

Exploring the Effectiveness of the Learn With Sesame Multi-Modal SEL Program on Child Social and Emotional Outcomes

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Abstract

In this study, we used a within-subjects design to assess whether using the multi-modal Learn With Sesame Street program could impact growth in children’s emotion knowledge, regulation, and social skills. Participants included 12 families with a child between the ages of 2.5-4.5 from Northern CA. Results showed that children made statistically significant gains on observed receptive and expressive emotion knowledge as well as parent reports of emotion regulation knowledge and strategy use. Qualitative data revealed that children communicated about their emotions more frequently and used more advanced emotion words to convey their feelings. This suggests that the program can be an effective tool for children this age to learn about emotions and ways to manage them.

Introduction

The development of social and emotional learning (SEL) skills—including the ability to recognize, understand, and regulate emotions, demonstrate empathy, and engage in prosocial behavior—has become a top priority for caregivers in recent years. Research consistently highlights the critical role of SEL in driving a wide range of positive outcomes, including academic achievement, stronger interpersonal relationships, psychological well-being, and more (see Murano, 2020, for a meta-analysis). In response, the current landscape of children’s toys, media, and educational technology has many products, such as digital apps and games, designed to foster these essential SEL skills.

Our goal was to take a unique approach to teaching SEL by creating a comprehensive multi-modal product that teaches foundational SEL skills to toddlers using a transmedia approach (McCarthy, Li, Tui & Atienza, 2013)- which is when thematically linked content is presented across formats (ex: short videos, interactive games, stories) and across media (ex: apps, kits, printables). It has been shown to have a positive impact on outcomes since it engages children holistically, fosters dialogue and social interaction, and encourages learning transfer (Rosenfeld et al., 2019). Multi-modal learning can be particularly effective because it capitalizes on the affordances of each different kind of modality, creating a learning environment that engages children meaningfully based on the learning goal (Rodrigues & Bidarra, 2014). For example, concepts such as learning new vocabulary may be best

taught through digital apps because they can be introduced through short videos and can be practiced in a game with familiar characters. Concepts such as sharing and turn taking are best taught through a hands-on game that allows for joint play and dialogue. Our collaboration with Sesame Workshop enabled us to leverage their iconic characters and IP to create the Learn with Sesame Street (LWSS) program. It includes an app, three play kits, and a Grown-Up Guide with parent classes, blogs, and play tips, all designed to help children learn emotion identification, emotion regulation strategies, and pro-social skills. Designed for 2-4 year olds, the curriculum covers a wide range of topics in SEL, and encourages parent involvement to extend the learning experience into kids' daily lives.

Participants & Methodology

In this study, we used a within-subjects design to assess whether using the LWSS program resulted in gains in children's knowledge about emotions, regulation strategies and social skills. The study was conducted in a preschool in Northern CA with a total of 12 families (8 girls, 4 boys). All children were within the age range of 2.5-4.5 years. Families completed a pre-test and were given the LWSS program to use for 3 weeks along with a Guided Plan on how to use it (see Figure 1). They then returned to complete a post-test.

In both pre and post tests, parents completed the Children's Emotional Adjustment Scale ([Thorlaciuss & Gudmundsson, 2019](#)), Early Emotion Regulation Behavior Questionnaire ([Perry & Dollar, 2021](#)), Social Skills Rating Scale ([Fantuzzo, Manz, & McDermott, 1998](#)), a general Demographics Questionnaire and General Knowledge of Emotions and Regulation. At the post-test, they also completed a feedback and Learnings interview. Children completed the Expressive Vocabulary Test ([Williams, 1997](#)) and adapted versions of the Emotion Matching Task ([Morgan, Izard, & King, 2009](#)) and Cole Puppet Task ([Cole & Jacobs, 2018](#)) in both pre and post tests.

Data Analysis

Paired sample tests on the Emotion Matching Task showed that children made significant gains on emotion matching ability, ($t(11) = -2.88, p = .015$), situation-emotion knowledge ($t(11) = -2.46, p = .032$), expressive emotion knowledge ($t(11) = -2.76, p = .018$), and receptive emotion knowledge ($t(11) = -2.84, p = .008$)- see Figure 2. Children used a higher number of advanced emotion vocabulary words at Time 2, $t(10) = -3.54, p = .005$ (See Figure 2a.). There were no significant changes in child performance on the Expressive Vocabulary Test or the Cole Puppet Task.

Results from questionnaires showed that parents also perceived their children to be learning and using more emotion words and adaptive emotion regulation strategies after using the LWSS program. On the General Knowledge of Emotions and Regulation questionnaire, parents reported an increase in

the number of emotion words their children used and this change was approaching statistical significance, $t(11) = 1.72, p = .113$ (see Figure 3). On the Early Emotion Regulation Behavior Questionnaire they reported an increase in their child’s likelihood to use healthy self-regulation strategies after using LWSS (see Figure 4- mindfulness strategies: $t(11) = -1.82, p < .1$, sensory strategies: $t(11) = -2.79, p < .05$). Highly engaged program users showed greater increases in using mindfulness strategies compared to moderate/low engaged users. Parents did not report a change in children’s social skills or prosocial behavior on the Social Skills Rating Scale. Thematic analysis of interviews with parents revealed children were more communicative about how they were feeling in their daily lives ($N = 7$), were more likely to use advanced emotion words such as frustrated or nervous compared to just verbalizing sad or mad ($N = 7$), and used more regulation strategies such as breathing techniques and sensory techniques ($N = 9$).

Use of the LWSS program resulted in significant gains on emotion knowledge and regulation skills in children. This suggests that it can be an effective tool for teaching young children emotion identification, emotion vocabulary, and regulation strategies. It also provides support that the transmedia approach to learning and using multiple modalities to teach different types of skills can be applicable to SEL concepts.

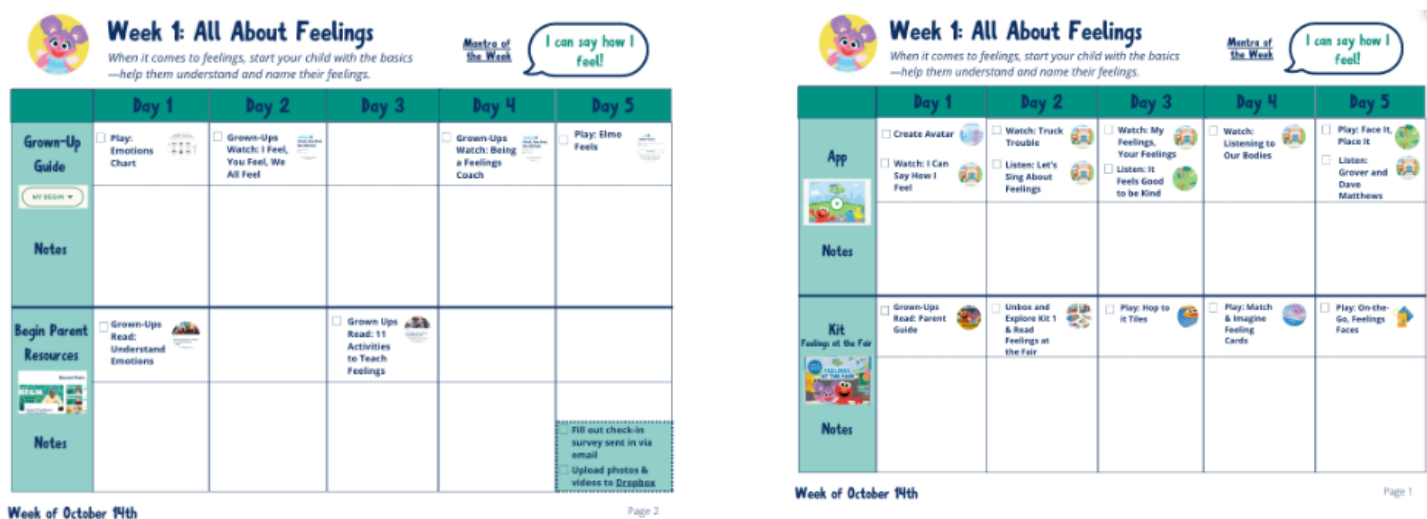


Figure 1. An example of the Guided Plan provided to families on how to use all components of the program over the week.

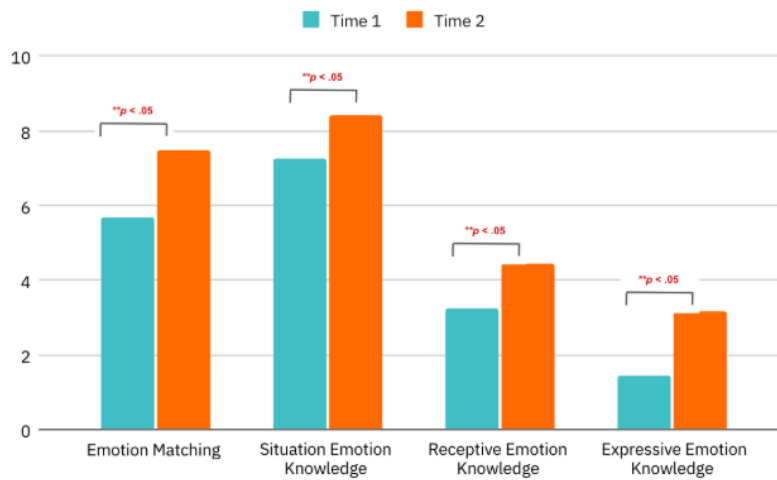


Figure 2. On the Emotion Matching task, children showed a significant increase in their receptive and expressive emotion vocabulary.

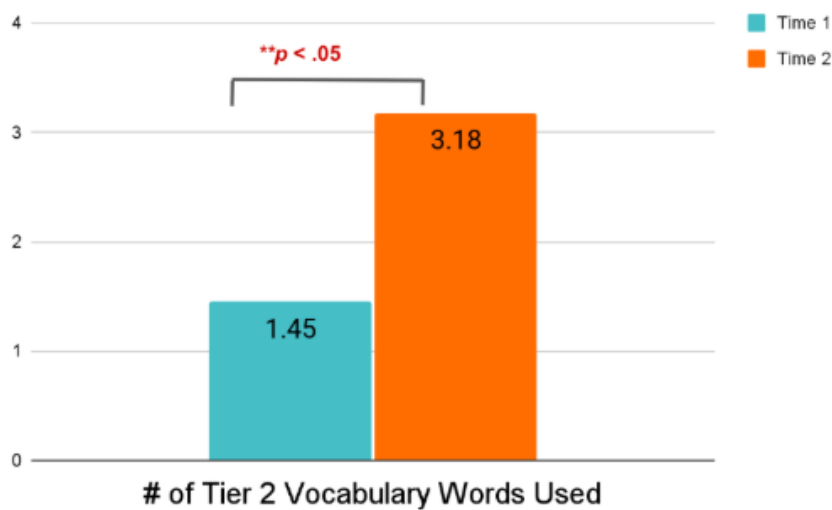


Figure 2a. On the Expressive Emotion Vocabulary task, children also used significantly more advanced or Tier 2 emotion words compared to Time 1.

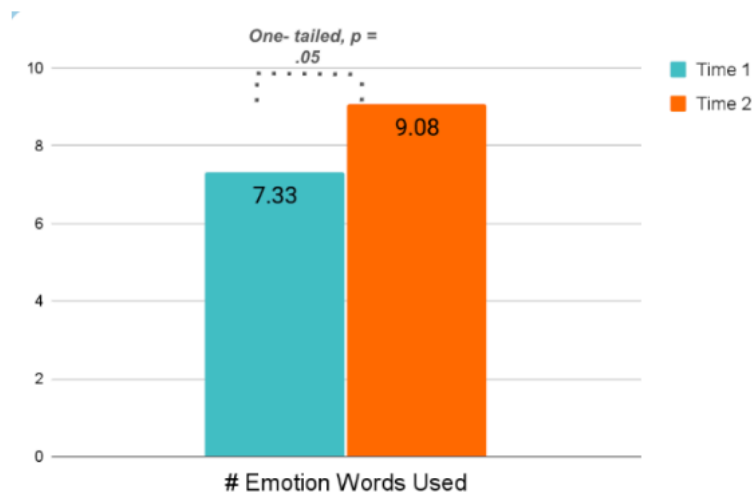


Figure 3. On the General Knowledge of Emotions and Regulation questionnaire, parents reported their children used more emotion words in the last week at Time 2 (after using LWSS) compared to Time 1

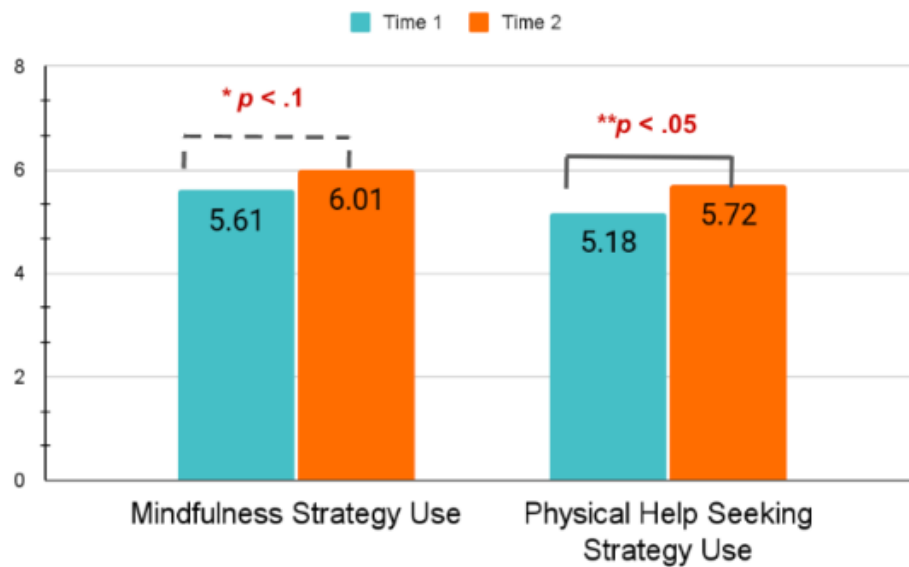


Figure 4. On the Early Emotion Regulation Questionnaire, parents report their children were more likely to use a mindfulness or sensory/physical help seeking strategy when faced with a big feeling after using LWSS.

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