were very nonsignificant (< 4.26). Therefore like the two former hypotheses, the interaction F (1.51) was also nonsignificant. All three hypotheses were accepted. Another investigation amplified these statements, namely ear canal on the core compartment was replaced with the forehead. The empirical Fs, in this case, was 0.02, 0.11, and 0.13, respectively. Hence all three hypotheses were accepted. The above investigations show that although classified as core compartments, the ear canal (37.23 °C) and forehead (36.13 °C) mean temperatures differed significantly. The difference was valid for the investigations in 16 measurement site methods and 8 measurement site methods.

Based on the above hypothesis testings, it is clear that the developed tools for this study worked well. The infrared thermometer could measure temperature on many body measurement sites convincingly. This system, however, is still a stand-alone instrument with a small display. It is better if this instrument is made as a telemetering system. The developed application program should be embedded in the instrument. The measurement distance is also so near (around 1 cm) that it is uncomfortable for someone who would like to be measured.

IV. Conclusion

There were three main findings of this study. First, our developed infrared thermometers could be used to measure equally well for the ear canal and overhead. Second, our developed application program to analyze data worked well as it was designed. Third, the 8 measurement site method had the same quality result as the 16 measurement site method, both for males and females.

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