

Engaging 21st Century Family & Consumer Sciences Students: The Impact of Infant Simulators

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*- Lori Brumbaugh,
FCS teacher, Champlin Park
High School, Champlin, MN*

Hands-On Products Used

- RealCare Baby® infant simulator

The secret to connecting with today's tech-savvy, digitally native students, according to North Carolina Family & Consumer Sciences (FCS) teacher Greta Hegstrom, is relevancy. "You have to make your lessons relevant to the student and meet them where they are," said Hegstrom, who has been teaching for over two decades. "Kids won't want to learn from you, and they won't be interested in learning, if it doesn't mean something to them."

Experts agree. Today's Generation Z (Gen Z) students, born between 1997 and 2010, have been surrounded by technology since birth. Although researchers have found that constant access to technology has left Gen Z students with a limited ability to focus, it has also left them invested in "receiving and participating in meaningful education."¹ After all, constant access to information has given Gen Z students the ability to access answers to their questions anytime; whenever possible, they want to connect what they are learning to a larger context. They want to know the "why" behind each lesson; they crave meaning in what they are learning.

That desire for meaning is a key factor when it comes to preparing today's students for a competitive workforce, a fact long supported by Career and Technical Education (CTE) programs. CTE programs integrate academics with rigorous, relevant curriculum to prepare students for high-demand jobs within specific career clusters. These include manufacturing, information technology, agriculture and human services, under which FCS courses like the ones Hegstrom teaches are categorized.

Whatever the career cluster, a hallmark of all quality CTE programs is real-world, hands-on learning, which the Association for Career and Technical Education (ACTE) states in A Guide to Understanding Career and Technical Education, "enhances student engagement and learning."² This type of learning is effective for many reasons – it helps students grasp what they have been taught; it engages both sides of the brain; it helps them retain information.³ It makes learning meaningful.

That type of meaningful learning is key when it comes to teaching the employability and leadership skills students learn in FCS programs. These programs prepare students for successful careers in a variety of settings, including education, consumer services, child development and any other profession that helps individuals, families and communities make informed decisions to improve their quality of life.

What can today's FCS instructors do to engage today's students in rewarding careers, particularly those in schools, youth development, educational programs and child care centers? As instructors across the country have found, infant simulators are one solution. When combined with curriculum and reflection opportunities, these innovative learning aids offer hands-on learning experiences, help students connect lessons to the real world and prepare for success in careers and in life while bringing a memorable and fun experience to students.

Introducing the world's most advanced infant simulator

Realityworks founders Rick and Mary Jurmain created the first RealCare Baby® infant simulator (formerly Baby Think It Over®) in the early 1990s to offer teachers a tool to help combat then-rising teen pregnancy rates across the country. New parents at the time, the Jurmains were watching a television show about teens using flour sacks to simulate parenting, and Rick commented to Mary that the sacks could not possibly replicate real infants, who cry for care day and night. Mary challenged the former NASA engineer to create something better, and the first RealCare Baby (Baby) was “born.”

Twenty-five years and 10 generations later, RealCare Baby 3 is widely known as the world's most advanced infant simulator. It's been incorporated into over 32,000 educational and social service organizations and helped over 10 million young people across the globe address health choices and practice job skills.⁴ Not only does this infant simulator cry for care 24/7, but it includes sensors that monitor when its clothing and diaper is changed, how long it spends sitting in its car seat and the ambient temperature of its surroundings. Modeled after a 3-month-old human infant, Baby even monitors whether the caregiver is properly supporting its head and neck (and will emit an uncomfortable cry if mishandled). The curriculum that accompanies each Baby focuses on a variety of topics, from pregnancy prevention to parenting, infant health and safety.

Realityworks engineers programmed the recorded behavior of 15 real infants into each simulator, allowing educators to program Baby on care schedules that range from easy to

difficult. Those pre-programmed care experiences are part of what make each caregiver's experience with Baby unique, hands-on – and appealing to today's 21st Century students, who crave learning experiences that are immersive and interactive.

“Students are definitely changing,” said Kasey Carlson, a Wisconsin-based CTE instructor and educational technologist who has taught for over 10 years. “We used to do a lot of textbook and lectures, with very little hands-on experience. Now, we're looking at a generation that has been brought up with multimedia and video games. They are more real-life focused. They remember more if they have an experience.”

Engaging students in career preparation

Lori Brumbaugh is a FCS teacher and FCCLA advisor at Champlin Park High School in Champlin, Minnesota. A seasoned RealCare Baby user, Brumbaugh purchased her first Baby in 1995 and has been using them in her FCS, design and even culinary classes ever since.



Figure 1. RealCare Baby

“Not only are [my students] excited to take Baby home, but I know it will teach them more than caring for an infant. This project helps students understand the importance of balance, planning, and problem-solving.”

*- Melissa Priester,
FCS teacher, Grayslake Central
High School, Grayslake, IL*

"We talk about dating, relationships, raising a family, quality of life, careers... I want them to have as much knowledge as possible so they can make informed life choices."

*- Calvin Andrews,
FCS teacher, Carroll County Middle
School, Hillsville, VA*

"RealCare Baby has made such a difference in my classroom," said Brumbaugh, a 2018 ACTE Region III & National Finalist Teacher of the Year. "It's so different than just doing a regular parenting interview; it's different than flour babies and egg babies... it's a much more realistic simulation."

The Anoka-Hennipen School District is one of Minnesota's largest, and each of the district's five high schools use RealCare Baby. Brumbaugh uses Baby in all six sections of her Child and Human Development classes each year, sending Baby home with each student for a single night so all 38 kids in each class have a chance to care for Baby overnight.

Although Champlin Park does not have a formal career academy, Brumbaugh says their FCS program is set up to reflect a career pathway. Her students are introduced to RealCare Baby in the first of two early childhood careers courses, prior to spending time in the school's onsite preschool.

"I bring out the Babies when we're talking about laws working with children. For instance, in our state you can have four infants with one teacher. So I'll put four Babies on demo mode, and have one student taking care of all four at the same time," said Brumbaugh. "Many of my students are already working at our local child care centers, in the before- and after-school programs, and the RealCare Baby experience just adds to it. It gives them another layer of understanding of the challenges and rewards of working with children."

Brumbaugh also has her students bring Babies into the local middle schools when they visit to discuss career pathways within FCS.

"It lets them know what their options are in high school," said Brumbaugh. "We're really encouraging students to

develop skills, build confidence and apply those skills to future careers. The RealCare Baby experience really does help them understand the depth of what it is to take care of a child."

Kristy Crowell is a FCS teacher at Tokay High School (THS) in Lodi, California. THS follows the California Partnership Academy model, offering three-year programs that are structured as a "school within a school." Programs incorporate academics, CTE instruction and internships that focus on specific career themes. All of Crowell's child development students are interested in working with children in some capacity in their future careers, whether those careers are in the education, medical or social service fields.

"RealCare Baby drives home everything we are teaching," said Crowell, who has been teaching for eight years. "If my students want to be a daycare provider, or a pediatric nurse... the experience shows them what it would be like to be with those infants, to provide proper care and attention."

Crowell has 16 Babies in her program. She sends each student home with one for a weekend simulation experience, having given them two days in class to practice caring for Baby. Her students journal about their experience, making notes and sharing details Crowell will later use to have meaningful conversations about the temporary impact the simulators made on her students' lives.

"If the report shows me Baby was too hot, we'll have a conversation about safe choices. If the report shows me Baby was mishandled, we'll discuss what was happening at that time, how to handle stress, etc." said Crowell. "RealCare Baby gives them way more real-life experience than anything short of a real baby could, and it will teach them quickly whether they want to work with infants."

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A key tool for social-emotional development

Melissa Priester is a FCS teacher at Grayslake Central High School in Grayslake, Illinois. Priester first met Baby when she was assigned to care for the infant simulator as a high school student; she has been using it as a learning aid in her own classroom for 13 years.

"For many of my students, this project is a highlight of their year, their high school experience," said Priester, who uses 10 Babies in her Family Relations and Parenting classes. "Not only are they excited to take Baby home, but I know it will teach them more than caring for an infant. This project helps students understand the importance of balance, planning, and problem-solving."

That understanding is a key part of Priester's Baby program, which includes a four-day simulation experience for each student. Her Babies turn on after school Friday and turn off the following Tuesday morning. Students must take their Baby out into a social setting at least once and keep a journal the entire

time. According to Priester, this caregiving experience, combined with lesson plans, activities and reflection, help her students understand the immense responsibility of caring for an infant, whether in a parental or a professional caregiving role. In particular, Baby helps her students develop the important social-emotional skills they will need to succeed in life, no matter what career path they choose.

"Baby's response makes this tool so powerful," said Priester. "When it coos or stops crying, that triggers something inside the person. They feel the need to care for it... and as they do, they're realizing their successes, their shortcomings, where they need to work on themselves. All of that is so important."

Minnesota FCS teacher Lori Brumbaugh, M.Ed., sees a similar impact in her classroom.

Just as we learn the areas of child development, those are the areas Baby impacts," said Brumbaugh, the 2017 MN FCS Teacher of the Year. "I ask every one of my students, 'how does this Baby affect you physically, intellectually, emotionally and socially, whether it's your own child or a child you're caring for in a teaching, childcare or other professional setting?' It really does help them understand."

An unexpected lesson on parenting an infant

Greta Hegstrom is a FCS teacher at East Forsyth High School in Kernersville, North Carolina. She's been teaching Child Development for the last two of her 20-year teaching career and has used RealCare Baby for both years.

"To me, interactive lessons will always be better than just looking at a video or a textbook," said Hegstrom.



Figure 2. RealCare Baby

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"RealCare Baby presents a challenge – does it need a diaper change? Does it need a bottle, or to be rocked? It's like they're trying to win a game. It's a great tool that adds that extra layer of hands-on learning."

Hegstrom uses Baby in lessons about making health choices. She sends her 19 Babies home with students for a weekend-long simulation experience, during which time her students keep a baby book and post video journal entries. The experience is rounded up with both an in-person and written reflection piece. For Hegstrom, infant simulators are a deterrent to teen pregnancy.

"Kids, especially young kids, think they could be a parent if they needed to be," said Hegstrom. "RealCare Baby seals the deal for the majority of them – they know it's going to be this cute baby doll, but because you can't turn it off, they realize pretty quickly that it's not all fun and games."

Calvin Andrews is a FCS teacher at Carroll County Middle School in Hillsville, Virginia. He's been using RealCare Baby with his sixth- through eighth-grade health students since 2004.

"I think it's one of the best learning tools that I have at my disposal," said Andrews. "It's not me doing the teaching – they're teaching themselves. They're discovering, right at that age when they're growing from a child into a young adult, that it's a life commitment to have a child of their own."

Andrews spends two weeks with Baby in the classroom before sending his students home for weekend simulation experiences. In addition to lesson plans focused on the physical, intellectual, social, emotional and financial impacts of having a baby, Andrews gives his middle school students plenty of hands-on practice time with Baby. He also incorporates

research projects on daycare costs, infant health and safety, even teen pregnancy rates in the state of Virginia. Overall, Andrews' RealCare Baby unit spans six weeks.

"We talk about dating, relationships, raising a family, quality of life, careers... I want them to have as much knowledge as possible so they can make informed life choices," said Andrews. "We have incredible administrative support for this program at my school, and I'm glad, because RealCare Baby really sells my program – even elementary school kids look forward to participating."

Reflecting on successful simulation

Research has long supported the positive impact of reflection on learning; it supports growth mindsets, encourages students to improve, helps them learn from their mistakes and increases overall student learning.⁵ For those reasons and others, reflection is a key part of any RealCare Baby program.

According to Priester, reflecting through journaling helps her students realize the social-emotional impact of their time with Baby.

"Journaling is such a vital part of the RealCare Baby experience," Priester said. "This Baby, even if it's only in their lives for 3-4 days, becomes a really important part of the whole family unit. There isn't a lot of other content that teaches them how to handle their emotional responses. Baby does that."

Brumbaugh appreciates the effect reflection has on the classroom as a whole (and added motivation for today's students, who prefer peer-to-peer learning experiences).⁶

"The opportunity for students to reflect at the end, on paper but also verbally in front of the class, has a ripple effect," she said. "It gets



Figure 3. RealCare Baby

other students talking, nodding, then volunteering their own thoughts on the lessons they learned.”

Hegstrom weighs her students’ reflection projects as a significant portion of their overall grade.

“Success, to me, is the conversation we have afterward,” she said. “Hearing their feedback and reading through what they have to say reinforces that this project is worth it. From their initial excitement and enthusiasm to the questions they have afterward, all of it lets me know they’re getting something out of it.”

Educators report hearing of meaningful conversations with parents and caregivers following students’ experience caring for Baby, and research reflects this result. A 2010 study on the efficacy of RealCare Baby found that one of the many impacts Baby and its curriculum have on users is “opened discussions with parents about sex and becoming a parent.”

Preparing today’s FCS students for careers and life

In 2019, Generation Z became the largest generation, making up just over 30 percent of the global population. To help prepare today’s FCS students for successful futures, training tools that the attention of today’s tech-savvy students and make lessons memorable are essential. The RealCare Baby infant simulator is one such tool.

Learning aids like RealCare Baby appeal to Gen Z students because they offer the interactive, hands-on learning experiences today’s learners crave. They offer instant feedback, foster peer-to-peer connections and help clarify the relevancy of lesson content.

And as many Baby users shared, infant simulators can even be successful recruitment tools for FCS programs.

“Students are so excited to sign up for the class so they can check Baby out,” said Brumbaugh. “Baby has made such a big difference. That’s the part that’s so rewarding.”

Priester says student responses before and after their simulation experience make Baby’s impact clear.

“It’s the one piece that ends up on all of my reflections. It’s the one thing that comes up when I connect with students years later,” she stated. “Sometimes the Baby experience opens a door you didn’t see coming and presents an opportunity for a deeper conversation. They either love it or they hate it... either way, their responses are just amazing.”

¹<https://blog.simtalkblog.com/blog/engaging-a-new-generation-of-learner-with-simulation>

²https://www.acteonline.org/wp-content/uploads/2018/02/CTE%20Guide_%20Final%20Version.pdf

³<https://www.byf.org/news-item/is-hands-on-learning-better/>

⁴<https://www.realityworks.com/realityworks-announces-the-25th-birthday-of-realcare-baby-the-worlds-most-advanced-infant-simulator/>

⁵<https://www.edutopia.org/article/treating-reflection-habit-not-event>

⁶<https://tophat.com/blog/generation-z-teach-classroom/>

⁷<https://nypost.com/2020/01/25/generation-z-is-bigger-than-millennials-and-theyre-out-to-change-the-world/>