KOOV

KOOV Case Study:

Hickman Elementary School

KOOV Pilot Program

BY:

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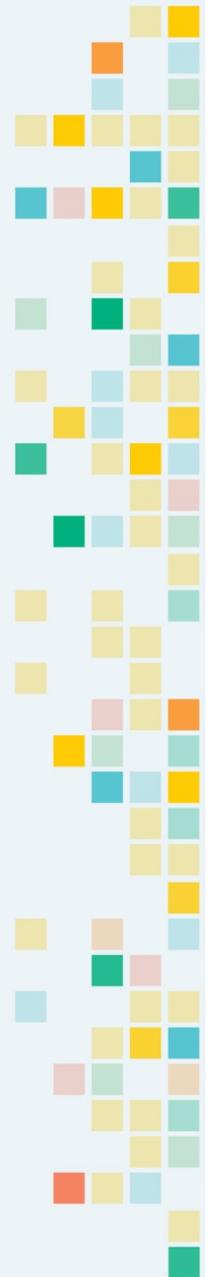
TITLE:

Marketing Manager

ORGANIZATION:

Sony Electronics

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Background:

Hickman Elementary School in San Diego, CA received eight KOOV prototype kits from January 15, 2018 to February 25, 2018 in order to participate in the KOOV Pilot Program. Over the five weeks, Robert Daluraya incorporated KOOV into his classroom and provided his fourth and fifth grade students an opportunity to use KOOV for independent study as well as within a structured setting lead by himself.

Robert was asked to observe the students' experiences with KOOV, and at the end of the program provide feedback via a survey and an exit interview.

Sony Electronics began the KOOV Pilot Program to gain insights and feedback from educators as they look to bring KOOV to the United States.

Pilot Program Participants:

Robert Daluraya – Teacher at Hickman Elementary School

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What about KOOV made you become interested in testing it out?

Robert mentioned looking for a way to introduce robotics and coding in his classroom as his students have not had a lot of exposure in these fields. He felt KOOV could be a great introductory for them when it comes to robotics, coding, and design.

"I wanted to expose my students to robotics and coding. My school does not have the funds or access to this type of learning."

How did you incorporate KOOV into your classroom or program?

Once Robert received the KOOV kits, it was up to him to decide how he wanted to incorporate KOOV into his fourth and fifth grade classes.

The pilot program sets no restrictions on how KOOV is to be used, so educators can choose to use it for independent study or in a structured class setting. Robert decided to use it in both setting types with classes ranging from 28 to 35 students. Having larger class rosters, he put students into teams of four to five students and assigned roles for each student on the team which they rotated from day to day. The kits were used for two days out of each week during the periods that he had the students.

Robert tried out KOOV's Learning Course first himself and felt that it was a great jumping on point for his students.

"When I first got it, I looked to just doing the Learning Course to get used to it: how it looks, the interface. That's how I got to learn about the parts of it as well, so that's what I used first with the students."

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By using the Learning Course section during the first day, students were introduced to the different KOOV parts and its Scratch based coding. That way, students had some familiarity with KOOV when they began working in the Robot Recipe section which made the onboarding easier.

"They got familiar with the program... so nothing was new for them when they got to Robot Recipes. I would have spent a little more time on the Learning Course, but my time was limited."

Once in the Robot Recipes section, Robert had his students progress in difficulty by starting with a easier recipes and working their way up to the harder recipes.

If a student got stuck somewhere, Robert took a hands off approach as he wanted his students to problem solve on their own and collaborate amongst their teams.

"I told them "if you think you need me to help, I will help you," but I wanted to let them collaborate and figure things out on their own."

After using KOOV, Robert thought of how he would use KOOV differently in the future.

"I would use the structured learning more for each class. Then I would let them go to independent learning. I believe the students would have benefited more and understood the instructions better if I had more structured learning time."

Did KOOV help you solve some of the challenges you had?

Like many of the schools that have been a part of the pilot program, Hickman Elementary did not have an existing robotics or coding curriculum, so Robert found this as a great opportunity for his students as well as himself to experience something new and get exposure in both coding and robotics.

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"I am on the same field as my students (when it comes to robotics and coding)... So I went through the process and tried to do it with them to show them how it works... I am learning about this (robotics and coding) too.'

Besides the robotics and coding skills, Robert also liked how KOOV required the students to problem solve, have attention to detail, and work as a team.

"I wanted them to collaborate. They need those skills, and some kids don't know how to work with each other... As an adult they will need those skills and will need to learn them from somewhere."

What did you like about KOOV?

When it came to what he liked best about KOOV, Robert mentioned how engaging it was, and that it is a tool for teaching teamwork and collaboration.

"The students were motivated to begin. All the students were engaged and participating. I liked the way they needed to collaborate and solve any problems."

Robert also liked the KOOV App as its in-depth detail allowed him to take a hands-off approach with his students by allowing them to figure things out on their own. He especially liked the 3D step-by-step building instructions within the Robot Recipes section.

He also mentioned the KOOV blocks as a strong point. Because they are different from other building blocks that are available, students needed to focus their attention on how they to put the KOOV blocks together.

"Students need to think how to put them (the blocks) together."

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What challenges did you have to overcome?

For Robert, determining the best way to use KOOV in his classes was a challenge as it was his first time he would be teaching coding and robotics. He was able to get accustomed to KOOV fairly quickly and figured out a plan for how his students would use it.

Time restraints was also one of the biggest challenges Robert faced. Because the KOOV kits were shared across multiple classes that Robert has, students had to finish their project within their class time as they had to take their projects apart and prepare the kits for the next class. Due to this, students had to start over the next class instead of picking up where they left off. Robert felt a hour and a half would be the perfect amount of time for each KOOV session.

"I wanted them to finish the robot they wanted to make... They would be almost done but it would be time to put it away and clean up. That's why I would say having particular kits for one class and kits for another, so they can continue to finish it."

Sony did create the KOOV App to track the progress of students so they can pick up where they left off, but Robert did not have enough kits to spread them across both his classes.

Another challenge for Robert was the packaging of the demo units where each set included two boxes of parts. With each kit coming with 300+ parts, it was a challenge to find certain parts amongst the two boxes.

"All the pieces should be in each box. I found that some pieces were found in the expansion set rather than in the starter set."
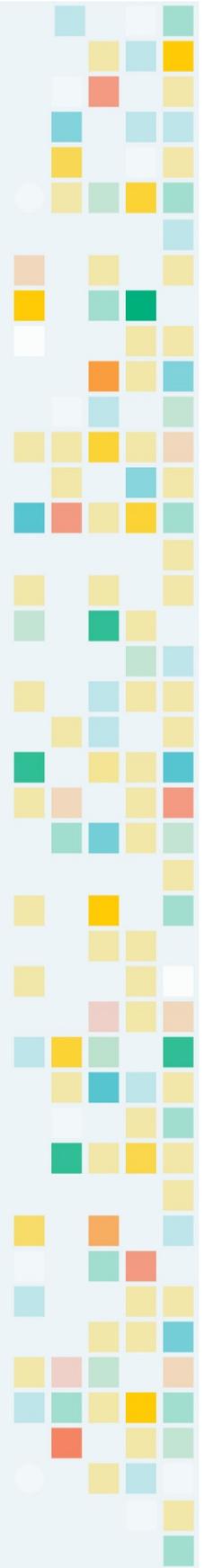
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Sony is addressing this pain point with a single box packaging solution for KOOV's final release.

## While observing students using KOOV, what stood out? What did they like? What challenged them?

The students were very excited to get started with KOOV. For many, this was their first exposure to coding and robotics, and they were determined to complete their projects during each class. Robert mentioned that the hands on experience with building and coding their own robots was something new and fun for them which they enjoyed.

Robert also took notice of his students working as a part of a team and how they worked their way through problems. Those problem solving skills was something the students even mentioned as something that even stood out to them while using KOOV.

"The students would say, "This is not working. What is wrong? Let's try this a different way. We need to solve this.""

"They noticed how they needed to problem solve in order to complete the robot recipes."

What seemed to challenge the students the most was getting use to the design of the KOOV blocks, and how the pieces forced them to think in 3D and develop spatial awareness. Learning the coding aspect of KOOV was also a challenge as many of the students had little to none prior coding experience.

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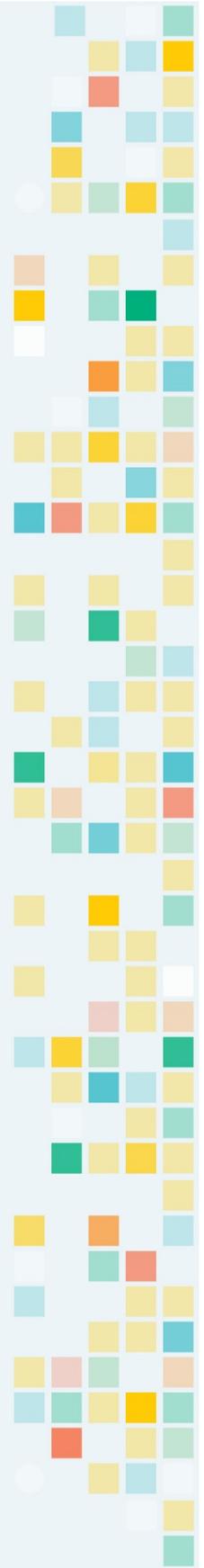
"Putting the blocks together challenged the students. The coding was difficult for most of the students."

As mentioned previously, students did feel that they did not have enough time to finish their projects due to being constrained to completing everything within their class period. This is something Robert felt could be fixed either with more KOOV kits, so that they are not shared across separate classes, or if each class was had a hour and half of time.

Would you recommend KOOV to others?

After the pilot program, Robert said he would recommend KOOV to his colleagues at Hickman Elementary as well as to educators from other schools that he knows. He felt KOOV was a great way to introduce coding and robotics in the classroom as it kept his students engaged and motivated.

"I would recommend it to others... It was a very good experience for me and the students. "

Conclusion:

Overall, Robert and his Hickman Elementary students left with a good impression on KOOV as well as their first exposure to robotics and coding. Robert mentioned a strong interest in purchasing units, and is in the process of finding a way to fund the purchase.

Sony will take the feedback received and will work with their product engineers to fine tune KOOV to fit the demand and needs of educators. This type of feedback is paramount to the Sony team as they look to make KOOV the best robotics and coding solution for the classroom.

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