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PROJECT-BASED LEARNING AND NOTE BY NOTE COOKING: TWO INGREDIENTS TO ENHANCE STUDENT LEARNING AND CREATIVITY

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Background

- Project-based learning (PBL) is an instructional exercise that engages students in authentic, "real world" tasks. It demands from the learner the acquisition of critical knowledge, problem solving proficiency and self-directed learning strategies (Donnelly and Fitzmaurice, 2005). According to Greenwald (2000) and Checkly (1997) PBL is a powerful vehicle for students to learn science. They experience problems that challenge science and the thought, habits of mind and actions associated with trying to solve them.
- Note by Note Cooking is an application of Molecular Gastronomy (MG) and MG is a sub-discipline of Food Science. In this type of cooking traditional foods are not used to make dishes but pure compounds or mixtures of pure compounds (This, 2014; Burke and Danaher, 2016).
- A PBL assignment was undertaken by students in D.I.T., with the aim to develop a Note by Note dish or dishes to comply with the requirements of the *International Note by Note Cooking Contest* held annually in Paris, France since 2013.

Objective

- To stimulate student learning and creativity by using Note by Note cooking in a PBL assignment

Methodology

➤ Student Group

Each year, from 2013; 2016 to the present time, approximately 12 students from the optional module in *Advanced MG* which is offered on the taught, *M.Sc. In Culinary Innovation and Food Product Development* programme. In 2014 a mature student from the BA in Culinary Arts participated, he had studied the optional module in Intermediate MG.

➤ Assignment

A PBL assignment was undertaken with the aim to develop a Note by Note dish or dishes to comply with the requirements of the *International Note by Note Cooking Contest*.

Each student devised their own recipes, ordered ingredients and equipment for each class, created their own Note by Note dish(es), carried out sensory analysis, presented and photographed their dish(es) and wrote a report on their work. The assignment report included an Aim; Materials and Methods; Results; Discussion; Conclusions and References. A log book for each of the 5 weeks (3 hrs in an experimental kitchen each week) of the assignment was also to be included.

➤ Evaluation of Project

Each year the best dish of the student group was entered into the *International Note by Note Cooking Contest* in Paris. If accepted the creator of the dish would make a presentation at the contest.

Results and Discussion

2013



Dish by Linda Hayes.
Theme: Consistencies

2014



Dish by Ciarán Doyle.
Theme: Use of Methional

2016



Dishes by Sophie Dalton. Theme: Use of Cellulose and its Derivatives.



2017



Dish by Shayne Curtin.
Theme: Fibrous consistencies and acidities

2018



Dish by Ruth Kelly.
Theme: Crispiness, Crackling, Crunchiness

Each of the dishes above were pre-selected in D.I.T. for entry to the *International Note by Note Cooking Contest*. All of the dishes pictured were awarded first place in the student category of the contest. The judging panels were composed of scientists, chefs and ingredient company representatives. These awards confirm that student learning and creativity was successfully achieved.

Conclusion

The application of Note by Note cooking through a PBL exercise enhances student learning and creativity. The D.I.T. winner gained experience at an international level.

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