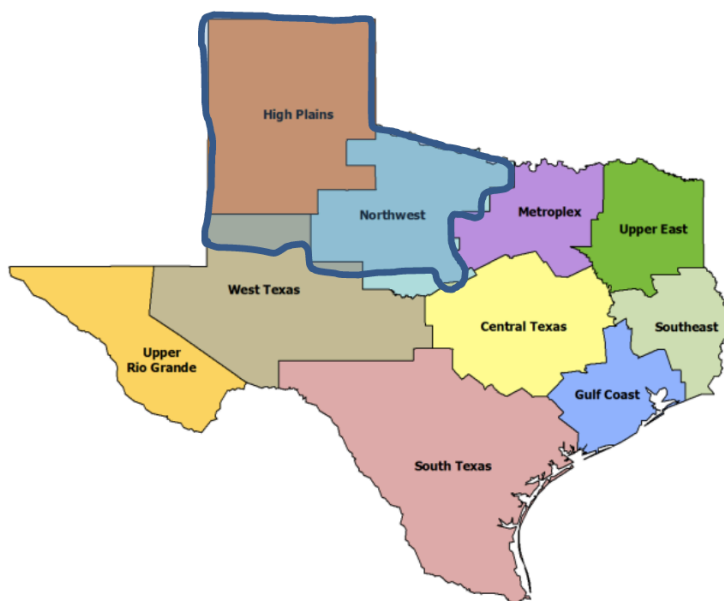


Figure 1: Map of Texas Regions

Employing media strategies, JWJ is a music-based program that transforms nutrition education into a school-wide rock concert. JWJ creates an unforgettable experience using original music, lighting, props and live characters to inspire their audiences for better nutrition.

During the 60-minute assembly, students dance and sing to behaviorally-focused songs that address increasing consumption of fruits, vegetables, dairy products and eating breakfast. *The Texas Farm Fresh Jump with Jill Live Tour* provides nutrition education for school-aged children while promoting local agriculture. To increase impact, schools received a “Texas Farm Fresh Crate” (CRATE) filled with educational materials for classroom teachers. In addition, taste tests were conducted with selected classrooms to give students a hands-on experience with the featured local foods.

JWJ is a powerful one-hour assembly that not only get kids motivated to eat healthy but strategically empowers classroom teachers who attend the assembly with their students to implement short bursts of supplied curriculum to continue the assembly’s messaging. From the 2018 teacher study, we learned that the level of engagement with JWJ impacts confidence and willingness around certain aspects of teaching nutrition and/or movement. Our “Champions,” the Food Service Directors (FSDs), reported the highest engagement, the highest willingness and confidence, the most time spent including nutrition and/or movement education per day, and the highest survey completion rate. We learned from this data that JWJ supports the FSDs

as they engage and educate the school staff and students to adopt the healthful messages from the program.

In previous studies, classroom teachers increased the time they spent teaching nutrition and/or movement and reported statistically significant improvements in (1) confidence to incorporate nutrition and/or movement into their classroom and (2) willingness to try new nutrition education tools. However, the group reported low engagement at pre and follow-up. Teachers reported "lack of time" as one of the greatest barriers preventing them from using these tools. Because classroom teachers are the gateway to teaching nutrition and/or movement in the classroom, this year we wanted to focus on intensifying and deepening their engagement. So while access continued to be offered for our printed and online nutrition education tools, this new strategy would focus specifically on making the tools more accessible to teachers by removing the time they would spend reviewing the tools and planning how to incorporate them into their classroom. The teacher coaching email campaign was developed to offer additional engagement points with encouraging messages, links to single tools, and suggestions for specific time frames for use. In addition to Coaching Emails, we "gamified" the survey by offering additional access to tools via the Coaching Emails for completing each survey.

By examining this new strategy of engaging and equipping classroom teachers, we will study how to maximize the impact of the JWJ program via the classroom teacher. We'll continue to look at time spent teaching nutrition and teachers' confidence and willingness at three time points: pre-survey ("pre"); post-survey ("post"); and follow-up survey ("follow-up"). We'll look at change over time and compare them to last year. Lastly, we'll ask for impact statements about the assembly at post and the program overall at follow-up to cluster their qualitative feedback by theme.

We'll also look at behaviors with the Coaching Emails (open rates, clickthrough rates, and unsubscribes), survey completion rates, media traffic, and tools most utilized. We'll look at data for (1) All Teachers (Indirect and Diffusion combined) (2) Indirect (assembly + Coaching Emails + CRATE + taste test) (3) Diffusion (assembly + Coaching Emails). This evaluation will provide useful insight for future program recommendations.

## **METHODS**

### **Recruitment**

Texas schools participating in the National School Lunch Program are able to apply to host JWJ. Applications were completed by 59 applicants for the 2019 tour season; only nine of the applications were from the eligible target region. Hence, applications were considered from previous 2017 and 2018 applications. These 17 eligible school districts received 20 school assemblies. All applications were reviewed based on an evaluation matrix that included:

- enthusiasm for the experience
- adequate facilities to accommodate the performance
- high percentage of free and reduced National School Lunch Program participation
- participation in TDA's Farm Fresh Challenge
- application to TDA's Expanding 3Es of Healthy Living Grant
- response to TDA survey indicating participation in Farm to School

- participation in the Fresh Fruit and Vegetable Grant Program
- location in the geographical target of the tour (for this tour, Northwest and High Plains regions)

Selected schools provided their current teacher roster and emails, which were then coded by their position into three groups (Direct, Indirect, Diffusion) and then de-identified. Mercyhurst University Institutional Review Board approved this study. No demographic information was collected.

## Study Design

A purposive (non-randomized) design was created based on three levels of program exposure. **All exposure groups saw the assembly.**

### **DIRECT:**

**Food Service Directors (FSDs)** are our Champions. They worked to bring the JWW assembly to the district, submitting their application, maintaining eligibility by complying with other programs, working with other administrators to confirm their date and time, and agreeing to distribute the CRATE materials to teachers. FSDs only received the pre-notification and the first of the five Coaching Emails along with a simple survey about tool use. The questionnaire did not ask about confidence or willingness because, based on the 2018 study, FSDs had high baseline confidence & willingness, program awareness, and do not have direct contact in a classroom with students.

### **ALL TEACHERS:**

All teachers were expected to attend the assembly and received Coaching Emails.

The **INDIRECT** teacher group received additional exposure to JWW through the CRATE and/or participating in a guided taste test with JWW characters of foods featured in the assembly. This group also included **physical education (PE)** teachers who were provided a CRATE for their use. PE teachers represent important champions for health and fitness given their subject matter and their ability to reach the entire student body throughout their instructional week.

The **DIFFUSION** teacher group includes not only kindergarten through 5th grade classroom teachers but also those that teach special subjects such as music and art. It does not include classroom aides or admins. Based on the 2018 study, this group has the lowest awareness and investment, seeing the assembly and receiving Coaching Emails.

All surveys were emailed and were open for two weeks, with two email reminders. Table 1 displays the Implementation Schedule for each group.




Table 1: Schedule of Implementation

	Pre-Notifi- cation Email	Pre-Surv- ey	CRATE	Coach- ing Email #1	Asse- m- bly	Taste Test	Post- - Surv- ey	Coac- hing Email #2	Coac- hing Email #3	Coac- hing Email #4	Coac- hing Email #5	Foll- ow- Up Surv- ey
Timeline before (-) or after (+) the day of assembly (0)	-3 week s	-2 week s	-1 week	-1 week	0	0	+1 day	+1 week	+2 weeks	+2.5 week s	+3 week s	+4 week s
Direct	X	X	X	X	X		X					X
Indirect	X	X	X	X	X	X	X	X	X	X	X	X
Diffusion	X	X		X	X		X	X	X	X	X	X

Figure 2 shows screenshots of the pre-notification and five Coaching Emails that were sent to provide additional engagement points and encourage participants to use short, specific tool. The Coaching Emails were designed as a reward to motivate participants to complete the surveys.

### Pre-notification: 30-second Spot



Welcome to the Texas Farm Fresh Jump with Jill Live Tour!

Your school is receiving the world's only rock & roll nutrition education program, Jump with Jill at no cost thanks to the Texas Department of Agriculture!


As part of this program, your schools will receive multiple Texas Farm Fresh CRATES full of printed education materials for you to use in the classroom as well as videos and tips sent directly to you via email.

Scroll down to find a special video as a thank you for helping us make healthy rock!


**Get Excited!**

Get excited for the program by playing this video for your students before breaking for lunch!

[Play Video](#)



### Coach 1: Lyric Video: *Healthy Is Good For Me*




Welcome to the Texas Farm Fresh Jump with Jill Live Tour!


**Get Ready!**

Help your students get ready for the Jump with Jill assembly by learning the lyrics with these lyric videos! Play this while you take attendance!

[Play Video](#)



### Coach 2: Live show segment: Show Open




Thanks for rocking with us on the Texas Farm Fresh Jump with Jill Live Tour!


**Keep Rocking!**

Follow-up the messaging of the assembly with these live-show video segments and discussion questions! Play this video before lunch today!

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### Coach 3: Danceable Music Video: *Nature's Candy*

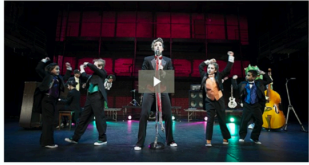


Thanks for rocking with us on the Texas Farm Fresh Jump with Jill Live Tour!

**Keep Dancing!**

Reinforce the messaging of the Jump with Jill assembly by learning the dance moves! Play this video after lunch today!

[Play Video](#)



**Need Step-by-Step Instructions?**

Here we break it down and teach you each move. Perfect for K-11!


[Learn It](#)

**Need Something in the Middle?**

Here we add titles to the moves in the music video. Perfect for Grades 2-3!

[Practice It](#)

### Coach 4. Danceable Music Video: *Beat of the Body*




Thanks for rocking with us on the Texas Farm Fresh Jump with Jill Live Tour!

**Keep Moving!**

Take a movement break today and reinforce the messaging from the Jump with Jill assembly with this video!

[Play Video](#)



**Need Step-by-Step Instructions?**

Here we break it down and teach you each move. Perfect for K-11!


[Learn It](#)

**Need Something in the Middle?**

Here we add titles to the moves in the music video. Perfect for Grades 2-3!

[Practice It](#)

### Coach 5. Danceable Music Video: *Get Me Goin'*




Thanks for rocking with us on the Texas Farm Fresh Jump with Jill Live Tour!

**Keep Going!**

Continue the momentum from the Jump with Jill assembly and start your day with this video!

[Play Video](#)



**Need Step-by-Step Instructions?**

Here we break it down and teach you each move. Perfect for K-11!

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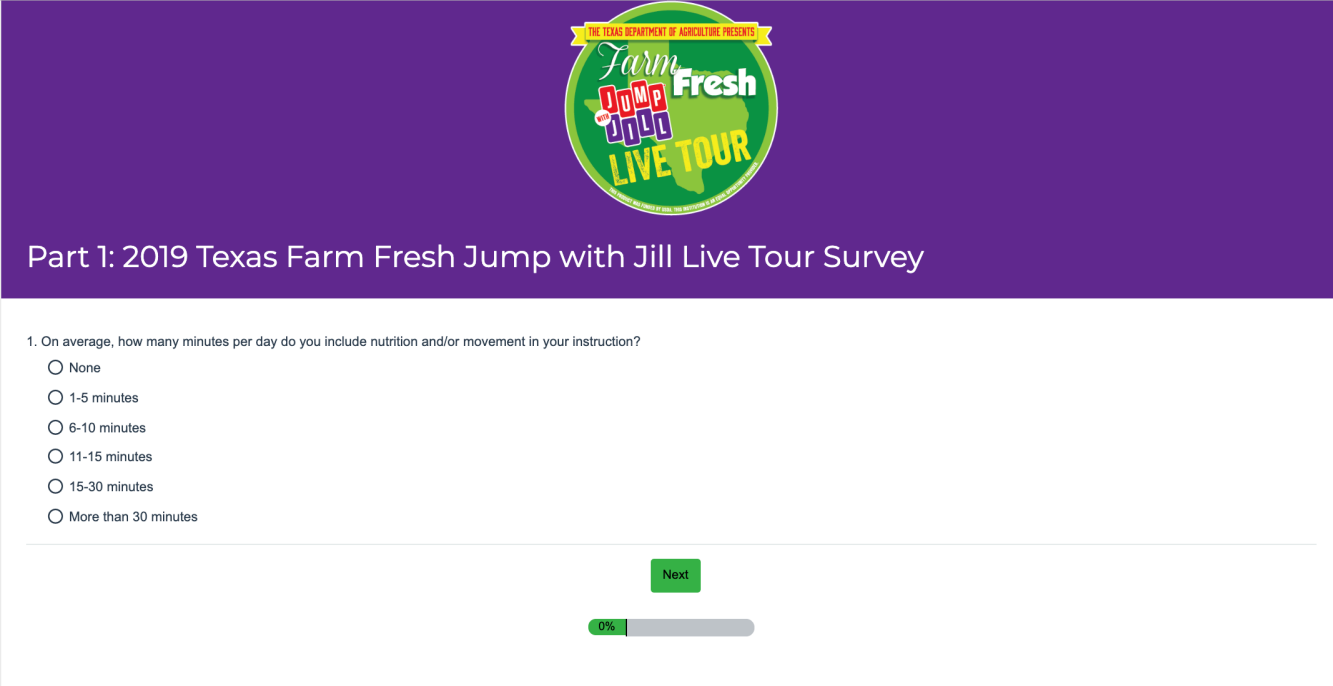
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## Survey

Program engagement, confidence, and willingness were measured at three time points. The metrics for this tour were focused on the impacts of the Coaching Emails. Figure 3 shows the look of the surveys and Table 2 highlights the questions and possible responses.

Figure 3: Survey



THE TEXAS DEPARTMENT OF AGRICULTURE PRESENTS

Farm Fresh  
JUMP with Jill  
LIVE TOUR

Part 1: 2019 Texas Farm Fresh Jump with Jill Live Tour Survey

1. On average, how many minutes per day do you include nutrition and/or movement in your instruction?

- None
- 1-5 minutes
- 6-10 minutes
- 11-15 minutes
- 15-30 minutes
- More than 30 minutes

Next

0%

Table 2: Survey Questions and Possible Responses

blue = significant last year yellow= significance this year green = significance both years

Concept	Question	Response Choice
<b>Program Engagement</b>	Have you ever used these <i>Jump with Jill</i> tools?	Choose all that apply: <ul style="list-style-type: none"> <li>• 30-second spot</li> <li>• Lyric videos</li> <li>• Student activity books and teacher guides</li> <li>• Danceable music videos</li> <li>• Morning announcements</li> <li>• Unit posters</li> <li>• Live show segment videos and discussion questions</li> <li>• Action pack</li> <li>• JumpwithJill.com website</li> <li>• SquareMeals.org website</li> <li>• Other</li> </ul>
<b>Confidence</b>	I am confident that: <ul style="list-style-type: none"> <li>• It is important for me to teach nutrition.</li> <li>• I can make nutrition exciting to teach.</li> <li>• I have access to engaging nutrition education tools.</li> <li>• I can incorporate <b>nutrition education</b> into my classroom.</li> <li>• I can incorporate <b>movement</b> into my classroom.</li> <li>• I can improve my students' attitudes towards nutrition and movement.</li> </ul>	Check One: <ol style="list-style-type: none"> <li>1-strongly disagree</li> <li>2-disagree</li> <li>3-no opinion</li> <li>4-agree</li> <li>5-strongly agree</li> </ol>
<b>Willingness</b>	I am willing to: <ul style="list-style-type: none"> <li>• Prioritize nutrition in my curriculum.</li> <li>• Engage students on the subject of nutrition.</li> <li>• Try new nutrition education tools.</li> <li>• Incorporate <b>nutrition education</b> into my classroom.</li> <li>• Incorporate <b>movement</b> into my classroom.</li> <li>• Be someone who encourages positive attitudes about nutrition and movement.</li> </ul>	Check One <ol style="list-style-type: none"> <li>1-I will never do this</li> <li>2-I don't know if I can do this</li> <li>3-I might be able to do this,</li> <li>4-I could do this</li> <li>5-I'm already doing this</li> </ol>



<p>On average, how many minutes per day do you include nutrition and/or movement in your instruction?</p>	<p>Select One</p> <ul style="list-style-type: none"> <li>• None</li> <li>• 1-5 minutes</li> <li>• 6-10 minutes</li> <li>• 11-15 minutes</li> <li>• 15-30 minutes</li> <li>• More than 30 minutes</li> </ul>
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## Data Analysis

One-way ANOVA and paired t-test analyses were performed on some teacher survey data. ANOVA analyzed pre, post, and follow-up teachers' data. A paired t-test was used for analyzing the significance of the differences between the mean scores for the teacher surveys between any two sets of data: pre and post, post and follow-up, or pre and follow-up data sets. All statistical tests were 2-sided and performed using a 5% significance level, leading to 95% (2-sided) confidence intervals.

## RESULTS

### ENGAGEMENT

Table 3 shows survey response rate by group and overall. The survey was sent to 413 people and completed by 58.1% overall. As expected, program exposure corresponded with response rate: 75% response rate for Direct (FSDs), 66.3% for Indirect (+ CRATE & Taste Test), and 54.6% for Diffusion. All teachers increased their survey response rate from 2018 and all groups achieved a survey response rate of more than 50% indicating high level of interest and engagement with the program.

Table 3: Survey Response Rate by Group and Overall

Group	Total	Responded	Response Rate 2019	Response Rate 2018
Direct (FSDs)	16	12	75.0%	91.6%
Indirect (+ CRATE & Taste Test)	95	63	66.3%	50.6%
Diffusion	302	165	54.6%	33.5%
Total	413	240	58.1%	43.6%

Teachers also were asked to complete the survey three times: pre, post, and follow-up. Table 4 shows survey response rate to at least one survey by each teacher group (Indirect and Diffusion). Diffusion teachers achieved the highest percentage of responses of 72.8%. Table 5 shows response rate by time with the highest response rate, 82.9%, associated with the survey distributed right after the assembly (post). Only 43 teachers of the 228 teachers who

responded completed all three surveys. Table 6 shows teacher responses by school. The highest percentage of responses of 11% was at Siebert Elementary school and the lowest percentage of responses of 0.4% was at Panhandle.

Table 4: Teacher Responses by Group

Group	Frequency	Percent
Indirect (+ CRATE & Taste Test)	62	27.2%
Diffusion	166	72.8%
Total	228	100%

Table 5: Teacher Responses by Time

Time	Frequency	Percent
Pre	121	53.1%
Post	189	82.9%
Follow Up	82	36.0%
Pre and Post	88	38.6%
Post and Follow-Up	72	31.6%
Pre and Follow-Up	47	20.6%
Pre, Post, and Follow-Up	43	18.9%

Table 6: Teacher Responses by School

School Name	Assembly Date	Frequency	Percent
Siebert	10/02/19	25	11.0%
Wylie West	10/16/19	20	8.8%
FJ Young	09/26/19	19	8.3%
Seminole Primary	09/26/19	18	7.9%
Holliday	10/14/19	18	7.9%
Wylie Intermediate	10/16/19	17	7.5%
Rolling Hills	09/24/19	15	6.6%
Seminole Elementary	09/27/19	12	5.2%
Saint Jo	10/03/19	11	4.8%
Clyde Elementary	10/17/19	11	4.8%
Whiteface Elementary	09/30/19	10	4.4%
New Deal	09/25/19	10	4.4%
Clyde Intermediate	10/17/19	10	4.4%
Mary Allen	09/23/19	9	3.9%
Lueders	10/18/19	7	3.1%
Klondike	10/01/19	6	2.6%
Patton Springs	10/21/19	5	2.2%
Paducah	10/21/19	4	1.8%
PanHandle	09/24/19	1	0.4%
Total		228	100.0

Table 7 provides metrics for email behaviors including opens, clickthroughs, and unsubscribes. The highest number of opened emails is the pre-notification email sent right before the assembly and the highest clicks on the web links align with the pre-notification email and Coaching Email 1 sent before the assembly. Thus, the highest engagements are closest to the assembly.

Table 7: Teacher Coaching Email Engagement

	Opens	Clicks	Unsubscribes	Unopened
Pre-Notification	513	87	2	178
Coaching Email 1	438	87	0	175
Coaching Email 2	265	27	1	190
Coaching Email 3	210	6	1	214
Coaching Email 4	198	6	2	229
Coaching Email 5	195	7	4	234

Table 8, Figure 4, and Figure 5 document an increase in online activity based on the links provided in the Coaching Emails compared to last year's tour. Like the increased survey response rate, the Coaching Emails also increased web traffic. The click rate increased on YouTube and the JWJ website during the time frame. Searching for JWJ increased substantially on all metrics: views (+61.96%), impressions (+46.19%), sessions (+150.64%), users (+37.47%), and plays (+57.57%).

Table 8: Traffic Change on Links and Videos Provided in Coaching Emails

YouTube	2018 TDA Tour	2019 TDA Tour	Change
Views	1,956	3,168	↑61.96%
Impressions	16,305	23,837	↑46.19%
Google Analytics			
Sessions	314	787	↑150.64%
Users	963	1,540	↑37.47%
Unique Pageviews	1,308	2,077	↑58.79%
JWJ Website Plays			
Total Plays	1,327	2,091	↑57.57%



Figure 4: YouTube Traffic Change

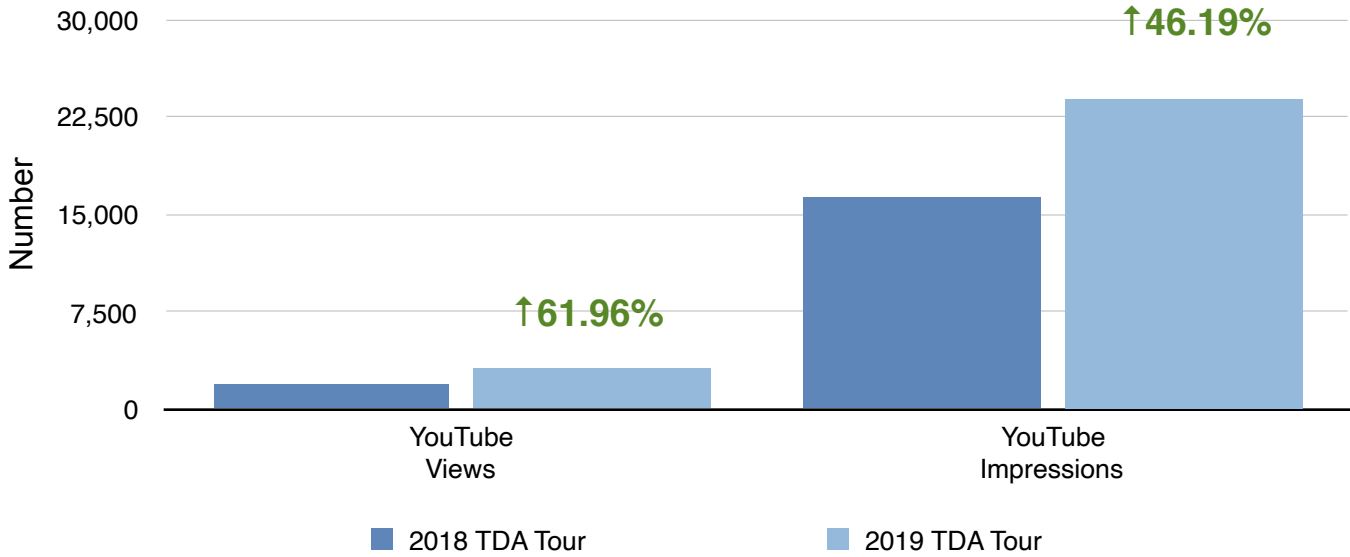


Figure 5: Google and JJJ Website Traffic Change

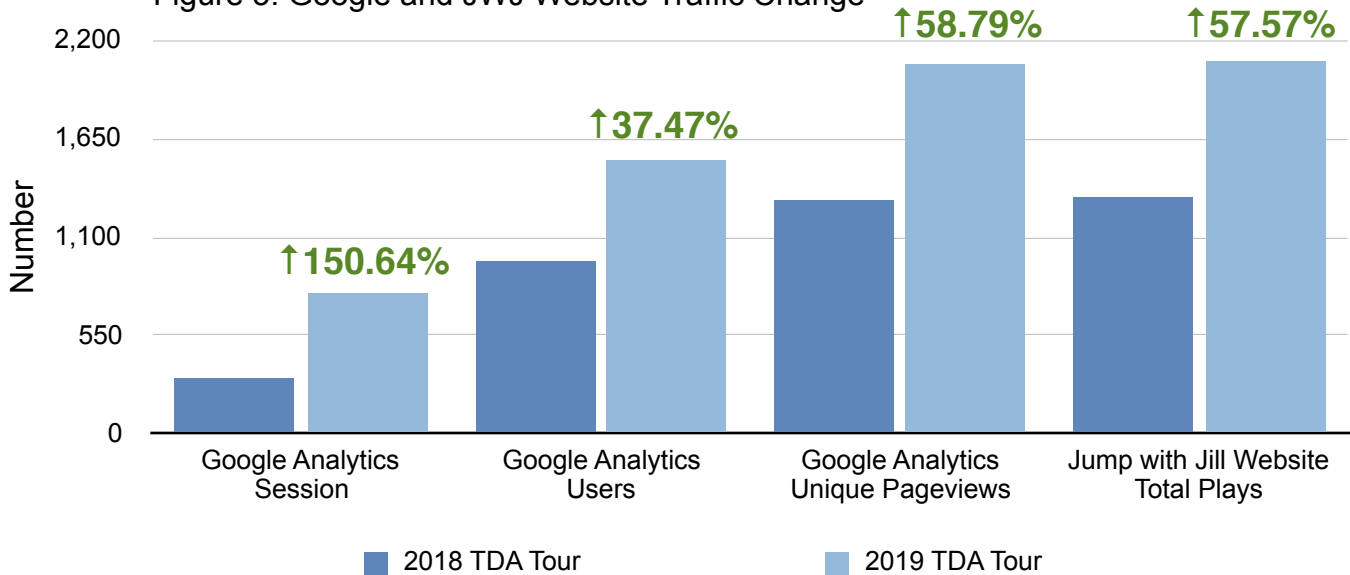


Table 9 details the use of educational tools and experiences available to FSDs through the JWW program pre, post, and follow-up. The data indicates that FSDs are extremely interested in the program and utilized all educational tools available before as well as after the assembly. The rate with which FSDs used available tools remained steady over time with most immediately following the assembly. Because of their role as the school-wide program champion, FSDs are using the splashy video and audio resources as well as the cafeteria posters, but not as many of the classroom-focused printed materials like activity books and videos with discussion components. Because of their engagement in other state food programs, their utilization of the [squaremeals.org](http://squaremeals.org) website is high.

Table 9: Utilization of Tools Over Time: Direct (FSDs)

	Pre (n=12)	Post (n=11)	Follow-Up (n=12)
30 second spot video	75.0%	72.7%	63.6%
Lyric videos	54.5%	72.7%	60.0%
Student activity books and teacher guides	27.3%	40.0%	40.0%
Danceable music videos	33.3%	72.7%	60.0%
Morning announcement CD	27.3%	63.6%	66.7%
Unit posters	36.4%	80.0%	75.0%
Live show segment videos and discussion questions	18.2%	40.0%	40.0%
Action pack	9.1%	30.0%	50.0%
JumpwithJill.com website	63.6%	81.8%	75.0%
SquareMeals.org website	100%	81.8%	91.7%

Table 10 details the use of educational tools and experiences available to teachers through the JWW program at pre, post, and follow-up. As a trend, teachers did not use educational tools before the assembly. The rate with which teachers use provided tools increased over time with highest use rate at follow-up. The most used tool at all time points was the 30 second spot video (assembly promotional video). All tools increased in use over time with the introduction of Coaching Emails. In the 2018 study without Coaching Emails, utilization fluctuated and decreased by follow-up. Teachers did not share the enthusiasm for [squaremeals.org](http://squaremeals.org) like FSDs.

Table 10: Utilization of Tools Over Time: All Teachers (Indirect &amp; Diffusion)

	Pre (n=121)	Post (n=189)	Follow-Up (n=83)
30 second spot video	6.6%	19.4%	34.9%
Lyric videos	0.8%	11.2%	25.9%
Student activity books and teacher guides	0.8%	5.4%	18.5%
Danceable music videos	4.1%	12.4%	33.7%
Morning announcement CD	0.8%	12.4%	18.3%
Unit posters	1.7%	13.4%	28.9%
Live show segment videos and discussion questions	1.7%	7.6%	12.0%
Action pack	0%	4.3%	9.8%
JumpwithJill.com website	1.7%	12.0%	31.7%
SquareMeals.org website	6.7%	5.4%	16.9%

## TIME SPENT TEACHING

Each survey asked teachers how much time they spend teaching nutrition and/or movement per day. Table 11 below shows distribution of answers for all teachers and for each group of teachers. Indirect teachers were spending more time teaching nutrition and/or movement following program implementation. At pre, almost 11% of Indirect teachers spent no time teaching nutrition or movement. This number decreased to 4.3% by the follow-up measure. At the same time, only 8.1% of Indirect teachers spent between 16 and 30 minutes per day teaching nutrition and movement before the assembly and that number increased to 18% right after the assembly and to 30.4% at the follow up measure. About 30% of teachers and the subgroups of teachers at follow-up fell into the 6-10 minutes/day mark, the goal of the JWJ curriculum.

Table 11: Time spent teaching nutrition and/or movement per day

	None	1-5 min	6-10 min	11-15 min	16-30 min	Over 30 min
All Teachers						
Pre (n=121)	8.3%	31.4%	18.2%	18.2%	9.1%	14.9%
Post (n=189)	15.3%	27.0%	19.6%	13.8%	12.2%	12.2%
Follow-up (n=82)	9.6%	24.1%	30.1%	10.8%	16.9%	8.4%
Indirect (+ CRATE & Taste Test)						
Pre (n=37)	10.8%	43.2%	8.1%	10.8%	8.1%	18.9%
Post (n=50)	16.0%	20.0%	14.0%	8.0%	18.0%	24.0%
Follow-up (n=23)	4.3%	17.4%	30.4%	13.0%	17.4%	17.4%
Diffusion						
Pre (n=84)	7.1%	26.2%	22.6%	21.4%	9.5%	13.1%
Post (n=139)	15.1%	29.5%	21.6%	15.8%	10.1%	7.9%
Follow-up (n=59)	11.9%	27.1%	30.5%	10.2%	15.3%	5.1%



## CONFIDENCE

Table 12 shows all teachers confidence in being able to teach nutrition and/or movement. Most of the statements showed improvement over time with the statistically significant improvements for the following measures: *having access to engaging nutrition education tools* and *overall confidence*.

Table 12: All Teachers Confidence

	Pre (n=121)	Post (n=189)	Follow-Up (n=83)
It is important for me to teach nutrition	3.88	3.92	3.94
I can make nutrition exciting to teach	3.71	3.87	3.87
I have access to engaging nutrition education tools.	<b>2.76**</b>	<b>3.18**/*</b>	<b>3.46**/*</b>
I can incorporate <b>nutrition education</b> into my classroom.	3.54	3.69	3.70
I can incorporate <b>movement</b> into my classroom.	4.37	4.43	4.43
I can improve my students' attitudes toward nutrition and movement.	4.22	4.26	4.21
Overall confidence <sup>^</sup>	<b>3.75*</b>	<b>3.89*</b>	<b>3.94*</b>

Scores vary from 1 to 5, with 1=strongly disagree, 2= disagree, 3=no opinion, 4=agree, 5=strongly agree

<sup>^</sup> Calculated as a mean of all survey items

\* One-way ANOVA is performed. Significant at  $p < 0.05$  at Post Hoc using Fisher's LSD test.

\*\* One-way ANOVA is performed. Significant at  $p \leq 0.001$  at Post Hoc using Fisher's LSD test.

The paired data comparison in Table 13 indicates the big impact **seeing the performance** has on overall confidence.

Table 13: All Teachers Overall Confidence - Paired

		Mean	N	Std. Deviation	Significance
Pair 1	Confidence Pre	3.72	88	0.52	0.001
	Confidence Post	3.90	88	0.53	
Pair 2	Confidence Post	3.96	72	0.54	0.634
	Confidence Follow Up	3.93	72	0.65	
Pair 3	Confidence Pre	3.86	47	0.54	0.781
	Confidence Follow Up	3.83	47	0.73	

Paired samples T-test was performed

Table 14 shows Indirect teachers confidence in being able to teach nutrition and/or movement. Most of the statements showed improvement over time with the statistically significant improvements for the following measures: *having access to engaging nutrition education tools*, *incorporating nutrition education into classroom*, and *overall confidence*. These results indicate that the JWJ program positively affected their confidence to teach teach nutrition and and strengthened this confidence over time. All scores are higher than the Diffusion group at all time points. Having a larger Indirect group could further increase the program impact.

Table 14: Indirect Teacher Confidence

	Pre (n=37)	Post (n=50)	Follow-Up (n=23)
It is important for me to teach nutrition	4.00	4.04	4.22
I can make nutrition exciting to teach	3.78	3.96	4.09
I have access to engaging nutrition education tools.	<b>2.92*/**</b>	<b>3.40*/*</b>	<b>3.96**/*</b>
I can incorporate <b>nutrition education</b> into my classroom.	<b>3.49*</b>	3.76	<b>4.00*</b>
I can incorporate <b>movement</b> into my classroom.	4.43	4.36	4.57
I can improve my students' attitudes toward nutrition and movement.	4.30	4.30	4.43
Overall confidence <sup>^</sup>	<b>3.83*</b>	3.97	<b>4.21*</b>

Scores vary from 1 to 5, with 1=strongly disagree, 2= disagree, 3=no opinion, 4=agree, 5=strongly agree

<sup>^</sup> Calculated as a mean of all survey items

\* One-way ANOVA is performed. Significant at  $p < 0.05$  at Post Hoc using Fisher's LSD test.

\*\* One-way ANOVA is performed. Significant at  $p \leq 0.001$  at Post Hoc using Fisher's LSD test.

Table 15 shows Diffusion teachers confidence in being able to teach nutrition and/or movement. Most of the statements showed improvement from pre to post with a slight drop at follow-up. However, the statistically significant improvement over time was shown by *having access to engaging nutrition education tools*.

Table 15: Diffusion Teacher Confidence

	Pre (n=84)	Post (n=139)	Follow-Up (n=59)
It is important for me to teach nutrition	3.82	3.87	3.83
I can make nutrition exciting to teach	3.68	3.84	3.78
I have access to engaging nutrition education tools.	<b>2.69***</b>	<b>3.10***</b>	<b>3.25***</b>
I can incorporate <b>nutrition education</b> into my classroom.	3.56	3.67	3.57
I can incorporate <b>movement</b> into my classroom.	4.35	4.45	4.37
I can improve my students' attitudes toward nutrition and movement.	4.19	4.25	4.12
Overall confidence <sup>^</sup>	3.71	3.86	3.83

Scores vary from 1 to 5, with 1=strongly disagree, 2= disagree, 3=no opinion, 4=agree, 5=strongly agree

<sup>^</sup> Calculated as a mean of all survey items

\*\*\* One-way ANOVA is performed. Significant at  $p \leq 0.01$  at Post Hoc using Fisher's LSD test.



Table 16 shows differences in means between the two teacher groups with respect to teacher confidence to be able to teach nutrition and/or movement. Overall, Indirect teachers show higher scores for most statements when compared to Diffusion teachers. **The biggest gap between the scores of the two groups exists at the follow-up.** *Having access to the nutrition education tools, incorporating nutrition education into classroom, improving students' attitudes toward nutrition and movement, and overall confidence* have statistically significant differences between the two groups at follow-up, suggesting that the **more intensive and hands on intervention with Indirect teachers produces lasting results.** It can also be hypothesized that being selected for specialized experiences (CRATE and/or Taste Test) makes confidence more sustainable.

Table 16: Confidence by Teacher Group

	Pre		Post		Follow Up	
	Leader (n=37)	Class room (n=84)	Leader (n=50)	Class room (n=139)	Leader (n=23)	Class room (n=59)
It is important for me to teach nutrition	4.00	3.82	4.04	3.87	4.21	3.83
I can make nutrition exciting to teach	3.78	3.68	3.96	3.84	4.09	3.78
I have access to engaging nutrition education tools.	2.92	2.69	3.40	3.10	<b>3.96***</b>	<b>3.25***</b>
I can incorporate nutrition education into my classroom.	3.49	3.56	3.76	3.67	<b>4.00*</b>	<b>3.57*</b>
I can incorporate movement into my classroom.	4.43	4.35	4.36	4.45	4.57	4.37
I can improve my students' attitudes toward nutrition and movement.	4.30	4.19	4.30	4.25	<b>4.43*</b>	<b>4.12*</b>
Overall confidence <sup>^</sup>	3.83	3.71	3.97	3.86	<b>4.21**</b>	<b>3.83**</b>

Scores vary from 1 to 5, with 1=strongly disagree, 2= disagree, 3=no opinion, 4=agree, 5=strongly agree

<sup>^</sup> Calculated as a mean of all survey items

\* Independent t-test is performed. Significant at  $p < 0.05$  equal variances not assumed.

\*\* Independent t-test is performed. Significant at  $p < 0.01$  equal variances not assumed.

\*\*\* Independent t-test is performed. Significant at  $p \leq 0.001$  equal variances not assumed.

## WILLINGNESS

Table 17 shows all teachers willingness to teach nutrition and/or movement to students. All statements showed improvement over time with the statistically significant improvements for the following measures: *incorporating nutrition education and movement, encouraging positive attitudes about nutrition and movement, and overall willingness.*

Table 17: Teacher Willingness

	Pre (n=121)	Post (n=189)	Follow-Up (n=83)
Prioritize nutrition in my curriculum	3.00	3.12	3.18
Engage students on the subject of nutrition	3.36	3.48	3.54
Try new nutrition education tools	3.29	3.40	3.50
Incorporate <b>nutrition education</b> in my classroom	<b>3.19*</b>	3.34	<b>3.49*</b>
Incorporate <b>movement</b> in my classroom	<b>4.30*</b>	4.42	<b>4.55*</b>
Be someone who encourages positive attitudes about nutrition and movement	<b>3.98*/***</b>	<b>4.18*</b>	<b>4.25***</b>
Overall willingness <sup>^</sup>	<b>3.52*</b>	3.66	<b>3.75*</b>

Scores vary from 1 to 5, with 1=I will never do this, 2=I don't know if I can do this, 3=I might be able to do this, 4=I could do this, 5=I'm already doing this

<sup>^</sup> Calculated as a mean of all survey items

\* One-way ANOVA is performed. Significant at  $p < 0.05$  at Post Hoc using Fisher's LSD test.

\*\*\* One-way ANOVA is performed. Significant at  $p \leq 0.01$  at Post Hoc using Fisher's LSD test.

The paired data comparison in Table 18 indicates the positive impact seeing the performance has on overall willingness - an improvement occurs from pre to post, though not statistically significant.

Table 18: Teacher Willingness - Paired

		Mean	N	Std. Deviation	Significance
Pair 1	Willingness Pre	3.55	88	0.64	0.081
	Willingness Post	3.65	88	0.60	
Pair 2	Willingness Post	3.72	72	0.65	0.873
	Willingness Follow Up	3.72	72	0.72	
Pair 3	Willingness Pre	3.64	47	0.65	0.900
	Willingness Follow Up	3.63	47	0.77	

Paired samples T-test was performed

Table 19 shows Indirect teachers willingness to teach nutrition and/or movement. All of the statements showed improvement (though not statistically significant) over time except for *trying new nutrition education tools*. Because Indirect teachers' *confidence* is high around *having access to engaging nutrition education tools* and *incorporating nutrition education into classroom*, and baseline scores for willingness are higher than Diffusion teachers, it's suspected that teachers in this group feel like they are already working with effective tools.

Table 19: Indirect Teachers Willingness

	Pre (n=37)	Post (n=50)	Follow Up (n=23)
Prioritize nutrition in my curriculum	3.16	3.26	3.43
Engage students on the subject of nutrition	3.62	3.62	3.78
Try new nutrition education tools	3.59	3.48	3.55
Incorporate nutrition education in my classroom	3.46	3.41	3.74
Incorporate movement in my classroom	4.51	4.56	4.70
Be someone who encourages positive attitudes about nutrition and movement	4.22	4.37	4.52
Overall willingness <sup>^</sup>	3.76	3.78	3.95

Scores vary from 1 to 5, with 1=strongly disagree, 2= disagree, 3=no opinion, 4=agree, 5=strongly agree

^ Calculated as a mean of all survey items  
One-way ANOVA is performed.

Table 20 shows Diffusion teachers willingness to teach nutrition and/or movement. All of the statements showed improvement over time with the statistically significant improvements for the following measures: *trying new nutrition education tools*, *incorporating movement into classroom*, *encouraging positive attitudes about nutrition and movement*, and *overall willingness*. These results point to the willingness of this teacher group to teach nutrition and/or movement over time and can be further capitalized on.

Table 20: Diffusion Teachers Willingness

	Pre (n=84)	Post (n=139)	Follow-Up (n=59)
Prioritize nutrition in my curriculum	2.93	3.07	3.07
Engage students on the subject of nutrition	3.25	3.43	3.44
Try new nutrition education tools	<b>3.15*</b>	3.37	<b>3.47*</b>
Incorporate nutrition education in my classroom	3.07	3.32	3.37
Incorporate movement in my classroom	<b>4.20*</b>	4.37	<b>4.49*</b>
Be someone who encourages positive attitudes about nutrition and movement	<b>3.88*</b>	<b>4.12*</b>	<b>4.15*</b>
Overall willingness <sup>^</sup>	<b>3.42*</b>	<b>3.61*</b>	<b>3.67*</b>

Scores vary from 1 to 5, with 1=strongly disagree, 2= disagree, 3=no opinion, 4=agree, 5=strongly agree

<sup>^</sup> Calculated as a mean of all survey items

\* One-way ANOVA is performed. Significant at  $p \leq 0.05$  at Post Hoc using Fisher's LSD test.

Table 21 shows differences in means between the two teacher groups with respect to teacher willingness to teach nutrition and/or movement. *Indirect teachers show higher scores for all statements when compared to the Diffusion teachers*. The biggest gap between the scores of the two groups exists at pre, which is consistent with the fact that Indirect teachers receive additional information and support from the program implementors before the assembly. *Engaging students on the subject of nutrition, trying new nutrition education tools, incorporating nutrition education in the classroom, incorporating movement in the classroom, encouraging positive attitudes about nutrition and movement, and overall willingness* have statistically significant differences between the means between the two groups before the assembly, suggesting that (as described in confidence) more intensive and hands on intervention with Indirect teachers before the assembly provides them with a head start. It can also be hypothesized that being selected for specialized experiences increases willingness scores. Indirect teachers also reported higher scores than Diffusion teachers in their willingness to *encouraging positive attitudes about nutrition and movement* over time as shown in Table 17.

Table 21: Willingness by Teacher Group

	Pre		Post		Follow-Up	
	Indirect (n=37)	Diffusion (n=84)	Indirect (n=50)	Diffusion (n=139)	Indirect (n=23)	Diffusion (n=59)
Prioritize nutrition in my curriculum	3.16	2.93	3.26	3.07	3.43	3.07
Engage students on the subject of nutrition	<b>3.62*</b>	<b>3.25*</b>	3.62	3.43	3.78	3.44
Try new nutrition education tools	<b>3.59**</b>	<b>3.15**</b>	3.48	3.37	3.55	3.47
Incorporate nutrition education in my classroom	<b>3.46*</b>	<b>3.07*</b>	3.41	3.32	3.74	3.37
Incorporate movement in my classroom	<b>4.51*</b>	<b>4.20*</b>	4.56	4.37	4.70	4.49
Be someone who encourages positive attitudes about nutrition and movement	<b>4.22**</b>	<b>3.88**</b>	<b>4.37*</b>	<b>4.12*</b>	<b>4.52*</b>	<b>4.15*</b>
Overall willingness <sup>^</sup>	<b>3.76**</b>	<b>3.42**</b>	3.78	3.61	3.95	3.67

Scores vary from 1 to 5, with 1=strongly disagree, 2= disagree, 3=no opinion, 4=agree, 5=strongly agree

<sup>^</sup> Calculated as a mean of all survey items

\* Independent t-test is performed. Significant at  $p < 0.05$  equal variances not assumed.

\*\* Independent t-test is performed. Significant at  $p < 0.01$  equal variances not assumed.

\*\*\* Independent t-test is performed. Significant at  $p \leq 0.001$  equal variances not assumed.

## IMPACT

Impact statements from FSDs and teachers both speak to the enjoyment and appreciation for the program. Feedback included compliments on the high quality of the program, the need for the program, and how the program impacted students to eat healthier and teachers to reach their goal of teaching nutrition. Figure 6 shows word clouds of the most used words by FSDs and teachers when providing open ended feedback. Table 22 provides the frequency of various themes discussed by FSDs when providing open-ended feedback via 10 post-survey and 11 follow-up survey comments. Table 23 provides the frequency of various themes discussed by teachers when providing open-ended feedback via 164 post-survey and 58 follow-up survey comments.

Figure 6: Word Clouds of Open-ended Feedback

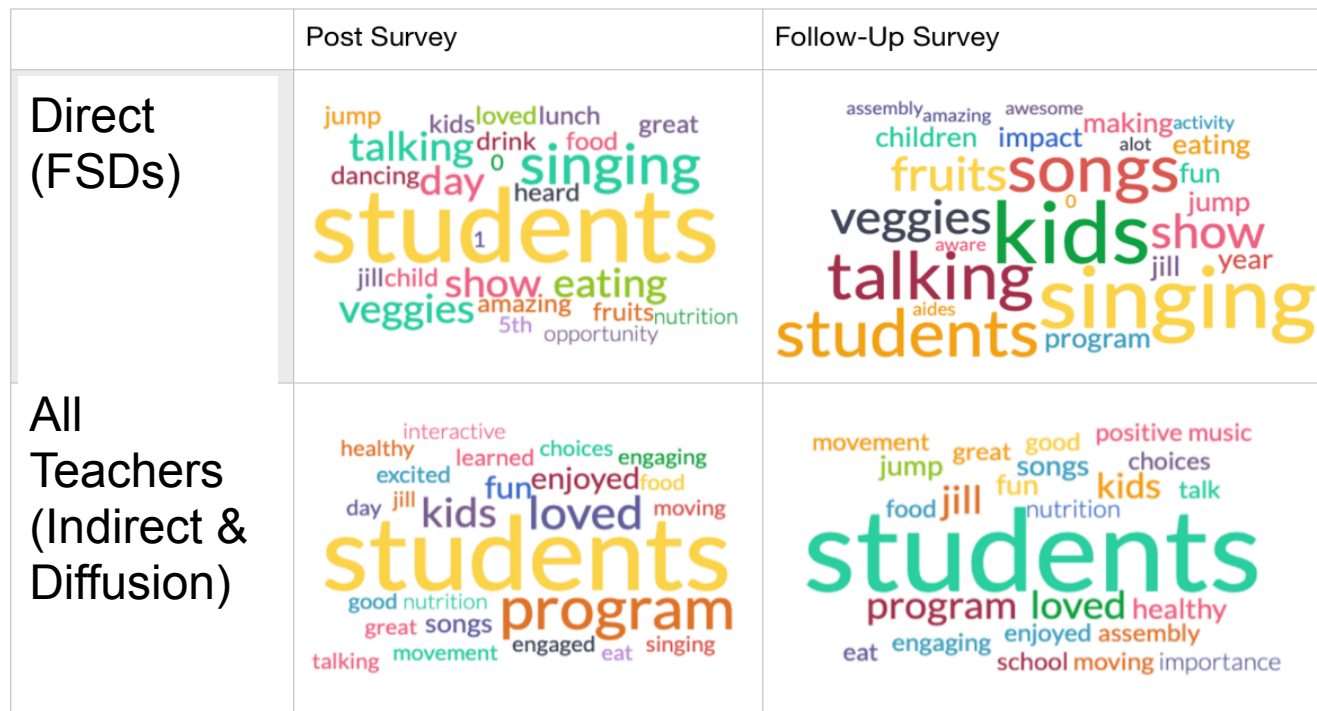


Table 22: Direct (FSDs) Open-ended Feedback Themes

Themes	Frequency
Students singing, moving, and dancing	11
Students trying new foods and vegetables	10
Best educational program	9
Eating healthy	4
Engaging, excited program	8
Lasting impact	3
Thank you	3
Hydration/drink milk	3
Students talking about show at home	2
Teachers use materials	2
Students use catchy phrases	1
More school districts to sign up	1
Back next year	1

Table 23: All Teachers Open-ended Feedback Themes

Themes	Frequency
<b>Impact on Students</b>	
Students loved the show	99
Students learned how to take care of their bodies	63
Students (still) sing, dance, and use show hand signs around the school	36
Students talk about the show and its content	25
Students are excited about nutrition and movement	21
Students are moving more	16
Students are eating healthier	12
Students talk about nutrition at home	10
Students enjoy videos, posters, and activity book	6
Students want for show to come back	4
Students are reading nutritional labels and ingredients	2
Students enjoyed being included with adults	3
Students tried new fruits and vegetables at school	2
Students take ownership of food choices	1
<b>Impact on Teachers</b>	
Love the show and its energy	25
Thank you	11
Program helped me reach my goal to teach nutrition	6
I use program materials	3
Program made me want to eat better	1
<b>Program Qualities</b>	
Engaging and entertaining program	57
Fun program	32
Great program	23
Interactive program	17
Program makes learning fun	16

Program creates positive mindset for healthy choices and behaviors and creates school-wide vocabulary for nutrition and movement	1
Program makes nutrition exciting for kids	13
Amazing engaging cast	9
Informative program	17
Catchy songs	6
Great materials	5
Appropriate for all age groups (length and content)	5
Best program that ever came on campus	1
Program provides break from academics	2
Program introduced Texas grown fruits and vegetables	3
<b>Future Need</b>	
Needed program	3
School needs to incorporate program into curriculum	2
School needs to incorporate healthy foods in school cafeteria	1



## CONCLUSIONS AND RECOMMENDATIONS

This evaluation offers insight into the effectiveness and overall impressions food service directors and teachers had of the *Texas Farm Fresh Jump with Jill Live Tour*. The results show that after the program food service directors and teachers used the program materials extensively. Teachers reported improved confidence and willingness to teach nutrition and movement in the classroom, use nutrition education tools, and encourage positive attitudes toward nutrition and movement after the assembly. Open-ended feedback from food service directors and teachers showed the value of nutrition and movement education to students and how much students enjoyed it. The overall results of this evaluation indicate that the *Jump with Jill* partnership is an effective way to educate food service directors and teachers about how to teach nutrition and movement in the classroom and to support them in these efforts. Recommendations below are presented to further improve the program.

**Recommendation 1:** Relying on past extensive program evaluations, focus all resources on the implementation to kids (assembly, tools) and teachers (CRATES, Taste Testing, Coaching Emails).

**Recommendation 2:** Increase the membership of the Indirect group (more tools, more taste tests, more face time with the characters!) to surge confidence and willingness among classroom teachers.

**Recommendation 3:** Engagement is highest immediately around the assembly. Examine what the most valuable action steps are in the days around the assembly.

**Recommendation 4:** Consider a budget for professional development for teachers.

## FUNDING/SUPPORT

The Texas Department of Agriculture commissioned *JWJ* to conduct this study. *JWJ* accepted funds from the Texas Department of Agriculture to perform the assemblies and conduct this evaluation. TDA projects require USDA approval. Jill Jayne MS RD was the principal investigator and study author. Renee Zelinski, Catherine Baird, and Austin Maguire conducted the evaluations and taste tests onsite, providing blinded data to the PI. Tania Bogatova at Mercyhurst obtained IRB approval IRB00007637 and conducted statistical analyses. Madeleine Sigman-Grant PhD RD provided technical assistance.