

A TEACHING EXPERINCE WITH A BLIND STUDENT'S FINGERS: THE AREA OF A CIRCLE

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Well known Russian blind mathematicians, Lev Semenovich Pontryagin, had an accident at the age of fourteen and his mother helped him during his education (Jackson, 2002). Unfortunately most of the blind students are not lucky as Pontryagin. Blind students, their parents and most teachers may think that mathematics is more difficult for blind students, but there are many blind mathematicians such as Lawrence Baggett, Zachary J. Battles and Bernard Morin (Jackson, 2002). Understanding most of the mathematical concepts, paper and pencil may be enough for sighted students. It is same for blind students with a little difference; they need to use tangible and concrete materials. Today a blind student may covert all physics and mathematical articles tangible by the help of LaTeX2Tri tool (Thompson, 2005).

This study aims to investigate how a blind student understands the area of circle by using a tangible material. For this purpose, a method which had mentioned by Greenslade (2011) about the area of a circle was chosen. In Greenslade's study a circle was cut small parts like slices of cake. Circumference of the circle has been taped up before activity. The next step was opening the circle to get a rectangle. These steps were carried out by the participant. She explain that getting a new geometrical shape for a circle was nice to understand. She could not remember the formule of area of a circle but basic rectangle formula helped her to find out the area of circle. The last part of our activity was about calculation. We preferred to use pencil, bant and rubber to symbolise mathematical equations. To get π value it was necessary. While interview she obeyed that there is no way to get the formula of a circle except this kind of approach. Geometrical discovery process took little time than reaching the formula of circle from the formula of rectangle.

References

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