

Tablets Manufacturing Technology : Practice Based Learning

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Background

Topic of tablets manufacturing and film coated technology are difficult to understand in a limited time.

Aims and objectives

To improve learning outcome of the pharmacy student (4th academic year) and can formulate film-coated tablets and can solve manufacturing problems.

Activities

The integrated strategies to increasing the learning outcome consist of 1. Quiz, 2. Small problems base learning 3. Group discussion and 4. Watching VDO : These activities use for student understand the manufacturing process of film coating tablets, excipient or packaging selection and industrial process with equipment. Practice with real situation : The program learning of pharmacy students need to know not only knowledge but also practice from laboratory or real situations. After the students learning the principle and knowledge in the classroom, they will have the experience to do the laboratory under teacher supervision. The equipment (both lab scale and industrial scale) are important to learning outcomes.

Outcomes

This topic evaluate by all teacher staffs by rubric system. The completeness of film coated products and manufacturing report are evaluated by all teaching staffs. After teaching with integrated strategies, the products are lack of defects and the test score of the theory are higher than previous year.

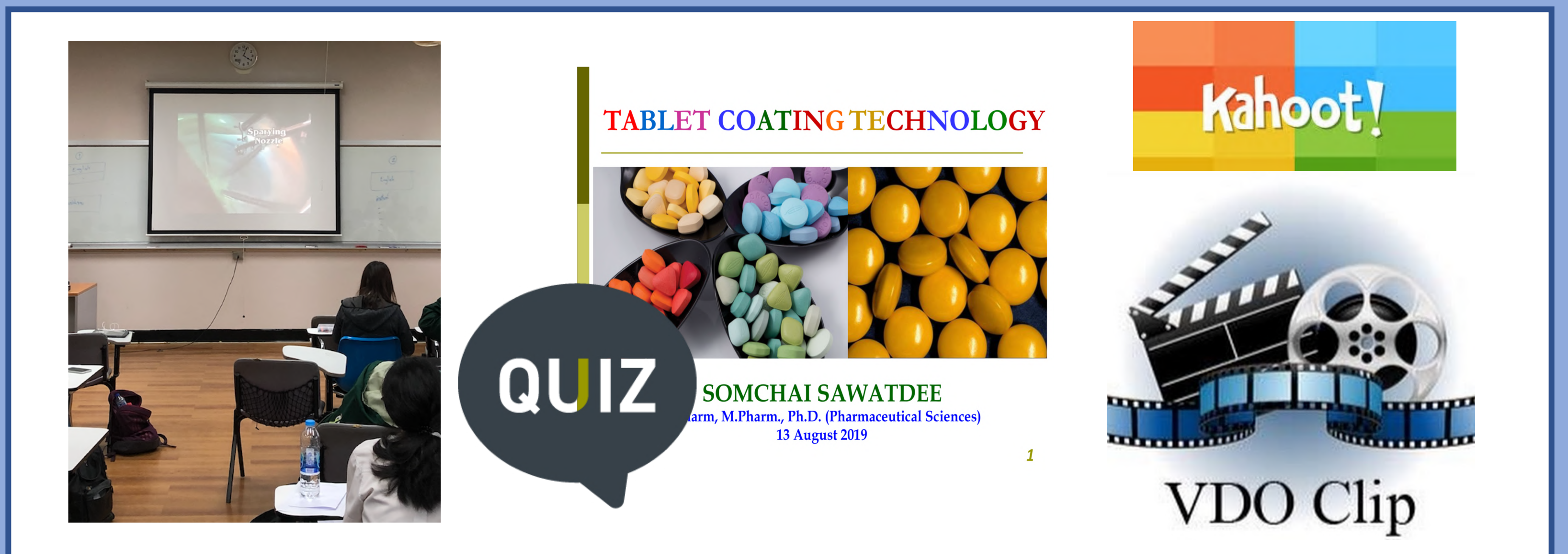


Figure 1. Activity in classroom



Figure 2. Activity of practice based learning



Figure 3. Finished products : Film coated tablets

Impacts

- Improves test scores compare to previous group.
- Better understanding of the theory and problem solving skills.
- Introduce teamwork, critical thinking and application of what we have learned.
- Get more confident in talking in front of a crowd and also get more information on the subject area.

Group learning	Test scores (5% of total course)
Year 2019 (n=55)	3.55 ± 0.62
Year 2018 (n=48)	2.50 ± 0.50

Future development of projects

- Flipped classroom with problem based learning.
- Assignment with teaching with using technology.

References

- Krueger, J.L., Instructional design and assessment, Pharmacy students' application of knowledge from the classroom to introductory pharmacy practice experiences, American Journal of Pharmaceutical Education, 2013;77(2), article 31.
- Hussain, M., Sahudin, S., Samah, N.H.A., Anuar, N.K., Students perception of an industry based approach problem based learning (PBL) and their performance in drug delivery courses, Saudi Pharmaceutical Journal, 2019;27:274-282.