

Box Maker: a look to EJA

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ABSTRACT

The project “Box Maker: a look to EJA” takes place in the city of Santos on São Paulo State coast, in the segment of Youth and Adult Education (EJA) in the municipal department of education, being in the service of students since the age of 15 years old, with the purpose of solving problem situations and developing prototypes that could help the community in some way.

Keywords

“EJA”, “prototypes”, “community”.

1. DESCRIPTION

1.1 Description of your setting

The “Box Maker: a look to EJA” Project is developed in the education of Young and adults department in Santos municipal education system. The target group is composed of students who did not have the opportunity to finish their studies in standard time by different aspects: learning disabilities, premature insertion in the job market, absence of family structure, among others.

The main target is, therefore, to provide students with low-cost technological resources to solve everyday problems by re-significating school contents in a relevant and innovative way.

The proposal contemplates de process of insertion of the students in the “marker world” and the perception of them as protagonists of their social environment. The activities are carried out in a collaborative way, in order to facilitate the collective and reflexive construction of all the prototypes.

1.2 Description of the educational experience

The idea of developing this Project came from a restlessness as an educator. Our role, guided by the teaching of this specific audience, makes us think in different perspectives, because students bring previous knowledge throughout life that can and should contribute to a more attractive and collaborative class. When we see meaning in what we do, things make sense to everyone involved in the educational process. Each school has its peculiarities and the actions programmed to start the project do not follow a specific script, because everything arises from situations provoked by the students themselves, but some basic concepts are presented to approach technological applications and their functionalities, permeated by the evolution of technology and implications in practical life. Thereafter, the first contact with the “physical” is through leds, with the action of turning on and off using batteries, avoiding any a priori technical guidance, that is, everything happens through the students` explorations. These moments are extremely valuable because it is possible to relate when doing many of the concepts that have been studied in the school. In this sense, classes take place and evolve according to the experiences of those involved. The activities are articulated in a collaborative way, where each learner contributes in some way, generating an apprenticeship that is built by many hands. After unpacking a few basics, one starts off programming with scratch software, then to the integration of the boards programming through the scratch-based software for arduino – S4A. During the creation of small experiments (connecting leds, building traffic lights, connecting buzzer, among others), the students themselves will experiment and discover other possibilities. The first prototype was a robot built with recyclable material, arduino board, protoboard, jumpers, bluetooth module and sensors with movements controlled by the aid of a tablet device. Throughout the development of the project, many questions about real problems have been raised and the prototypes are being built, they are: sliding monitoring system of the city hills, lighting sensors triggered by movement of pedestrians at bus stops and capture of solid waste in storm drains.

Image 1. Construction of semaphore programmed with arduino.

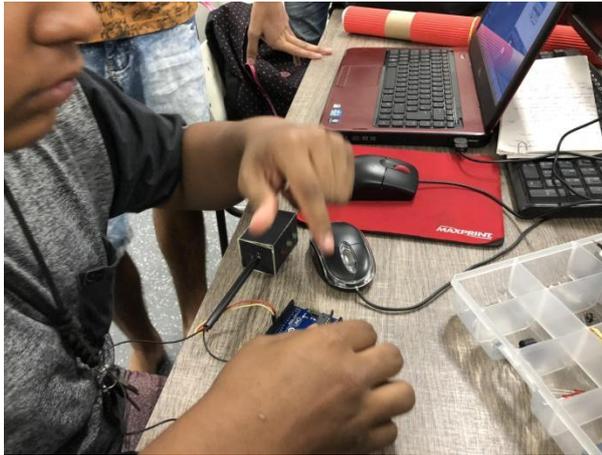


Image 2. Use of different power supplies to light a led.



Image 3. Sample Collection for the soil study at Morro São Bento in Santos.



Image 4. Lighting system: aluminum foil, led, 3v battery and recycled material.



2. CONCLUSION

2.1 Results

In addition to the formal knowledge acquired, what is most significant is the recovery of the self-esteem of the students involved. It is observed that the experiences along the way provided new perspectives, among them, the protagonism in the construction of learning and its future.

Facing challenging situations and possible solutions rescued the feeling of belonging to society. This movement enabled partnerships with other public and private agencies to create a community with the purpose of solving those problems.

2.2 Broader Value

The students of the EJA have already failed in their school lives and see in this segment the last opportunity. Providing students moments of discovery of their own abilities, empowerment as citizens, boosting self-esteem are very significant aspects for the teacher who is at the forefront of the project.

Observing this appropriation and possibility is an experience that becomes a watershed in any teacher's life.

Students are no longer the same, the experiences acquired during these months provided new perspectives, one of them is the feeling of being capable of accomplishing something and anything.

2.3 Relevance to Theme

The proposals that are based on the collaborative construction allow a great learning for all, since it involves several aspects: social, academic and affective. Promoting a growth that aims at the integrality of being.

4. BIOS

Kélvia Ronqui – Graduated in mathematics and pedagogy, teacher in public schools in Santos and São Vicente Education Department. Postgraduated in Literacy and Literature. Member of the Youth and Adult Education Section of the Municipal Education Secretariat of Santos and creator of the project "Box Maker: a look to EJA".

Patrícia Oliveira – Pedagogue, postgraduated in psychopedagogy. Civil Servant and, currently, head of the the Youth and Adult Education Section in the Education Secretariat in Santos city. She is a collaborator in the Box Maker project: a look to EJA.

Admir Ferreira - Graduated in Arts (Portuguese and English), postgraduated in teaching English as a second language, English teacher coordinator in the secretariat of education in the city of Santos , translator and interpreter in Portuguese and English.

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