

Four Key Themes Behind Why Children and Robots

It is not long off before robots are part of our everyday lives. Their potential with children is huge in a wide variety of use cases from education to autism therapy to companionship for children in a hospital setting. The “why” behind their inevitable impact can be found in four key themes.

Theme 1: Robots Can Positively Influence Children

Research has shown that children can have their opinions and decisions influenced by robots¹. While our first instinct might be to see this as a red flag, the power of a robot to have positive influence can be a powerful tool.

Based on research from the University of Plymouth, children will conform to what robots are saying (as opposed to adults, who were also part of the research and showed less likeliness to conform). Children, thanks to their unassuming nature, have been shown to have more of an affinity to robots than their adult counterparts. This enables the robot to have a level of influence and be in a position to deliver information that can positively affect a child with whom it interacts.

This influence can be leveraged in a wide variety of settings including child behavior, empathy and social skills, and learning. The personality of a robot companion comes into play relative to this influence². As an example, an enthusiastic and attentive robot has been seen to make children more engaged and harder working. In research done by MIT and Tel Aviv University, it was found in comparing a robot that had a “neutral” attitude with one with a “can-do” attitude, that there was a measurable difference. “We found that the children in the second group (‘can-do’ attitude) tried much harder, and when they lost, they were far more determined to win – they had grit,” says Hae Won Park from MIT.

Theme 2: Children Naturally Accept Robots

Children demonstrate a natural enthusiasm for robots. They have been shown to see robots not as human counterparts but something in between a pet, a tutor, and a technology. There is an ability for children to build relationships and demonstrate social interactions with them e.g. hugging and sharing stories.

Research out of Australia³ reported that robots tended to be easily assimilated into kids’ existing peer groups. They “... possess an enviable ability to fit in with other kids—to be natural fixtures in peer groups.” Children will treat robots as a friend. With

¹ Robots have power to significantly influence children's opinions; [Science Daily](#)

² Kids can pick up attitude from robots they play and learn with; [New Scientist](#)

³ This is what kids want from robots; [IEEE](#)

robots being seen as “smart”, they also have bolstered for some children the sentiment that being a “nerd” is a good thing.

Theme 3: Robots Can Improve Children’s Learning

Children can learn from robots. This doesn’t take humans out of the equation. Robots augment the process. They do this through enhancing the experience and increasing engagement. And by learning, this isn’t limited to the classroom and traditional learning. Robots are playing a role in assistive learning settings as well.

Kids learn better with a friend or a subject companion, a role a robot can play. At the University of Wisconsin-Madison, they conducted a study on robots as reading partners⁴. Over a two-week timeframe of reading together, they found that the children grew more excited about books and more attached to the robot, and this was at the middle school level, an age group often found hard to influence. The crux of why this worked can be found in the construct of social learning or the pairing of peers, which helps the learning of new skills and interests. Educators will say that it distributes the learning workload and reinforces understanding by children through talking together.

Theme: Children Get the Differentiation Between Tablets, Virtual Assistants and Robots

Let’s start with the fact that flat screens have become a part of everyday life for a large percentage of kids. That includes tablets, computers, smartphones and TV’s (somewhat of a bygone era). What were once innovative and novel entertainment and education devices are now integrated into the fabric of how children are brought up. A robot interacts in a 3D paradigm, bringing content and interactivity to life.

Robots in the context of children’s needs are also designed to provide meaningful social interaction. A robot is not just a delivery device of information, as we see with flat screens and virtual assistants. Children ascribe physical attributes to robots; they can move, they can see, they can talk etc. They also ascribe mental attributes; robots can think, like stories, convey emotions (feel sad) etc. It is the social properties of a robot that make it different. Relationships are social and a child (as well as an adult) can build a relationship with a robot. Social cues like eyes and emotions, which a robot can uniquely communicate over other devices, play a large part in this. Our lives are determined by interactions with others including people, pets, characters in a book and robots.

Misty Robotics out of Boulder, Co has introduced Misty II, a platform robot, which enables developers and their institutions to build for specific use cases including those serve kids needs.

(-)-MISTYROBOTICS

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⁴ Kids connect with robot reading partners; [Science Daily](#)