

# Student-Centered Learning Development and Implementation as Potential Strategy to Improve Nursing Students' Competencies and Learning Outcomes

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**Keywords:** Student-Centered Learning, Competency, Soft Skills.

**Abstract:** Nursing education program requires a series of learning outcomes from students. Reproductive System is noticed as one of the nursing course subjects that carry out some learning outcomes. Student-Centered Learning (SCL) has been implemented and evaluated over the years, but learning outcome achievement has not been obtained optimally. This study aims to upscale the implementation of SCL through learning methods combination and to rate the system of student assessment development in improving students' competencies. This study used action research as its research design. It started by providing semester teaching planning and arranging the competencies according to the Indonesian Quality Framework. Small Group Discussion, Collaboration Learning, and Discovery Learning have been used for theoretical learning. Thus, Role Play, Games and Simulation, and Self Directing Learning were used in the practicum. Student assessment was made broader by adding soft skills items. Students were observed during the learning process by using a student assessment instrument and continued with lecturers and students' reflection as evaluation. The results show that the developed and applied learning methods and assessments have an impact on increasing students' scores. The study also shows that more than half (69%) of the students achieved A- score grade. It is suggested that the developed SCL learning methods can be used optimally to improve students' competencies.

## 1 INTRODUCTION

Student Centred Learning (SCL) is a student-centered learning method that focuses on achieving learning objectives. The SCL method aims to make students more active in the learning process and develop critical thinking and to bring out profound positive learning environment (Chen et.al., 2015). Active participation of the students may increase knowledge that is thoroughly studied and professionally practiced (Rezende-Filho et.al., 2014). SCL learning method has been implemented in the Undergraduate Program of the the Faculty of Nursing, Andalas University, for several years. The use of this learning method is a form of response to the demands of society for the quality of services provided. Therefore, Bachelor Degree graduates from Nursing Program must possess the competencies as a professional nurses in their field based on the concepts and values of nursing, so that people can accept the nursing services provided. According to Kristy (2017), nursing graduates who can think

effectively are very important in dealing with complex health services offered.

As the era progressively goes by, the demands of the society for nursing services are very high. Therefore, the Nursing Undergraduate Study Program must prepare its graduates while paying attention to the high demands of the people. This could result in the graduates being more useful in society, as the people are satisfied with the nursing services provided.

One of the subject courses that apply this learning method is Nursing Reproductive System. Nursing Reproductive System courses at this time have been conducted for the fourth time, since the implementation of the 2012 bachelor nursing curriculum based on the Indonesia Quality Framework (IQF) in the Bachelor Degree Program, Faculty of Nursing, Andalas University. During the implementation, lectures were delivered by using SCL method consisting of Small Group Discussion, seminar, collaborative learning, and also expert lectures.

The implementation of reproductive system in nursing courses in 2012, 2013, and 2014 has experienced several obstacles related to the use of the SCL method, because there a plephora number of students, some of whom were more accustomed to the Teacher Centre Learning methods and students' capability to adapt to a different method that resulted in the feeling of burn out. Therefore, the Nursing Reproductive System has undergone several changes including in this semester. Changes are made based on the results of evaluations conducted internally on the material and the learning outcome achieved by students at the end of learning in grades. The changes made were learning methods and implemented student assessments.

Previously, this course only used 2 SCL methods which are Small Group Discussion (SGD) and Collaborative Learning (CL). Role Play has been used in theoretical learning, Games and Simulation methods for practicum learning. In this current class, the SCL method was added along with Discovery Learning method as theoretical learning and Self-Directed Learning in the practicum. The addition of the SCL method aims to integrate nursing trends and issues of the Nursing Reproductive System on the material provided, and students are well prepared to attend the lectures. It was made to achieve more learning outcomes in the Bachelor Nursing Program curriculum.

Furthermore, learning outcomes are also carried out by using student assessment. The achievement of the students' final results that have been applied for three years refers to the total assessment of both the process and results. In the assessment of the process, there were assigned weight, such as class attendance (5%) and presentation (15%), while in the assessment of the outcome results, the weights were: midterm (40%), final examination (40%), but there has been no assessment for soft skills. This distribution of scores for the current class varied between students, where 5.3% had A, 10.5% A-, 22.8% B +, 35.1% B, 21% B- grade, and 5.3% C +. Based on the distribution of these values, it can be seen that the grades were concentrated on the B grade and there were still around 26.3% of the students who had grades below B. It also means that the learning achievement was not optimal.

The problems found above illustrate that the learning achievement of students in the Nursing Reproductive System course has not been optimal. Specifically, with the Andalas University Rector Decree No. 4896/XIII/R/KPT/2017 concerning the procedures for the implementation of student re-examination, students who get B and below can be

given the opportunity for reexamination and can not be processed if the grades of all of the students who take the course subject are above B grades. Therefore, it is necessary to find a solution for better learning improvements to overcome these problems. Classroom action research with the implementation of SCL is one of the best ways that can be done as an effort to increase the achievement of students' competencies both in the process and at the end of learning.

## 2 METHODS

The methodology used in solving the problems above is an action research by developing Student Centred Learning (SCL) methods using Small Group Discussion (SGD), Collaborative Learning (CL), and Discovery Learning (DL) methods in theoretical learning, and Role Play, Games as well as Simulation (RPGS), and Self Directing Learning (SDL) in the practicum learning. Furthermore, in the development of student assessments, soft skills student assessment is included in the rubric. In addition, to students' cognitive training, affective, and psychomotor during written exams—such as midterm examination and final examination—the item questions are prepared in the form of multiple choice by using a vignette and a practicum competency examination using OSCE.

## 3 RESULTS AND DISCUSSION

Classroom action research aims to improve the quality of learning in the course subject of Nursing Reproductive System. Classroom action research has been conducted on 39 nursing bachelor degree students of Andalas University who took the 6<sup>th</sup>-semester courses. They were divided into 1 class of theoretical learning and three classes of practicum learning. This research was conducted for four months starting from February to June 2018 or 16 weeks of the learning process. Classroom action research was carried out in several stages, namely preparation, implementation, and evaluation stages.

The preparation stage started with the development of the Semester Learning Plan of the Nursing Reproductive System course which includes: study program learning outcomes, courses' learning achievements, a short description of the course, subject learning material/expected competencies, learning methods and time allocation, student learning experience, assessment criteria/indicators

and assessment stage of portion. The development of this semester plan is a refinement of learning planning as a guideline for both students and lecturers before the lecture starts.

Weekly learning outcomes are guided by the achievement of students' competencies, so the students and lecturers know about the competencies that must be achieved in each week. In addition, lecturers and students can also prepare themselves before the lecture begins. The example of learning achievement such as the first-week meeting is the introduction of a learning plan where students know the competencies, subject matter, learning methods, references and assessments used in this subject.

Compared to the previous learning plan, the development of learning methods was clearly developed in the current learning plan. The implemented development is SCL learning methods and the assessments used in the course. SCL learning methods require students to be active in achieving learning outcomes. The activeness of students in the achievement of their learning objectives will also produce students' creativity and emergence. According to O'Neill and Moore (2005), SCL method makes students more responsible in achieving their learning goals. This is very important to foster motivation in all the students including those at the Faculty of Nursing since they are required to be able to provide comprehensive and professional nursing care to patients and families after completing their education at the Faculty of Nursing.

The development of SCL learning methods has been carried out both in theory and practice. The method used during theoretical learning were Small Group Discussion (SGD) learning methods, Collaborative Learning (CL), and Discovery Learning (DL). Meanwhile in the practicum learning, Role Play, Games and, Simulation (RPGS) and Self-Directed Learning were used.

Then, at the implementation stage, the implementation of learning method development in theory is illustrated. Naturally, activities were run based on the plans that have been prepared in the semester learning plan. This can be seen in the second week of learning where the expected learning achievement of students is that the students can explain the anatomy and physiology of the reproductive system throughout the life cycle with the anatomy and physiology of the reproductive system in male and female; and also the focus of anatomy and physiology of the fetus, baby, child, teenager, adult, and elderly.

The learning methods used were SGD, CL and DL. In the SGD method, students are divided into

small groups consisting of 6-8 students. Each small group has to discuss the topic given. All group members must play an active role in group discussions. Before the discussion, the group must formulate the objectives of the discussion and then summarize and report the discussion results in their papers. In addition, each group determines one of its members to present the results of the discussion in front of the class, so that other groups can provide input on the results of the group discussion presentations. At the end of the meeting, the lecturer provides input and feedback and strengthens the material related to the topic.

According to Arpaichiraratana & Attharos (2012), this SGD learning method is very important to create critical thinking in students and familiarize them with organizing themselves in achieving goals. These results satisfy students in achieving their competencies. Critical thinking and self-regulation are highly important objectives to be planted in students at an early stage, because the majority of nursing graduates' students will work directly with patients. Critical thinking is very necessary for a nurse who provides care to patients. Familiarizing nursing graduate students with critical thinking and self-regulating can indirectly improve their competence.

Another SCL learning method used in theory learning is Collaborative Learning with Simple Jigsaw techniques whereby students are divided into eight small groups, each of which consisting of 5 students, discusses different topics so that they become "experts" in the topics discussed. Furthermore, the "expert" group is broken down and combined with other "experts" to convey their expertise in the new group so that the new group becomes "experts" with the set topics.

The Collaborative Learning (CL) method of Simple Jigsaw technique is one of the learning methods that have been carried out in this study. According to Sandahi (2009) CL is very important in getting used to working in a group, sharpening critical thinking in finding solutions to problems, and building cooperation with other professions. The nursing graduates who will become nurses, have a profession that cannot be separated from other medical professions and they cannot also work by themselves. Therefore, indirectly, this learning method has helped nursing graduates to become professional nurses who are accepted in society. In addition, CL method with Jigsaw Puzzles has also been proven to improve the academic abilities of students, including nursing students (Renganathan, 2013).

Discovery Learning (DL) is another SCL method used in theoretical learning. In this method, students are divided into small groups, each of which consists of 4-5 members. Furthermore, small groups try to find the latest scientific journals article or at least the last five years related to the topics given. The group makes a summary of the scientific journals that has been obtained. The summary is presented in front of the class. Lecturers provide feedback on the summaries that have been presented. Furthermore, DL learning methods also have an impact on the development of students' abilities related to the use of technology in finding literature and increasing students' self-confidence by using the literature obtained (LeDuc, 2015).

In practicum learning process, the learning method developed was Role Play, Games and Simulation (RPGS), and Self-Directed Learning (SDL) method. The aim of learning in practicum is to enable students to apply the topic of theoretical learning. In this case, the lecturer acts as a facilitator who assists students during the practicum learning process. Students are divided into three groups where each group consists of 13 students. Each group in the implementation of the practicum learning process is accompanied by a facilitator

Using Role Play, Games and Simulation (RPGS) method in a practicum, as one of the achievements of practicum learning, the students can perform a physical examination on postpartum mothers with the subject of postpartum maternal physical examination and sub-subject in immediate, early, and late postpartum maternal physical examination. Furthermore, role-playing groups are based on sub topics to get an understanding of the expected situation in learning outcomes. Along with role-play, simulations are also carried out.

In addition, according to (Noohi and Maddah, 2013), Games are also used as effective learning strategies in achieving learning objectives. Games can be used in nursing education because, through games, active learning processes can be improved, as they support critical thinking, and make the learning process interesting. In addition, through games, the true state of a health problem can be simulated. Therefore, this RPGS method is very suitable to apply in nursing education because with RPGS, a simulation/role play can be performed with conditions that resemble real action. It is very important to apply such method to nursing profession education.

Self-Directed Learning (SDL) method is another method used in practicum learning. Before the practicum begins, students are required to summarize

the topic to be studied. The preparation efforts of students taking practical learning will be seen from the summaries they make. The summaries made describes the mastery of the practicum topic before the practice begins. This can be seen from the topic of the introduction of the reproductive system. Before the practice starts, each student is required to make a summary. During the practicum, the majority of students understand the topic being studied. Getting students to learn to use SDL is very useful when they work in challenging health services (Fatimah et.al., 2017).

Student assessment development was followed by the development of learning methods for both theory and practice. Theoretical learning was achieved by providing SGD, CL, and DL instruments and soft skills. meanwhile, in the practicum learning, RPGS and SDL instruments as well as soft skills were also carried out.

Student assessments were developed based on the rubric assessment which was made for each learning method for both the theoretical and practicum learning methods. A rubric assessment is made with the aim of transparency in providing an assessment to students. In addition, the assessments were given to all students with equal standards. This is important to do in order for students to feel equal in obtaining the grades. During the exam, the form of the question being tested is a multiple-choice question by using a vignette to trigger cognitive, affective, and psychomotor of students. This form of questions was chosen and used to accustom students to vignette form used in national competency examination. Meanwhile, in the practicum learning process, the assessment using OSCE aims to assess the components of clinical competence such as physical examination and communication skills.

Soft skills assessments are also included in the assessment. Soft skills are important to assess in order to indicate how students' talents, abilities, and skills are. One of the soft skills that can be seen is communication (Jackson and Back, 2011). Communication is an important part of the nursing profession. Every day, nurses communicate with patients. According to Khodadali, et.al., (2013) good communication carried out by a nurse can shorten the patient's day of care. Therefore, it is essential to include soft skills as one of the assessments of nursing students to familiarize students with the wise management of their behaviour related to their talents, abilities, and skills.

The final stage of this research process is the evaluation stage, where evaluation and reflection on the implementation of the learning process have been

carried out. Reflections and evaluations are carried out by lecturers and students. Based on the experience of lecturers and students, reflection is applied as an effort to see the opinions of students and lecturers after generally taking the learning process in this course. Reflections from students has a noticeable effect on the activities that students had to do when attending the course since it is related to students' feeling as though they are guided by the precise semester learning plan, and the applied learning methods, to make them always active in each learning achievement. As a result, all students play an active and enthusiastic role during the learning process. Students who, at the beginning of the learning process, seem passive now become active.

During the self-reflection, the lecturer/facilitator said that, within every meeting with students in both theory and practice, the students prepared themselves well. At the SGD, the students brought references related to the topic, they brought scientific journals during the DL, and in RPGS the prepared the necessary instruments, such as phantom and a set of postpartum maternal physical examinations before the activity was carried out. Students brought their summaries at the SDL. The shortcomings that can be seen during this learning process are the lack of students' ability to make scientific papers and to use references when writing their papers.

The final result which can be seen as an indicator of action research is the students' final examination grades. The results show that there has been an increase in the distribution of grades compared to the previous academic year. In the current academic year, 15% of the students got A, 69% got A-, 13% got B+, and 0.03% got B.

## 4 CONCLUSIONS

The development of learning methods and student assessment is a significant effort to make in the improvement of the competence of graduate students. This is evident by the increase of the grades achieved by current students compared to the previous ones. In addition, the development of learning methods and assumptions also have a major influence when students are already working. By getting used to working in groups, collaborating with other people, and fostering good communication, this will increase the confidence and add more values to the Undergraduates of Nursing Program Andalas University.

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