



# The Effect of Jigsaw Technique on Students' Learning in Clinical Microscopy

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## Overview

In the past, the clinical microscopy subject was taught in the traditional method. Student was taught by lecture- and textbook-based teaching in which an instructor delivers knowledge in one way communication. It has a lot of limitations: knowledge is limited, lack interactivity, lack collaboration (Lodhiya, 2019). The Jigsaw technique is a one form of cooperative learning method that utilizes peer teaching, promotes collaborative learning (Goolsarran, 2020). This technique helps to improve learning, solve a problem and complete a task (Laal, 2014). Therefore, Jigsaw technique should be applied in the clinical microscopy subject.

## Aims and Objectives

- To apply the Jigsaw technique in the chemical examination of urine session in the clinical microscopy subject.
- To introduce new learning technologies to medical technology students.

## Evaluations

- Observation of student behavior in the classroom
- Student assignment
- Post-test on Moodle
- Student reflection

## Activities

- Learning materials: teaching VDO and learning documents were uploaded on Moodle 5 days before class begins.
- In the class, students were divided into 5 small groups (5 students per group) by word classification (Fig. 1).
- Students pick a piece of paper from the box as they arrive in class.
- Students were asked to find the person who has the same word to form a group.
- A group representative picked 2 pieces of learning topic question card.
- They have 30 minutes for sharing, discussing and mind-mapping creating knowledge related to questions (Fig. 2).
- Put them on padlet.com along with their photo group (<https://padlet.com/ksaruda/cyjn0b2kjtcyexr0>) (Fig. 3).
- There are 5 minutes for group breaking. The group was broken to generate a new group which composes of all different words for put them together (all questions in a group).
- They have 60 minutes for sharing and discussing in every learning topic question.
- The summarization was performed by the instructor for 30 minutes and let students do the quiz on Moodle by midnight.

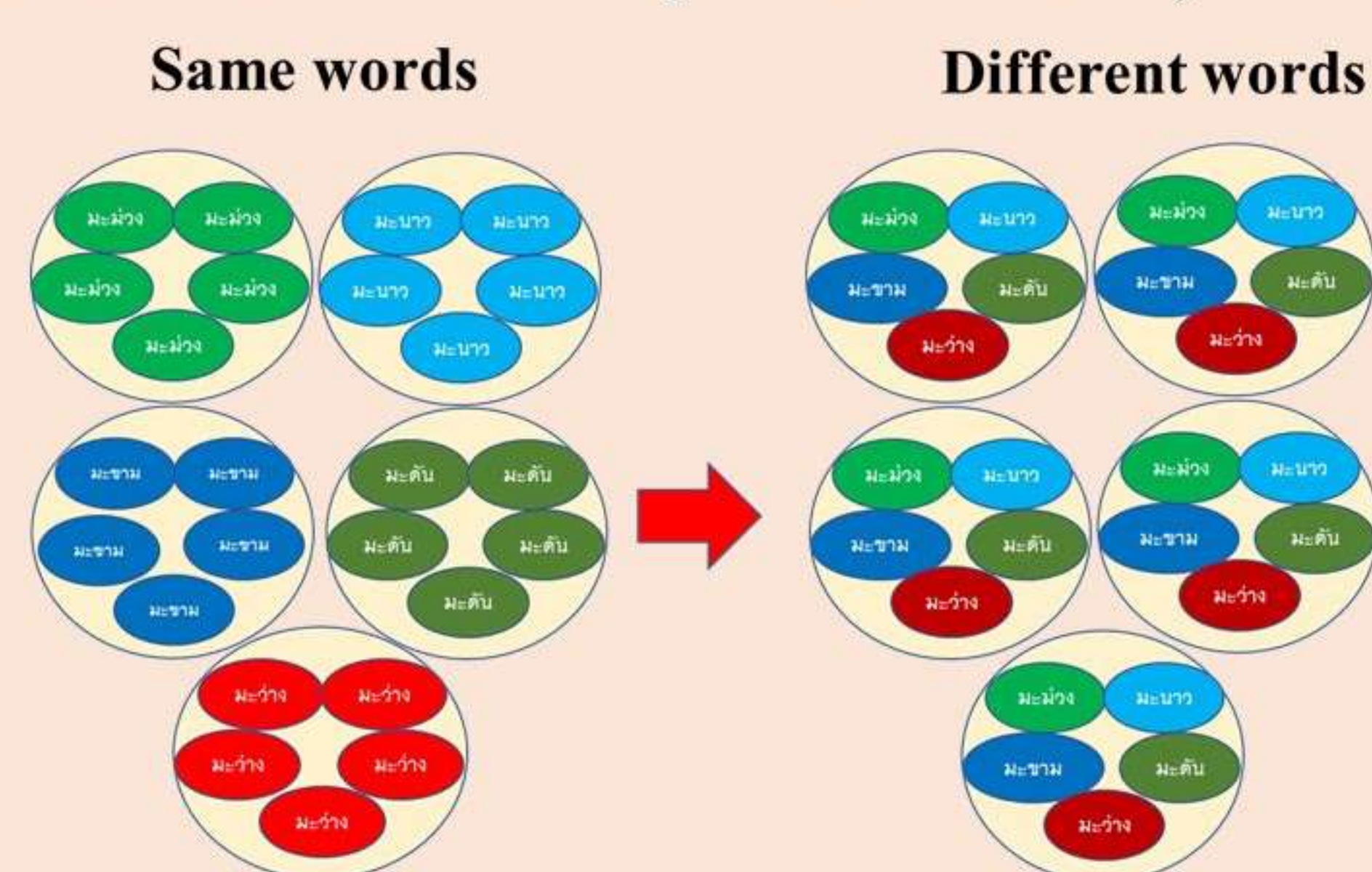


Figure 1 Group dividing: same word and different word groups



Figure 2 Activity in the classroom

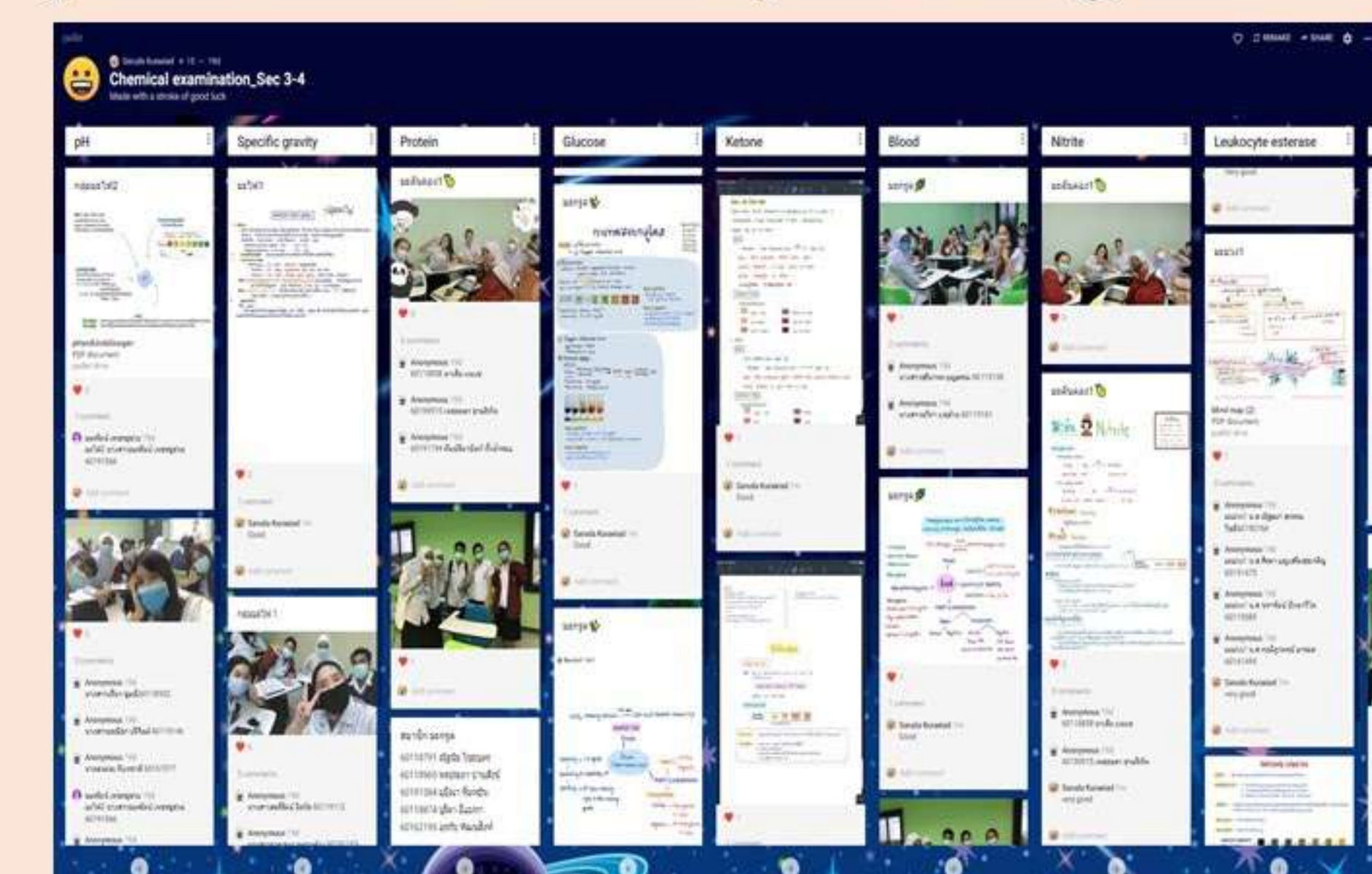


Figure 3 Student works on padlet.com

## Outcomes

- 50% increasing of Post-test score
- Student Reflection (Fig. 4)

## Impacts

- This activity encourage:
- Communication skill
  - Cooperative skill
  - Get key concept in the classroom

## Future development of project

- Oral presentation and give feedback in the classroom
- Self- and peer assessments should be conducted in the classroom



Figure 4 Student reflection

## References

1. Goolsarran, N., Hamo, C. E., & Lu, W. H. (2020). Using the jigsaw technique to teach patient safety. *Medical Education Online*, 25(1), 1710325
2. Laal, M., Khatami-Kermanshahi, Z., & Laal, M. (2014). Teaching and education; collaborative style. *Procedia-Social and Behavioral Sciences*, 116, 4057-4061.
3. Lodhiya, K. K., & Brahmabhatt, K. R. (2019). Effectiveness of collaborative versus traditional teaching methods in a teaching hospital in Gujarat. *Indian Journal of Community Medicine: Official Publication of Indian Association of Preventive & Social Medicine*, 44(3), 243.