

## THE VERTICAL LEVELLING

### Abstract:

Civil engineering is a field related to the construction environment, design and Maintenance, physical and built environment, including works such as bridges, roads, canals, dams and landfills. The existence of civil engineering is because of all the construction involves a lot of engineering work. In addition, a technology and construction, especially in the field of civil engineering techniques developed by the products used in the building site. **"The Vertical Levelling"** is meant a product designed to help students build a wall angle of  $90^\circ$  with greater ease. This process consists of the following mixture, bricks and `vertical leveling tool '. Problems often experienced by students is that students are often a waste of time to adjust the angle at which goes a lot of tools. With this product, it can help speed up the time and cost of energy

**Keyword:** levelling, construction, angle

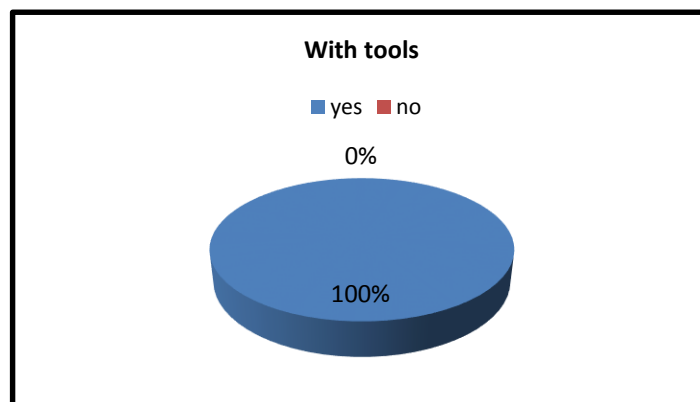
**IP no:**

### Finding:

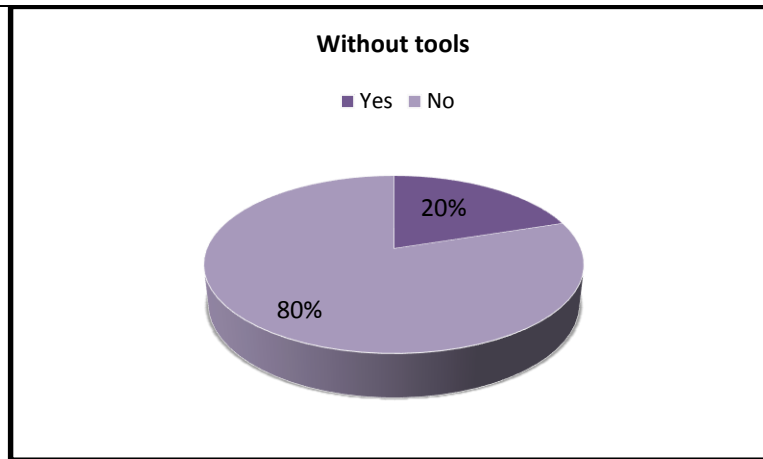
#### Accuracy from observer

5 student to be our respondent to test and observe product. then use spirit level to get the accuracy of the vertical angle. This data show the numbers of student that get accuracy and did not get the accuracy of the product.

	Yes	No
Without Tool	1	4
With Tool	5	0



From the pie chart we can see the percent accuracy from observe who are using our vertical levelling tools get 100% accurate for the vertical angle



While, the pie chart of student that not using our 'vertical levelling' is 80% did not get the accuracy of vertical angle just 20% of the student gets the exact vertical angle without using our product.

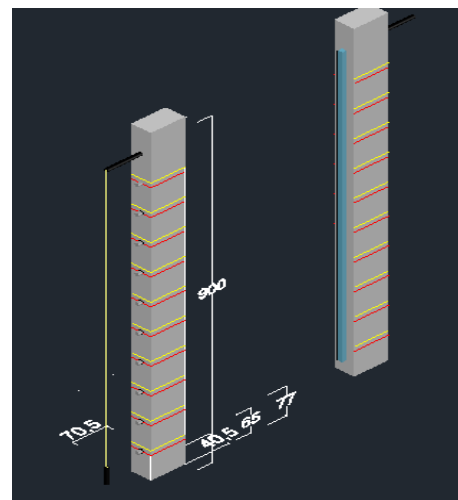
### Suggestion for future work

- i. Raise again this tool
- ii. Thread must be kept in order to look neat
- iii. Enlarge the scope of the product to the construction
- iv. Existing tools , the holes indicate the level of a brick, add hole to mark the level of the mortar
- v. Fill the existing vacant space with pencils,nails and thread.

### Picture related to project



### Design of product



Name of student & registration no:	Supervisor of the project:
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