

# C21 Turnitin L. R. Telly Savalas

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## DEEP READING AS INSTRUMENT TO INCREASE STUDENT'S LEARNING COMPREHENSIVENESS IN FOOD CHEMISTRY COURSE

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**Abstract.** In this study, a structured-students-assignment has been employed to increase students learning experiences in food chemistry course. Population were 15 students undertaking food chemistry course of which only one male student. In the first half semester, students experienced classical lectures of food chemistry, such as chemistry of lipids, antioxidants, preservatives, food additive and food safety. Students were, in a group of three persons, asked to seek for relevant article in scientific journal related to certain topics in food chemistry. Students had opportunity to discuss their chosen article to facilitate a better understanding in respective article. Students were further requested to present the article in the class room. This session was followed by question and answer session either with their peer or with supervisor. Following analysis of questionnaires, it was revealed that the students responded positively in all aspects of the assignment, underlining that they gain unprecedented experience during the course which helped them to understand topics in food science more comprehensively. Hence, it is arguable that similar approach might also be adapted in other elective course.

**Keywords:** deep reading, food chemistry, comprehensive learning

### 1. Introduction

Deep reading of primary resources has been reported to be beneficial in promoting active learning among students in certain topics in sciences [1]. Deep reading activities emphasize the thorough understanding in specialized topics, but also building of self-awareness of the students [2]. Deep reading is not just a reading activity but involves the whole mind and physical, because deep reading leads the reader to think deeper, look for meaning, and look for linkages among variables. During the process, there was a discussion stage, where students were required to be able to learn and to understand what is read, as well as to communicate the results of their thoughts with other group during the discussion. Another benefit that can be obtained by forming this discussion group is that students can learn to communicate problems and find solutions to group problems where the main object of this discussion process is the exchange of thoughts, harmonization, and approaching

approaches to find shared solutions [3]. By discussing in groups they will actively exchange ideas. This will encourage them to be more active in reading to find information as completely as possible.

A systematic approach in encouraging primary literature reading has also been reported by Hoskins and co-workers. In a series of intervention called CREATE (Consider, Read, Elucidate hypothesis, Analyze and interpret data, Think of the next Experiment) they were able to shift undergraduate self-assessed ability to read and analyze articles as well as the students' attitudes about science [4].

In an English and developed country setting, such an approach has been successful. However, in a more challenging setting found in non-English speaking countries whose education system is in the establishing stage. In the present study, we present a modification of deep reading activity in a food chemistry course for 4th year students of Chemistry Education major.

## 2. Method

Students were divided into groups consisting of 3 students. Each group sought for an article with a predetermined topic in food biochemistry, i.e. proteins, lipids, antioxidants, food additives and food safety. Once each group decided a specific article, researchers facilitated a deep reading by guiding, explaining certain details, as well as limiting part of the article to be presented in front of the class.

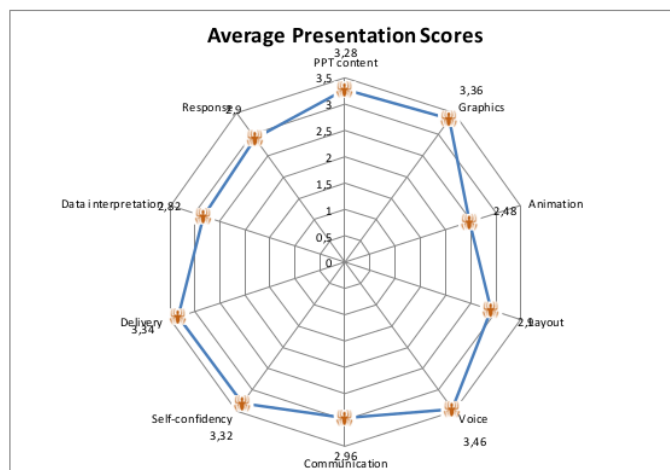
There were at least four weeks interval since each group decided an article until they presented the article, so that there was sufficient time for discussion, either within the group or with mentor/lecturer.

During presentation, assessment was undertaken to judge PPT slides, presentation skill and mastery in the presented topics. Assessment of one group was done by the rest of the students in the classroom. At the end of the semester, students were requested to fill feedback forms.

## 3. Results and Discussion

The students involved in this study were fourth year chemistry education students who have been trained with sufficient experiences in class management and presentation skills. This background is reflected in their overall presentation skills which shows the highest score.

Overall powerpoint presentation slides as well as mastery in presented article contents have similar scores. However, it is obvious that the data interpretation ability and presenter responses to the questions from audiences whose scores are 2.82 and 2.9, respectively (Table 1) are the major weaknesses.



**Figure 1.** Average presentation performance of students. Scores were increment from 1 to 5 and were gathered from audiences.

**Table 1.** Presentation componets. Scores are average of five groups. Components are clustered in three section, i.e. power point slides, presentation *skills* and mastery.

Power point		Presentation skills			Mastery				
Text	Graphic	Animation	Layout	Voice	Communication	Self-conf	Delivery	Data interpretation	Response
3.28	3.36	2.48	2.9	3.46	2.96	3.32	3.34	2.82	2.9
3.01				3.25			3		

In general, despite the difficulty to understand the article due to language barrier, students responded positively to this assignment. A typical student's response is exemplified in the following:

*"I got new experience since this is the first time for me to seek an international scientific article, and I got the article by contacting the author. In opposite to my initial thought, it was surprised that I got the intended article just within twelve hours after I emailed the author. I was a bit nervous when presenting the article in front of the class and being observed by lecturer and his assitants, but I eventually did it"*

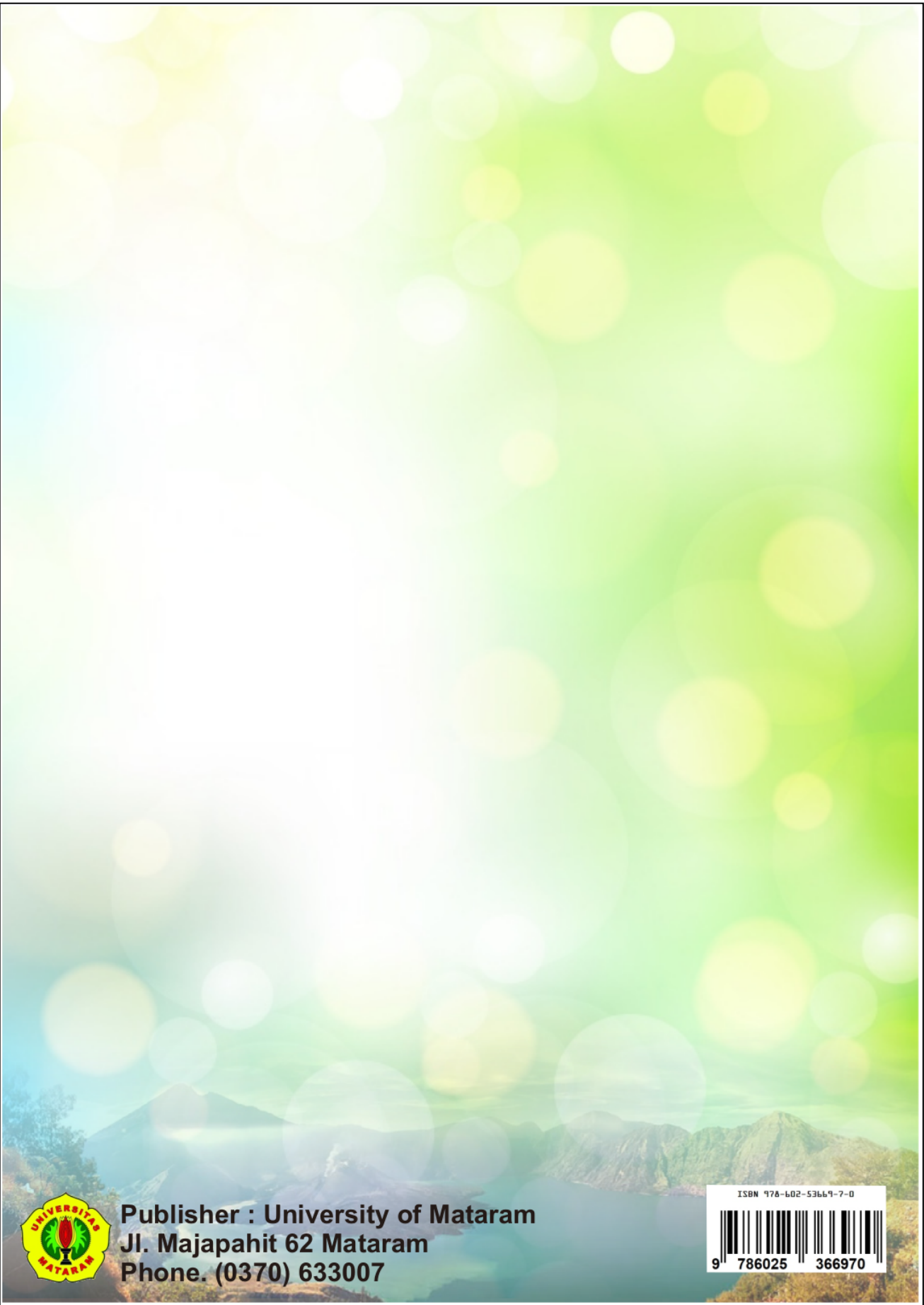
Similar research has been reported to assess the article reading ability of science students following a hands-on experience [5]. It was furthermore revealed that deep reading may give a powerful impact to the students skill development when it involves the body and mind [2]. We concluded that this approach is a promising way to promote students skill in scientific article understanding, self and group learning, as well as communicating scientific finding to general audience. However, should this approach is to be implemented, a carefull planning, guiding, executing and evaluating of this approach need to be taken to ensure a higher impact to the students development.

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#### References

- [1] Peng, R. 2017. Promoting active learning of graduate student by deep reading in biochemistry and microbiology pharmacy curriculum. *Biochem. Mol. Biol. Educ.*, vol. 45, no. 4, pp. 305–312.
- [2] Hall, M. P., O'Hare, A., Santavicca, N., and Jones, L. F. 2015. The power of deep reading and mindful literacy: An innovative approach in contemporary education. *Innovación Educ.*, vol. 15, no. 67, pp. 49–60, 2015.
- [3] Kamalova, L. A. and Koletvinova, N. D. 2016. The problem of reading and reading culture improvement of students-bachelors of elementary education in modern high institution. *Int. J. Environ. Sci. Educ.*, vol. 11, no. 4, pp. 473–484, 2016.
- [4] Hoskins, S. G., Lopatto, D., and Stevens, L. M. 2011. The C.R.E.A.T.E. approach to primary literature shifts undergraduates' self-assessed ability to read and analyze journal articles, attitudes about science, and epistemological beliefs," *CBE Life Sci. Educ.*, vol. 10, no. 4, pp. 368–378.
- [5] Bogucka, R., and Wood, E. 2009. How to Read Scientific Research Articles: A Hands-On Classroom Exercise. *Science and Technology Librarianship*. DOI:10.5062/F4S180FF.



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