

Improving Student's Communication Skills Through Remad Cocoper Strategies Based on Lesson Study and Appreciative Inquiry in Quantitative Research Methodology Course

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ABSTRACT

The purpose of this study is to improve the quality of quantitative research methodology courses. This type of research is a mixed method. Qualitative data analysis is used to describe the improvements made in learning processes. Meanwhile, quantitative data analysis is used to find out the improvement of student communication skills. The sample used in this study was 36 Masters of Biology Education at Universitas Negeri Malang who took quantitative research methodology courses in odd semester 2019/2020.

Improvements made include students not being asked to prepare papers, students making reflective essays and uploading it on Edmodo, improving quality of critical analysis articles through the use of FAKA (Article Critical Analysis Format), improvement in the use of learning tools there are Concept Maps or Mind Maps and Concept Map presentations at the beginning of the course and Mind Maps at the end of courses, and there is an improvement in the composition of course material. Communication skills data collection is done by looking at the activeness of students during the learning process by using a scoring rubric. The conclusion of this study is the results of improvements made can improve the quality of developing student communication skills. Communication skills are measured through the number of comments delivered both verbally in class and in writing through comments on Edmodo.

Keywords: *Appreciative-Inquiry, Biology students, Communication skills, REMAD-COCOPER*

1. INTRODUCTION

The 21st century is a century of knowledge where information flows very quickly and technological developments also occur very rapidly. In the 21st century, an individual is required to have several abilities in order to be able to compete both locally and globally, [1] explains that in the 21st century there are 3 main abilities that must be possessed namely the ability to live in a society; the ability to learn and innovate (including the ability to think critically, communicate, be creative, and collaborate); and information and technology capabilities.

Communication skills are important skills that must be possessed by an educator. There are several studies that show communication skills possessed by educators influence student learning outcomes. Research conducted by [2] at 14 universities in Pakistan shows that communication skills possessed by educators influence the learning outcomes and learning success achieved by students. In addition, [3] stated that educators' communication skills can influence the effectiveness of learning undertaken.

Very rapid technological developments gave birth to an industrial revolution known as the Industrial

Revolution 4.0. Revolution 4.0 requires humans to have innovations to produce high ideas so as not to lag behind other nations [4]. Industry 4.0 promises to increase flexibility, change quality, and increase productivity [5]. This increase can occur if a country has adequate human resources and can follow technological developments. The Industrial Revolution 4.0 will reduce jobs because there will be many automatizations [6], so it requires an innovative man for man to create new jobs. The 21st century is a century that moves dynamically [7]. The dynamism that exists in the 21st century causes an influence on student characteristics.

Students have different characteristics each year. Student characteristics are determined by several factors, both internal and external factors. Internal factors that cause different student characteristics include intelligence and self-regulation of students. External factors are family, community environment, and the environment in which the student studies. Other factors that influence student characteristics according to [8] are tendance in the class, family income, and mother's and father's education, teacher-student ratio, the presence of trained teachers in school, sex of students and distance of school are also affected the performance of the students. The characteristics of postgraduate students are different each

year so that they need improvements according to the characteristics of the students being studied.

The characteristics of the master of biology education in the 2018/2019 year are very diverse. Mahassiwa comes from various universities that have different teaching experiences. Many students come from non-educational majors when undergraduates, so more training is needed on how to teach and others. Masters in biology education need to have good pedagogical skills because they are prepared to become an educator after they graduate. As educators, students also need an appreciative attitude to give appreciation to their students later. Appreciative attitude is one component in important communication skills [9]. Appreciative attitude is also an important component in forming a collaborative group [10]. Collaborative and communication skills are needed to bring about transformation in the 21st century [11]. The way that can be done to improve appreciation is through *Appreciative Inquiry* [12]. In the appreciation of inquiry there is a stage to appreciate, namely *Discovery* [13]. Based on this, it is necessary to implement the *Appreciative Inquiry* for students so that the attitude of student appreciation can be developed.

2. METHOD

The purpose of this paper is to describe the improvement of quantitative research methodology courses. The

education who took quantitative research methodology courses. The study was conducted during the odd semester 2019/2020. The study was conducted in the Department of Biology, Faculty of Mathematics and natural sciences. Data collection uses a scoring rubric of student activity during class. The REMAD COCOPER strategy is applied at the time of learning by dividing the class into groups. Each group will act as the Lesson Study team who will teach their friends.

3. RESULT AND DISCUSSION

3.1. Problems that exist in the class

Every year the condition of students in the Biology Education Masters is different. In 2019 many biology education master students come from other universities who have different abilities. There are students who have very little teaching skills because the teaching practice at the time of his S1 was very minimal in time. There are even students whose undergraduate degrees do not have an educational background (coming from non-educational majors), so these students do not have teaching skills. Based on this REMAD COCOPER learning strategy is applied that can improve the capabilities of students as an

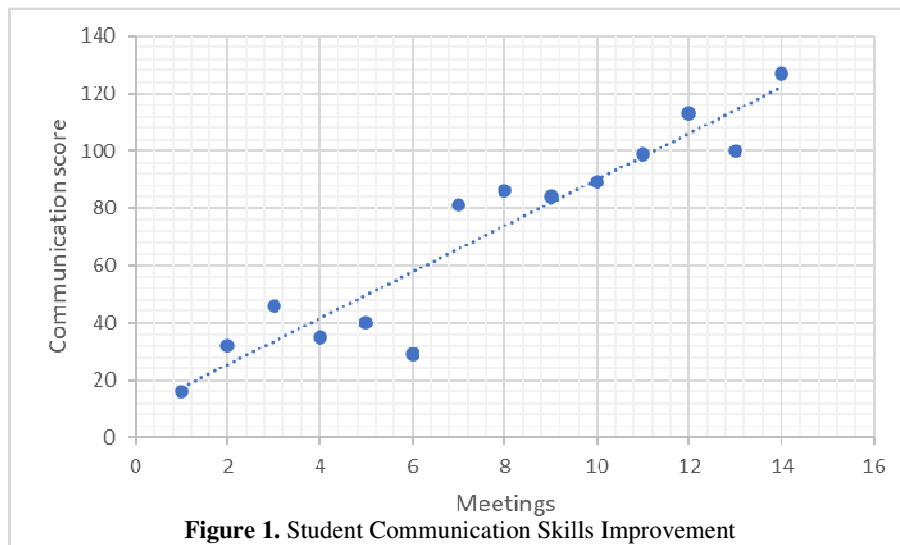


Figure 1. Student Communication Skills Improvement

research conducted included descriptive qualitative which describes the progress of the course being conducted. Research subjects were 18 students of masters of biology Improved communication skills are supported by the stages contained in the REMAD COCOPER learning strategy. Reading stages in REMAD COCOPER learning strategies make students have a better understanding of a material. Based on research from [16] mastery of student

educator [14], [15]. Improved student communication skills can be seen in Figure 1.

concepts will improve student communication skills. In addition the Discussing stage helps students to develop their communication skills. The types of communication that can be developed through discussion activities are interpersonal communication [17] and intrapersonal

communication [18]. With discussion students will learn how to respect other people [19] and express their opinions well [20].

Another stage that affects the development of communication skills is the Collaborating stage. Through good collaboration students will get used to exchange ideas with others [21]. In addition, they will also practice to exchange ideas. The stages of reflecting in the REMAD COCOPER learning strategy also influence the development of student communication skills. Reflective activities carried out will make students to express their feelings and something in their minds [22]. Reflective stages in the REMAD COCOPER learning strategy are carried out at the end of the learning [23].

3.2. Improvements made

Improvements made to learning can be seen in Table 1.

Table 1. Learning Improvement is done

No	Previous Learning	Today Learning
1	Students are asked to make papers	students not being asked to prepare papers
2	Students make learning journals in the form of printouts	students making reflective essays and uploading it on Edmodo
3	A critical analysis is carried out without using a specific format	Improving the quality of critical analysis articles through the use of FAKA (Article Critical Analysis Format)
4	Just use a mindmap	Improvement in the use of learning tools there are Concept Maps or Mind Maps
5	The course material has been determined by the lecturer	Improvement in the composition of course material

The learning improvements made first are students not asked to make papers, papers have been provided by lecturers and students are asked to improve papers given by lecturers. Through these assignments, students will not spend a lot of time to make papers and are more focused in understanding the contents of the paper so they can provide input and additional information about the papers that have been given by lecturers.

The second improvement in learning is to make reflective essays. In previous lectures, students were asked to make a learning journal, but in this lecture students were asked to make reflective essays. Reflective activities have

long been considered a key element in student learning and professional practice in higher education [24]. This can enable students to incorporate insights into their professional development [25], deepen understanding of key concepts [26], and provide opportunities for lifelong learning [24]. In reflection activities it is very important to have meaningful discussions between students and lecturers through student reflection writing and feedback from lecturers [27]. Reflective essays can also improve student communication skills through writing made by students [25]. In addition, reflective essays can also be used to predict the success of learning conducted by students [28].

The next improvement of learning is to do critical analysis with a certain format, in previous learning, students are free to do critical analysis using any format. Through the use of FAKA students are expected to be able to analyze articles coherently in accordance with the existing framework of thinking. Through the critical analysis of a journal article, students assess the strengths and weaknesses of the ideas and contents of an article, and describe the results of their assessment in a report on the results of a critical analysis of the article [29], [30]. Critical analysis of articles conducted by students also serves to support the research proposals they compile. The articles that students analyze are expected to be articles related to their final research. Developing critical thinking skills is very important to prospective teacher students [31].

The fourth improvement is to use a mindmap or concept map, at the previous meeting only using a mindmap. Mind maps help readers identify problems that need to be solved and solutions proposed by the authors [32]. Students are encouraged to be creative and flexible when creating mind maps [33]. Concept maps are used to express meaningful relationships between concepts in the form of propositions. Propositions are two or more concepts that are connected by words in semantic units. Concept maps are top-down diagrams that show relationships between concepts, including cross-links between concepts and examples, and show systematic relationships between related sub-concepts [34]. The use of the concept maps makes students more systematic in learning [35]. The purpose of this task is to make the learning of the Quantitative Research Methodology course run more smoothly because they have prepared themselves by studying the material to be taught that day. Mind maps and concept maps are assessed by their peer groups using agreed rubrics. During the lecture, the concept map is presented at the beginning of the lecture and the mindmap is presented at the end of the lecture. Students are given the freedom to choose whether to make a mindmap or plot.

The next improvement in learning is the lecture material selected by students, at the previous meeting lecture material was determined by the lecturer. The selection of free courses can make individuals to choose according to their interests based on class agreement [36]. The selection of lecture material by students also allows the student to

learn what he needs in the lecture to support writing their final project [37].

4. CONCLUSION

The conclusion of this study is the results of improvements made can improve the quality of developing student communication skills. Communication skills are measured through the number of comments delivered both verbally in class and in writing through comments on Edmodo

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