School of Pharmacy

Small group teaching makes Pharmacy students to classify and evaluate active compounds in Pharmacognosy subject.

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Overview

Pharmacognosy is one subject of Pharmacy curriculum, it concerns about chemical substances that naturally occur in natural sources such as plants and animals. In General, WU-Pharmacy students study this subject when they are in third year. The traditional classroom; each topic students have 3 hours for learning a lecture and 3 hours for doing a laboratory. In the laboratory session students have chance to do experiment following the laboratory manual. Meanwhile, the new approach for this subject is focused on the laboratory teaching method which is an important session for improving student learning skills(1).

Aims: At the end of this class students will be able to

1. **Classify the active compounds which are found in medicinal plants in term of health benefits and drawback.**
2. **Design method to evaluate the types of active compounds.**

Activities

- Students will be divided into small groups. (6 students and 1 teacher for each group).
- Each group have been given an unknown sample to evaluate the types of active compounds.
- Fresh and dry plants always provide in every experiment that students can do organoleptic testing in stead of just seeing from the pictures.
- Before the experiments students need to summarize and design their experiment by using www.Peergrade.io.
- Teacher and students have a chance to discuss and rearrange the experiment methods before starting the experiment
- Students can use technology tools for searching some information during experiments.
- At the end of the class, each group has to present their results and explain how to get the results.

Figure 1) Unknown sample

Figure: 2) Fresh and dry plants

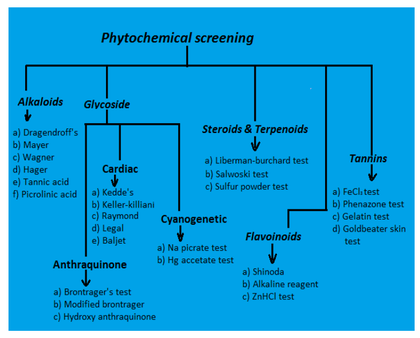

Figure: 3) Experimental scheme

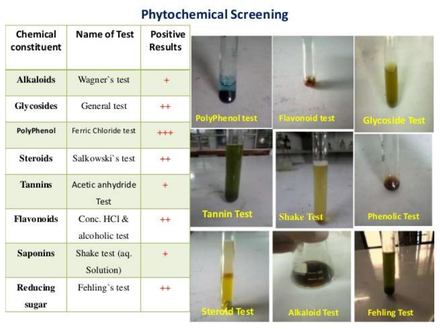

Figure: 4) Experiment results

Outcomes

- The new approaching method improve the critical thinking skills of students because they need to observe and evaluate the results. Brainstorming session will happen in the class especially step in planning methods and collecting results.
- In case of the unreasonable results students have chances to repeat or change some method to redo experiments under supervision of teachers or facilitators.
- Students have to understand contents from attending lecture classes and all steps of the experiment then they can design the Unknown sample's experiment correctly.

Impacts

- Small group teaching makes learning communities and learning environment in classroom. This environment produces active learner rather than a passive recipient of information(2).
- Students understand exactly what they are to learn, what is expected of them and are given feedback and advice on how to improve their work.

Future development of project

- More technology tools will be used to encourage students to participate in lecture sessions**.**

References: **1.** Riitta Aikkola, IMPROVE YOUR LEARNING SKILLS, Vaasa University of Applied Sciences **2.** https://www.skillsyouneed.com/learn/critical-thinking.html.