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Notice for the PhD Viva Voce Examination

Ms Syama S (Registration Number: 1730096), PhD scholar at the School of Education, CHRIST (Deemed to be University), Bangalore will defend her PhD thesis at the public viva-voce examination on Tuesday, 16 April 2024 at 11.00 am in Room No. 044, Ground Floor, R & D Block, CHRIST (Deemed to be University), Bengaluru - 560029.

Title of the Thesis	:	**Mind-Set in Mathematics Learning: Role of Teacher-Student Interaction on Student Engagement, Wellbeing and Achievement**
Discipline	:	**Education**
External Examiner (Outside Karnataka)	:	**Dr Elizabeth Hangsing** Professor Department of Education Rajiv Gandhi University University Road, Papum Pare Arunachal Pradesh - 791112
External Examiner	:	**Dr Lancy Dsouza** Professor Department of Psychology Maharaja's College University of Mysore Mysore – 570 005 Karnataka
Supervisor	:	**Dr Jacqueline Kareem** Associate Professor School of Education CHRIST (Deemed to be University) Bengaluru 560029 Karnataka

The members of the Research Advisory Committee of the Scholar, the faculty members of the Department and the School, interested experts and research scholars of all the branches of research are cordially invited to attend this open viva-voce examination.

Registrar

Place: Bengaluru
Date: 03 April 2024

ABSTRACT

Mathematics learning is an integral part of the school curriculum. Initially, children learn the basic concepts and gradually reach the abstract level. Problems related to mathematics learning are prominent after seventh grade. Students may show aversion towards the subject for several reasons, especially those related to experience. TSI is an important determinant in classroom learning. Children's participation in classroom activities depends on their anxiety and self-efficacy levels. If the students cannot connect what they learn, it impacts their interaction in the classroom, and it acts as a reason for losing interest. The literature review reveals the importance of mathematics anxiety, self-efficacy, and utility value—the present study combined these three variables and made the construct mind-set in mathematics learning. Student engagement is influenced by mind-set in mathematics learning and TSI. It further leads to achievement and wellbeing.

The present study tests a conceptual model developed through the literature review and theoretical background. Social cognitive theory and the self-system motivational theoretical framework are the theoretical backgrounds. The study adopted a mixed-method design. It includes both quantitative and qualitative components. Quantitative is the core, and qualitative is the supplementary component. The qualitative study would help support the quantitative study and strengthen the validity of the results. The sample consists of 774 eighth graders from various English medium schools in Bengaluru, Karnataka. The qualitative data seeks to determine the students' perception of mathematics learning through their classroom experiences, and semi-structured interviews are used to collect the data. Also, the questionnaire contains open-ended questions regarding mathematics learning. The mixed-method analysis includes mediation with structural equation modelling, frequency analysis, thematic analysis and integration of the quantitative and qualitative findings. The tested conceptual model shows an excellent fit. It shows mind-set in mathematics affects TSI, influences student engagement and leads to student-wellbeing. There was no indirect effect for the achievement and other variables. The findings related to the open-ended questions indicate the importance of teachers and content. There is a lack of understanding of the practical application of the content. The thematic analysis results provided five main themes: student attributes, teacher attributes, classroom environment, content-related and utility value. Integration of the findings leads to the importance of TSI and student engagement in the mathematics classroom. Also, the connection between variables related to mathematics learning and student wellbeing. The results of the study have important implications for developing engaging pedagogies.

Keywords: Mind-set in mathematics learning, TSI, student engagement, student wellbeing, achievement

Publications:

1. **Sasidharan, S.**, & Kareem, J. (2023). Mathematics self-Efficacy, utility value and well-being among school students in India: Mediating role of student engagement. *Investigations in Mathematics Learning*, 15(4), 266-278. https://doi.org/10.1080/19477503.2023.2224652
2. **Sasidharan, S.**, & Kareem, J. (2023). Student perceptions and experiences in mathematics classrooms: A thematic analysis. *International Journal of Innovation in Science and Mathematics Education, 31*(2), 47-59.