Creation of Educational Videos Depicting Common Developmental Concepts

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Introduction

If a picture is worth a thousand words, then what's a video worth? Many scientific concepts are notoriously difficult for students to learn, but visual explanations—like video clips—have been shown to promote better learning than verbal explanations (Bobek & Tversky, 2016). Visual explanations can depict crucial features that may be invisible or impossible to include in verbal explanations (Bobek & Tversky, 2016; Schneps et al., 2010). When done well, videos can also reduce cognitive load and promote dual processing by effectively integrating verbal and visual stimuli (Brame, 2016; Clark & Mayer, 2016; Mayer & Moreno, 2003). Moreover, students have reported that inclusion of video clips increased their interest in the class, improved their concentration, improved their memory and learning, and increased intelligibility of the topic (Kosterelioglu, 2016). Similarly, researchers using videos as lab training tools have found better performance from students taught with videos of complex procedures than those taught with narration (Aronne et al., 2019). Therefore, whether in the classroom or laboratory, educational videos may enhance student learning and performance.

However, not all videos are created equal, and many of the videos available are severely lacking. Considering the utility of videos as a teaching tool, creation of videos has potentially far-reaching implications for developmental psychology education, but to truly have an impact, these videos need to be (1) high quality, (2) short, (3) scientifically accurate, and (4) freely available.

The Current Project

The proposed project takes these factors into account to address the gaps in video education tools currently available in developmental psychology. Specifically, we filmed high-quality videos of common developmental psychology tasks-–including emotional understanding, conservation, theory of mind, and fine/gross motor skills—for open use in classrooms and research.

Method

Participants and Procedure

- Twelve children participated (7 boys, 5 girls, *M* = 3.89 years, *SD* = 1.36, age range: 1.5–6.25 years) in this video project
- Parents were recruited via online and email advertising, and families were compensated $20, and children were given a small toy for participating in a ~2-hour visit

Emotional Understanding

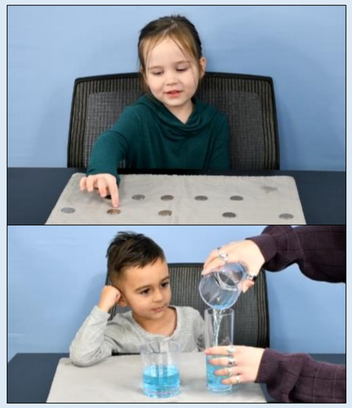
In the emotional understanding puppet interview (Denham, 1986), 2- to 4-year-old children were presented with four cartoon faces with emotional expressions to see if they could first recognize the emotions being displayed. Then they were asked to identify the emotion the puppet is feeling in different scenarios, including some that may differ from how the child may feel about that situation.

Theory of Mind

To assess children's theory of mind, three common ToM tasks were conducted with children ages 3 to 6 years: (1) unexpected contents (Perner et al., 1987), and (2) the Sally-Anne task (Baron-Cohen et al., 1985). Video briefly defines theory of mind before depicting how children with and without theory of mind typically respond during these common tasks.

Conservation Tasks

To demonstrate children's progress through Piaget's cognitive stages, children ages 3-6 years completed a series of five conservation tasks to show how young children think about the physical properties of objects: conservation of liquid (which involved pouring liquid from one glass shape to another), number (which involves spreading out one of two identical rows of coins), mass (by flattening a ball of clay next to a rounded comparison ball of the same size), length (by shifting one of two straws over), and surface area (which involves inequitable sharing of graham crackers before breaking one in half).



Fine and Gross Motor Skills

To demonstrate children's differences in fine (i.e., small) and gross (i.e., big) motor movements, children ages 2 to 6 years were asked to complete a series of tasks. To test their gross motor skills, children were asked to walk up and down stairs, catch and throw a ball, kick a ball, jump on one foot, do jumping jacks, and dance. To demonstrate their fine motor skills, children were asked to draw shapes, blow bubbles, string beads, zip a zipper, tie a shoe, place stickers on a piece of paper, use scissors to cut a circle, feed themselves with a spoon, and drink from an open cup.

Questions or comments? Email: Kelly Warmuth, kwarmuth@providence.edu.