Some chemistry students were investigating the relationship between concentration and rate of reaction. In the investigation, different concentrations of hydrochloric acid were added to a sodium thiosulfate solution to produce solid sulfur. This reaction was represented by the following equation.

$$2\ H^{+}(aq) + S_2O_3^{2-}(aq) \rightarrow SO_2(g) + S(s) + H_2O(\ell)$$

A piece of paper with a cross drawn on it was placed under the reaction vessel. The time taken for the cross to disappear due to the formation of the precipitate was measured.

25. One group chose to have its members take turns observing and timing the cross disappearing. This was poor methodology because

(a) it could make the data invalid.
(b) it introduced a possible systematic error.
(c) more trials would be needed to produce better results.
(d) the data would be less reliable.