DIF analysis

1. Equating the focal (CHN) and the reference group (US) item parameters
2. Run a GRM in MULTILOG respectively on the focal and reference group, and save all the item parameters & examinee parameters
3. Find the parameters of all items for each group
4. Compute x and y using the mean and SD of the estimated b parameters
5. Transform the a and b from the focal group onto the scale of the reference group using x and y computed in (3)
6. Run DIF analysis (nonuniform and uniform)
7. Compare item parameters or area (ICCs, signed, squared, weighted…)
8. Impact and matched-ability
9. GRM, PCM, and GPCM do not really matter.
10. Can use log likelihood-ratio DIF test in MULTILOG, which will produce reliable results – no need for equating this way, and just need a linking item
11. It would be interesting to do an impact analysis
12. No need for doing matched-ability, because you can never know the real ability and all you can obtain is the estimated ability.
13. “Ideal observer”
14. Use effect sizes instead of significance test –Nye
15. If trying Lord’s Chi-square, then equating is needed.