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Students' SCIENTIFIC MODELS OF Momentum

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A class of 17 grade ten students of The Demonstration School of Ramkhamhaeng University (Secondary Level) had been taught by modeling-centered instruction sequence (MCIS) on the topic of momentum for 2 hours. The students participated in nine learning steps of MCIS; (1) anchoring phenomena and central question, (2) construct an initial model, (3) empirical investigations, (4) evaluate and revise the initial model, (5) introduce scientific ideal and simulations, (6) evaluate and revise the model, (7) peer evaluation, (8) construct a consensus model, and (9) use the model to predict or explain. Then, we focused on evaluating their ability to create scientific model during the steps 6, 7, 8, and 9. The students'ability to create scientific model was analyzed by separate evaluation criteria (Analytic Rubrics).

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