Supporting IET *FIRST*® LEGO® League Explore

Background:

FIRST® LEGO® League Explore is an annual STEM programme for 6-9-year old's delivered in the UK and Ireland by the IET. The programme encourages children to investigate a real-world theme, have fun and develop teamwork, design, and programming skills.

Each team spends around 10-12 hours investigating a real-world theme, building a LEGO® model, programming one part of the model to move using LEGO® Education WeDo 2.0 software and creating a team poster to display their ideas and project journey. Teams then attend a celebration festival where they present their model and poster to an audience of STEM professional's.

We identified that there were no festivals being hosted within our Hub region and thought it would be a great project for priority schools to get involved with as we could offer support to several schools through the loan of our LEGO® Education WeDo 2.0 kits, plus we had the capability to host a festival with support from STEM Ambassadors this year, given that they were virtual due to COVID-19.

Working collaboratively with the IET *FIRST*® LEGO® League Explore coordinator, we ran a virtual information session for priority primary schools in our region. During this session the project was explained and funding opportunities available from the IET were discussed. As a result, two priority schools successfully applied for and received funding from the IET to take part in the programme (Ashgate Primary school, Derby and Arbourthorne Community Primary School, Sheffield).

We continued to promote the project to other primary schools within our region and as a result two additional schools (St John's CofE Primary School, Belper and Christ the King Voluntary Academy, Alfreton) engaged in the programme, supported by us through the loan of a LEGO® Education WeDo 2.0 kit and funding to cover the team registration costs.

The theme for this season was PLAYMAKERS and teams were tasked with building an obstacle course featuring a heart game and treadmill using the LEGO® Explore model set and to program one element of the model to move using LEGO® Education WeDo 2.0 software. Each team spent around 10 hours exploring the theme, designing, and building their model, and creating a team poster that documented the team journey.

In June 2021 we hosted the remote celebration festival using the *FIRST*® Remote Event Hub platform. During the festival teams that were able to attend, presented their models and posters to six STEM Ambassadors from across the country and finished with a closing ceremony where feedback was given, and team awards were announced.

After the festival each team were sent individual medals and certificates from the IET *FIRST*® LEGO® League.

Impact:

48 students aged between 6-9 years old took part across 4 schools in our region, of which two were priority schools.

During the project students developed teamwork, design, engineering, programming, and presentation skills. IET *FIRST*® LEGO® League Explore is also mapped to the primary curriculum and covers aspects of English, Mathematics, Science, Computing, Art and Design & Technology.

The two schools who were awarded IET funding received LEGO® Education WeDo 2.0 kits as part of the funding, providing them with the opportunity to take part in subsequent *FIRST*® LEGO® League Explore seasons. They can also use the sets for STEM clubs and teaching curriculum linked coding in the classroom.

Feedback:

Quotes from children:

"We had lots of fun developing new ideas and working together"

"Exploring the coding app was fun"

Quotes from teachers:

"The children loved it"

"The children were thrilled with their medals"

STEM Ambassador Feedback:

Rob Avery (Central South England Hub)

"I had a really good time and thoroughly enjoyed the event. The enthusiasm the children had was brilliant. I was particularly inspired by their innovative thoughts and their holistic thinking around what different types of children would want and any accessibility adjustments required"

Saman Jawad Qarni (NMSEY Hub)

"It was lovely to be part of the festival this morning. Excellent session, brilliant engagement with students and can be such a confidence booster for students. Creativity, resilience, and coding skills all learnt through Lego. I really hope that more schools specifically with disadvantaged students can engage in such activities"

Chris Price (South West Peninsula Hub)

"Thanks so much for organising this, I feel overall it went really well and I had a great time. It was great to see the enthusiasm and effort put in by all the kids and teachers. Due to the virtual nature of the event, it made some aspects difficult such as seeing anything on the posters and being able to get a good look/demonstration of the model (although the attached pics/video helped with this!). So, although it would be great to do this in person next time, it still worked out good in the end."

Paul Duke (North Scotland Hub)

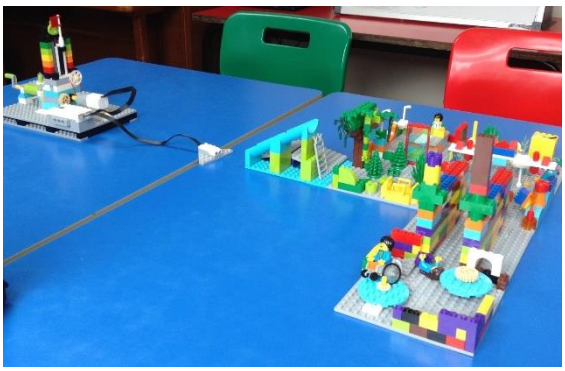
"All three schools showed real enthusiasm and initiative with the task. The two schools on the day communicated clearly and showed a good depth of understanding of STEM principles. I had a very enjoyable time seeing the inventiveness and creativity on show. The pupils had obviously worked hard and really put their mark on the

designs, and they were completely unfazed by delivering their presentations virtually. Some of the softer STEM skills were in attendance too – teamwork, communication and mutual respect"

Future:

Despite the COVID-19 pandemic and the ever-changing situation with school closures, the project was successful and well received by the participating schools. Moving forward and building on the success of this year's event we would like to continue working with the IET *FIRST*® LEGO® League Explore next season and establish a face-to-face festival within our region with support from local STEM Ambassadors and STEM Employers, allowing more schools and community groups to engage with both programmes.

Photos/Videos:

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