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### Reflecting upon ambiguous situations as a way of developing students' mathematical creativity.

Tso, Tai-Yih (ed.), Proceedings of the 36th conference of the International Group for the Psychology of Mathematics Education "Opportunities to learn in mathematics education", PME 36, Taipei, Taiwan, July 18–22, 2012, Vol. 2. Taipei: National Taiwan Normal University. 19-26 (2012).

Summary: The aim of this paper is to show how engaging students in challenging, ambiguous situations through model-eliciting activities can stimulate their mathematical creativity and extend the variety and the quality of their mathematical models. The participants were mathematically talented primary school students who were members of "Kidumatica" math club. We used the "Bigfoot" modeling task to immerse students in an authentic, hands-on mathematical situation. This activity allowed students to use and extend their creative thinking, which was exhibited itself in the diversity of their significant mathematical ideas. Students invented, discovered and created different types of strategies and mathematical conceptual tools.

*Classification:* M10 D30

*Keywords:* model-eliciting activities; mathematical creativity; modeling; authentic hands-on mathematical situations