A Study on Informal Reasoning of Sixth Graders through Guided TAPping Integrated with Clone Issue

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This study developed a guided-TAPping pattern integrated with the clone issue for enhancing sixth graders' informal reasoning. The one-group pretest-posttest design and qualitative method were used to collect data. The student subjects' performance during the reading-writing activities was used as the pre/posttest. Furthermore,, guided-TAP（Toulmin's Argument Pattern）cell writing was also used in the study to probe student subjects' informal reasoning. During the implementation, student subjects' reading-writing worksheets, interviews, and feedback questionnaires were also included to collect their pro and con positions as well as their responses to the learning process. Results show that reading comprehension had no significant difference, but essay writing was much improved after the implementation. The rate of accuracy indicated that backing cell was much difficult. Students changed their positions of informal reasoning on the basis of the condition of cloning. The findings suggested that the guided-TAPping pattern is an applicable strategy for teaching primary school students informal reasoning and promoting their scientific literacy.

Keywords: guided-TAPping, informal reasoning, scientific literacy, socioscientific issues [SSI]

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