

WICORized Lesson: Inquiry: Can Robots Be Friends? Bridging (Bridges 6–8)

This article describes how a small, interactive robot helps to calm and teach young hospital patients in Florida.

Core Content Areas

Science, Technology

AVID Elementary Components

Student Success Skills, Partnerships, WICOR

This lesson refers to strategies and resources located in the curriculum guide, *AVID Elementary Foundations: A Schoolwide Implementation Resource* (2016 edition).

AVID Elementary Objective

This WICOR lesson is intended to provide an opportunity for students to use inquiry strategies to promote deep thinking about a text. Students use prior knowledge and opinions to help guide their reading process. By responding to pre-determined leveled questions, students question, analyze, discuss and construct a greater understanding of the content. Students work collaboratively to participate in academic conversations, make claims, cite evidence, and interpret the meaning of the text.

Common Core Connections

CCSS.ELA-LITERACY.CCRA.R.1

Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

CCSS.ELA-LITERACY.CCRA.R.8

Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.

CCSS.ELA-LITERACY.CCRA.SL.1

Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

CCSS.ELA-LITERACY.W.4.9

Draw evidence from literary or informational texts to support analysis, reflection, and research.

Preparation and Differentiation

Each month, we have selected one article or graphic that is designed to differentiate between the stages of AVID Elementary: Emerging (Foundations K–2); Expanding (Foundations 3–6); and Bridging (Bridges 6–8). Please remember to preview the lesson matrix each

month to identify lessons that have similar content and learning focus differentiated for the specific target student (emerging learner, independent learner, and independent thinker) found within our AVID Elementary stages.

1. Access the AVID Elementary Weekly article, "Interactive robot befriends hospital's youngest patients to soothe away their anxiety." Determine whether the article will be provided in electronic or paper copy. The class may use the Class Login function on the AVID Elementary Weekly website for students to access the article electronically.
2. Determine the level of support required for all students (including General Ed, Special Ed, and ELL populations) to move successfully through the levels of thinking and build academic skills.
3. Determine collaborative groups for specific components of the lesson. (Collaboration)
4. Develop leveled questions about the article from each of Costa's Levels of Thinking. (Inquiry)

Flexible Grouping: provides an opportunity to differentiate instruction within whole group, small group, one-to-one, or independent learning.

Support Tools: prepare and incorporate non-linguistic representations, teacher-created notes, CLOZE activities/reading, translations, etc.

Academic Language Scripts: provide an opportunity for oral language development by creating a structured way for students to engage in academic discourse for vocabulary and language development in a scholarly environment.

Rehearsal and Revision: engage students in practice of formal register (vocabulary and language development) in which they attempt, practice, and correct their own responses.

Sentence Frames: prepare and incorporate guiding prompts for questions and responses to provide scholarly visual anchors for students to add their own ideas.

Word Banks: prepare and incorporate lists of content or academic vocabulary that students choose from to integrate into a personal written or oral response.

Writing + Speaking; Speaking + Writing: incorporate writing and speaking activities that are paired together to practice oral and written responses.

Inquiry-Based Differentiation

Before (Level 1)	During (Levels 1, 2, 3)	After (Level 3)
Establishing prior knowledge	Gathering information	Reflecting on learning
Gathering information	Thinking about and comparing information	Making connections
	Applying the information	

Before – Level 1

1. Show students the AVID Elementary Weekly article, “Interactive robot befriends youngest patients to soothe away their anxiety.” Using the title as a springboard, pose a question that students will be attempting to answer, using evidence from the text. (Reading)
Example question: *How can friendship help someone during a difficult time in their life?*
2. Use the STAR note-taking strategy to model how to set up notes in a 3-column format. The first column will list the leveled questions from each of Costa’s levels. The second column will include students’ responses. The third column will include specific evidence from the text. (Writing and Inquiry)
3. Read the first leveled question aloud. Model how to respond to the question and cite specific evidence from the text. (Inquiry)

During – Levels 1, 2, 3

1. Provide students with the AVID Elementary Weekly article, “Interactive robot befriends youngest patients to soothe away their anxiety.”
2. Students work independently or in dyads to use the STAR note-taking strategy to set up their 3-column notes. (Organization and Collaboration)
3. Students read the article independently or in dyads. They then respond to the pre-determined leveled questions about the article and record their responses in the 3-column note-taking chart. Students use the third column to record specific evidence from the text, including the paragraph number. (Writing and Inquiry)

Can Robots Be Friends?

Question	Student Response	Textual Evidence
<p><u>Level 1:</u> What is MEDi? What does MEDi stand for? Who does MEDi help?</p> <p><u>Level 2:</u> Describe the relationship between Tommy and MEDi. Describe some of the responsibilities of MEDi. How does MEDi help the doctors and nurses at the hospital?</p> <p><u>Level 3:</u> How is the relationship between Tommy and MEDi important for Tommy’s health? Explain some of the benefits of having a friend that is a robot. What are some of the drawbacks? If you were Tommy, how would you describe MEDi to your friends at school? How is MEDi the same as a friend at school? How is MEDi different?</p>	<p><i>MEDi is a robot.</i></p>	<p>“MEDi the robot is here” (paragraph 1)</p>

4. Ensure that all members of each collaborative group are contributing, questioning, and providing input to group members.

After – Level 3

1. Debrief with the entire group and identify key components that should be included in students’ notes.
2. Students revisit the question posed at the beginning of the lesson: “How can friendship help someone during a difficult time in their life?” Students work independently to complete a Claims, Evidence, and Reasoning Frame activity to respond to the question. Encourage students to use evidence already cited in the 3-column note-taking chart. (Reading 5.7)
3. Monitor students’ learning and provide clarity and guidance as needed.
4. Students work independently to complete a DLIQ Reflection Frame to break down their learning experience. (Writing 1.11b)

Variations/Extensions

1. Compose a list of interview questions you would like to ask the inventors of MEDi.
2. Develop your own leveled questions about the AVID Elementary Weekly article, "Interactive robot befriends hospital's youngest patients to soothe away their anxiety." Complete the "Name that Level" activity with a partner and answer one another's questions. (Collaboration)
3. Create a vocabulary poster with new vocabulary words from the article. Include visuals.
4. Conduct additional research about the use of toys at children's hospitals. Create a PowerPoint presentation illustrating your findings.
5. Read the article and complete a Double-Entry Journal activity.

WICOR Framework

AVID Elementary Components	Before (Level 1)	During (Levels 1, 2, 3)	After (Level 3)
Writing to Learn	<ul style="list-style-type: none"> Forces clarity. Gives students a tool to express themselves. 	<ul style="list-style-type: none"> Promotes critical and reflective thinking. Forces clarity. Promotes long-term learning. Gives students a tool to express themselves. 	<ul style="list-style-type: none"> Promotes critical and reflective thinking. Forces clarity. Promotes long-term learning. Gives students a tool to express themselves.
Inquiry	<ul style="list-style-type: none"> Begins all learning with questions. 	<ul style="list-style-type: none"> Engages students in all levels of critical thinking, from recall of knowledge to evaluation. Enables students to pursue understanding with mutual respect and civility, mindful of each other's dignity. 	<ul style="list-style-type: none"> Enables students to be persuaded by arguments/evidence more powerful than their own, and change their minds in light of fresh insights.
Collaboration	<ul style="list-style-type: none"> Enables students to work collaboratively. Allows for positive interdependence. Promotes heterogeneity. 	<ul style="list-style-type: none"> Promotes shared leadership. Promotes shared responsibility for one another. Allows for interaction necessary for task completion. 	<ul style="list-style-type: none"> Enable groups to process their effectiveness.
Organization	<ul style="list-style-type: none"> Includes organizational tools. Includes note-taking strategies. 	<ul style="list-style-type: none"> Promotes use of agenda/planner. Includes organizational tools. Includes note-taking strategies. 	<ul style="list-style-type: none"> Promotes use of agenda/planner. Includes organizational tools. Includes note-taking strategies.
Reading to Learn	<ul style="list-style-type: none"> Engages prior knowledge. 	<ul style="list-style-type: none"> Engages prior knowledge. Monitors understanding. Encourages connections. 	<ul style="list-style-type: none"> Encourages connections.
Student Success Skills	<ul style="list-style-type: none"> Instill communication skills (writing, listening, speaking). 	<ul style="list-style-type: none"> Instill communication skills (writing, listening, speaking). Instill time management skills. Instill goal-setting skills. 	<ul style="list-style-type: none"> Instill communication skills (writing, listening, speaking).
Partnerships	<ul style="list-style-type: none"> Establish and maintain connections. Build and maintain community. 	<ul style="list-style-type: none"> Establish and maintain connections. Build and maintain community. 	<ul style="list-style-type: none"> Establish and maintain connections. Build and maintain community.

Interactive robot befriends hospital's youngest patients to soothe away their anxiety

By *Susannah Bryan*
Sun Sentinel
(TNS)

1 FORT LAUDERDALE, Fla. — Never fear, MEDi the robot is here, ready to calm the nerves of children scared of the hospital and all the things that go with it – like prickly needles and cavernous hallways and mysterious medical equipment.

2 MEDi, a blue and white robot now on staff Broward Health Children's Hospital, has just the right touch when it comes to keeping little ones calm. This nifty little robot, whose name is short for Medicine and Engineering Design Intelligence, resembles a toy at just 2 feet tall and 15 pounds, but he's been a big hit with the hospital's youngest patients.

3 He's their companion, pain coach and even their teacher, letting them know what to expect next when they're having blood drawn or a cast removed, said Dr. Patricia Rowe-King, pediatric program coordinator at Broward Health Medical Center.

4 Broward Health is one of only eight hospitals nationwide using this particular child-friendly robot to help pediatric patients overcome the anxiety and fear associated with most medical procedures, officials there say.

5 He's also bilingual, ready to chat in English or Spanish.

6 Purchased with a \$15,000 grant three months ago, MEDi has been used to comfort cancer patients as young as 2 and up to 14. Programmed just for the pediatric hospital setting, MEDi also gives tips on how to manage pain and stress using deep breathing techniques. He can assist with several procedures, including blood tests, dressing changes, catheter removal, port access and vaccinations.

7 But most of all, he's knows how to buddy up to the hospital's littlest patients.

MEDi and Tommy Boegler, a 4-year-old diagnosed with kidney cancer in February, have become fast friends in the past few weeks.

When Tommy needs his blood drawn, MEDi is right there with him, telling him what's coming next and distracting him just before the needle prick. To draw Tommy's attention away, he asked for help getting something out of his eye, then said, "You'll never guess what color my blood is. The same color as my toes."

That would be blue, not red.

And when it's all over, he can sing and dance, tell a story or play a game.

"Hospitals can be a scary place," said Kasey Castro, a child life specialist who works with Tommy. "We use him to distract them and to educate them about the procedure. He can make it more fun and less threatening for them."

During an outpatient visit this week, Tommy's mom asked if he thought his little robot friend would remember him.

Tommy was sure he would – and he was right.

MEDi has facial recognition software and can be programmed to greet each child by name.

When MEDi came into the room, Tommy's face lit up.

After saying hello to Tommy, the robot motioned for a high-five. When MEDi danced, playing his own lively tune, Tommy moved along with him.

The past few months have not been easy for Tommy, said his mother, Beth-Ann Boegler, of Tamarac. He spent 100 days in the hospital and has undergone two surgeries, seven radiation treatments and 23 chemo treatments. He has two more to go.

But Tommy thinks it's not so scary now because his robot friend is here.

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20 “MEDi took the fear of being here away,” his mom said. “With two surgeries and chemo and radiation, it was all very scary. There were a lot of dark days for a while. We didn’t think he’d ever get out of the hospital. But he’s doing great now.”

21 Dr. Hector Rodriguez-Cortes, Tommy’s physician, says when the robot helps the patient, he’s helping the staff as well by making it easier for them to do their job.

22 “This thing that looks like a toy puts the patient in amore calm state so the nurses can move ahead with the procedure,” he said.

23 The little robot seems to be a hit with doctors as well.

24 “I’ve danced with him,” Rodriguez-Cortes said. “But it looks like the robot was doing a better job than me.”

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Susannah Bryan covers the Animal Beat and several City Hall beats for the Sun Sentinel, including Hollywood, Sunrise, Hallandale Beach and Dania Beach.



Tommy Boegler, 4, of Tamarac, Fla. with MEDi at his side during a visit to Broward Health. The hospital is one of eight hospitals nationwide using a child-friendly robot named MEDi to help the littlest patients overcome the anxiety and fear associated with most medical procedures. (Carline Jean/Sun Sentinel/TNS)