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Assessing Self-Assessment Accuracy and Investigating its Association with Academic Performance

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Metaknowledge

- An appreciation of how much, or little, one knows
- Requires a greater level of expertise than primary knowledge
(Ramnarayan et al 1997)
- Appreciating how much one knows helps to understand whether more information is needed
(Renner & Renner 2001)
- Professional educators therefore have a responsibility to assist learners in knowing how much they do not know.
(Kennedy et al 2002)
- Metaknowledge tends not to be developed during formal education
(Russo & Schoemaker 1992)

Research Instrument

30 item multiple-choice questionnaire designed to assess both knowledge and metaknowledge

Example

Which of the following countries is biggest in terms of area?

- a) Peru
- b) Mexico
- c) Denmark
- d) Italy

Confidence level (25-100%) ...60.....%

Operationalising Metaknowledge

$$\text{Bias score} = \text{MC} - \text{KS}$$

Where:

MC = Mean confidence across all judgements

KS = Overall proportion correct

$\text{BS} > 0 = \text{overconfidence}$

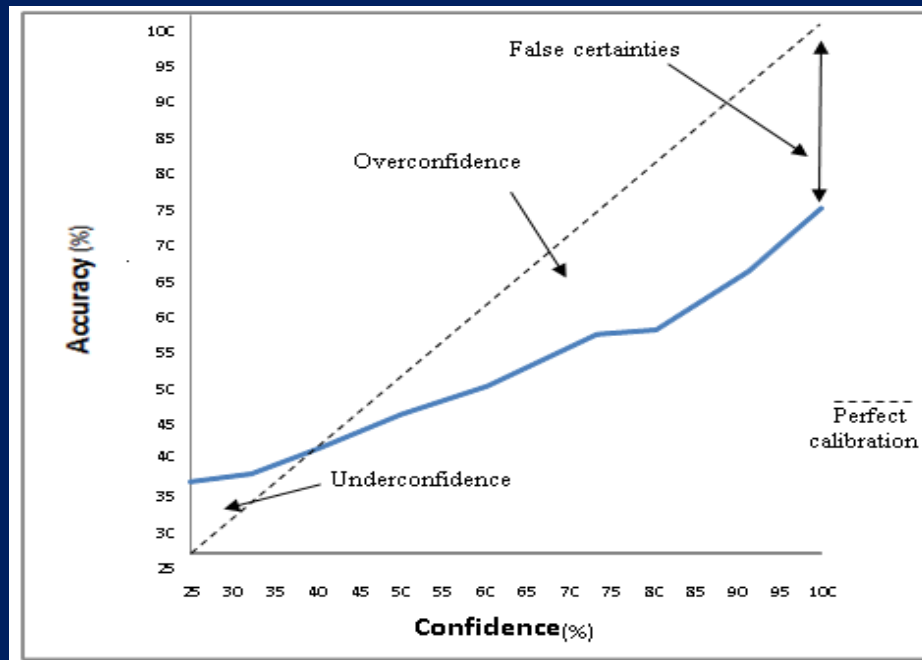
$\text{BS} < 0 = \text{underconfidence}$

Findings

Metaknowledge

- The majority of respondents (72%) were overconfident in their knowledge (*mean bias score = 8.9%*)

Calibration Curve



Findings

Individual differences

- Gender
 - Males
 - Females
- Nationality
 - Chinese
 - UK

Findings

Individual differences

- Gender
 - Males 9.9%
 - Females 7.6%
- Nationality
 - Chinese 16.2%
 - UK 5.1%

Association with Academic Performance

- ◎ Overconfidence and academic performance negatively correlated

References

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