

# THE STUDENTS' PROBLEM-SOLVING THROUGH STEM ACTIVITIES, WALKING MONSTERS

Kanchanok Soikum<sup>a</sup> and Jiradawan Huntula<sup>b</sup>

Presenting Author: Jiradawan Huntula ([jirahu@kku.ac.th](mailto:jirahu@kku.ac.th))

<sup>a</sup>Science Education Program, Khon Kaen University, Thailand

<sup>b</sup>Institute for Researcher and Development in Teaching Profession for ASEN, Khon Kaen University, Thailand

**KEYWORDS:** Problem-solving, STEM activity, Blended Learning Classroom

Problem-solving is a complex process and a necessary process in our daily life. It is also a crucial skill in the 21<sup>st</sup> century for students. This research aims to study students' problem-solving skills in the Walking Monster activity, which is a STEM activity applying the center of mass concept to create a toy, a walking monster. The activity was implemented based on the Blended Learning Classroom strategy. The students were provided on-demand VDO for them to solve the problem following the basic guide of constructing the walking monster before class. During the classroom, which is a face-to-face classroom, the students were further encouraged to integrate Science, Technology Engineering Design, and Mathematical concepts to apply to solve the problem. Thai students who studied in grade 10 were the participants.

The students' learning during the activity was recorded by VDO recording and a student worksheet. The rubric score was used to identify problem-solving processes consisting of four levels: Excellent, Good, Fair, and Poor. There are five dimensions of problem-solving processes: Useful Description, Physics Approach, Specific Application of Physics, Mathematical Procedures, and Logical Progression.

The results found that students' problem-solving processes are excellent in Useful Description, fair in Physics Approach, poor in Specific Application of Physics, good in Mathematical Procedures, and good in Logical Progression. Therefore, in solving problems students need the guide tool to apply the physics approach and specific physics concepts to solve problems.

## REFERENCES

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Proceedings of the IUPAP International Conference on Physics Education, ICPE 2022 5-9 December 2022, page 154, ISBN: 978-1-74210-532-1.