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Teachers Report on the Positive Impact of NASA Professional Development after Puerto Rico Workshops

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NASA STEM EPDC leverages NASA assets and resources to share as professional development for STEM educators in K-12, university, and community settings.

In the spring of 2017, more than 350 teachers representing 300 schools from across the island of Puerto Rico participated in workshops over a week.

In the spring of 2017, more than 350 teachers representing 300 schools from across the island of Puerto Rico (see Figure 1) participated in a day-long intensive NASA-based professional development (PD) workshop for STEM teachers- the *NASA STEM Forums* supported by NASA STEM Educator Professional Development Collaborative (EPDC).

The *NASA STEM Forums* 2017 event drew, by far, the most comprehensive representation of teachers who have ever participated in a NASA PD event in Puerto Rico. From February 27 through March 2, 2017, Kennedy Space Center (KSC) and Langley Educator Professional Development education specialists, in collaboration with specialists and faculty from Ground System Development & Operations (GSDO), the Astronaut Memorial Foundation and faculty from Texas State University provided full day professional development workshops highlighting NASA content and resources.

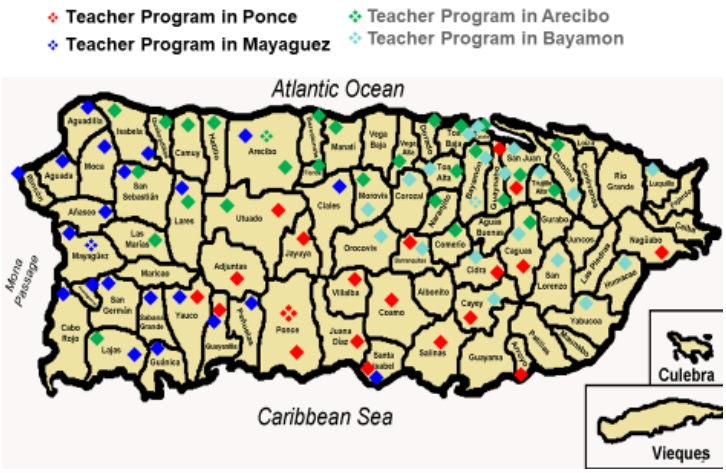

Figure 1: Map of Puerto Rico showing teacher representation by municipality.

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"[What was most useful for me] were the classroom activities that are low cost since we limited resources provided by the Department of Education"

There was a palpable air of excitement and anticipation as the NASA presenters arrived at each of the four Minority Serving Institutions where the PD took place (Pontific Catholic University of Puerto Rico-Ponce Campus, University of Puerto Rico-Mayaguez Campus, Interamerican University-Arecibo Campus, and American University of Puerto Rico in Bayamon Campus). At each PD site, invited participant teachers learned about NASA missions, technologies, and resources and how the presented supporting educational materials might be leveraged by teachers to enhance their teaching of science, technology, engineering and mathematics in the classroom. Teachers also took the time to share their experiences regarding NASA PD by participating in a research study using the NASA EPDC Professional Learning Educator Assessment Survey.

Teachers were asked about the various NASA PD experiences in which they had participated during the preceding 18 months, including the *NASA STEM Forum* PD event they were attending that day. Teachers self-reported to have participated in NASA PD covering the following content areas: life science, earth & space science, physical science, science cross-cutting concepts, science and engineering practice, mathematics, teaching cross-curricular skills (e.g. problem solving, learning to learn), instructional technologies, geographic technologies, geographic visualization, educational robotics, integrated STEM content and cultural responsive/relevant teaching (see Figure 2).

Suggestion: Place Figue 2 here and conclude with the paragraph below.

As in many places around our nation, teachers in Puerto Rico confront many challenges on a daily basis such as unavailability of reliable instructional technology, ever-shrinking educational resource budgets and growing classroom sizes. These challenges can put a strain on teachers' ability to educate youth effectively. Therefore, resources that are user-friendly, standards-aligned, low cost, and flexibly available, such as those offered by NASA Education and NASA STEM EPDC, are highly valued.

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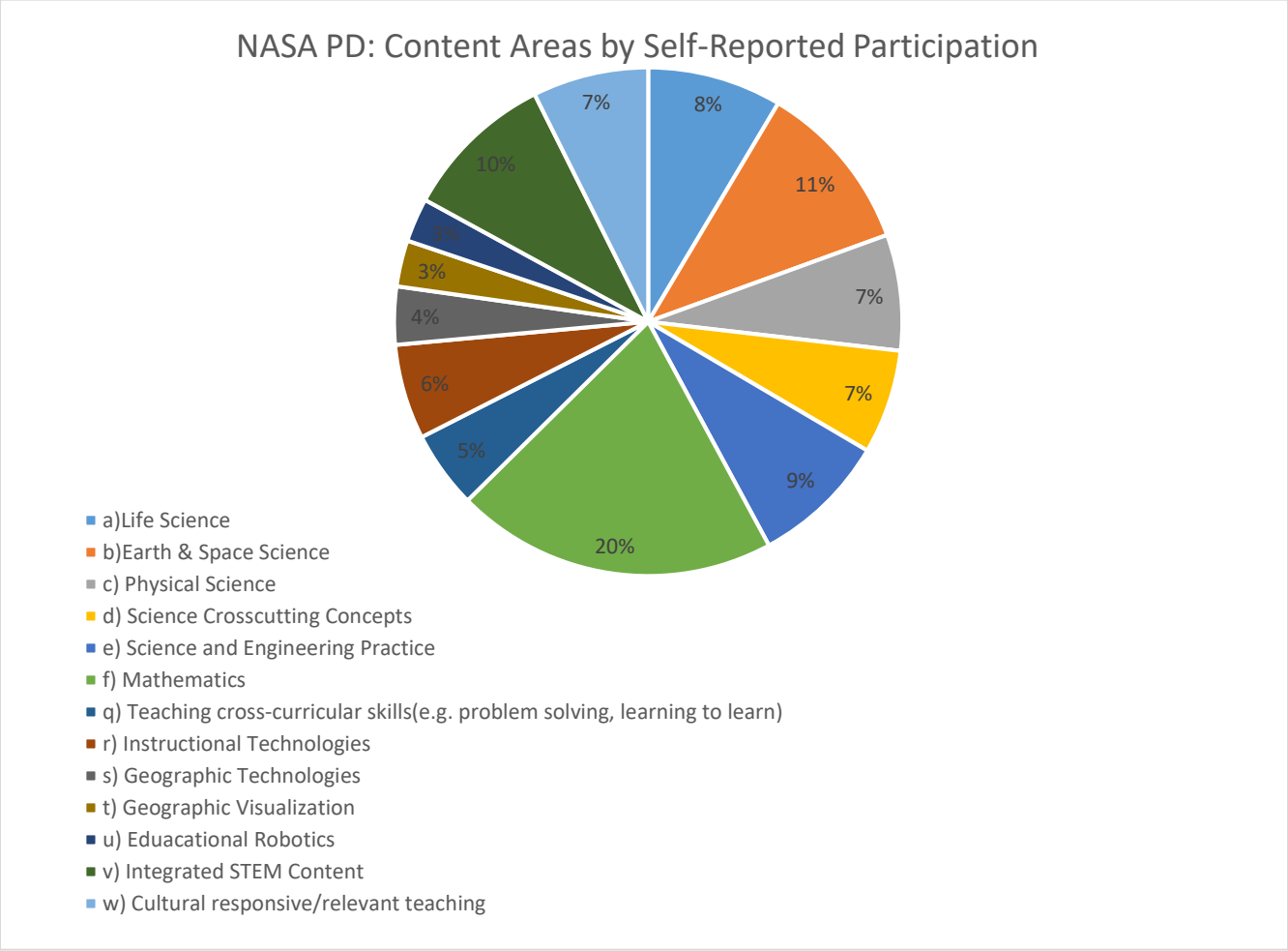

Figure 2. PD content areas experienced by teachers attending NASA PD.

"The most useful aspect [of the PD] was without a doubt the online resources as instructional tools..."

For more information about NASA STEM EPDC, please visit txstate-epdc.net.

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