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ACTIVE AND AUTHENTIC LEARNING IN DIETITIANJR@UKM™: PREPARING DIETETIC STUDENTS FOR THE FUTURE JOBS

Nur Hana Hamzaid^{1,2*}, Nor Aini Jamil¹, Nurul Huda Razalli¹ & Nik Shanita Safii¹

**¹ Dietetic Program, Faculty of Health Sciences,
Universiti Kebangsaan Malaysia, Jalan Raja Muda Abdul Aziz, 50300,
Kuala Lumpur, Malaysia**

**²Centre of Rehabilitation and Special Needs, Faculty of Health Sciences,
Universiti Kebangsaan Malaysia,
Jalan Raja Muda Abdul Aziz, 50300 Kuala Lumpur, Malaysia**

(*Corresponding author: hanahamzaid@ukm.edu.my)

Abstract

Dietetic profession has grown from mainly clinical setting to several other settings that was not thought possible until recently such as hosting healthy cooking shows to personalised online consultation. With the similar number of credit hours allocated for first degree dietetics students, conventional method of teaching would not be sufficient in preparing them for endless opportunity of working world. Hence, active learning is a timely approach in addressing this issue. The objective of this paper is to introduce a newly created program (DietitianJr@UKM™) that applied active learning in equipping dietetics first degree students with skills that may be useful for the unconventional future jobs. DietitianJr@UKM™ is an annual program created in fulfilling Patient Education course outcome that involves community. Dietetics students were divided into four groups that introduced them to four main working areas of a Dietitian, i.e. inpatient, outpatient, food service and community service. Several

stages were involved starting with lectures and case study discussions on basic concept and protocol of creating patient education material, followed by a need's assessment survey, creating educational tools and a minimum of four discussion sessions with supervisors. This program was conducted among primary school children (aged 8-11 years) with the objective of introducing healthy eating concept and dietitian career. Results shows a highly positive feedback from the participants for each of the three-year school-holiday program. It is hoped that this fun-learning program will not only provide experience to dietetic students through authentic learning, but also educating the community on healthy eating and the importance role of dietitians.

Keywords: Active learning, dietetic, patient education material, authentic learning

1.0 INTRODUCTION

The Fourth Industrial Revolution 4.0 (IR 4.0) is changing how the world live, work and communicate. According to The World Economic Forum, an estimated 65% of kids enrolling in primary education today will end up working in jobs that have not been created yet. The question is, how educators are going to prepare learner for this challenge? Therefore, current teaching techniques need to be improvised whilst teaching outcomes need to have a broader perspective. Teaching and learning approach in the fourth industrial revolution (IR 4.0) has change to fit the new generation of learners. Technology-based and interactive approach are techniques to introduce active learning process with the aim that all students are able to engage with the learning process. Active learning is in contrast to conventional modes of instruction.

Dietetics field is not excluded from this challenge. Jobs that were not heard of 20 years back is now trending among graduates (Morgan et al., 2018) such as online coaching, multinational consultation even conducting healthy cooking show in the field of broadcasting. Therefore, active learning may serve as one of teaching strategies that can be a platform to engage students as active participants in their learning process (Walker, 2008). Typically,

active learning strategies involve some number of students working together during class, but also involve individual work and/or reflection. The teaching approaches range from short, simple activities like journal writing, problem solving and paired discussions, to longer, involved activities or pedagogical frameworks like case studies, role plays, and structured team-based learning (Chiu & Cheng, 2017). With this, dietetics students will learn more and gather appropriate skills in preparing them for the future jobs.

2.0 MATERIALS AND METHODS

DietitianJr.@UKM™ is a school holiday program that targeted on educating primary school children on healthy eating and good nutrition. It is a one-day program that consist of four stations which representing field of dietetic practice; outpatient service, inpatient ward service, food service and management, and dietetic in community. This program involves the participation of year three dietetics students to fulfill the Patient Education course that carries four credit hours. The program was built based on three objectives, 1) to promote dietetics profession among school children and parents 2) exposing the job scope of dietetic profession, and 3) to instill interest to eat healthy at young age. In other words, the objective of this course is to prepare learners with the skills in developing patient education materials, from planning the needs assessment stage to developing stage and assessing the usability, feasibility and effective of the education material.

As for the dietetic students, they need to create four sub-programs for four stations that represent dietetic workfields, i.e. Dietitians in Outpatient Department, in Inpatient Department, in Food Service Department and in Community. In the early part of the course, students were given lectures on basic principle of building a patient education material and/or programme, case studies in understanding the topic given, brainstorming sessions, and several sets of discussion until the day of the programme. Needs assessment was also conducted prior to the programme to better understand the target group population. A

programme book was developed in assisting the teaching part of the programme and also assessing participants' understanding of each station. All students were assessed on several criteria throughout the semester by supervisors, participants and parents of the participants on their satisfaction and effectiveness of the programme.

Every stage of the teaching incorporates close supervision, when on-site feedback is to be given to the presenting student/group (Figure 1). This will enhance the learning process as the learners are aware of the pro and cons of their presentation. They can also do the amendment (if requires) at the same time. This goes till the development process of the module. These processes fulfilled all levels of the Bloom's taxonomy (Figure 2). As an outcome, four modules of dietetic practice components were professionally created (Figure 3). Students were also required to plan the flow of program and run rehearsal. With this they can simulate the running of the program and see and predict possible hiccups and think of the solutions. In addition to this, at the time of the event, students conducted the program among participants who were the primary school-aged children, to represent the authentic learning experience.

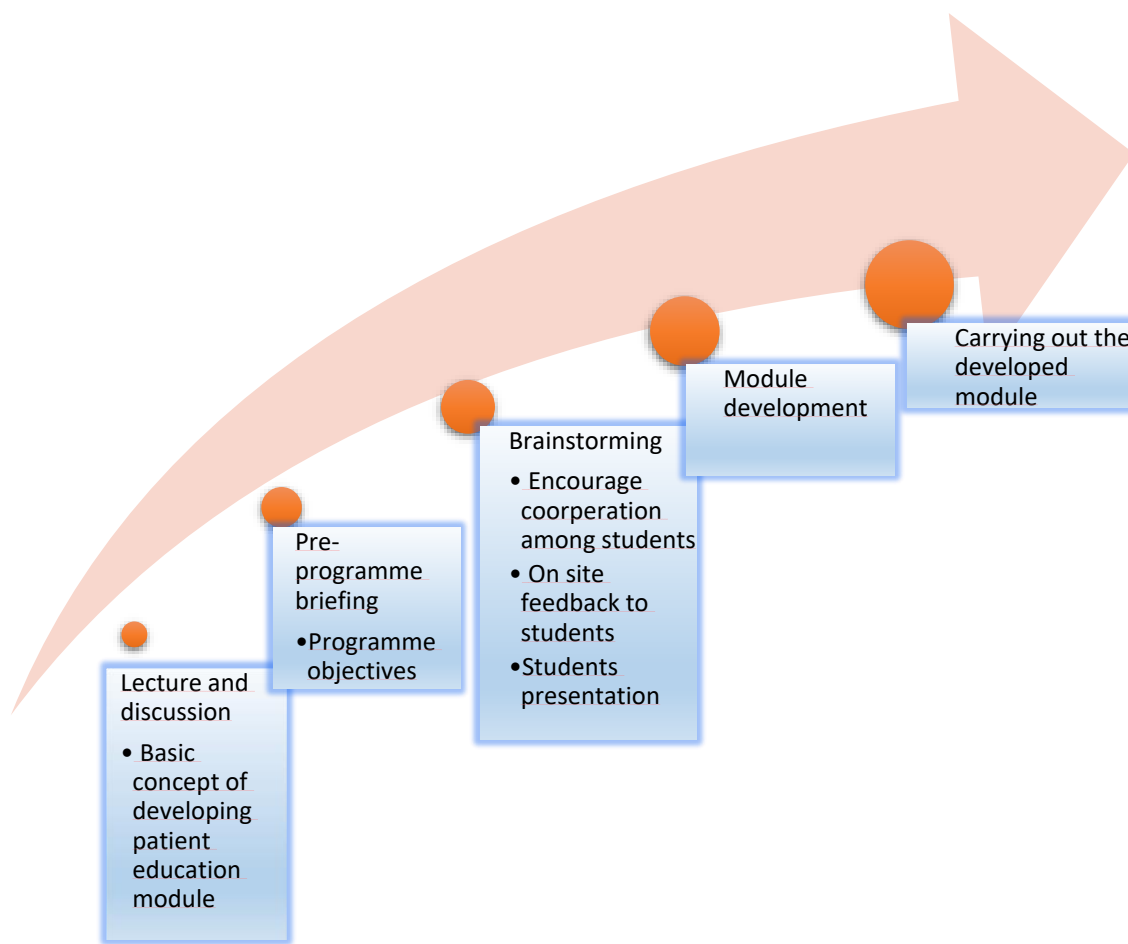


Figure 1. Flow of active learning in developing patient education module for

DietitianJr.@UKM™

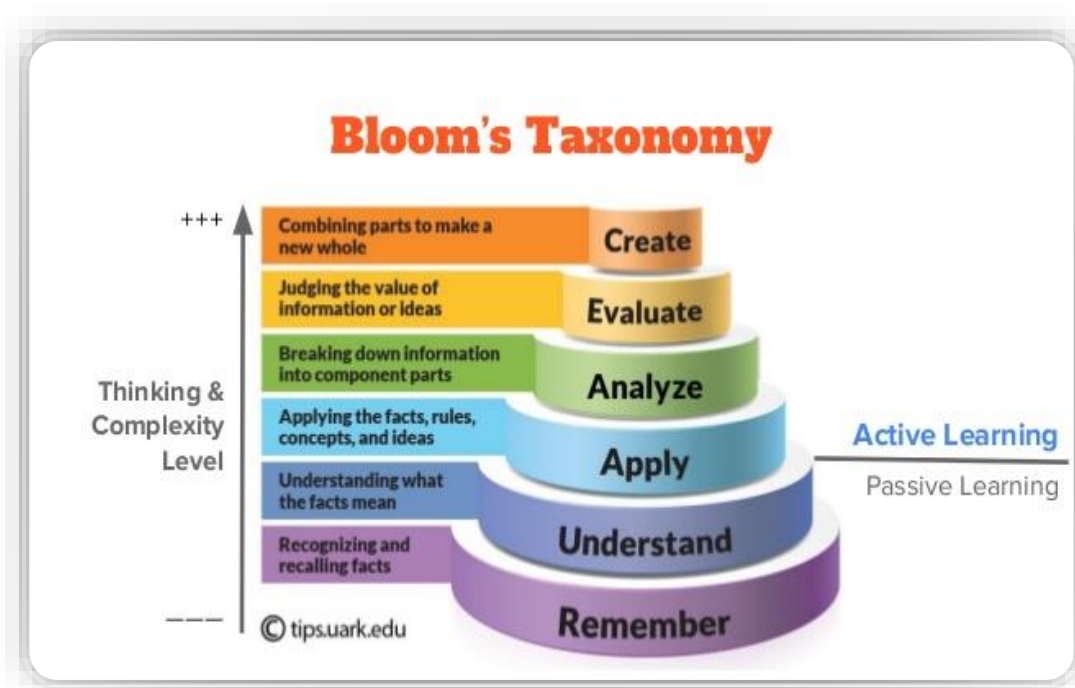


Figure 2. Dietitian [Jr.@UKM™](#) is fulfilling all levels of Bloom's Taxonomy



Figure 3. DietitianJr.@UKM™ Program Structure

At the end of the program, both participants and their parents were given a set of questionnaires to evaluate the content, the flow, performance of the dietetic students and the success of overall program in achieving its objective. Feedbacks on suggestions for new ideas and to better the program were also part of the questionnaires. The questions were distributed during the closing ceremony and in the google form format to those parents who were more convenient using online method. Results were then shared among the students and the all team members in a postmortem meeting.

3.0 Results and Discussion

DietitianJr@UKM™ is a newly created school holiday program with the objective to prepare

dietetics students with skills related to strategies of organising community program, that is embedded in the existing course, i.e. Patient Education (*Pendidikan Pesakit*). This program has successfully run for three consecutive years with different batch of dietetic students and new sets of school-age children.

Dietetic students involved in this program gave encouraging feedback on their experience throughout conducting the DietianJr@UKM™ program using the formal online evaluation system prepare by the university. Responses received from the dietetics students were excellent (majority higher than 4.5 over 5) from this online course assessment platform. Students also scored above 3.8 for the overall final course assessment. Many comments mentioned that they appreciate that the program involves the public in which they were able to experience authentic learning process with real-time situations that demand fast decision-making process. This fit the main concept of authentic learning process by which the context needs to be all-embracing, to provide the purpose and motivation for learning, and to provide a sustained and complex learning environment that can be explored at length (Brown, Collins, & Duguid, 1989; Herrington, 2006; Honebein, Duffy, & Fishman, 1993; Reeves & Reeves, 1997).

Students were also able to investigate the learning environment from more than a single perspective. This way, the students were enable and encourage to explore different perspectives on the topics from various points of view, and to 'criss cross' the learning environment repeatedly (Collins, Brown, & Newman, 1989; Honebein, Duffy, & Fishman, 1993; Spiro, Feltovich, Jacobson, & Coulson, 1991). Students also appreciate that they were able to have continuous discussion with their supervisors while planning and during the program as this will provide the professional input. This is also one of an important criteria of authentic learning; ie. the needs to provide access to expert thinking and the modelling of processes, access to learners in various levels of expertise, and access to the social periphery or the observation of real-life episodes as they occur (Collins, Brown, & Newman, 1989; Brown,

Collins, & Duguid, 1989; Lave & Wenger, 1991).

Results shows participants rated excellent to all moderators (dietetic students) in conducting the programme. All parents responded that their children enjoyed the modules and gained new knowledge in learning the aspects of dietetic practices and basic nutrition. Majority (85.7%) agreed that a duration of one-day activities was appropriate for their primary-aged school children. High percentage (87.5%) of parents rated highest (very satisfactory) for the overall satisfaction of the program, with the rest (12.5%) voted satisfactory. Some of the parents commented that their children have been practicing the knowledge gained such as a proper way of washing hands, nutritional label reading and food portioning at home. This shows that the authentic learning experience not only benefit the students of dietetic program whom acted as the moderator of this program but also showed a transformative impact on science education among the program participants and their caregivers (Hanauer et. al, 2017). *“Ms S has been applying what she has learnt from the program in her daily life. For example, she looks at the food label whenever we go shopping and last weekend, she remembers the word "esophagus" while revising for her exams!” – Mdm Sam*

4.0 CONCLUSION

The program has been successfully developed in achieving the overall aim of equipping students with lifelong learning skills through active learning among dietetic students, also introducing dietetic practices and instilling the interest of learning nutrition at an early age. Hence, through authentic learning, this program has potential not only for the benefit of dietetic students, but also to be expanded to secondary and pre-university levels in inspiring the new generation to embark on the dietetic profession.

5.0 ACKNOWLEDGEMENTS

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