International Cartographic Association
Association Cartographique Internationale

The DF interactive thematic map built by and for deaf students: An interesting practice using Scratch and Makey Makey

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Keywords: interative map, deaf student, Scratch, Makey Makey

Abstract:

Hearing impaired students require several adaptations for effective learning in an inclusive school. These students need interpreter teachers for interaction with classmates and teacher. In addition, they need several teaching materials necessary for understanding concepts from different disciplines (1). In geography, we work with adapted materials that are part of an inclusive cartography (2). It is interactive, centered on the user of the map, adapted to his limitations, and needs. This article describes the construction of an interactive thematic map built by two deaf students who participate in the Educational Robotics project Mulheres.comp at Ced 310 in Santa Maria, DF.

The students used the forms in Libras, the Brazilian Sign Language, from the Administrative Regions of the DF that were created by other deaf students at the school (1). The Administrative Regions, AR, represent 34 territorial areas in the Federal District, with their respective urban and rural sites. Understanding the concept of AR is essential for discerning the temporal evolution of land occupations in the DF, with emphasis on the year of creation and formation of the city where the student lives. With these RAs sheets in Libras, the students worked on block programming in SCRATCH (4) and connected the final map using Makey Makey(5).

The work was organized as follows: Initially, they took a copy of the RAs map of the DF (3) and pasted it in a cardboard box with several metallic buttons. Then they organized the programming in Scratch to show, on the computer screen, the AR form in Libras. Soon after, the transformation from the digital to the physical phase took place when several clips of alligators were connected to metallic buttons posted on the ARs. The final work was the interactive map that worked when the user touched the location/region button on the map, the RA file in Libras appeared on the computer.

We concluded that the interactive map worked very well with hearing and non-hearing students at the school and Santa Maria science fair. We realized that this interactive map presents numerous possibilities for learning geographic concepts in a dynamic and attractive way.

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