

Students' Responses to the Improvements of Learning and Practicum Services on Poultry Nutrition Science Subject

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Abstract: This research aimed to see the positive impact of learning improvements on Poultry Nutrition Science subject. This research was conducted on 3 parallel classes; Class A does not experience the improvements, except for practicum services; Class B only experienced the improvements for 7 meetings (8th meeting until the end of the semester); and Class C experienced the improvements from the beginning until the end of the semester. The improvements on this Livestock Nutrition Science subject covered: improvements in learning planning, improvements in classroom learning methods, assessment strategy, and improvement in practicum services. The indication of success of this learning system improvement could be seen from the students' responses which were observed and seen from their activity and enthusiasm in the class, their attendance in the class and laboratory, and also the achievement of student's Mid Term Exam and Final Exam scores. The result of this classroom action research showed good responses, which could be seen on the increase in average score of Mid Term Exam and Final Exam on the students who experienced the learning methods improvements (Class C), their satisfaction to the facilitated teaching materials, and the feedback on the assignment and opinions expressed in the class.

1 INTRODUCTION

Poultry Nutrition Science under the code PT 146 is a compulsory subject in Study Program of Animal Husbandry, Faculty of Animal Science, Andalas University. This subject is given on the 4th semester after the students took The Basic of Nutrition Science subject. This subject is taught by 9 lecturers from Laboratorium of Non-Ruminants Nutrition Science, Department of Feed Nutrition and Technology.

In 2009/2010 college year, Poultry Nutrition Science started to apply Student Centered Learning (SCL) approach which taught in a small class (a maximum of 40 students). Therefore, this subject will be taught in 12 parallel classes (10 classes for 2014 curriculum and 2 classes for remedial students in 2009 curriculum).

Since using SCL approach, the teaching method that is used is Small Group Discussion (SGD) for all discussion that being taught. The evaluation result to the learning methods that have been applied by the lecturers of this subject showed that this SGD method was not really effective and not fit to all main discussions on this subject. Many assignments and presentations presented by the students were far away

from the studied materials, so that the learning was not yet hitting the target. Even the lecturers felt a lot of times wasted by using SGD method, while the learning target was not achieved. Hence, some lecturers of this subject went back to TCL (Teacher Centered Learning) by regular lecturing method and some class discussions. In fact, even the class discussion was not really effective. The time given to the students to ask and respond to the teaching materials was not used properly by the students. Only 2 – 5 students who were actively asking and responding, while the rest of them remain silent.

The other problem on running a lecture in this subject was the incompatible lesson planning (RPS) with the higher education curriculum (K-DIKTI) which was using KKNi concept. The available RPS was still referring to the competence-based curriculum. Therefore, the refinement of RPS corresponding with the KKNi concept becomes much more important on developing this subject.

The unscheduled practicum execution on the offered-subject becomes another problem in the continuity of the learning process. The lecturers of the subject will get difficulties on scheduling practicum to all students, because it is hard to find a right time

when all of the students are available. Therefore, the amount of practicum time becomes diverse between the parallel classes, and even the executions were not coordinated well. This matter will affect to the teaching material mastery, psychomotor aspects, and also students' skill on Livestock Nutrition Science subject.

Based on the aforementioned descriptions, then the classroom action research was conducted to learn the positive impacts of the planning improvements, learning strategies, and the practicum services improvements. The impacts can be observed and seen from the students' responses to the modifications and improvements on learning strategies and practicum services.

2 RESEARCH METHOD

This classroom action research will be done on three parallel classes on Poultry Nutrition Science subject. Class A as a comparison control with no learning improvements treatment, class B will be given the learning improvements starting from 8th meeting until the end of the semester, while class C will get the learning improvements from the beginning of the semester until the last meeting. The learning improvements including: improve the lesson plan, improve the learning method and practicum services, and improve the grading system.

a. Lesson Plan (RPS)

The first step is to do an improvement on the lesson plan (RPS) to be effective, especially on the formulation of the learning outcomes, the expected final ability, the learning form including creating several learning methods that suit to the main discussion, assessment indicator criteria, and value quality.

b. Teaching Methods Development

From the meta-analysis on a number of learning form (LP3M Unand, 2014), group learning was judged to be more effective to push the academic achievements, more suitable to build the expected attitude on the learning outcomes, and further enhance the persistence of teaching material learned. Therefore, the teaching methods that are going to be applied to improvement of Livestock Nutrition Science subject are: Small Group Discussion (SGD) and Cooperative Learning (CL). Both methods use small groups on the learning process. The improvements that will be done in this group learning are providing some

alternative teaching methods (not only SGD), and also develop the SGD execution on the class (implementation).

c. Practicum Services Improvements

Practicum will not be managed by each lecturer of the parallel class as what it has usually been done. Practicum services will be coordinated by the subject coordinator along with The Head of Non-Ruminants Nutrition Laboratory to manage 10 parallel classes.

The practicum services improvements included the preparation and the implementation of the practicum. The preparation stage start by recruiting and selecting senior students or even the fresh graduates to be the practicum assistants, and then give some briefings for the selected assistants, after that, make a practicum schedule for 70 groups in 10 shifts which every shift will only serve 7 groups, and the last preparation step is to open registration for the students into 70 groups provided according to the students' college schedule. Hence, every group will consist of several students from varying parallel classes. The improvements on the practicum implementation are: facilitate the practicum process and every shift will be directed / guided by 1 practicum assistant, 1 laboratory assistant, and 1 subject lecturer.

d. Students Grading Improvements

The improvements on student grading system from the cognitive field will be done firstly by deciding the value quality of each topic which is stated in RPS, after that, the questions will be arranged based on those value qualities either from the quantity and the quality of the questions.

The improvements from the psychomotor field will be done by observing on the practicum process and also the practicum result. Later on, the improvements on the student grading system can be done by including the affective domain in the final score. Affective domain can be valued through the observation on the teaching and learning process in the class.

The written examination result will be handed to the students immediately as a feedback of the teaching and learning so that either the lecturers or also the students can do some improvements before the semester end. For the lecturers, by performing the observation during the semester,

students' weaknesses can be seen earlier so that they will have enough time to improve their student' quality.

e. *Classroom Action Research Parameters (PTK)*

The success indication of this learning improvement activity can be seen from the students' responses as PTK parameters, the responses are in form of the result of the questionnaires about their responses to the learning improvements and practicum services improvements that would have been done. If their responses are positive and they pleased with the improvements, so they are expected to be motivated and become more passionate on learning, and it can positively affect the outcome result of the learning and also to the final grade distribution.

3 RESULT AND DISCUSSION

According to the observation result and the available RPS evaluations, then the improvements to RPS especially on the learning form and value qualities are done. Aside from that, we also improve the composition of the teaching materials and the expected final ability from each main discussion. The learning form that we used is corresponding with the requirements of each main discussion. The second step of the planning improvements is by completing and enriching the teaching materials in the form of Power Point slides, reading materials (handouts), films / videos, and group / individual assignments.

Teaching methods improvements to this Livestock Nutrition Science subject has been done by adding some learning methods, besides applying regular lecture and group discussion (SGD), we also applied Cooperative Learning (CL).

Small Group Discussion (SGD) is a method to present the teaching materials where the students are given several problems which could be in form of problematic statements or questions that should be discussed and solved together. The improvements on this teaching strategy including 2 steps: the preparation and the implementation. The preparation step started by creating groups' assignments planning, and then randomly form small groups consists of 5 person each group. The implementation step started by deciding the topics (either statements or questions that are problematic) for each groups, formulating the aim of the discussion, the group discussion implementation and choosing the spokesperson for the presentation, and putting down

important points from the discussion in form of a report. The subject lecturer monitored the discussion and gave comments, responses, and questions. The feedback can be given by a summary or material affirmation.

Cooperative Learning (CL) is a part of learning methods where the students were interacted each other to gain and apply particular elements of a teaching material and also find the general outcome of the learning. The implementation of this CL method is to choose which CL models that suit to deliver the main topic. There are 9 learning models in Cooperative Learning (CL), but only 3 of them that were used on this research, they are: Think-Pair-Share, Numbered Heads Together, and Three Minutes Review.

Think-Pair-Share is a method where the lecturer gives some statements or questions that require the students to analyze, evaluate or synthesize, then the students are given 3 minutes to think a fast response. The students then back to their own group to share responses. The scope of the discussion elevates and all the students have a chance to learn by reflection and verbalization. Numbered Heads Together (Kagen) is a method where the lecturer gives a question to group members. The question usually a natural fact but needs a higher level of thinking. The students discuss the problem and ensure that each member know the discussed answer. Three-Minute Review is a method where the lecturer provides some times during a the learning process, the lecturer gives 3 minutes to the group to review what have been discussed, ask a question, or clarify the answer.

The implementation of the designed RPS improvements, learning method developments, practicum services improvements, and grading system developments are done by applying them to the class that being taught. The lecturers, as facilitators, motivated and gave some attentions, cheers, and beliefs to the students that they were able to reach the expected competences. The lecturers should be capable enough to find a way to help the students searching and finding the solution of each problem on the related materials; also capable enough to give feedbacks by monitoring and correcting the idea or the result of the students' performance in order to reach the optimum target.

The success of this PTK can be seen from the students' score on Mid Semester Exam and Final Exam from 3 classes that were given different treatment. The result shows that there is an escalation on the average score of Mid Semester Exam and Final Exam from Class C which experienced the treatment of the learning improvements and practicums services

improvements compare to the class that was not getting any treatment of learning improvements (Class A). The same goes to the class that experienced a treatment of learning improvements from 8th meeting until the end of the semester (Class B), it shows that the average score of the Final Exam is bigger than the Mid Semester Exam of the same class (Class B) compare to the first class.

After the application of this PTK, the Mid Semester Exam scores gained by the students on the Poultry Nutrition Science are on the normal distribution, with the average score was 68,5 while the Final Exam average score reached 71,15. In the class that was not getting any learning improvements treatment, the average score of Mid Semester Exam was 54,7 and the average score of Final Exam was 60,6. Therefore, the Classroom Action Research on Poultry Nutrition Science subject that was applied to Class B and Class C can move the peak of the normal curve to the right (increasing the average value).

4 CONCLUSIONS

A good lesson planning, proper learning model application along with handout facilities and the copy of teaching materials, structured assignments, and a good practicum services could increase the learning achievements in poultry nutrition science subject.

