

Date: 24 March 2022

Dear Parent/Guardian,

Your child/ward's class has been nominated to take part in an important research study that investigates student learning across different academic contexts. This project is conducted by researchers from the National Institute of Education, in collaboration with Damai Secondary School. Details of the study are presented below. All research activities will be conducted in classrooms during school hours. If you have no objections to your child/ward's participation, **no further action is required**. As this study is part of a larger (programmatic) research project, your child/ward may be invited to follow-up studies that are aimed at providing richer insights into the research findings. You and your child/ward will be requested to sign another Consent Form and Assent Form, respectively for such studies. The collective research findings will have important impact on learning, teaching and educational policy.

Clearance has been obtained from the Ministry of Education for this study. The Institutional Review Board of the Nanyang Technological University has reviewed and endorsed the ethics aspect of this study (see IRB Reference No. IRB-2021-03-064).

Thank you very much.

Sincerely,

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Study Information sheet

Title of Study: Examining Students' Metacognition and Teachers' Metacognitive Teaching Practices and Strategies
IRB reference number: IRB-2021-03-064

Objective: This study seeks to uncover how students direct their own learning, including how they transfer these learnings across different situations and contexts. More specifically, the study looks into students' and teachers' knowledge awareness and control of thinking, and their engagement with learning and teaching practices, strategies, and skills as applied in the school context.

Procedures: This study will involve about 2520 secondary school students from 12 secondary schools. Student will complete a brief English and mathematics test that is approximately 20

minutes long for each subject, and a 50-min survey related to their knowledge awareness and control of thinking, motivation, beliefs, transfer of learning, engagement, and learning at school. Please note that the achievement test is used for research purposes and will have no effect on the students' school grades. Both components of the study should take no longer than 1.5 hours to complete and will be conducted during school hours between February 2022 and November 2022. Information on students' demographic, home and academic background will also be collected to provide the relevant context for statistical analysis.

Right to Refuse or Withdraw: Participation is voluntary and students are free to withdraw from the study at any time without giving a reason and with no penalty to them.

Risks and Discomforts: This research does not involve any risk or stress beyond the normal levels experienced in a student's daily life. The only anticipated inconvenience for the student is the time taken for data collection, which will be arranged at a time and venue (e.g. classroom or computer lab) that is suitable for the student.

Benefits: This study is about student learning and will contribute to the field of existing knowledge about teaching and learning, specifically, ways to encourage self-directed learning among students. Although no direct personal benefit is promised to the student, the research activities provide students with an opportunity to engage in reflective exercises and to be aware of their own knowledge and thinking strategies. The findings will help to deepen educators' understanding of students' knowledge awareness and control of thinking, and the factors that facilitate these processes. The results will also provide insights that can guide the development of interventions to improve the learning of students.

Anonymous and Confidential Data Collection: All responses and information that the students provides will be kept confidential and used for the purposes of this research study only. Participating students need to provide some identifying information (e.g., names and class) to ensure accuracy of records. Any personal or identifiable information will be anonymised at the end of data collection.

Confidentiality of records: Only the research team members (including appointed database administrators) will have access to the data for research, management, and other educational purposes. In addition, data with identifiers may be shared with government officials/regulatory agencies only for the purposes of aggregated analyses with existing data. At the completion of the study, the following guidelines to maintain confidentiality of records and data will be observed.

- a. All research data will be stored in a secure central server following NIE and NTU policies and PDPA requirements.
- b. Anonymised data will continue to be analysed to support additional research, management, and educational activities.
- c. Personal data will remain strictly confidential and will never be published in any research reporting. However, relevant personal data may be preserved and accessed by authorised staff of NIE/NTU to ensure proper research data management.

- d. Any research data containing information that is collected for the purposes described in this invitation letter will be stored in Singapore. Only anonymised research data will be transferred out of Singapore to our proposed consultants.
- e. Relevant personal data may be preserved and accessed by government officials/regulatory agencies only for the purposes of aggregated analyses with their own datasets. On the other hand, anonymised data may be shared to scholars for the purpose of secondary analyses.

Recontacting Selected Participants. The present study is part of a larger research project entitled “Paving the Way Towards Lifewide and Lifelong Learning: Exploring and Fostering Metacognition for Learning and Transfer”. As such, participants of the present study may be contacted and invited in the future via their schools to participate in other studies that are part of this larger project. When students are re-contacted, they may agree to or decline participation in the follow-up studies. The students and their parent/guardian will be requested to sign another Assent Form and Consent Form, respectively, for such studies.

Personal Data: By giving consent to your child/ward’s participation, you (or your legally acceptable representative, if relevant) are authorizing (i) collection, access to, use and storage of your child’s/ward’s “Personal Data” by NTU, for the purposes of the study; (ii) disclosure of such Personal Data to, and use and storage by, authorised service providers and relevant third parties, whether located in Singapore or overseas, for the Purpose; (iii) linkage of such Personal Data to MOE administrative data to facilitate the understanding of issues related to metacognition; and (iv) disclosure of such Personal Data to the relevant government ministries, statutory boards and/or any other government agencies when requested and/or required under relevant legislations.

“**Personal Data**” means data about your child/ward which makes your child/ward identifiable: (i) from such data; or (ii) from that data and other information which an organisation has or likely to have access. Research arising in the future, based on this “Personal Data”, will be subject to review by the relevant institutional review board. Data collected are the property of National Institute of Education. In the event of any publication regarding this study, your child’s/ward’s identity will remain confidential.

Who to contact with questions: For more information on the study, please contact Dr. Tay Lee Yong at 67903924 or at leeyong.tay@nie.edu.sg.

Should you have questions on participants' rights in the study, please contact:

NTU-Institutional Review Board
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