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Assignment 6

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Hypothesis

The reaction device we created for the kids combines the elements of math and team work. The kids must work together to draw pictures on a grid based on the coordinates of a reference drawing. Depending on the knowledge of coordinate systems that the children have, their reactions to our device could be much different. Assuming that the kids have some sort of knowledge of the coordinate system, I believe they will react well to our device. The focus on video games from our previous visit suggests that the kids enjoy game-like situations. This device was created as a game-like system that the children could enjoy while subtly teaching them coordinate systems and teamwork. One problem I can foresee with this device is the chance of damage to the device. The kids may get a little rough and yank the marker and cup too hard, breaking the cup. As facilitators we will have to try to warn the kids of this and keep careful watch.

Ethnography

From our first visit to the school, our group made many observations about the focus of video games with the kids. We discussed ways of creating a simple reaction device that would have a game-like feel but force the kids to use their hands for more than just clicking buttons. We settled on our final device because it was able to teach the kids teamwork and coordinates while still giving off a game-like aura to keeps the kids interested.

The second visit to the school, in which the reaction device was introduced to the kids, was very successful. The kids seemed to enjoy using our device and learned in the process. The first group to play with the device seemed interested as soon as they saw it. They immediately, and excitedly, began asking what it was and what they do with it. A couple of the students even said things like, “Oh I know what that is!” or “That’s a graph!” This group took right off with the device. They started off getting used to it by scribbling all over the board, but, as soon as we gave them some direction they were right on track. One boy, who by consensus of the group was very good at coordinates, was the director and told the other four what points to go to by looking at our pre-made drawings. This group moved right along with the device. However, it quickly became relevant that we did not have enough time as the group did not make it through all of the drawings.

In order to save some time, and allow the kids to get to some of the more exciting shapes, we cut out one of two similar shapes. This did save some time and many of the groups were able to at least

start the more advanced shapes to get an Idea of the kinds of shapes they could make with our device, if they work together.

The kids worked together very well with our device. A couple kids would goof around and mess the drawings up on purpose, but overall they did a great job being patient and figuring out who should pull their strings and when. When going to the next point on the graph, the kids would first help each other figure out where that point was on the graph. Next, they would figure out how to get to that point. They would decide who needed to pull and took their time when pulling to make sure it was going the right direction. I was very impressed with the patience that the kids showed during the game and the willingness to help one another.

The knowledge of the coordinate system seemed quite varied throughout the class. When we asked the kids if they had learned about it in school they almost all said no. However, some of the kids knew the coordinate system very well, and almost all of the kids had some knowledge of it. This varying knowledge helped incorporate the teamwork into the device. Not only did they work together to draw something, they also helped one another understand the coordinates and find the points. This was something that we hadn't thought of beforehand.

The most common problem that the kids had with coordinates was mixing up the numbers. Depending on which edge of the board they were sitting on, some kids would try to find the first number on the y-axis and the second number on the x-axis. Usually the kids would correct each other on thee mistakes, but every once in a while they needed a little reminder.

After observing the reaction from the students, it has become apparent that our device was a success and my hypothesis was mostly correct. The majority of the students were able to enjoy our game while using team work and gaining knowledge of the coordinate system. They were thankfully, much gentler on the device than expected and did not break the cup.

A couple aspects of the device could have been done a little better. First of all, the timing was unfortunately too short and we had not planned accordingly. The kids did not have enough time to get to some of the "cooler" designs. However, this did allow for the opportunity to observe the desire to continue with our device even after time expired, showing that the kids enjoyed using it. Another improvement could have been with the weight of the drawing mechanism. Because it was so light, the slightest movement of another string would alter the direction. Of the pen and result in a line that was not straight. A heavier mechanism would resist the slight changes better. If continuing this device in the future, these improvements will be considered and implemented.