



Fig. 7: Comparison of difference in estimation before/after at specific cases

4. Conclusions

Majority of parents overestimated the “expiration date” of shoes they brought with them, one quarter for more than 3 months (which equals one season). The basic problem is a lack of understanding of the importance of free space in the front part of the shoe needed for growth and movement during activities. Only about 8% of parents knew that their children wear shoes that are already too small. The result is of a big concern, since children’s feet grow rapidly and improper footwear can affect their health. Parents have shown a lot of understanding for this issue and are interested in providing their children with perfect fit footwear, but they lack a proper tools or methods for selecting shoes. They rely mostly on the length of the foot (which also is not detected correctly) while neglecting other possible pressure points in the front part of the foot.

This study showed that many parents doubt their shoe size estimations and can quickly change their mind, when provided by consistent and trustful information. CSSRS system provides parents with better perception about the feet and shoes dimensions so they can choose more accurately. 40% of parents changed their initial estimation from “big enough” to “too small” after using the CSSRS. Feet and shoes are measured precisely, compared and presented through graphical user interface, where parents receive better information about the free space in toe area. Most importantly, they receive information about the expected growth of child’s feet according to his age, so they can choose shoes for certain period of time. Using 3D measurement technology helps parents to choose shoes of better fit and reduce the possible discomfort, pain, deformation and other foot problems.

References

1. Ayub, A., Yale, S. H., & Bibbo, C. (30. 8 2010). Common Foot Disorders. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1183444/> .
2. Sim-Fook, L., & Hodgson, A. (1958). A Comparison of Foot Forms Among the Non--Shoe and Shoe-Wearing Chinese Population. *Journal of Bone and Joint Surgery*, 1958;40:1058-1062: <http://www.ejbs.org/cgi/content/abstract/40/5/1058>
3. Kinz, W. (2005). *Kinderfüsse-Kinderschuhe*. Salzburg: Wieland Kinz.
4. Goonetilleke, R. S., Luximon, A., and Tsui, K.-L. (2000). The Quality of Footwear Fit: What we know, don't know and should know. *Proceedings of the Human Factors and Ergonomics Society Conference, 2000, San Diego, CA. July 29- August 4, 2000. Volume 2, pp. 515-518*
5. Luximon, A., Goonetilleke, R. S., and Tsui, K.-L. (2001). A Fit Metric for Footwear Customization. *Proceedings of the 2001 World Congress on Mass Customization and Personalization October 1-2, 2001. Hong Kong.*