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ASTRONOMY AND ASTRONAUTICS AS A TOOL FOR INVOLVE STUDENTS IN PERSONAL AND REMOTE CLASSES

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Effective Elementary School

Teacher - Early Years

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With a view to creating an environment in which to stimulate students for their effective development, the project “OBA – Brazilian Astronomy and Astronautics Olympiad” was conceived and put into practice at the EDUSESC CEILÂNDIA school. The present work shows how we use Astronomy and Astronautics to arouse the interest of students in the teaching-learning process. The project was developed in two formats: virtual, during the pandemic, and face-to-face, after the pandemic. We will see that both students remained interested and had a qualitative participation in the results. Subjects that refer to space, scientific concepts and the like, are great allies when planning and developing projects efficiently and effectively. Since these themes provoke children’s critical and creative sense.

The project had already been developed in the years before the pandemic. However, when we faced this new challenge, it was necessary to reassess and plan the classes, with an even more detailed look. Well, it would be necessary for us to awaken the eyes of children to a “small screen”. This was the biggest challenge, since our students are in constant physical contact, always working in groups, in a wide environment and in constant contact with the elements of nature and all the physical spaces that we have at our disposal in the school. Children who were used to “unwalled” were suddenly forced to be “walled up”.

The project had already started in the face-to-face format, which facilitated its progress. We continued the work, using digital platforms such as Microsoft Teams to carry out the virtual classes, Khan Academy, customized Power Point games with themes about the Universe, involving Astronomy and Astronautics. In addition to the family work that was proposed in the classes, such as: observation of natural phenomena (where

the sun rises and sets, how to use the sun to locate yourself and have an idea of the time (building a sundial), moon phases etc..). Several experiments were also carried out to prove scientific concepts, studies on the space race and the first Brazilian to stay in Earth orbit.

Our meticulous and attentive look at the development of activities was precisely, because the project also aimed to enroll students to participate in the Brazilian Astronomy and Astronautics Olympiad, which would take place in virtual format, exceptionally in 2020, also extending to the year 2021. Enrolled students must participate in two distinct stages, a test containing 10 questions on Astronomy and Astronautics and the launch of the MOBFOG (Brazilian Rocket Show) rocket. Those students who obtained grades within the national average would receive medals and all participants would be honored with certificates of participation.

The project brought us another positive point, which was to lead students and their families to recognize how important Science is for the world as a whole. Reflections about the technological development that is directly linked to astronomy and the current moment we were living in, were frequent in our remote classes. Students began to research and seek information on this topic and during classes, they questioned and sought more information. It was noticeable how pleasant it was for them to debate these generating themes. And so, they recognized that for the moment we were living, technology was of paramount importance so that we could continue with our classes, since we were totally hostage to these technologies.

According to the Pedagogical Proposal of the Social Service of Commerce (2015), when we talk about childhood and school, we must take into account the experiences in which

the children are then inserted, and which in turn is directly linked with the variables of class, ethnicity, gender and culture. All this added up, the strong presence of the mass media, with their respective ideologies and the advancement of technologies corroborate the plurality of childhoods, which the school must have a careful look at. Brasil (2018) highlights in its competencies two items about technology as a skill for learning. While one competence talks about the use of technological and digital languages, the other clarifies that technology must be used in a meaningful, reflective and ethical way. That's exactly what we did during the project, we took into account the children's particularities and led them to the awakening of reflective educational practice.

Soon the results came, to our surprise, in the 2020 school year, we had the highest participation of subscribers and participants since the implementation of the project at the school, a total of 139 students participated in the Olympics. Of the 139 participants, 51 students won medals, 17 gold, 16 silver and 18 bronze medals and 53 medals at the Brazilian Rocket Show (MOBFOG), corresponding to 16 gold, 13 silver and 14 bronze. And, to our surprise, for the excellent performance and effective participation of the students, the school won a Galileoscope (spyglass) as an award.

Several students and families reported how valuable and significant the project was for this moment of pandemic, as children were interested in participating in classes and thus managed to successfully complete the

2020 school year. The project led students to improve reading, since those involved were in this development process. With thematic subjects of their interests, it was easier to encourage students so that they could practice reading in a pleasant way, for them, reading was placed as a source of pleasure and entertainment, as they were interested in seeking knowledge about the generating themes.

Due to the pandemic, the Olympics organizing committee was only able to send the participation certificates, medals and the telescope this year. We held a ceremony at the school, following all security protocols, for the delivery of certificates and medals. Students also had the opportunity to assemble the Galileoscope at school, following the manual step by step, together with the teacher. It was a very valuable moment for the students, as they were able to realize in practice how important the project was, in view of the recognition of the Olympic Committee itself, which presented us with such a significant award for our school community.

It is clear how significant the project was not only for the participating classes, but also for the entire EDUSESC CEILÂNDIA school community, which also benefited from our award. With this, we continue in this academic year of 2021 developing the project with our students, in the certainty that we will have more qualitative and valuable results as last year.

Keywords: Teaching-learning; pandemic; post pandemic; astronomy; astronautics.

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