

DESIGNING HAND WASHER SINK FOR PRIMARY STUDENTS FROM ERGONOMIC  
PERSPECTIVE

By

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BACHELOR'S DEGREE

In

INDUSTRIAL ENGINEERING  
FACULTY OF ENGINEERING AND INFORMATION TECHNOLOGY



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June 2021

**Revision after Thesis defense on 16 July 2021**

### STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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## ABSTRACT

### DESIGNING HAND WASHER SINK FOR PRIMARY STUDENTS FROM ERGONOMIC PERSPECTIVE

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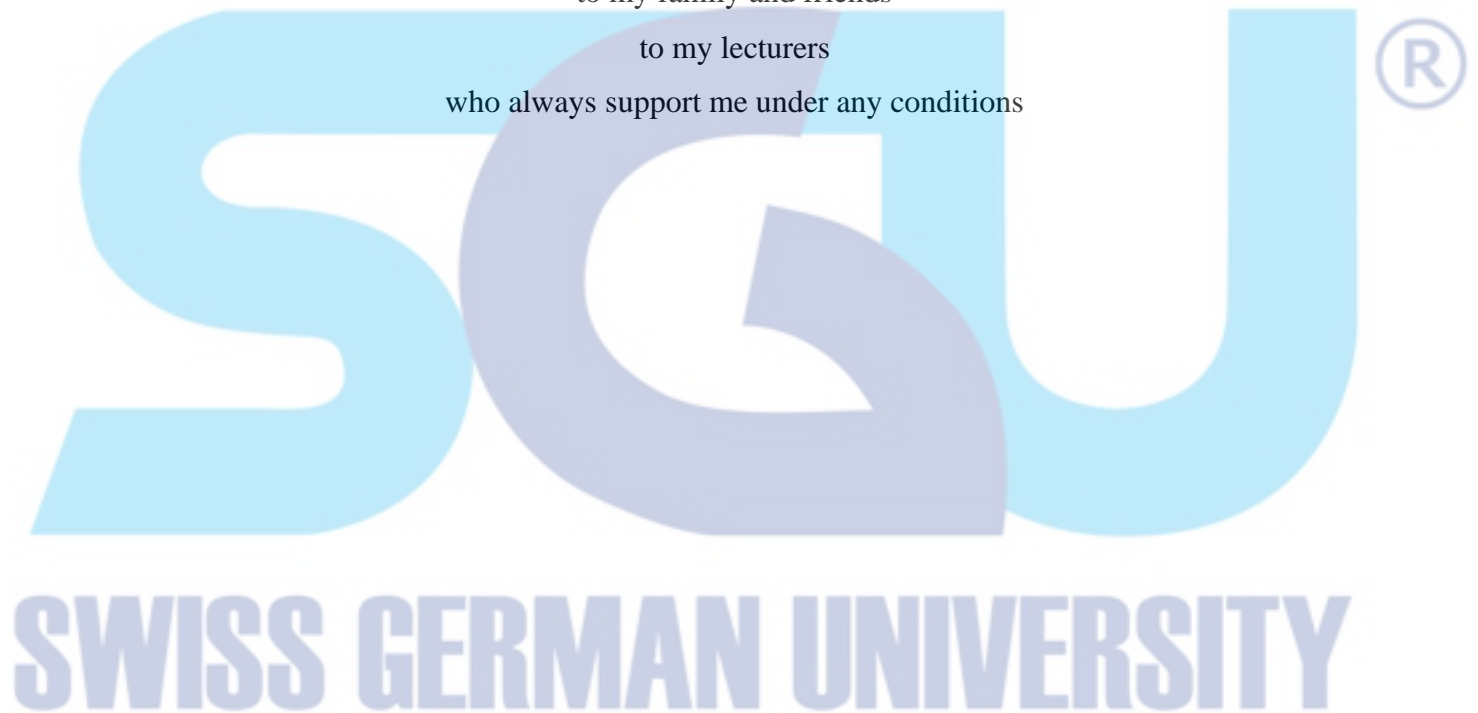
Since the shocking outbreak of Covid-19, everyone in the world has prioritized their hygiene in every activity. Everyone need to keep their hygiene to avoid from being infected by Covid-19. Washing hands properly is very important, what is more while the user is in the public toilet. Hygiene of the sink in public areas is quite concerning as there are lots of people who used it in the public. Children need to wash their hands often, what is more children used to have lots of activities every day and they need to keep their cleanliness in order not to get infected by viruses. The purpose of this research is to evaluate the existing prototype, using observation to find out the real cause of the problem. Task analysis was used to observe how primary students do the hand washing. Gap analysis was then used to detect the problem and find the possibility for improvement. Then the design improvement will be proposed. Based on observation the user still needs to bend the back while washing hand that requires new consideration in the measurement of the sink. Based on the gap analysis the new measurement was calculated using anthropometry data. The proposed design then was defined using ergonomic parameter, such as body measurement (anthropometry) and safety factors. The improved prototype has 36%-39% more efficient compare to the previous prototype.

*Keywords: Covid-19, Hygiene, Observation, Task analysis, Gap analysis, Anthropometry*



## DEDICATION

I dedicate this thesis  
to my family and friends  
to my lecturers  
who always support me under any conditions



## ACKNOWLEDGEMENTS

First of all I would like to thank God for his unlimited blessing towards me. As well as my parents who always give me all the supports I need on my entire life.

Also a huge thank you for my advisor and co-advisor who keeps on leading me throughout this project by giving me meaningful advice in surpassing all barriers in this thesis project.

I also would like to express my gratitude towards my family and siblings who always cheer me up when I feel like I hit rock bottom. Without their support this thesis project and university life will seem impossible.

Last but not least I would like to thank my Swiss German University friends especially industrial engineering 2017 who always supported me who also I strive with together, time flies so fast that we have spent the last 4 years together. I wish you all a successful life in the future.

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