

MacPhail Center for Music: Learning With Music Evaluation

Summary of 2024-2025 Findings

Introduction

This report summarizes findings from the 2024-2025 Learning With Music program evaluation that Wilder Research conducted in partnership with MacPhail Center for Music. In 2024, MacPhail partnered with Wilder to create a classroom observation tool that could offer insight into the relationship between music-based classroom management activities in early childhood settings and the ways in which children in a class might exhibit behaviors associated with executive functioning. In addition, we created a classroom teacher survey to gather teacher perspectives on the program. Please see the Appendix for more information about these tools.

Wilder created the Executive Functioning Classroom Observation Tool to be used in tandem with the Using Music Tally Sheet, which MacPhail uses to track music-based classroom activities. Together, these tools helped explore MacPhail's hypothesis that there is a positive correlation between music-based activities and improved executive functioning at the classroom level. To create the tool, we conducted a literature review that focused on two questions: 1) What are examples of classroom-level observation tools intended for early childhood and/or youth settings? (2) What are common indicators of executive functioning in early childhood and to what degree have these indicators been applied to group settings, such as classrooms? Briefly, the fundamentals of executive functioning are commonly considered to be working memory, inhibitory control, and cognitive flexibility (Cuevas et al., 2012; Escolano-Pérez et al., 2017). There is recent debate about whether traditional measures of executive functioning translate to real-world situations (Moffett et al., 2023; Wallisch et al., 2018). For example, some executive functioning assessments occur in a lab setting and include Stroop-like tasks, which ask children to respond in unintuitive ways (Cuevas et al., 2012; Moffett et al., 2023). That being said, there has been some attention to measuring executive functioning in more intuitive or organic ways, such as using play-driven storytelling to assess executive functioning capacity or observing off-task behavior as an inverse indicator of executive functioning capacities (Escolano-Pérez et al., 2017; Moffett et al., 2023).

Considering these findings and the complexities of measuring executive functioning in children, Wilder adopted three guidelines for creating this tool: that it be 1) grounded in the fundamentals of executive functioning, 2) used to readily gather data in real world settings, and 3) not used in isolation or as evidence of executive functioning capacities, but rather as an opportunity to identify classroom behavior trends and generate potential management strategies. MacPhail staff piloted the draft tool in six classrooms – two infant classrooms, two toddler classrooms, and two pre-kindergarten classrooms. They noted that the tool was straightforward and they felt they could readily use it in toddler and pre-kindergarten classrooms. We made some minor adjustments to improve the meaningfulness of data collected via the tool (such as reducing the number of scoring

scoring options per observation instance), but overall made few changes after the pilot. For infant classrooms, however, MacPhail staff said the tool was difficult to use; thus, we decided to only use the tool in toddler and pre-kindergarten classrooms.

2024-2025 evaluation findings

Most classrooms saw an increased use of music in class, and classroom measures of executive functioning were increased or sustained, particularly among pre-K classrooms

MacPhail staff and teaching artists as well as classroom teachers contributed observation data for this evaluation report. Observations were collected from five sites in Minneapolis and St. Paul, each of which had a mix of infant, toddler, and pre-k classrooms. Each classroom was observed at least 4 times from September 2024 – May 2025. For the Using Music Tally Sheet, observers counted the number of times music was used during class. Figure 1 shows that 3 of 4 infant sites and 3 of 5 toddler sites increased how often they use music during class; regarding pre-k, 2 sites increased how often they use music from Observation 1 to Observation 4.

1. Using Music Tally Sheet summary table

	Increased	Sustained	Decreased
Infants	3 of 4 sites	1 of 4 sites	--
Toddlers	3 of 5 sites	1 of 5 sites	1 of 5 sites
Pre-K	2 of 5 sites	3 of 5 sites	--

For the Executive Functioning Classroom Observation Tool, observers rated class behavior overall for each measure using one of the three response options: “Most or almost all” of the class aligned with the measure, “about half” of the class aligned with the measure, or “less than half” of the class aligned with the measure. “Increased” and “sustained” are both favorable, since in all cases when ratings were “sustained,” they were positive at Observation 1 and 4.

Regarding listening to instructions or announcements without interrupting or losing interest (Figure 2), 4 of 5 toddler sites and 3 of 5 pre-k sites increased or sustained their ratings from Observation 1 (September 2024) to Observation 4 (May 2025).

2. The class listens to instructions or announcements without interrupting or losing interest.

	Increased	Sustained	Decreased
Toddlers	2 of 5 sites	2 of 5 sites	1 of 5 sites
Pre-K	1 of 5 sites	2 of 5 sites	2 of 5 sites

Regarding following 1- or 2-step instructions with minimal prompting or reminders after instructions are given (Figure 3), all toddler sites and all pre-k sites increased or sustained their ratings from Observation 1 (September 2024) to Observation 4 (May 2025). In all cases, when ratings were “sustained,” they were positive at Observation 1 and 4.

3. The class follows 1- or 2-step instructions with minimal prompting or reminders after instructions are given.

	Increased	Sustained	Decreased
Toddlers	3 of 5 sites	2 of 5 sites	--
Pre-K	4 of 5 sites	1 of 5 sites	--

Regarding regulating their emotions during or after expressing excitement or disappointment (Figure 4), 4 of 5 toddler sites and all pre-k sites increased or sustained their ratings from Observation 1 (September 2024) to Observation 4 (May 2025). In all cases, when ratings were “sustained,” they were positive at Observation 1 and 4.

4. The class regulates their emotions during or after expressing excitement or disappointment.

	Increased	Sustained	Decreased
Toddlers	1 of 5 sites	3 of 5 sites	1 of 5 sites
Pre-K	1 of 5 sites	4 of 5 sites	--

Regarding adjusting to changes in the schedule or planned activities without major stress (Figure 5), 3 of 5 toddler sites and all pre-k sites increased or sustained their ratings from Observation 1 (September 2024) to Observation 4 (May 2025). In all cases, when ratings were “sustained,” they were positive at Observation 1 and 4.

5. The class adjusts to changes in the schedule or planned activities without major distress.

	Increased	Sustained	Decreased
Toddlers	2 of 5 sites	1 of 5 sites	2 of 5 sites
Pre-K	3 of 5 sites	1 of 5 sites	1 of 5 sites

Regarding engaging for most of the duration of a lesson or activity (Figure 6), 3 of 5 toddler sites and 4 of 5 pre-k sites increased or sustained their ratings from Observation 1 (September 2024) to Observation 4 (May 2025). In all cases, when ratings were “sustained,” they were positive at Observation 1 and 4.

6. The class is engaged for most of the duration of a lesson or activity.

	Increased	Sustained	Decreased
Toddlers	2 of 5 sites	1 of 5 sites	2 of 5 sites
Pre-K	3 of 5 sites	1 of 5 sites	1 of 5 sites

Regarding changing behavior in response to feedback from an adult (Figure 7), 4 of 5 toddler sites and all pre-k sites increased or sustained their ratings from Observation 1 (September 2024) to Observation 4 (May 2025). In all cases, when ratings were “sustained,” they were positive at Observation 1 and 4.

7. The class changes behavior in response to feedback from an adult.

	Increased	Sustained	Decreased
Toddlers	2 of 5 sites	1 of 5 sites	3 of 5 sites
Pre-K	3 of 5 sites	2 of 5 sites	3 of 5 sites

Classroom teachers reported having positive experiences working with MacPhail

The classroom teacher survey included 6 closed-ended questions (3 about partnering with MacPhail, 3 about teacher development) and 3 open-ended questions (about biggest impacts for students and teachers as well as areas for program improvement). Most classroom teachers (85-95%) agreed or strongly agreed that MacPhail was a positive partnership that contributed to their development. Of note, 65% strongly agreed that partnering with MacPhail has helped engaged their students and 58% strongly agreed that MacPhail has helped improve their confidence using music in the classroom (Figure 8).

8. Classroom teacher responses to closed-ended survey questions

	Strongly agree	Agree	Disagree	Strongly disagree
Partnering with MacPhail has helped engage my students. (n=20)	65%	25%	5%	5%
MacPhail has helped improve my confidence using music in my classroom. (n=19)	58%	42%	--	--
MacPhail has provided me with new resources for using music in my classroom. (n=20)	55%	45%	--	--
Partnering with MacPhail has helped my students learn or explore new things. (n=20)	55%	40%	--	5%
I've learned new techniques or strategies for using music in my classroom from MacPhail. (n=20)	45%	55%	--	--
Partnering with MacPhail has helped me manage my classroom. (n=20)	40%	45%	5%	10%

When asked about the biggest benefit of Learning With Music for their students, classroom teachers talked about how much improved their students' confidence and self-regulation skills, and that the program has especially contributed to students successfully transitioning from one activity to the next. Other teachers mentioned that having another adult in the room was helpful while some mentioned general music benefits, such as students being excited about music.

The resources [MacPhail teaching artist] has given help not just in classroom management but with kids' confidence.

They have a much wider selection of music that they know now and it has to come to my attention that they even use the songs we use in the classroom at home, too.

It's especially beneficial and therapeutic for our children when they are going through a traumatic time in their lives.

When asked about the biggest benefit of Learning With Music for them as educators, classroom teachers talked about gaining confidence in using music in the classroom and learning new approaches for managing their class with music. As one teacher noted, "It taught me about more songs, some I even forgot from my childhood, and it helps when I feel stressed as well." When asked about areas for program improvement, some classroom teachers said they'd like their students to have more access to musical instruments via the program. Others mentioned that they had no improvements or wanted MacPhail teaching artists to come more often.

Summary and moving forward

Overall, the evaluation results suggest that the Learning With Music program had a positive impact, showing increased or sustained ratings across most measures in the Executive Functioning Classroom Observation Tool, and that classroom teachers greatly appreciated the program and partnering with MacPhail. As mentioned earlier, the Executive Functioning Classroom Observation Tool should only be used as a starting point for strategic conversations around behavior management and how classroom teachers can use music to support their students. There were two measures that could provide direction moving forward. Specifically, 2 of 5 pre-k sites saw a decrease in rating for Measure 1 – "The class listens to instructions or announcements without interrupting or losing interest." Similarly, 2 of 5 toddler sites saw a decrease in rating for Measure 4 – "The class adjusts to changes in the schedule or planned activities without major distress." To address these points, Wilder suggests that MacPhail and classroom teachers consider and discuss their collective expectations for student behavior as well as how these measures align with child development milestones. Such a discussion, we expect, would yield data-informed and practical approaches to using music for improving or addressing classroom behavior moving forward.

Appendix

The Executive Functioning Classroom Observation Tool

The Executive Functioning Classroom Observation Tool is intended to gather observational data in early childhood education settings. It includes six observation measures that align with the fundamentals:

- The class listens to instructions or announcements without interrupting or losing interest. (Inhibitory control)
- The class follows 1- or 2-step instructions with minimal prompting or reminders after instructions are given. (Working memory)
- The class regulates their emotions during or after expressing excitement or disappointment. (Inhibitory control)
- The class adjusts to changes in the schedule or planned activities without major distress. (Cognitive flexibility)
- The class is engaged for most of the duration of a lesson or activity. (Working memory)
- The class changes behavior in response to feedback from an adult. (Cognitive flexibility)

The observer selects one of four response options for each measure to denote the proportion of students in the class that exhibit the behavior: fewer than half of students, about half of students, most or all students, or not applicable.

For each measure, there are four potential instances of note-taking; for each instance, the tool denotes a window of time within which to observe:

- Instance 1 – the observation starts when the teacher begins class; it ends 5 minutes after class begins.
- Instance 2 – the observation begins 5 minutes after class begins; it ends at the class's midway point.
- Instance 3 – the observation begins at the class's midway point; it ends when there are 5 minutes of class left.
- Instance 4 – the observation begins when there are 5 minutes left; it ends when class is over.

For example, if during the initial 5 minutes of class a student announces it's their birthday and the class shows excitement by standing up and congratulating them and then the teacher asks the class to return to their desks, what proportion of students do so after the teacher prompts them 1-2 times?

The observer would rate their observation of this scenario in the "Instance 1" column for the 3rd observation measure ("The class regulates their emotions during or after expressing excitement or disappointment.") and the last observation measure ("The class changes behavior in response to feedback from an adult."). They also would include a brief description of what happened and why they rated it that way (e.g., for a rating of "About half of students" the description might be "birthday, class excited, ~half needed 5-7 reminders to resume class").

During any note-taking instance, an observer may rate all six observation measures or just some of them. For example, during Instance 2 (that is, during the 1st half of class), an observer might rate 3-4 observation measures, depending on what they observed in the classroom. Observers should aim for rating at least 1-2 observation measures during each note-taking instance. Any observation measures not used in a timeframe should be noted as “Not applicable.”

When the observer is finished filling out the form, they should use the “Overall notes” space to include any pertinent information or important considerations for their ratings of that observation measure, such as a big disruption that happened towards the end of class or changes in attendance or school-wide schedule that may affect students’ behaviors.

MacPhail Classroom Teacher Survey

School/program: _____

Wilder Research is working with the MacPhail Center of Music to evaluate its programming in infant classrooms. We invite you to share your perceptions of partnering with MacPhail in your classroom.

1. How much do you agree or disagree with the following statements about partnering with MacPhail?

Partnering with MacPhail...	Strongly agree	Agree	Disagree	Strongly disagree	Don't Know
a. ...has helped me manage my classroom.	☐ 4	☐ 3	☐ 2	☐ 1	☐ -8
b. ...has helped engage my students.	☐ 4	☐ 3	☐ 2	☐ 1	☐ -8
c. ...has helped my students learn or explore new things.	☐ 4	☐ 3	☐ 2	☐ 1	☐ -8

2. How much do you agree or disagree with the following statements?

	Strongly agree	Agree	Disagree	Strongly disagree	Don't Know
a. I've learned new techniques or strategies for using music in my classroom from MacPhail.	☐ 4	☐ 3	☐ 2	☐ 1	☐ -8
b. MacPhail has helped improve my confidence using music in my classroom.	☐ 4	☐ 3	☐ 2	☐ 1	☐ -8
c. MacPhail has provided me with new resources for using music in my classroom.	☐ 4	☐ 3	☐ 2	☐ 1	☐ -8

3. What has been the biggest benefit of partnering with MacPhail **for your students**?

4. What has been the biggest benefit of partnering with MacPhail **for you as an educator**?

5. How could MacPhail improve your partnership with them? What support or resources would you like from MacPhail as you continue the partnership?

Thank you for completing this survey. Please fold it in half and give it to a MacPhail staff person.

Works cited

- Cuevas, K., Hubble, M., & Bell, M. A. (2012). Early Childhood Predictors of Post-Kindergarten Executive Function: Behavior, Parent Report, and Psychophysiology. *Early Education and Development*, 23(1), 59–73. <https://doi.org/10.1080/10409289.2011.611441>
- Escolano-Pérez, E., Herrero-Nivela, M. L., Blanco-Villaseñor, A., & Anguera, M. T. (2017). Systematic observation: Relevance of this approach in preschool executive function assessment and association with later academic skills. *Frontiers in Psychology*, 8. <https://doi.org/10.3389/fpsyg.2017.02031>
- Moffett, L., Weiland, C., McCormick, M. P., Hsueh, J., Snow, C., & Sachs, J. (2023). Off-Task Behavior as a Measure of In-Classroom Executive Function Skills? Evidence for Construct Validity and Contributions to Gains in Prekindergartners' Academic Achievement. *Early Education and Development*, 0(0), 1–24. <https://doi.org/10.1080/10409289.2023.2199658>
- Wallisch, A., Little, L. M., Dean, E., & Dunn, W. (2018). Executive Function Measures for Children: A Scoping Review of Ecological Validity. *OTJR: Occupational Therapy Journal of Research*, 38(1), 6–14. <https://doi.org/10.1177/1539449217727118>

For more information

This summary presents highlights of the *Learning With Music program evaluation*. For more information about this report, contact Ryan Ander-Evans at Wilder Research, 651-280-2677 or ryan.ander-evans@wilder.org

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