

CODEBOOK

ASSOCIATED TO THE ARTICLE:

Psychometric Dataset for the Development of the Teacher Executive Regulation Scale (TERS) among Indonesian higher education students

This codebook describes the dataset distributed as part of this study. The dataset is organized into 4 (four) main folders, namely:

- Folder 1: Fit Measures, Factor Loadings, Cronbach's Alpha, Means, and Standard Deviations
- Folder 2: Instrument Items (Multiple Choice / Situational Judgment Test)
- Folder 3: Item Blueprint
- Folder 4: Raw Data, Construct Reliability (CR), and Average Variance Extracted (AVE)

Folder 1: Fit Measures, Factor Loadings, Cronbach's Alpha, Means, and Standard Deviations

This folder contains the results of the Confirmatory Factor Analysis (CFA) conducted on the Teacher Executive Regulation Scale (TERS), presented across two stages of analysis: (1) analysis of the full original 80 item set, and (2) analysis of a reduced 74 item set after items with low or negative factor loadings were removed. This folder reports the model fit indices, the factor loading of each item on the three dimensions (Cognitive Flexibility/CF, Inhibitory Control/IC, and Working Memory/WM), scale reliability estimates (Cronbach's alpha and McDonald's omega), and the mean and standard deviation of each item. The terms used in this folder are as follows:

Abbreviation	Full Term	Brief Explanation
CF	Cognitive Flexibility	One of the three Executive Function dimensions measured; the ability to flexibly shift perspective and mindset while teaching.
IC	Inhibitory Control	The second dimension; the ability to inhibit impulsive responses and direct selective attention while teaching.
WM	Working Memory	The third dimension; the ability to maintain and actively manipulate information during the teaching process.
CFI	Comparative Fit Index	A comparative model fit index; a value ≥ 0.90 (ideally ≥ 0.95) indicates good model fit.
TLI	Tucker-Lewis Index	A fit index that corrects for model complexity; a value ≥ 0.90 indicates good fit.
NNFI	Bentler-Bonett Non-Normed Fit Index	A non-normed fit index, numerically identical to the TLI.
NFI	Bentler-Bonett Normed Fit Index	A fit index normalized against the independence (null) model.
PNFI	Parsimony Normed Fit Index	A fit index that accounts for model parsimony (complexity).
RFI	Bollen's Relative Fit Index	A fit index relative to the baseline model.

Abbreviation	Full Term	Brief Explanation
IFI	Bollen's Incremental Fit Index	An incremental fit index relative to the null model.
RNI	Relative Noncentrality Index	A relative noncentrality index, closely related to the CFI.
RMSEA	Root Mean Square Error of Approximation	A residual-based fit index; a value ≤ 0.08 is acceptable, and ≤ 0.05 indicates a very good fit.
SRMR	Standardized Root Mean Square Residual	The average standardized residual between the observed and model-implied covariance matrices; a value ≤ 0.08 is acceptable.
GFI	Goodness of Fit Index	A fit index indicating the proportion of variance-covariance explained by the model.
MFI	McDonald Fit Index	A model fit index based on McDonald's approach.
AIC	Akaike Information Criterion	An information criterion used for model comparison; a smaller value indicates a better model.
BIC	Bayesian Information Criterion	A Bayesian information criterion for model comparison that accounts for sample size.
SSABIC	Sample-Size Adjusted BIC	A BIC value adjusted for effective sample size.
λ (Lambda)	Factor Loading	The estimated strength of the relationship between an item (indicator) and the latent factor/dimension it measures.
ω (Omega)	McDonald's Omega	A model-based estimate of scale reliability, serving as an alternative to Cronbach's alpha.
α (Alpha)	Cronbach's Alpha	An estimate of internal consistency reliability based on inter-item correlations.

Folder 2: Instrument Items (Multiple Choice / Situational Judgment Test)

This folder contains a copy of the TERS instrument in the form distributed to respondents (Google Form format), including the consent/participation agreement section, respondent demographic data (institution of origin, study program, semester, teaching experience, GPA, and frequency of classroom observation experience), and three situational judgment test (SJT) subtests. Each subtest consists of a real-life teaching scenario/situation accompanied by four multiple-choice response options representing the respondent's way of thinking in that situation. The three subtests measure the CF, IC, and WM dimensions, respectively. The terms used in this folder are as follows:

Abbreviation	Full Term	Brief Explanation
SJT	Situational Judgment Test	A scenario-based item format in which respondents select the response option that best reflects their own thinking (there is no objectively correct or incorrect answer).
Sub Test 1 (CF)	Cognitive Flexibility Subtest	The section of the instrument containing 24 scenario-based items measuring the Cognitive Flexibility dimension.

Abbreviation	Full Term	Brief Explanation
Sub Test 2 (IC)	Inhibitory Control Subtest	The section of the instrument containing 40 scenario-based items measuring the Inhibitory Control dimension.
Sub Test 3 (WM)	Working Memory Subtest	The section of the instrument containing 16 scenario-based items measuring the Working Memory dimension.
PPG	Teacher Professional Education Program (Pendidikan Profesi Guru)	The study program/level of education pursued by the majority of respondents in this study.
PPL	Field Teaching Practicum (Program/Praktik Pengalaman Lapangan)	One form of teaching experience asked about in the respondent demographic data.
S1 Pendidikan (In Service)	Undergraduate Education (In-Service: actively teaching)	The undergraduate education program for respondents who are currently actively teaching.
S1 Pendidikan (Pre Service)	Undergraduate Education (Pre-Service: not yet actively teaching)	The undergraduate education program for respondents who are not yet actively teaching.
Attention Check Item	Attention Check Item	An item instructing respondents to select a specific number (e.g., "Select the number 0"), used to check respondent attentiveness/diligence while completing the survey.

Folder 3: Item Blueprint

This folder contains the blueprint used in developing the TERS instrument, mapping each item to the dimension, sub-dimension, and teaching-skill indicator it measures. The instrument consists of 80 items in total, comprising 24 items measuring the Cognitive Flexibility (CF) dimension, 40 items measuring the Inhibitory Control (IC) dimension, and 16 items measuring the Working Memory (WM) dimension. Each item was developed based on one of eight core teaching skills (opening and closing a lesson, questioning, explaining, using variation, providing reinforcement, teaching small groups and individuals, managing the classroom, and facilitating small-group discussion). The terms used in this folder are as follows:

Abbreviation	Full Term	Brief Explanation
Dimension	Executive Function Dimension	The main category measured: Cognitive Flexibility (CF), Inhibitory Control (IC), or Working Memory (WM).
Sub-Dimension	Sub-Dimension	The dimensions are further specified into sub-dimensions that represent distinct aspects of each executive-function component. Cognitive Flexibility comprises Change Perspective, Set Shifting, and Flexibility & Adaptability. Inhibitory Control comprises Attention, Cognitive Inhibition, RI–Impulse Control, RI–Discipline & Task Focus, and RI–Delay of Gratification. Working Memory comprises Maintaining & Manipulating.
Item No.	Item Number	The sequential item number within each respective subtest (CF, IC, or WM).

Abbreviation	Full Term	Brief Explanation
Teaching Skill Indicator	Teaching Skill Indicator	A description of the specific behaviour used as the basis for developing each item's scenario and response options. There are 8 specific behaviours such as: - Skills in Opening and Closing a Lesson - Questioning Skills - Explaining Skills - Skills in Using Variation - Reinforcement Skills - Small-Group and Individual Teaching Skills - Classroom Management Skills - Small-Group Discussion Facilitation Skills
Change Perspective	Change Perspective	A CF sub-dimension: the ability to shift one's viewpoint from the teacher's perspective to the student's perspective.
Set Shifting	Set Shifting	A CF sub-dimension: the ability to switch to a conceptually different approach when the current approach is not effective.
Flexibility & Adaptability	Flexibility & Adaptability	A CF sub-dimension: the ability to adapt quickly to unexpected changes in the situation.
RI	Response Inhibition	A group of IC sub-dimensions comprising Impulse Control, Discipline & Task Focus, and Delay of Gratification.

Folder 4: Raw Data, Construct Reliability (CR), and Average Variance Extracted (AVE)

This folder contains the raw response data from all study participants on the TERS instrument, including demographic data (institution of origin, respondent name/code, gender, study program, semester, teaching experience, duration of teaching experience, microteaching history, GPA, and frequency of classroom observation) as well as each respondent's scores for all CF items (CF1–CF24), IC items (IC1–IC40), and WM items (WM1–WM16). This folder also includes the Construct Reliability (CR) and Average Variance Extracted (AVE) calculations for each dimension, both for the full 80-item set and after item reduction. The terms used in this folder are as follows:

Abbreviation	Full Term	Brief Explanation
CR	Construct Reliability (Composite Reliability)	An estimate of construct reliability based on factor loadings; a value ≥ 0.70 indicates good construct reliability.
AVE	Average Variance Extracted	The average variance explained by the indicators relative to their construct; a value ≥ 0.50 indicates good convergent validity.
l (λ)	Factor Loading	The factor loading value of each item, used as the basis for calculating CR and AVE.
l^2 (λ^2)	Squared Factor Loading	The squared factor loading value, used in the AVE calculation formula.

Abbreviation	Full Term	Brief Explanation
d	Error Variance	The measurement error variance of each item ($1 - \lambda^2$), used in the CR calculation formula.
Respondent Code (S xxx)	Subject Identification Code	A unique code replacing the respondent's name to preserve identity confidentiality (e.g., S 001, S 002, etc.).