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## USING COMICS IN TEACHING MATHEMATICS

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This paper reports a research in studying the feasibility of using comics in the secondary mathematics classroom. It all began from a survey result that some teachers were using cartoons, comics and storytelling in teaching mathematics to the low attainers in mathematics to motivate the low attainers (Toh & Lui, 2014). The authors designed an alternative teaching package on selected topics of lower secondary mathematics using comics and provided a set of proposed lesson outlines for the teachers to teach the lessons using this set of alternative package. The lesson outlines suggest how stories and humours could be used to teach the entire topic through the comics package. A sample of one of the lessons on lower secondary percentage in the Normal (Technical) curriculum is described in greater detail in Toh, Cheng, Jiang and Lim (2016) and on the website <http://www.math.nie.edu.sg/magical>.

The comics lessons were video recorded and were viewed by the researchers. Here we report the adaptations made by the teachers in one participating school in executing these lessons to enhance their students' learning. Three key observations were made: (1) In order to engage the students in the learning process, the teachers converted the comic strips to worksheets with blanks for students to complete the story. The students became an active participant in the discourse rather than a passive learner; (2) As the teachers progressed through the lesson, they infused their own experience humorously as a context for students to think of the related mathematical concepts; (3) Instead of teachers' storytelling entirely, at appropriate junctures of the lessons, the teachers introduced role-play in the mathematics classroom. According to the teachers, this turned the onus of learning to the students, both groups who played the roles of comics characters and who were observers (but allowed to question the comic characters).

This shows that not only were teachers able to use the comics material provided by the researchers in the classrooms; they were actively adapting the material to further enhance students' learning and were making decisions constantly. A detailed analysis of the result of our findings will be published elsewhere soon.

### References

- Toh, T.L., Lui H.W. E. (2014). Helping Normal Technical Students with Learning Mathematics - A Preliminary Survey. *Learning Science and Mathematics Online Journal*, 2014(1), 1-10.
- Toh, T.L., Cheng, L. P., Jiang, H., & Lim, K. M. (2016). Use of comics and storytelling in teaching mathematics. In Toh, P. C. & Kaur, B. (Eds.), *Developing 21st Century Competencies in the Mathematics Classroom, Yearbook 2016, Association of Mathematics Educators* (pp. 241-260). Singapore: World Scientific Publishing.