

## Attachment 1 - Consent Form

### Title of Study:

Evaluating Cognitive and Metacognitive Performance in Online Mathematics Education Using Behavioral Analytics and Machine Learning

**Principal Investigator: Siti Norhayati**

**School of Distance (PJJJ), University Science Malaysia (USM)**

**Email: siti.norhayati@student.usm.my**

### Purpose of the Study:

You are invited to participate in a research study aimed at exploring how behavioral patterns in online learning environments relate to students' cognitive and metacognitive performances in mathematics.

### Procedures:

- You will be asked to complete a brief questionnaire related to your self-confidence in solving mathematics tasks.
- Your behavioral data while using website address [www.\\*\\*\\*\\*\\*.com](http://www.*****.com) (e.g., time spent on learning pages, session duration, clicks, form interactions) will be passively collected using analytics tools (e.g., Google Analytics, Hotjar) while engaging with online course materials.

### Risks and Benefits:

- Risks are minimal, but some questions may cause mild discomfort or anxiety related to academic performance.
- Benefits include increased awareness of your learning behaviors and potential contributions to enhancing online learning systems. You also will be exposed to the usage of education technology to a few of AI apps.

### Privacy And Confidentiality:

Your privacy is important to us. The following measures are in place to protect your confidentiality:

- All responses and forms will be anonymized. All data will be stored using participant codes. No personally identifiable information will be disclosed and will be analyzed using machine learning for score prediction only.
- Data will be stored in encrypted, password-protected files accessible only to the research team.
- Only research team members can access the data. Data will be presented as grouped data and will not identify the participants individually. Data will be used

strictly for academic research and published in aggregate form. No individual responses will be identified.

- Your data will not be shared with any third parties or used for commercial purposes. For any questions or concerns, please contact the principal investigator at [siti.norhayati@student.usm.my](mailto:siti.norhayati@student.usm.my)

**Voluntary Participation and Withdrawal:**

Your participation is completely voluntary. You may withdraw at any time without penalty.

**Consent Statement:**

By clicking the "Agree" button below, you confirm that:

- You have read and understood the study information
- You agree to participate voluntarily
- You consent to the collection and use of your data for research purposes

☐ I Agree

☐ I Do Not Agree