Package 'mixRaschTools'

Title Plotting and Average Theta Functions for Multiple Class Mixed
Rasch Models

Version 1.1.1

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Description Provides supplemental functions for the 'mixRasch'
package (Willse, 2014), <https://cran.r-project.org/package=mixRasch/mixRasch.pdf> including a
plotting function to compare item parameters for multiple
class models and a function that provides average theta values for each class in
a mixture model.

Depends R (>= 3.3.0)

License GPL

Encoding UTF-8

LazyData true

Imports graphics

Suggests knitr, rmarkdown, mixRasch, testthat

RoxygenNote 6.0.1

NeedsCompilation no

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Repository CRAN

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R topics documented:

Average Ability Levels for Multiple Class Mixed Rasch Model
Average Ability Levels for Multiple Class Mixed Rasch Model

Description

This function produces mean ability levels for each class in a mixture Rasch model.

Usage

```
avg.theta(x)
```

Arguments

x   A fitted multiple class mixture Rasch model

Details

mixRaschTools Average Theta ——————————————————————————————

This function produces a matrix containing the average theta values for each latent class included in mixture Rasch model.

Author(s)

Pamela S Trantham

References

Willse, J. T. (2011). Mixture Rasch models with joint maximum likelihood estimation. Educational and Psychological Measurement, 71, 5-19, https://doi.org/10.1177/0013164410387335

Examples

```
##Example multiple class mixture Rasch models included with mixRaschToolkit
data(threeclass_ex)
##Average Theta Values
avg.theta(threeclass_ex)
```

fourclass_ex	*mixRaschTools Sample Four Class Model* ————————————

Description

Object containing model information for a four class model.

Usage

```
fourclass_ex
```

Format

This four class mixed Rasch model was created with the use of the mixRasch program (Willse, 2014) using a subset of the 2012 PISA US math achievement data (OECD, 2012). This model was created using the "Math Self Efficacy" scale included in the in the contextual assessment included in that year. The dataset used for the models was created using students from the United States who had completed all math questions contained in the PM7A booklet. The final dataset contained 12 dichotomously scored math achievement items creating a sample of 1229 students. These models contain the following parameters: "fourclass_ex" contains the ability estimates, item parameters, and standard errors for a four class Rasch model fitted using the mixRasch program. "threeclass_ex" contains the ability estimates, item parameters, and standard errors for a three class Rasch model fitted using the mixRasch program.

Source

http://www.oecd.org/pisa/pisaproducts/pisa2012database-downloadabledata.htm

References

Organisation for Economic Co-operation and Development., & Programme for International Student Assessment. (2012a). Paris: OECD. Willse, J. T. (2014). Package mixRasch. R package version 1.1.

Item parameter plot for mixed Rasch model
Item parameter plot for mixed Rasch model

Description

This function produces a plot of item parameters by latent class for Rasch calibrated mixture models.

Usage

```
mixRasch.plot(x, xlab, ylab)
```

Arguments

x	A fitted multiple class mixture Rasch model
xlab	user defined label for x axis
ylab	user defined label for y axis

Details

mixRaschTools Functions ————————————————————————————

This function provides an item parameter plot that can be used to compare the different item parameters in mixture Rasch models that contain two or more latent classes.

Author(s)

Pamela S Trantham

Examples

```
##Example multiple class mixture Rasch models included with mixRaschTools
data(threeclass_ex)
##Item Parameter Plot
mixRasch.plot(threeclass_ex)
```

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threeclass_ex	*mixRaschTools Sample Three Class Model ———————————————————*
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Description

Object containing model information for a three class model.

Usage

```
threeclass_ex
```

Format

This three class mixed Rasch model was created with the use of the mixRasch program (Willse, 2014) using a subset of the 2012 PISA US math achievement data (OECD, 2012). This model was created using the "Math Self Efficacy" scale included in the in the contextual assessment included in that year. The dataset used for the models was created using students from the United States who had completed all math questions contained in the PM7A booklet. The final dataset contained 12 dichotomously scored math achievement items creating a sample of 1229 students. These models contain the following parameters: "fourclass_ex" contains the ability estimates, item parameters, and standard errors for a four class Rasch model fitted using the mixRasch program. "threeclass_ex" contains the ability estimates, item parameters, and standard errors for a three class Rasch model fitted using the mixRasch program.

Source

http://www.oecd.org/pisa/pisaproducts/pisa2012database-downloadabledata.htm

References

Organisation for Economic Co-operation and Development., & Programme for International Student Assessment. (2012a). Paris: OECD. Willse, J. T. (2014). Package mixRasch. R package version 1.1. Willse, J. T. (2011). Mixture Rasch models with joint maximum likelihood estimation. Educational and Psychological Measurement, 71, 5-19.https://doi.org/10.1177/0013164410387335

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