

國立中央大學

網路學習科技研究所

碩士論文

**The Effects of the Synchronous Discussion and Reflection
System (SDRS) in Elementary Students Perception of
Knowledge Building-Based Learning Environment and
Learning Outcomes**

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**The Effects of the Synchronous Discussion and Reflection
System (SDRS) in Elementary Students Perception of
Knowledge Building-Based Learning Environment and
Learning Outcomes**

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中文摘要

本研究之目的為了解使用同步討論與反思平台系統(Synchronous Discussion and Reflection System, SDRS)對於國小學生在基因改造食品(Genetically Modified Food, GMF)的學習上之學習環境知覺以及學習成效上的影響。受試者為台灣台中市的 22 名國小學生，由實驗組的 10 名學生和對照組的 12 名學生組成。實驗組學生使用 SDRS 平台系統，來協助他們在學習活動中進行自我導向討論與反思，對照組的學習活動則是以教師引導的小組討論為主。在研究結果方面，本研究以問卷來了解學生對於基於知識翻新學習環境 (Knowledge Building-Based Learning Environment) 的知覺；而學生的學習成效則是由每週學生的討論結果紀錄來呈現。

研究結果在學生對於基於知識翻新學習環境的知覺方面，實驗組與對照組的表現並沒有明顯差異；而在學習成效的表現上，實驗組是優於對照組的。根據本研究結果可看出，學生在學習環境知覺上使用 SDRS 作基於知識翻新學習的自我導向討論和反思與課堂教師引導的討論方式具有相同的成效。而本研究也建議，國小學生需要更多的時間來使用平台進行基於知識翻新學習環境的學習，以便在他們對學習環境的知覺和學習成果方面獲得更好的結果。

關鍵字: 知識翻新、學習環境、學習成效、反思、學生知覺

ABSTRACT

The purposes of this study are to understand the effects of using Synchronous Discussion and Reflection System (SDRS) platform in the elementary students' perception of the learning environment and students' learning outcomes regarding the Genetically Modified Food (GMF). A total of 22 students from Elementary School in Taichung Taiwan joined this study, consisted of 10 students in the experimental group and 12 students in the control group. A questionnaire measured the student perception of KB-based environment. The students learning outcomes obtained from every week group discussion. The experimental group using SDRS have advantages in self-directed discussion and reflection system and the control group discussion only by teacher guidance.

The result of the students' perception in the KB-Based learning environment from the experimental group is as good as the control group, and the result of learning outcomes in the experimental group are better than the control group. So this study concludes that the Knowledge Building-Based Learning using SDRS as a platform for self-directed discussion and reflection was equally effective with the discussion guide by the teacher in class. This study also suggests that elementary school students need more time to adapt using the platform in KB-based learning to get better result both in their perception of the learning environment and their learning outcomes.

Keywords: *Knowledge Building, Learning Environment, Learning Outcomes, Reflection, Students Perception*

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