Example of report on visual motor skills

Technology, Development

Abstract

In an ecosystem, the existence of any species of animals or plants solely depends on the capability to adapt to its environment. This is true because, those species which are poorly adapted become extinct. For example, trees that could not adapt to harsh conditions of the desert were eliminated and those species that were well adapted were spared. This is basically what is called natural selection (Jeff et al 9). Similarly, those animal species that could not adapt to any given environmental conditions of an ecosystem were easily eliminated out of existence.

Human being, on the other hand, changes the environment to make it suitable for living. To some extent, human organ system change to adapt to the new environment. The human eye, for example, has the iris which controls the amount of light that go into the eye. The lens of the eye is vital for the accommodation of the image Dally, Kelly & Krauss 23).

The experiment conducted, was to show how change in vision could lead to learning. This was achieved when a learner was told to throw a ball using special goggles to a marked target. The same was repeated and the learner was to throw a ball without the goggles on. The results were analyzed and conclusions were made accordingly.

Introduction

Animals, especially mammals, respond to their environment in order to adapt (Beery 87). The type of learning that clearly shows this kind of response to dynamic environment is called visual motor learning. This kind of learning, visual motor-learning is the most vital since it allows one to modify

behavior in one to one correspondence in change of the environment (Jeff et al. 32). This modification of behavior allows one to improve tasks and performance that are done on regular basis.

In this experiment, the learners will throw balls at a target placed on a chalkboard. The target will be eight feet away from the thrower. The thrower will do this while wearing, before and after wearing goggles. This is to ensure demonstration of visual motor learning. The prisms will cause the learner to throw far away to the side of the target. For some time, the learner is required to know how to throw accurately while in goggles. After removing the goggles after learning, they deviate more to the opposite side of the target and hence must learn how to throw normally (General Biology 515). This experiment clearly shows modification of hand-eye coordination.

Methods and Procedure

The target on the chalkboard will be placed eight feet away from the thrower. Clearly mark the target with thick letter X on the chalk board. Three students should assume the role of the ‘ thrower’, the ‘ ball giver’ and the ‘ recorder’. As the names suggests, the thrower will throw the ball, giver will give the ball to the thrower and the recorder will mark where the ball lands.

- Mark a target on the chalk board preferably thick X
- Give the thrower a ball to throw without goggles on.
- Once the ball is thrown, mark and record the place hit by the ball.
- Repeat the above steps with goggles on, and without goggles again and record the results in different tables.

Results

1st Throw Without goggles

2nd Throw with goggles

3rd Throw without goggles

All these measurements were taken in centimeters

Discussion

- For the first case without the goggles on

The difference in Y direction = 11 - (-2) = 13

The difference in X direction = -12 - 6 = 18

Using the formula to calculate the diagonal a from Pythagoras Theorem you get,

a2 = x2 + y2 hence a2 = 169 + 324 = 493

The square root of the answer becomes a = 22. 20 cm. To calculate the angle of throw we use the following formulae

Angle of throw = Tan-1 (a ÷ 300cm) = Tan-1 (22. 20 ÷ 300)

= Tan-1(0. 074) = 4. 230

(b)The second case with the goggles on,

The difference in Y direction = 5 – (-18) = 23

The difference in X direction = 0 – 23 = 23

Using the formula to calculate the diagonal a from Pythagoras Theorem you get,

a2 = x2 + y2 hence a2 = 232 + 232 = 1058

The square root of the answer becomes a = 32. 53 cm. To calculate the angle of throw we use the following formulae

Angle of throw = Tan-1 (a ÷ 300cm) = Tan-1 (32. 53÷ 300)

= Tan-1 (0. 1084) = 6. 1870

The last results without goggles imply the following

The difference in X direction = -13 -12 = -25

The difference in Y direction = 7 – (-26) = 33

Using the formula to calculate the diagonal a from Pythagoras Theorem you get,

a2 = x2 + y2 hence a2 = 332 + 252 = 1714

The square root of the answer becomes a = 41. 40. To calculate the angle of throw we use the following formulae

Angle of throw = Tan-1 (a ÷ 300cm) = Tan-1 (41. 40 ÷ 300cm)

= Tan-1 (0. 138) = 7. 860

Conclusions

The angle of deviation deviated more when the thrower was with the goggles because the target seemed to have shifted the position. As a result the thrower was to deviate more so as not to miss the target. When the goggles were removed, the thrower had not yet adapted to the new change hence more deviations were recorded. There was room for error because the thrower’s level of accuracy was not consistent.

Works Cited

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