I used the following code to recode my qualitative responses into quantitative numbers.
data(package = "ltm")
library(tidyverse)
df<-df %>% mutate_all(~ str_replace(., "^$", NA_character_)) %>% mutate_all(.funs = ~
as.integer(recode(.x = .,"not very concerned"=0,"slightly concerned"=1, "very concerned"=2)))
# Look at the category distribution across the items sapply

```
> sapply(df, table)
   LeadPetrol RiverSea RadioWaste AirPollution Chemicals Nuclear
0         17        7         18            9        17      46
1         95       51         56           93        56      95
2        179      233        217          189       218     150
> |
```

. To find the actual locations of the thresholds that takes into account the item locations,

```
>
> item_thresh<-tam.threshold(fit_RSM)
> item_thresh
                  Cat1          Cat2
LeadPetrol   -3.397980 -0.90902710
RiverSea     -4.663788 -2.17483521
RadioWaste   -4.058807 -1.56985474
AirPollution -3.702301 -1.21334839
Chemicals    -4.099091 -1.61013794
Nuclear      -2.550385 -0.06143188
>
> |
```

item fit using the msq.itemfit function from TAM.

```
> # Item fit
> msq.itemfit(fit_RSM)
$itemfit
         item fitgroup   Outfit   Outfit_t  Outfit_p     Infit    Infit_t    Infit_p
1   LeadPetrol        1 1.2817494  1.1850879 0.2359827 1.2044243  2.0960989 0.036073415
2     RiverSea        2 0.8066845 -0.3250613 0.7451347 0.9664065 -0.2450000 0.806456444
3   RadioWaste        3 0.7836251 -0.6137704 0.5393671 0.9608555 -0.3461954 0.729195870
4 AirPollution        4 0.7683868 -0.8383464 0.4018362 0.7547857 -2.7211715 0.006505101
5   Chemicals        5 0.7400818 -0.7548947 0.4503122 0.9706034 -0.2478164 0.804276472
6     Nuclear        6 1.1095096  0.7229542 0.4697080 1.1425120  1.6503254 0.098876401

$summary_itemfit
         fit        M        SD
Outfit Outfit 0.9150062 0.2251322
Infit   Infit 0.9999312 0.1585900

$time
[1] "2021-04-25 03:19:45 IST" "2021-04-25 03:19:45 IST"

$CALL
msq.itemfit(object = fit_RSM)

attr(,"class")
[1] "msq.itemfit"
```

Wright Map
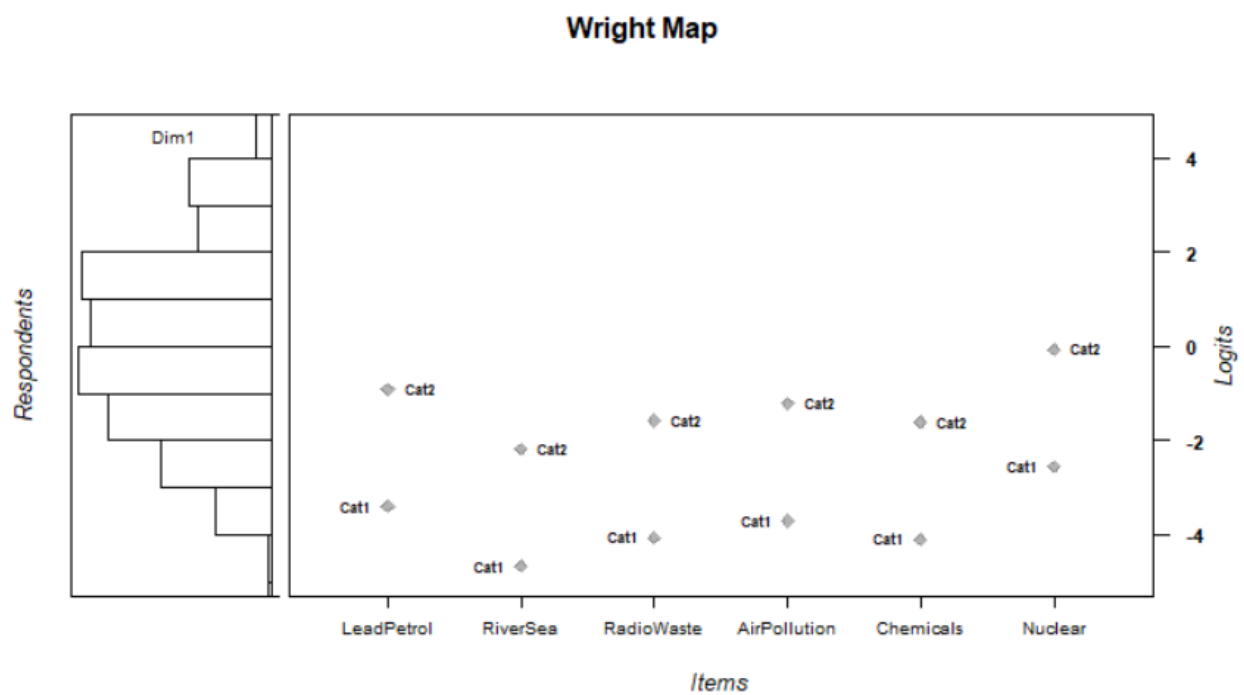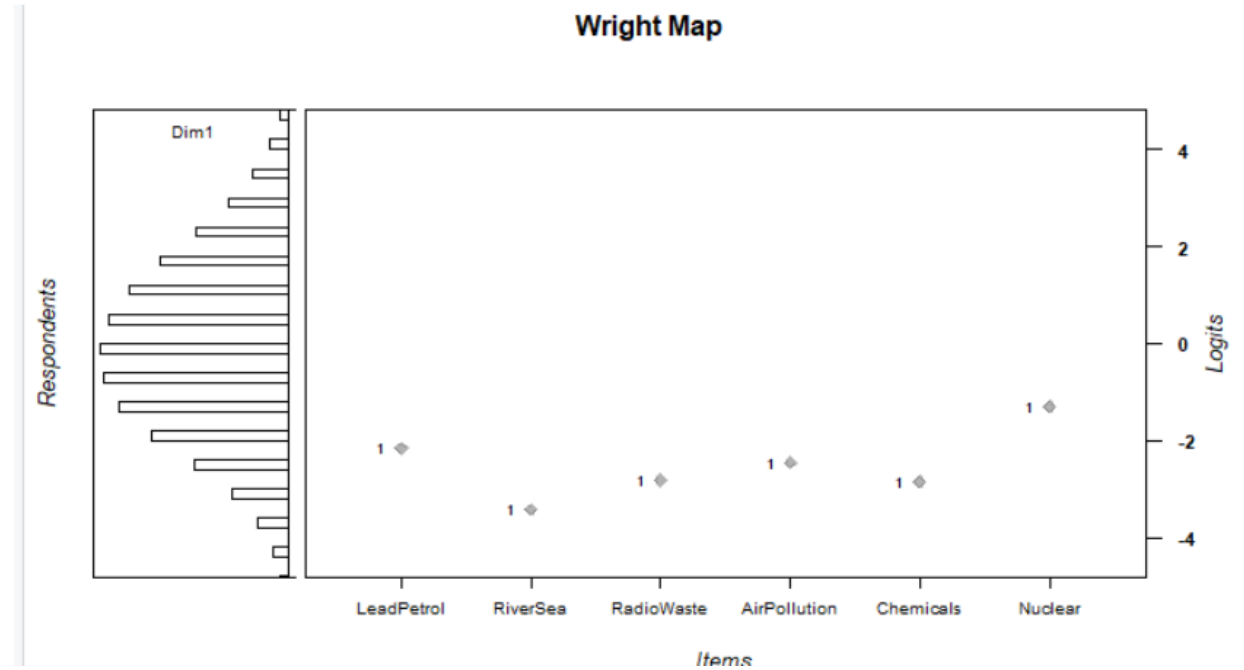
Plotting the thresholds also gives you a better idea of the item difficulty spread and how it matches to the person parameters. We don't have a good match between persons and items.