

The Left-Right Handed Chair Design and Optimization

Abrar S. Al-Amoudi

Department of Industrial Engineering
King AbdulAziz University
Jeddah, Mekkah 21442, KSA
eng.abrar94@hotmail.com

Abdullah U. Al-Kaff

Department of Industrial Engineering
Jordan University of Science and Technology
Riyadh, Central Region 11311, KSA
a_u_z@hotmail.com

Abstract

The comfortable position of sitting and writing is one of the most important factors during the lecture. Since the currently design of the existing chairs in universities focuses only on a student who are right-handed and neglecting who use their left hand; these chairs do not allow these students to well concentrate while writing because they have to rotate themselves in the opposite direction of their hand writing position. Despite of this fact, here we have to stop and think with a management perspective. However the importance of keeping left-handed seats in every classroom, we found after we made our statistics for each faculty in King AbdulAziz University that the left-handed make up only 17% of the total number of students that means making left-handed seats while some lectures may not have left-handed students is a waste of space and money. This invention prevents that problem by saving educational facilities from purchasing special seats by designing a flexible arm with a groove that allows the arm to be rotate at an angle of 180° installed in the rear back of the chair using a perfect engineering measurement that allows the students to choose the position they desire before sitting down.

Keywords

Manufacturing and Design, Health Care, Left-handed student, Optimal Class-Chair Design.

Acknowledgements

In performing our design, we have taken hard efforts. However, it would not have been possible without the kind support and help of many individuals and organizations who have directly and indirectly guided us. We would like to extend our sincere thanks to all of them. We are highly indebted to Dr. Abeer Al-Khouli, Dean of the Faculty of Engineering (Girls campus), King AbdulAziz University for giving us a good guideline throughout numerous consultations.

We owe our profound gratitude to Dr. Anwari from the Rehabilitation Centre, Jakarta, Indonesia who took keen interest on our project work and guided us all along, till the completion of our project work by providing all the necessary health care information for developing the optimal design.

We would also like to thank all Teaching staffs of the Industrial Engineering Department in King AbdulAziz University for their constant encouragement, support and guidance.

Last but not the least we place a deep sense of gratitude to our family members and our friends who have been constant source of inspiration during the preparation of this project work.

Biography

Abrar S. Al-Amoudi is a third year industrial engineering student at King AbdulAziz University, Jeddah, KSA. She is in process to obtain a patent in "Left-Right handed Chair". Abrar stays involved in extracurricular activities; She is a member in a focus group of her faculty and an active member in IEEE. She is helping out with many faculty events; working in summer as the main responsible organizer and speaker for freshman engineering students annual program. She has strong interpersonal skills enhanced by taking part as a Vice President in Toastmasters International club to develop confidence and communication abilities as she is one of founder partners of the this club in King Abdul Aziz University. She represented her faculty in many conferences inside and outside the country as she has the skill of speaking, writing and reading fluently in three languages (Arabic, English and Malayan).

Abdullah U. Al-Kaff is currently Quality Assurance/Control Manager in AL-Khorayef Industry, Riyadh, KSA. Mr.AL-Kaff Hold a Bachelor's Degree in Industrial Engineering from Jordan University of Science and Technology (JUST). He is Quality approved Assessor in King AbdulAziz Award for Quality Since 2008. He is a Quality Manager with over 6 years in manufacture and service company. He Has complete courses in Statistical Analysis, TQM, ISO 9001:2008, and Key Performance Indicator. Mr. AL-Kaff serves as approved assessor in Quality Arab Award. Mr. AL-Kaff Provides different courses in Metrology and Calibration for Ministry of commerce and Industry and differnt company. Mr. AL-Kaff has been complete his two authorship in statistical and creativity and innovation.